TRAFFIC IMPACT AND ACCESS STUDY

FOR SUBMISSION WITH
FINAL ENVIRONMENTAL IMPACT REPORT
EEA #15912

The Reserve
Oxford/Auburn, Massachusetts

Prepared for:

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TABLE OF CONTENTS

EXECUTIVE SUMMARY....1
Existing Conditions....2
Future Conditions....2
Mitigation....3
EXISTING CONDITIONS....6
Introduction....6
Study Area....9
Geometrics and Traffic Control....9
Traffic Volumes....13
Collision History....18
Vehicle Speeds....21
Sight Distance....21
Public Transportation....24
FUTURE CONDITIONS....26
Traffic Growth....26
Planned Roadway Improvements....27
No-Build Traffic Volumes....28
Trip Generation....32
Project Environmental Review (MEPA) Thresholds....35
Trip Distribution....36
Build Traffic Volumes....38
Traffic Increases....38
Parking Requirements....45
Multimodal Access and Connectivity....48
ANALYSIS....49
Capacity Analysis Methodology....49
Queue Analysis Methodology....51
Capacity and Queue Analysis Results....51
Merge / Weave Analysis....54
MITIGATION....66
Traffic Signal Warrant Analysis & ICE Stage I Analysis....66
Capacity and Queue Analysis Results with Mitigation....77
LOS and Queue Graphics....79
Transportation Demand Management....88
Transportation Monitoring Program....90
PROJECT PHASING....91
SUPPLEMENTAL ANALYSIS....117

APPENDIX

LIST OF TABLES

No.	Title
1	Existing Traffic-Volume Summary
2	Collision Summary
3	Observed Travel Speeds
4	Sight Distance Summary
5	Peak Hour Trip-Generation Summary
6	Ashworth Commons Trip-Generation Breakdown
7	Trip-Generation Summary – MEPA Transportation Thresholds
8	Trip-Distribution Summary
9	Ashworth Hills Trip Distribution Breakdown
10	Parking Demand Summary
11	Level-of-Service Criteria for Intersections
12	Intersection Capacity Analysis Summary
13	Traffic Signal Warrant Analysis Summary
14	Intersection Capacity Analysis Summary – with Mitigation
15	Intersection Capacity Analysis Summary – Phase I
16	Phase II Traffic Signal Warrant Analysis Summary
17	Intersection Capacity Analysis Summary – No Build with Mitigation

LIST OF FIGURES

No.	Title
1	Study Area
2	2022/23 Existing Traffic Volumes – Weekday AM Peak Hour
3	2022/23 Existing Traffic Volumes – Weekday PM Peak Hour
4	2022/23 Existing Traffic Volumes – Saturday Midday Peak Hour
5	2030 No-Build Traffic Volumes – Weekday AM Peak Hour
6	2030 No-Build Traffic Volumes – Weekday PM Peak Hour
7	2030 No-Build Traffic Volumes – Saturday Midday Peak Hour
8	Site-Generated Traffic Volumes (11th Edition) – Weekday AM Peak Hour
9	Site-Generated Traffic Volumes (11th Edition) – Weekday PM Peak Hour
10	Site-Generated Traffic Volumes (11th Edition) – Saturday Midday Peak Hour
11	2030 Build Traffic Volumes – Weekday AM Peak Hour
12	2030 Build Traffic Volumes – Weekday PM Peak Hour
13	2030 Build Traffic Volumes – Saturday Midday Peak Hour
14	Concept Plan – Proposed Site Driveways at Route 20
15	Site-Gen Mitigated Traffic Volumes (11th Edition) – Weekday AM Peak Hour
16	Site-Gen Mitigated Traffic Volumes (11th Edition) – Weekday PM Peak Hour
17	Site-Gen Mitigated Traffic Volumes (11th Edition) – Saturday Midday Peak Hour
18	2030 Build with Mitigation Traffic Volumes – Weekday AM Peak Hour
19	2030 Build with Mitigation Traffic Volumes – Weekday PM Peak Hour
20	2030 Build with Mitigation Traffic Volumes – Saturday Midday Peak Hour
21	Phase I Site-Gen Mitigated Traffic Volumes (11th Edition) – Weekday AM Peak Hour
22	Phase I Site-Gen Mitigated Traffic Volumes (11th Edition) – Weekday PM Peak Hour
23	Phase I Site-Gen Mitigated Traffic Volumes (11th Edition) – Saturday Midday Peak Hour
24	Phase I Build Traffic Volumes – Weekday AM Peak Hour
25	Phase I Build Traffic Volumes – Weekday PM Peak Hour
26	Phase I Build Traffic Volumes – Saturday Midday Peak Hour
27	Phase II Site-Gen Mitigated Traffic Volumes (11th Edition) – Weekday AM Peak Hour
28	Phase II Site-Gen Mitigated Traffic Volumes (11th Edition) – Weekday PM Peak Hour
29	Phase II Site-Gen Mitigated Traffic Volumes (11th Edition) – Saturday Midday Peak Hour
30	Phase II Build with Mitigation Traffic Volumes – Weekday AM Peak Hour
31	Phase II Build with Mitigation Traffic Volumes – Weekday PM Peak Hour
32	Phase II Build with Mitigation Traffic Volumes – Saturday Midday Peak Hour

EXECUTIVE SUMMARY

Greenman-Pedersen (GPI) has prepared this revised Traffic Impact and Access Study (TIAS) to analyze the traffic impacts of a proposed multi-use development, *The Reserve*, to be located in Oxford and Auburn, Massachusetts and to identify traffic mitigation measures necessary to minimize those impacts. The site is bounded by Interstate 90 (I-90) to the north, US Route 20 to the south, Tinker Hill Road to the east, and Route 56 to the west.

The existing site is undeveloped. The 249-acre site is divided into four projects; (1) **The Reserve**, a 324-unit workforce housing rental apartment community, (2) the **Auburn Condos**, four duplex condominiums (eight units), (3) **Ashworth Hills**, a 320-unit duplex community, and (4) **Ashworth Commons**, a commercial development.

Access and egress to **The Reserve** and **Auburn Condos** will be provided via the new roadway Albert Street Extension off Blaker Street. Access and egress to **Ashworth Hills** will be provided via one driveway on Southbridge Road (US Route 20) through the commercial development, one driveway on Ashworth Drive, and an extension of Thayer Pond Drive which will permit enter-only traffic to the development. Access and egress to **Ashworth Commons** will be provided via two driveways on Southbridge Road (US Route 20).

Southbridge Road (US Route 20) is a state highway and will, therefore, require a permit to access state highway from the Massachusetts Department of Transportation (MassDOT). In addition, since the proposed expansion project is expected to generate more than 3,000 additional vehicle trips per day, the project will require review by the Massachusetts Environmental Policy Act (MEPA) office in the form of an Environmental Notification Form (ENF) and a Mandatory Environmental Impact Report (EIR). Local review of the project will also be required by the Towns of Oxford and Auburn. To date the project has gone through the MEPA ENF process and a Certificate of the Secretary of Energy and Environmental Affairs (EEA) on the ENF was issued on October 12, 2018 (EEA #15912). The Certificate required the preparation of a Mandatory Environmental Impact Report (EIR). A Draft EIR was prepared and submitted in September 2022 and MassDOT comments were received in October 2022. A Teams Meeting was held with MassDOT on December 12, 2022 to discuss the comments. Coordination continued with MassDOT through email between May 2, 2023 and September 28, 2023. An additional Teams Meeting was held on October 24, 2024 with MassDOT to discuss comments. Coordination continued with MassDOT through email between October 28, 2024 and November 5, 2024. This Final EIR addresses the MassDOT comments.

Existing Conditions

Per the Certificate of the Secretary of EEA on the ENF, based on review by MassDOT Public/Private Development Unit (P/PDU) and the District 3 Office, the study area was developed to consist of five signalized intersections, one unsignalized intersection, and two sections where the I-90 ramps meet Route 12. Base traffic conditions within the study area were developed by conducting manual-turning movement counts (TMCs), vehicle classification counts, and automatic traffic recorder (ATR) counts. ATR counts were conducted in January 2023 and were used to obtain daily traffic volumes and speeds on US Route 20 (Southbridge Road) in the vicinity of #176 Southbridge Road (Oxford Auto Sales) for weekday and Saturday daily periods. TMCs and vehicle classification counts were performed during the weekday AM peak period (7:00 to 9:00 AM), weekday PM peak period (4:00 to 6:00 PM), and Saturday midday peak period (11:00 AM to 2:00 PM) in May 2022 and October 2023.

Based on the MassDOT seasonal adjustment data, traffic volumes on urban principal arterials (US Route 20) and urban minor arterials (Route 12 and Route 56) in May and October are higher than average-month conditions, and therefore, no seasonal adjustment was applied to the TMCs. The January 2023 ATR data conducted on US Route 20 (urban principal arterial) is estimated to be 5 percent below average-month conditions, and therefore, the ATR data was seasonally adjusted upward by 5 percent.

Existing conditions within the study area were derived from adjusting the count data to represent 2022/23 Existing traffic volumes; researching collision history; inventory of study area roadways, intersections, and traffic controls; evaluating vehicle speeds and sight distances; and assessing the availability of public transportation.

Future Conditions

Future conditions were derived by projecting existing traffic volumes to the year 2030, representing a seven-year design horizon. It should be noted that 2022 traffic counts were applied growth over eight years and the 2023 traffic counts were applied growth over seven years. The future No-Build peak-hour traffic volumes were developed by applying a 1.0 percent compounded annual growth rate to the existing volumes. Additionally, signal and geometric improvements are proposed (MassDOT Project #602659) along the US Route 20 corridor from Richardson Corner Road/Oxbow Road in Charlton to Route 12 in Oxford. These improvements were incorporated into the future No-Build conditions.

The Reserve (324-unit workforce housing rental apartment community) is expected to generate 123 vehicle trips during the weekday AM peak hour, 160 vehicle trips during the weekday PM peak hour, and 133 vehicle trips during the Saturday midday peak hour.

Auburn Condos (four duplex condominiums [eight units]) is expected to generate 4 vehicle trips during the weekday AM peak hour, 5 vehicle trips during the weekday PM peak hour, and 5 vehicle trips during the Saturday midday peak hour.

Ashworth Hills (a 320-unit duplex community) is expected to generate 132 vehicle trips during the weekday AM peak hour, 79 vehicle trips during the weekday PM peak hour, and 86 vehicle trips during the Saturday midday peak hour.

Ashworth Commons (a commercial development of approximately 160,000 square feet of retail, restaurant, and office space) is expected to generate 602 vehicle trips during the weekday AM peak hour, 587 vehicle trips during the weekday PM peak hour, and 647 vehicle trips during the Saturday midday peak hour.

In total, the proposed development project is expected to generate 861 vehicle trips (434 entering and 427 exiting) during the weekday AM peak hour, 831 vehicle trips (400 entering and 431 exiting) during the weekday PM peak hour, and 871 vehicle trips (447 entering and 424 exiting) during the Saturday midday peak hour through several access locations; two driveways on US Route 20, Thayer Pond Drive, Albert Street Extension, and Ashworth Drive.

The daily traffic for the full development project is estimated to be 9,824 trips during a weekday and 12,114 trips during a Saturday.

As part of the project, a total of 2,412 parking spaces (including 48 accessible spaces) will be provided on-site. Based on data provided in the Institute of Transportation Engineers *Parking Generation Manual*, the average peak parking demand anticipated to be generated by the proposed development is 1,243 spaces during weekday and 1,065 spaces on Saturdays. The project will land bank as many parking spaces as possible on the commercial property (Ashworth Commons) to reduce impervious area. It should be noted that the impervious areas have been accounted for in the stormwater system design(s), but the parking will only be built if necessary.

The site will also have multimodal access and connectivity with sidewalks and a shared-use path (SUP).

Mitigation

Based on the results of the capacity and queue analyses, beyond the MassDOT Project #602659 improvements, it is recommended that the traffic signal timing parameters be optimized along the US Route 20 corridor.

- At the intersection of **US Route 20 at Route 56**, it is recommended that the splits be adjusted during the weekday AM, weekday PM, and Saturday midday peak hours, and the eastbound and westbound right turns run as overlaps with the northbound and southbound left turns.
- At the intersection of **US Route 20 at Route 12 (Main Street)**, it is recommended that the cycle lengths and splits be optimized during the weekday AM, weekday PM, and Saturday midday peak hours.
- At the intersection of **US Route 20 at Hill Street and Albert Street**, it is recommended that the offsets and splits be optimized during the weekday AM, weekday PM, and Saturday midday peak hours.

- At the intersection of **US Route 20 at Route 12 (Southbridge Street)**, it is recommended that the splits be optimized during the weekday AM, weekday PM, and Saturday midday peak hours.
- At the intersection of **Route 12 (Southbridge Street) at West Street**, it is recommended that the splits be optimized during the weekday AM, weekday PM, and Saturday midday peak hours.
- At the intersection of **US Route 20 at Western Site Driveway**, it is recommended that a signal be installed.
- At the intersection of **Blaker Street at Albert Street and Site Driveway**, it is recommended that the approaches under STOP control be swapped, and Blaker Street becomes the roadway under STOP control.

A traffic signal warrant analysis was conducted to determine if signal control would be warranted at the intersection of US Route 20 at the western commercial site driveway. The proposed intersection is expected to meet all of the volume-related signal warrants. Accordingly, a traffic signal is recommended to be installed at this location, as stated above. To further justify the need for a traffic signal at this location, an Intersection Control Evaluation (ICE) Stage 1 analysis was completed. The results of the analysis indicate that only Signalized Control is a viable option for the US Route 20 at the western commercial site driveway.

Transportation Demand Management (TDM) measures to reduce vehicles trips to the site will be implemented / investigated. These include pedestrian accommodations, public transportation coordination to establish bus stop within the site, WTRA ADA Paratransit and NuRide coordination, resident information, bicycle storage and racks, providing recreational areas, teleworking areas, electric vehicle charging stations, and flexible work hours. In addition, a Transportation Monitoring Program will be implemented.

Project Phasing

A phasing analysis was also conducted to determine when/where the proposed mitigation should be implemented. The following phases were studied:

- **Phase I (2026 Build)**
  - 100% occupancy of Auburn Condos
  - 100% occupancy of The Reserve
  - 17% occupancy of Ashworth Hills
  - 0% occupancy of Ashworth Commons

  Under this phase, it was determined that the final mitigation should be implemented at these locations:
  - US Route 20 at Route 12 (Southbridge Street)
  - Route 12 at West Street / Plaza Driveway
  - Blaker Street at Albert Street and Site Driveway
- **Phase II (2027 Build)**
  - 100% occupancy of Auburn Condos
  - 100% occupancy of The Reserve
  - 17% occupancy of Ashworth Hills
  - 0% occupancy of Ashworth Commons

Under this phase, it was determined that the final mitigation should be implemented at these locations:

- US Route 20 at Route 56
- US Route 20 at Route 12 (Main Street)
- US Route 20 at Hill Street and Albert Street
- US Route 20 at Western Site Driveway

Supplemental Analysis

Per the request of MassDOT, a supplemental analysis was provided at the intersection of US Route 20 at Route 12 (Main Street), which included incorporating 2030 No-Build volumes into the Build mitigated Synchro analysis. Accordingly, the comparison of the 2030 No-Build mitigated analysis to the other conditions analyzed has been provided.

EXISTING CONDITIONS

Introduction

Greenman-Pedersen, Inc. (GPI) has prepared this Traffic Impact and Access Study (TIAS) for a proposed multi-use development, *The Reserve*, to be located in Oxford and Auburn, Massachusetts. The existing site is undeveloped. The 249-acre site is divided into four projects; (1) a 324-unit workforce housing rental apartment community which also includes (2) four duplex condominiums (eight units), (3) a 320-unit duplex community, and (4) a commercial development.

(1) The 324-unit residential apartment development (**The Reserve** [Auburn]) will be permitted pursuant to M.G.L. Ch. 40B Local Initiative Program (LIP). The project consists of twelve (12) 3-story buildings, five (5) 8-bay detached garage buildings, and a ±9,000 square foot clubhouse building, all occupying approximately 18.5 acres of land. Access and egress to these units will be provided via the new roadway Albert Street Extension off Blaker Street. Since there is only one access/egress point to this portion of the development, an emergency access drive will provide emergency-access only between the apartments and Tinker Hill Road.

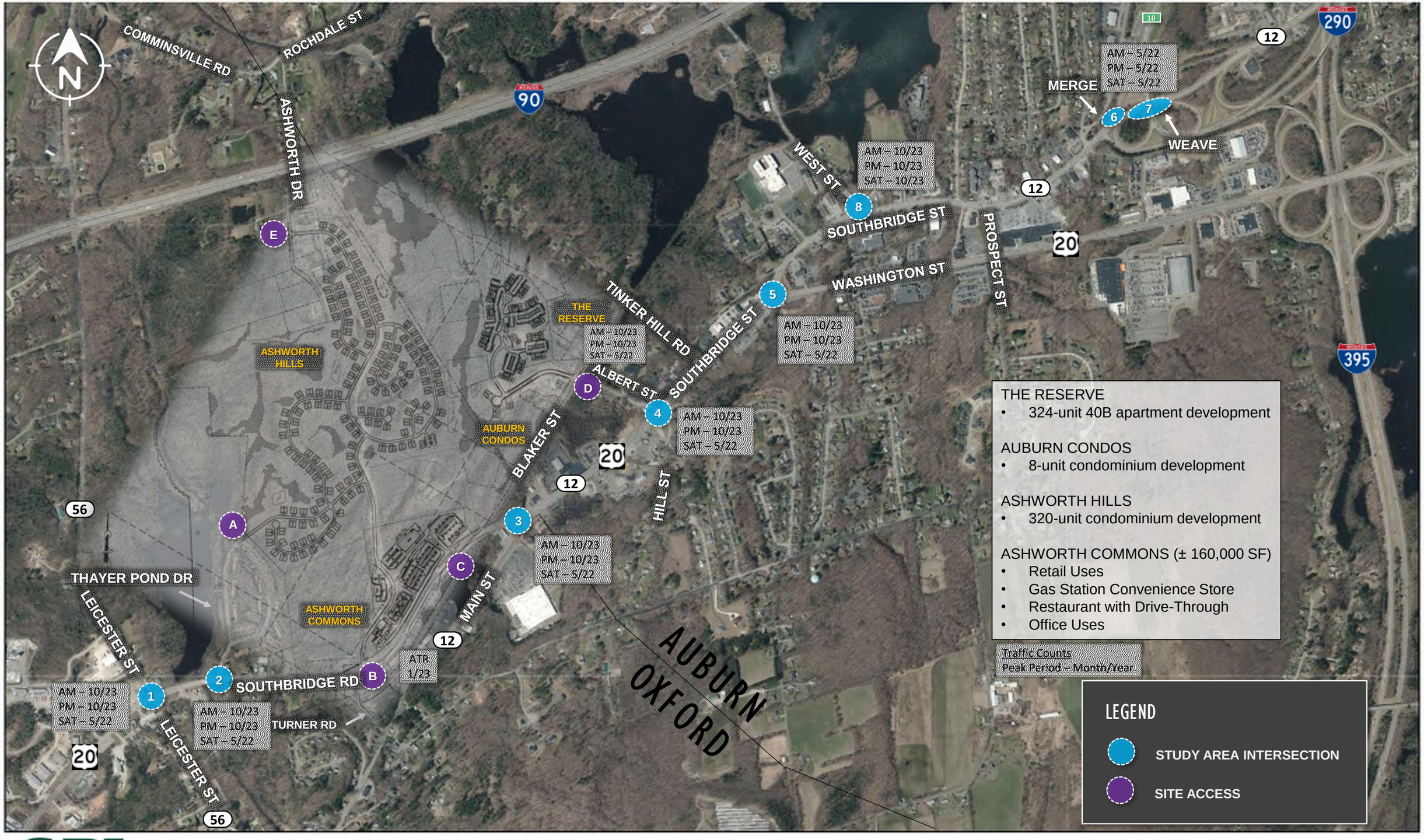
(2) The four (4) duplex condominiums (8 units) (**Auburn Condos**). Access and egress to these units will be provided via the new roadway Albert Street Extension off Blaker Street with one duplex on Blaker Street.

(3) The 320-unit duplex community (**Ashworth Hills** [Oxford]) will be permitted pursuant to the Oxford Zoning Bylaws. Access and egress to these units will be provided via one driveway on US Route 20 (Southbridge Road) through the commercial development, one driveway on Ashworth Drive, and an extension of Thayer Pond Drive which will permit enter-only traffic to the development.

(4) The commercial portion of the site (**Ashworth Commons** [Oxford]) consists of approximately 160,000 square feet of retail, restaurant, and office space. Access and egress to this portion of the site will be provided via two driveways on US Route 20 (Southbridge Road).

The site is bounded by Interstate 90 (I-90) to the north, US Route 20 to the south, Tinker Hill Road to the east, and Route 56 to the west. The site location in relation to the surrounding roadways is shown on Figure 1.

US Route 20 (Southbridge Road) is a state highway and will, therefore, require a permit to access state highway from the Massachusetts Department of Transportation (MassDOT). In addition, since the proposed expansion project is expected to generate more than 3,000 additional vehicle trips per day, the project will require review by the Massachusetts Environmental Policy Act (MEPA) office in the form of an Environmental Notification Form (ENF) and a Mandatory Environmental Impact Report (EIR). Local review of the project will also be required by the Towns of Oxford and Auburn. To date the project has gone through the MEPA ENF process and a Certificate of the Secretary of Energy and Environmental Affairs (EEA) on the ENF was issued on October 12, 2018 (EEA #15912). The Certificate required the preparation of a Mandatory Environmental Impact Report (EIR). A Draft EIR was prepared and submitted in September 2022 and MassDOT comments were received in October 2022. A Teams Meeting was held with MassDOT on December 12, 2022 to discuss the comments. Coordination continued with MassDOT through email between May 2, 2023 and September 28, 2023. An additional Teams Meeting was held on October 24, 2024 with MassDOT to discuss comments. Coordination continued with MassDOT through email between October 28, 2024 and November 5, 2024. The email correspondence is provided in the Appendix. This Final EIR addresses the MassDOT comments.



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THE RESERVE – OXFORD/AUBURN, MA

FIGURE 1 – STUDY AREA

Study Area

Evaluation of traffic impacts associated with the proposed project requires an evaluation of existing and projected traffic volumes on the adjacent streets, the volume of traffic expected to be generated by development of the site, and the impact that this traffic will have on the adjacent streets and nearby intersections. Per the Certificate of the Secretary of EEA on the ENF, based on review by MassDOT Public/Private Development Unit (P/PDU) and the District 3 Office, the following intersections have been evaluated in the completion of this study:

- US Route 20 (Southbridge Road) at Route 56 (Leicester Street)
- US Route 20 (Southbridge Road) at Thayer Pond Drive
- US Route 20 (Southbridge Road/Southbridge Street) at Route 12 (Main Street)
- US Route 20 (Southbridge Street) at Albert Street / Hill Street
- US Route 20 (Southbridge Street/Washington Street) at Route 12 (Southbridge Street)
- Route 12 (Southbridge Street) at West Street / Plaza Driveway
- Route 12 Westbound (Southbridge Street) at Interstate-90 (I-90) Off-Ramp Merge
- Route 12 Eastbound (Southbridge Street) Weave between I-90 Off-Ramp and I-90 On-Ramp

Additionally, the following site driveway locations have been evaluated:

- US Route 20 (Southbridge Road) at proposed western commercial site driveway
- US Route 20 (Southbridge Road) at proposed eastern commercial site driveway
- Blaker Street at Albert Street and proposed site driveway
- Ashworth Drive at proposed site driveway

A description of the geometric and traffic control characteristics of the study area intersections is provided in the *Geometrics and Traffic Control* section of this report, followed by quantification of existing traffic volumes, collision history, vehicle speeds, sight distances, and availability of public transportation.

Geometrics and Traffic Control

A comprehensive field inventory of the project study area was conducted in July 2020. The data collected during the field inventory included intersection geometry, vehicle speeds, sight distances, and traffic control devices. A description of each roadway and intersection that is a part of the project network follows.

US Route 20 (Southbridge Road/Southbridge Street/Washington Street)

US Route 20 is an urban principal arterial roadway that is under the jurisdiction of the MassDOT. The roadway extends in a general east/west direction. In the vicinity of the proposed site, US Route 20 generally consists of two travel lanes in each direction. To the west of the intersection with Route 56, the posted speed limit is 50 miles per hour (mph). Approaching the intersection of Route 56 from the west, the speed limit transitions to 40 mph. To the east of the intersection with Route 56, the posted speed limit is 45 mph in both directions. Approaching the intersection of Main Street from the west,

the posted speed transitions to 35 mph. To the east of Main Street, the posted speed is 40 mph in both directions. Sidewalks are present on US Route 20 between the intersection of Main Street and the intersection of Southbridge Street, as well as at the intersection with Route 56. No bicycle accommodations are provided along the US Route 20 corridor. Land uses along US Route 20 in the site vicinity consist of commercial and residential uses.

Route 56 (Leicester Street)

Route 56 is an urban minor arterial roadway that is under the jurisdiction of the Town of Oxford, Massachusetts. The roadway extends in a general north/south direction. In the vicinity of the proposed site, Route 56 generally consists of one travel lane in each direction with a posted speed limit of 50 mph on the north side of US Route 20. Sidewalks are present on each side of Route 56 to the north of US Route 20, and are provided on the easterly side of Route 56 to the south of US Route 20. North of the intersection with US Route 20, shoulders are 4 to 5 feet wide which can accommodate bicycle travel, although no bike lanes are provided. South of the intersection with US Route 20, no bicycle accommodations are provided. Land uses along Route 56 in the site vicinity consist of residential and commercial uses.

Route 12 (Main Street/Southbridge Street)

Route 12 is an urban minor arterial roadway that is under the jurisdiction of MassDOT. The roadway extends in a general north/south direction. In the vicinity of the proposed site, Route 12 consists of two travel lanes in each direction, which transitions to one lane in each direction south of the Walmart. Route 12 has a posted speed of 40 mph, and has a sidewalk on the easterly side. On Main Street, shoulder widths widen the further away from US Route 20 with 4 to 5-foot wide in the area of Turner Road which can accommodate bicycle travel, although no bike lanes are provided. On Southbridge Street, no bicycle accommodations are provided. Land uses along Route 12 in the site vicinity consist of residential and commercial use.

Thayer Pond Drive

Thayer Pond Drive is a private roadway that lies about 750 feet to the east of Route 56. The roadway provides access to the Thayer Pond Village (±250 unit apartment complex) on the north side of US Route 20. This is a residential area with a posted speed limit of 15 mph. There are no sidewalks or bicycle accommodations along Thayer Pond Drive.

Albert Street

Albert Street is a local roadway that is under the jurisdiction of the Town of Auburn, Massachusetts. The roadway is located approximately one-third mile west of the intersection of US Route 20 and Route 12, and provides access to a residential area on the northerly side of US Route 20. In the vicinity of the proposed site, Albert Street consists of one travel lane in each direction and no sidewalks or bicycle accommodations are currently provided. Land uses along Albert Street consist of residential and commercial use.

It should be noted that Albert Street was recently widened and, although not completed yet, roadway curbing and sidewalks will be constructed along Albert Street from US Route 20 to Blaker Street and into Albert Street Extension.

Blaker Street

Blaker Street is a local roadway that is under the jurisdiction of the Town of Auburn, Massachusetts, and runs parallel to US Route 20. The roadway is connected to US Route 20 by Albert Street, and has no pavement markings, sidewalks, or bicycle accommodations. Land use on Blaker Street consists of residential homes.

Ashworth Drive

Ashworth Drive is a local roadway that is under the jurisdiction of the Town of Auburn, Massachusetts. The roadway extends in a general north/south direction and has no pavement markings, sidewalks, or bicycle accommodations. Land use along Ashworth Street consists of residential homes.

US Route 20 (Southbridge Road) at Route 56 (Leicester Street)

US Route 20 and Route 56 join to the southwest of the proposed site and form a four-way signalized intersection. The US Route 20 eastbound and westbound approaches consist of one exclusive left-turn lane, one through lane, and one shared through/right-turn lane. The Route 56 northbound approach consists of one general purpose lane. The Route 56 southbound approach consists of one exclusive left-turn lane and one shared through/right-turn lane. Crosswalks, sidewalks, and pedestrian signal heads are provided on each leg of the intersection.

US Route 20 (Southbridge Road) at Thayer Pond Drive

Thayer Pond Drive intersects US Route 20 from the north, forming a three-leg unsignalized intersection, approximately 750 feet to the east of the intersection of US Route 20 and Route 56. The Thayer Pond Village driveway has a posted speed limit of 15 mph and contains an island which separates the entrance and exit travel ways. US Route 20 consists of two travel lanes in each direction. The eastbound and westbound travel ways on US Route 20 are separated by a double-yellow centerline. There are no sidewalks or crosswalks provided at this intersection.

US Route 20 (Southbridge Road/Southbridge Street) at Route 12 (Main Street)

Route 12 intersects US Route 20 from the south to form a three-leg signalized intersection. The Route 12 northbound approach consists of one shared left/right-turn lane and one exclusive right turn lane. The US Route 20 eastbound approach consists of one through lane and one shared through/right-turn lane. The US Route 20 westbound approach consists of two exclusive left-turn lanes and two through lanes, and permits U-turns for both passenger vehicles and trucks. The eastbound and westbound travel ways on US Route 20 are separated by a raised concrete median on both sides of the intersection. Crosswalks and pedestrian signal heads are provided across the south leg and across the west leg of US Route 20. R10-22 signs (TO REQUEST GREEN WAIT ON [symbol of a person on a bicycle with a vertical line]) and bicycle detection pavement markings are provided for bicyclists on the US Route 20 eastbound approach and the Route 12 northbound approach. There is no supplemental signage provided on the Route 20 westbound approach. Bicycle detection pavement markings on US Route 12 are located in the middle of the lane at the STOP line. The pavement markings on US Route 20 are placed either just outside the shoulder line at the STOP line or in the middle of the left-turn lane at the STOP line.

US Route 20 (Southbridge Street) at Albert Street / Hill Street

Albert Street intersects US Route 20 from the north and Hill Street intersects US Route 20 from the south to form a four-way signalized intersection. The US Route 20 eastbound and westbound approaches consist of one exclusive left-turn lane, one through lane, and one shared through/right-turn lane, and permits U-turns for passenger vehicles but not for trucks. The Hill Street northbound and Albert Street southbound approaches each consist of one exclusive left-turn lane and one shared through/right-turn lane. The eastbound and westbound travel ways are separated by a raised median on both sides of the intersection. Crosswalks and pedestrian signal heads are provided across Albert Street and Hill Street, as well as across US Route 20 on the westerly side of the intersection. Bicycle detection pavement markings are provided on all approaches to the intersection. The pavement markings on Albert Street and Hill Street are located in the middle of the lane at the STOP line. The pavement markings on US Route 20 are placed either just outside the shoulder line at the STOP line or in the middle of the left-turn lane at the STOP line. Additionally, R10-22 signs are provided for bicyclists on the Albert Street and Hill Street approaches.

US Route 20 (Southbridge Street/Washington Street) at Route 12 (Southbridge Street)

Route 12 intersects US Route 20 from the north to form a four-way signalized intersection. At this intersection, Southbridge Street, on the west side of the intersection, transitions into Washington Street, on the east side of the intersection. The Southbridge Street eastbound approach consists of an exclusive U-turn lane, two exclusive left-turn lanes and two through lanes. The Washington Street westbound approach consists of two through lanes and a channelized right-turn lane, which operates under YIELD-control. The Route 12 southbound approach consists of two exclusive right-turn lanes onto US Route 20 westbound only. The southern leg of the intersection (northbound approach) provides access to a vacant retail building which is not under traffic signal control. Accordingly, although the intersection is a four-way intersection, it operates as a T-type intersection. All approaches have the travel ways separated by a raised median, except the northbound approach. Bicycle detection pavement markings are placed just outside the shoulder line at the STOP line on all approaches. There are no R10-22 signs provided for bicyclists.

Route 12 (Southbridge Street) at West Street / Plaza Driveway

West Street and the Shopping Plaza driveway intersect Route 12 (Southbridge Street) from the north and south, respectively to form a four-way signalized intersection. The Route 12 (Southbridge Street) eastbound and westbound approaches consists of a shared left-turn/through lane and a shared through/right-turn lane. The West Street approach consists of an exclusive left-turn lane and a shared left/through/right-turn lane. The Shopping Plaza driveway consists of one general purpose lane. The current lane designation pavement markings at the intersection are faded. Directional travel is separated by double-yellow centerlines on all approaches. Crosswalks are provided on all legs of the intersection.

Traffic Volumes

Base traffic conditions within the study area were developed by conducting manual-turning movement counts (TMCs), vehicle classification counts, and automatic traffic recorder (ATR) counts. ATR counts were conducted in January 2023 and were used to obtain daily traffic volumes and speeds on US Route 20 (Southbridge Road) in the vicinity of #176 Southbridge Road (Oxford Auto Sales) for weekday and Saturday daily periods.

TMCs and vehicle classification counts were performed during the weekday AM peak period (7:00 to 9:00 AM), weekday PM peak period (4:00 to 6:00 PM), and Saturday midday peak period (11:00 AM to 2:00 PM). The TMCs were performed in May 2022 and October 2023 as outlined below:

	AM	PM	SAT
US Route 20 / Route 56	Oct 2023	Oct 2023	May 2022
US Route 20 / Thayer Pond Drive	Oct 2023	Oct 2023	May 2022
US Route 20 / Route 12	Oct 2023	Oct 2023	May 2022
US Route 20 / Albert Street/Hill Street	Oct 2023	Oct 2023	May 2022
US Route 20 / Route 12	Oct 2023	Oct 2023	May 2022
Albert Street / Blaker Street	Oct 2023	Oct 2023	May 2022
Route 12 / Route I-90 Ramps	May 2022	May 2022	May 2022
Route 12 / West Street	Oct 2023	Oct 2023	Oct 2023

All traffic-count data is provided in the Appendix.

Based on the MassDOT seasonal adjustment data, traffic volumes on urban principal arterials (US Route 20) and urban minor arterials (Route 12 and Route 56) in May and October are higher than average-month conditions, and therefore, no seasonal adjustment was applied to the TMCs. The January 2023 ATR data conducted on US Route 20 (urban principal arterial) is estimated to be 5 percent below average-month conditions, and therefore, the ATR data was seasonally adjusted upward by 5 percent.

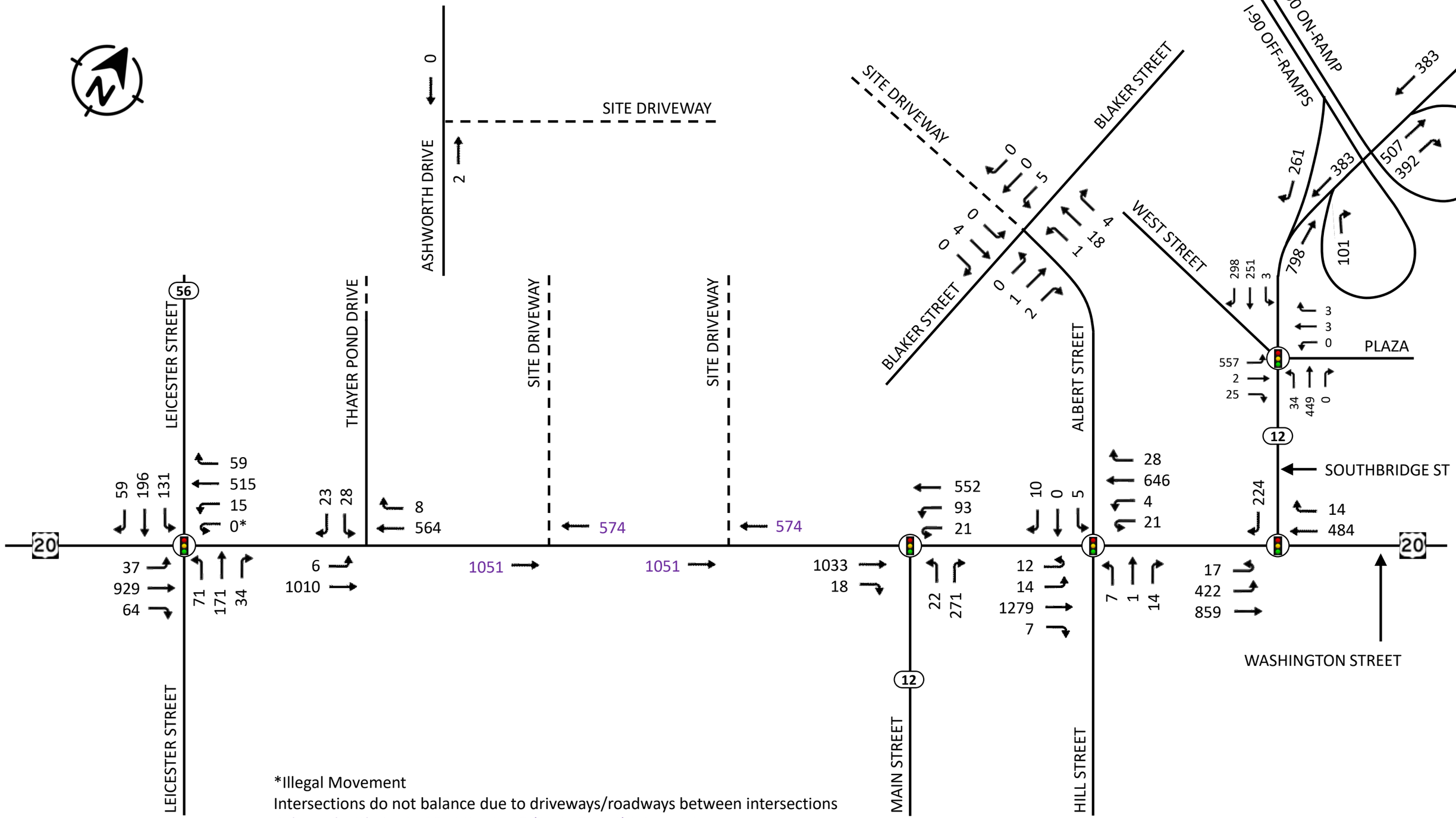
All traffic volume adjustment data are provided in the Appendix.

Table 1 summarizes the existing daily and peak-hour traffic volumes. Figures 2 through 4 graphically depict the 2022/23 Existing weekday AM, weekday PM, and Saturday midday peak-hour traffic-flow networks, respectively.

TABLE 1
Existing Traffic Volume Summary

Location/Time Period	Daily Volume (vpd) [a]	Peak Hour Volume (vph) [b]	K Factor [c]	Directional Distribution [d]
US Route 20 adjacent to the site				
Weekday Daily:	28,150			
Weekday AM Peak Hour		1,625	5.8	65% EB
Weekday PM Peak Hour		2,164	7.7	62% WB
Saturday Daily:	27,250			
Saturday Midday Peak Hour		2,131	7.8	52% EB

[a] Vehicles per day. Based on ATR counts collected on Thursday, January 19, 2023 (26,768 vpd) and Saturday, January 21, 2023 (25,921 vpd) seasonally adjusted upward by 5 percent.
[b] Vehicles per hour from Figures 2 and 3.
[c] Percent of average daily traffic occurring during the peak hour from Figures 2, 3, and 4.
[d] EB = eastbound; WB = westbound.

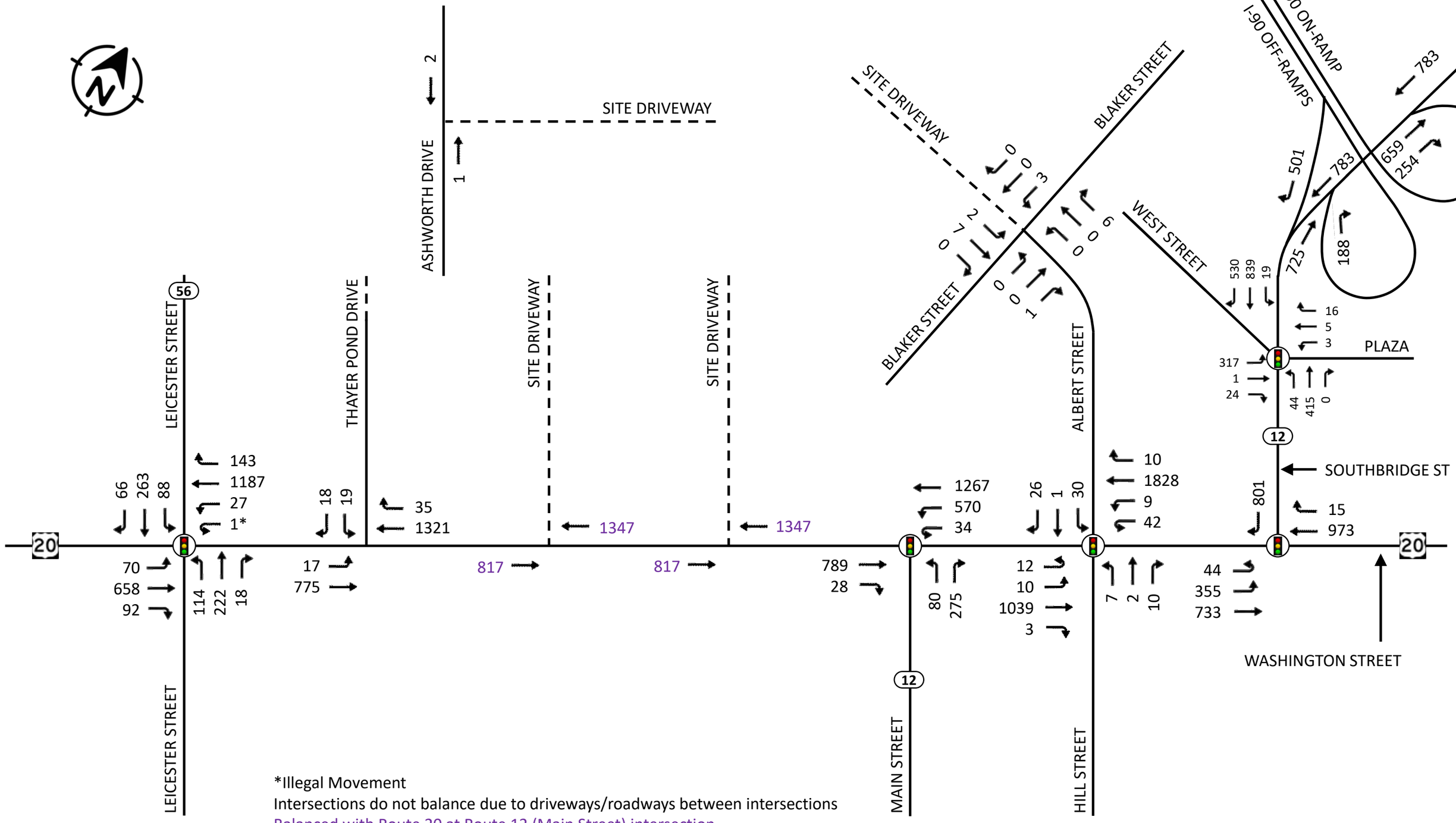


*Illegal Movement
Intersections do not balance due to driveways/roadways between intersections
Balanced with Route 20 at Route 12 (Main Street) intersection

FIGURE 2

2022/2023 EXISTING TRAFFIC VOLUMES
WEEKDAY AM PEAK HOUR

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*Illegal Movement
Intersections do not balance due to driveways/roadways between intersections
Balanced with Route 20 at Route 12 (Main Street) intersection

FIGURE 3

2022/2023 EXISTING TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

GPI
Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887
THE RESERVE – OXFORD/AUBURN, MA

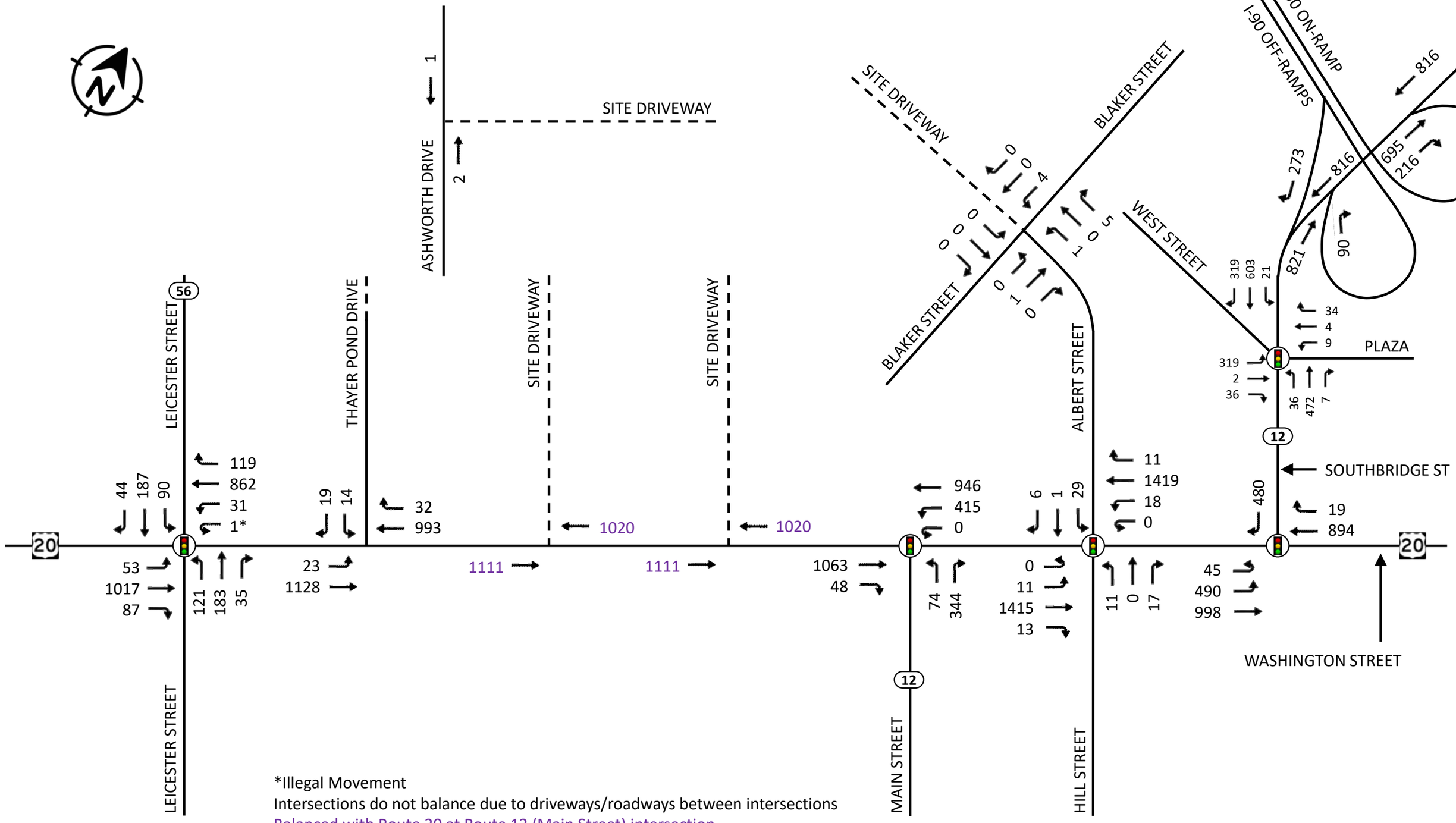


FIGURE 4

2022/2023 EXISTING TRAFFIC VOLUMES
SATURDAY MIDDAY PEAK HOUR

GPI
Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887
THE RESERVE – OXFORD/AUBURN, MA

Collision History

Collision data for the study area intersections were obtained from MassDOT for the 5-year period from 2013 to 2017. A summary of the collision data for each intersection is provided in Table 2. In addition to the collision summary, crash occurrence also should be compared to the volume of traffic through a particular intersection to determine any significance. Accordingly, the crash rate was calculated for the study area intersection and compared with the statewide and district-wide averages. An intersection crash rate is a measure of the frequency of collisions compared to the volume of traffic through an intersection and is presented in crashes per million entering vehicles (c/mev). For signalized intersections, the statewide average is 0.78 c/mev and the district-wide (District 3) average is 0.89 c/mev. For unsignalized intersections, the statewide average is 0.57 c/mev and the district-wide average is 0.61 c/mev. A comparison of the calculated crash rate to these averages can be used to establish the significance of collision occurrence and whether or not potential safety problems exist. All crash rate worksheets are provided in the Appendix.

The intersection of **US Route 20 and Route 56** has experienced, on average, twelve collisions per year, of which 67 percent (41 of 61) consisted of property damage only. The majority of collisions (30 of 61) were identified as rear-end collisions, which are common at signalized intersections. Angle-type collisions were also common (20 of 61) which could be a result of driver confusion over the permitted left-turn phasing along Route 56. Eighty-four percent (51 of 61) of collisions occurred during off-peak hours. The crash rate for this intersection (0.87 c/mev) is higher than the statewide average for signalized intersections and this intersection is listed as a 2018-2020 Highway Safety Improvement Program (HSIP) cluster. A *Road Safety Audit* (RSA) was conducted by HDR Engineering, Inc. at this location in 2014 and as discussed in the *Planned Roadway Improvements* section of the TIAS, improvements are proposed by MassDOT (Project #602659) at this location.

The intersection of **US Route 20 and Thayer Pond Drive** has experienced, on average, three collisions per year, of which 64 percent (9 of 14) consisted of property damage only. The majority of collisions (7 of 14) were identified as rear-end collisions, which could be the result of vehicles slowing down to turn into Thayer Pond Drive. Seventy-nine percent (11 of 14) of collisions occurred during off-peak hours. The crash rate for this intersection (0.27 c/mev) is lower than the statewide and district-wide averages for unsignalized intersections.

The intersection of **US Route 20 and Route 12 (Main Street)** has experienced, on average, five collisions per year, of which 83 percent (20 of 24) consisted of property damage only. The majority of collisions (11 of 24) were identified as rear-end collisions. Ninety-two percent (22 of 24) of collisions occurred during off-peak hours. The crash rate for this intersection (0.33 c/mev) is lower than the statewide and district-wide averages for signalized intersections. It should be noted that an RSA was conducted by Howard/Stein-Hudson, Inc. in 2012 at this location and it is not currently listed as an HSIP location.

The intersection of **US Route 20 and Albert Street and Hill Street** has experienced, on average, four collisions per year, of which 74 percent (14 of 19) consisted of property damage only. The majority of collisions (8 of 19) were identified as rear-end collisions. Angle-type collisions were also common (6 of 19), which may be a result of driver confusions prior to the installation of the traffic signal at this intersection. Ninety-five percent (18 of 19) of collisions occurred during off-peak hours. The crash rate for this intersection (0.26 c/mev) is lower than the statewide and district-wide averages for signalized intersections.

The intersection of **US Route 20 and Route 12 (Southbridge Street)** has experienced, on average, seven collisions per year, of which 73 percent (27 of 37) consisted of property damage only. The majority of collisions (13 of 37) were identified as rear-end collisions. Ninety-two percent (34 of 37) of collisions occurred during off-peak hours. The crash rate for this intersection (0.53 c/mev) is lower than the statewide and district-wide averages for signalized intersections. It should be noted that an RSA was conducted by Howard/Stein-Hudson, Inc. in 2012 at this location and it is not currently listed as an HSIP location.

The intersection of **Route 12 (Southbridge Street) at West Street** has experienced, on average, four collisions per year, of which 65 percent (13 of 20) consisted of property damage only. The majority of collisions (13 of 20) were identified as rear-end collisions. Eighty percent (16 of 20) of collisions occurred during off-peak hours. The crash rate for this intersection (0.38 c/mev) is lower than the statewide and district-wide averages for signalized intersections.

An RSA was conducted by McMahon Associates, Inc. for the US Route 20 corridor in 2016 and as discussed in the *Planned Roadway Improvements* section of the TIAS, improvements are proposed by MassDOT (Project #602659) along the corridor.

TABLE 2
Collision Summary

Location	Number of Collisions			Severity [a]			Collision Type [b]						Percent During	
	Total	Average per Year	Crash Rate [c]	PD	PI	F	CM	RE	HO	FO	SS	Other	Commuter Peak [d]	Wet/Icy Conditions
US Route 20 at Route 56	61	12.2	0.87	41	18	0	20	30	1	3	6	1	16%	33%
US Route 20 at Thayer Pond Drive	14	2.8	0.27	9	5	0	3	7	0	0	4	0	21%	43%
US Route 20 at Route 12 (Main Street)	24	4.8	0.33	20	4	0	3	11	0	5	4	1	8%	42%
US Route 20 at Albert Street and Hill Street	19	3.8	0.26	14	5	0	6	8	0	2	2	1	5%	11%
US Route 20 at Route 12 (Southbridge Street)	37	7.4	0.53	27	9	0	8	13	0	8	8	0	8%	24%
Route 12 (Southbridge Street) at West Street	20	4.0	0.38	13	7	0	6	13	0	0	1	0	20%	10%

Source: MassDOT Collision Data from 2013 to 2017.
[a] PD = property damage only; PI = personal injury; F = fatality.
[b] CM = cross movement/angle; RE = rear end; HO = head on; FO = fixed object; SS = sideswipe.
[c] Measured in crashes per million entering vehicles.
[d] Percent of vehicle incidents that occurred during the weekday AM and weekday PM commuter peak periods.

Vehicle Speeds

Vehicle speed measurements were conducted along US Route 20 (Southbridge Road), east of Turner Road in the vicinity of #176 Southbridge Road (Oxford Auto Sales), as part of the data collected in January 2023. The primary use of this information is explained in the *Sight Distance* section where the speeds are correlated to sight distance measurements taken at the proposed western site driveway location on US Route 20 to assure that adequate sight distances exist to provide safe operation. The speed data is provided in the Appendix and the results of the speed measurements are summarized in Table 3.

TABLE 3
Observed Travel Speeds

Location/Direction	Posted Speed Limit [a]	Average Speed [a]	85th Percentile Speed [b]
US Route 20 east of Turner Rd:			
Eastbound	45	46	51
Westbound	45	45	51

[a] In miles per hour (mph).
[b] Speed at, or below which 85 percent of all observed vehicles travel.

As shown in Table 3, the average speeds on US Route 20, east of Turner Road, were found to be consistent with the posted speed limit of 45 mph. The 85th percentile speed in both directions was 51 mph which is slightly higher than the posted speed limit, yet within the typical range of 7 mph.

Sight Distance

To identify potential safety concerns associated with site access and egress, sight distances have been evaluated at the site driveway locations to determine if the available sight distances for vehicles exiting the site meet or exceed the minimum distances required for approaching vehicles to safely stop. As part of The Reserve and Auburn Condos developments, and subject to approval by the Auburn Zoning Board of Appeals and the Auburn Department of Public Works (DPW), the STOP signs currently on Albert Street will be moved to Blaker Street since Blaker Street will have the lower volume of traffic. Accordingly, sight lines were measured for the Blaker Street approaches.

The available sight distances were compared with minimum requirements, as established by the American Association of State Highway and Transportation Officials (AASHTO).[1] AASHTO is the national standard by which vehicle sight distance is calculated, measured, and reported. The MassDOT and the Executive Office of Energy and Environmental Affairs (EEA) require the use of

[1] *A Policy on Geometric Design of Highways and Streets*; American Association of State Highway and Transportation Officials (AASHTO); 2018.

AASHTO sight distance standards when preparing traffic impact assessments and studies, as stated in their guidelines for traffic impact assessments.

Sight distance is the length of roadway ahead that is visible to the driver. Stopping Sight Distance (SSD) is the minimum distance required for a vehicle traveling at a certain speed to safely stop before reaching a stationary object in its path. The values are based on a driver perception and reaction time of 2.5 seconds and a braking distance calculated for wet, level pavements. When the roadway is either on an upgrade or downgrade, grade correction factors are applied. Stopping sight distance is measured from an eye height of 3.5 feet to an object height of 2 feet above street level, equivalent to the taillight height of a passenger car. The SSD is measured along the centerline of the traveled way of the major road.

Intersection Sight Distance (ISD) is provided on minor street approaches to allow the drivers of stopped vehicles a sufficient view of the major roadway to decide when to enter the major roadway. By definition, ISD is the minimum distance required for a motorist exiting a minor street to turn onto the major street, without being overtaken by an approaching vehicle reducing its speed from the design speed to 70 percent of the design speed. ISD is measured from an eye height of 3.5 feet to an object height of 3.5 feet above street level. The use of an object height equal to the driver eye height makes intersection sight distances reciprocal (i.e., if one driver can see another vehicle, then the driver of that vehicle can also see the first vehicle). When the minor street is on an upgrade that exceeds 3.0 percent, grade correction factors are applied.

SSD is generally more important as it represents the minimum distance required for safe stopping while ISD is based only upon acceptable speed reductions to the approaching traffic stream. The ISD, however, must be equal to or greater than the minimum required SSD in order to provide safe operations at the intersection. In accordance with the AASHTO manual, *"If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions. However, in some cases, this may require a major-road vehicle to stop or slow to accommodate the maneuver by a minor-road vehicle. To enhance traffic operations, intersection sight distances that exceed stopping sight distances are desirable along the major road."* Accordingly, ISD should be at least equal to the distance required to allow a driver approaching the minor road to safely stop.

The available SSD and ISD at the site driveway locations were measured and compared to minimum requirements as established by AASHTO. Since the distance required to stop a vehicle is dependent on the speed of that vehicle, speed studies were reviewed as presented in the *Vehicle Speeds* section of this report. It should be noted that due to the close proximity of the proposed right-in/right out driveway on US Route 20 to the traffic signal at Main Street, the enforced speed limit was utilized at this location and the enforced speed plus seven miles per hour was assumed as the 85th percentile speed along Ashworth Drive where no speed data is available. Based on both the posted speed limit and the observed speeds, the SSD and ISD requirements at the site driveway intersections were calculated. The required minimum sight distances for each speed are compared to the available distances, as shown in Table 4. All calculations based on AASHTO requirements are provided in the Appendix.

TABLE 4
Sight Distance Summary

Location/Direction	Stopping Sight Distance (feet)		Intersection Sight Distance (feet)		
	Measured	Minimum Required [b]	Measured	Minimum Required [c]	Desirable [d]
US Route 20 (Southbridge Rd) at Right-In/Right-Out Western Commercial Site Driveway (B) [a]:					
East of intersection (WB)	>600	440	>540	440	430
US Route 20 (Southbridge Rd) at Right-In/Right-Out Eastern Commercial Driveway (C) [a]:					
East of intersection (WB)	395	375	395	375	430
Blaker Street Eastbound at Albert Street Site Driveway (D):					
South of intersection (NB)	460	270	335 [e]	270	335
North of intersection (SB)	335	270	325	270	290
Blaker Street Westbound at Albert Street Site Driveway (D):					
South of intersection (NB)	500+	270	290 [e]	270	290
North of intersection (SB)	500+	270	380	270	335
Ashworth Drive at Site Driveway (E):					
South of intersection (NB)	500+	270	330	270	290
North of intersection (SB)	500+	265	170	265	335
US Route 20 (Southbridge Rd) at Signalized Western Commercial Site Driveway (B) [f]:					
West of intersection (EB)	>600	440	>440	440	565
East of intersection (WB)	>600	440	>540	440	430

[a] Measured distances are based on the proposed conditions shown on the Sight Distance Plans provided in the Appendix for US Route 20 due to the MassDOT project making alignment changes to US Route 20.
[b] Values based on AASHTO requirements for 85th percentile speeds of 51 mph (both directions) on US Route 20 for the signalized site driveway, the enforced speed for the right-in/right-out site driveway (45 mph), and the enforced speed plus 7 mph on Blaker Street and Ashworth Drive (37 mph).
[c] Values based on AASHTO requirements for SSD.
[d] Values based on AASHTO requirements for a posted speed limit of 45 mph on US Route 20 and an enforced speed of 30 mph on Blaker Street and Ashworth Drive.
[e] Assumes clearing of the vegetation blocking sight lines under existing conditions.
[f] Assumes a four-way signalized intersection is constructed as part of the full-build out mitigation for the project. Measured distances are based on the proposed conditions shown on the Sight Distance Plans provided in the Appendix for US Route 20 due to the MassDOT project making alignment changes to US Route 20.

As indicated in Table 4, available sight distances at the proposed western commercial driveway on US Route 20 exceeds the minimum requirements for safe operation for a right-in/right out unsignalized intersection as well as a four-way unsignalized intersection. As part of the full-build out mitigation of the project at this location, a traffic signal is proposed. In accordance with the AASHTO manual, *"At signalized intersections, the first vehicle stopped on one approach should be visible to the driver of the first vehicle stopped on each of the other approaches*." Accordingly, the signalized driveway on US Route 20 is also in compliance with signalized intersection control requirements as established by AASHTO. Additionally, the right-turn on red will be restricted on the site driveway approach.

At the proposed right-in/right-out site driveway on US Route 20, available sight distances exceed the minimum requirements for safe operation of the intersection. The desirable ISD is not met due to a vertical curve in US Route 20.

The sight distance measurements are shown on the Sight Distance Plans, Figures A-1 and A-2, provided in the Appendix.

Available sight distances at the site driveway intersecting Ashworth Drive exceed the minimum and desirable SSD and ISD requirements for safe operation of the intersection south of the driveway. North of the driveway, the sight distance is limited to 170 feet by an abutter's stone wall. The available sight distance is safe for speeds up to 27 mph. Since no traffic is expected to take a left from the site driveway onto Ashworth Drive (it is essentially a dead-end roadway), this sight distance is not critical. Additionally, it is not expected that vehicles will be traveling faster than 27 mph as they approach the site driveway on Ashworth Drive.

As proposed, the STOP signs currently on Albert Street and Albert Street Extension will be moved to Blaker Street since Blaker Street will have the lower volume of traffic. Available sight distances at the Blaker Street approaches exceed the minimum SSD requirements for safe operation. The minimum and desirable ISD were not met in the field due to the overgrown vegetation on the northeast and southeast corners of Blaker Street and Albert Street intersection. However, based on the available survey for the intersection, the elevation of the roadway and surrounding areas do not pose an issue to the sight lines. Accordingly, the Applicant agrees to clear the vegetation on these corners in order to meet the minimum and desirable ISD for the Blaker Street eastbound and westbound approaches.

In order to maintain the sight distances at the site driveways, it is recommended that any proposed vegetation and signing along the site frontage be kept low to the ground (less than 3.0 feet from street level) or set back sufficiently from the edge of US Route 20, Albert Street, and Ashworth Drive so as not to inhibit the available sight lines.

Public Transportation

The Worcester Regional Transit Authority (WRTA) provides service to the city of Worcester and 36 neighboring communities in Massachusetts. Public transportation services exist along US Route 20 and Route 12 in the vicinity of the project. WRTA Route 29 provides service between the Union Station Hub in Worcester and the Big Bunny Plaza in Southbridge on Monday through Friday from 5:35 AM to 7:35 PM, and from 8:00 AM to 8:00 PM on Saturday. In the vicinity of the project, WRTA Route 29 travels along US Route 20 but does not provide pick-up or drop-off locations due to safety concerns. WTRA Route 42 provides service between the Union Station Hub and the intersection of Davis Street and Main Street in Webster on Monday through Friday from 5:25 AM to

8:20 PM, and from 7:00 AM to 8:15 PM on Saturday. In the vicinity of the project, WRTA Route 42 travels along Route 12 (Main Street), US Route 20, and Southbridge Street but does not provide any fixed stops. Outside of Worcester, flag stops are permitted along WRTA Route 42. There is no Sunday service for WRTA Route 29 or 42. The WRTA provides discounted fares for the elderly, disabled persons, and children under 13 accompanied by an adult. WRTA Route 29 and 42 maps and schedules are provided in the Appendix.

The WRTA has been provided the proposed project information and currently do not have plans to expand its fixed-route network to provide direct service to the project area. The correspondence from the WRTA is provided in the Appendix.

FUTURE CONDITIONS

To estimate the impact of site-generated traffic within the study area, existing traffic volumes were projected to the year 2030. This represents a seven-year design horizon in accordance with the EOEEA/EOT traffic impact assessment guidelines. Traffic volumes on the roadway network at that time will include existing traffic, new traffic due to normal traffic growth, and traffic related to any significant development by others expected to be completed within the area by 2030. Consideration of these factors resulted in the development of 2030 No-Build traffic volumes, which assume that the proposed project is not built. The incremental impacts of the proposed project may then be determined by adding site-generated traffic volumes (Build conditions) and making comparisons to the No-Build conditions.

Traffic Growth

To develop the 2030 No-Build forecast volumes, two components of traffic growth were considered. First, an annual average traffic-growth percentage was determined. Consistent with other recent traffic studies in the immediate vicinity (including the FDR), a 1.0 percent compounded annual growth rate was assumed to account for general population growth and the traffic generated by smaller area developments. The 1 percent growth rate was determined for the FDR based on discussions with the Central Massachusetts Regional Planning Commission (CMRPC).

Second, any traffic that may be generated by planned developments that could add substantial volume of traffic through the study area within the next seven years was considered. Based on discussions with officials from the Towns of Oxford and Auburn, there are no specific developments that could significantly increase traffic volumes within the study area.

Planned Roadway Improvements

Based on the FDR, signal and geometric improvements are proposed along the US Route 20 corridor from Richardson Corner Road/Oxbow Road in Charlton to Route 12 in Oxford (MassDOT Project #602659). These improvements include the following:

- Full depth reconstruction and widening of the roadway to accommodate two 11-foot wide lanes with 2-foot wide median shoulders, a precast concrete median barrier, and 4-foot wide curbside shoulders in each direction to accommodate bicycle travel.
- Realignment of the vertical and horizontal geometry.
- Signalized improvements at the following intersections: US Route 20 at Richardson Corner Road/Oxbow Road, US Route 20 at Oxbow Road, US Route 20 at Route 56, US Route 20 at Route 12.

Intersections within The Reserve study area that will be affected by these improvements are US Route 20 at Route 56, US Route 20 at Thayer Pond Drive, and US Route 20 at Route 12.

- US Route 20 at Route 56 – Improvements include a significant reconstruction of this intersection including extending the eastbound and westbound storage left-turn lane storage lengths, adding eastbound and westbound right-turn lanes, and adding a northbound left-turn lane. U-turn bulbs will be constructed on the northwest and southeast corners of the intersection to facilitate U-turns from the eastbound and westbound approaches.
- US Route 20 at Thayer Pond Drive – A median barrier is proposed to be constructed along the corridor which includes the section from Route 56 to Route 12 (Main Street). Accordingly, left turns in and out of Thayer Pond Drive will need to be redistributed along the roadway network.
- US Route 20 at Main Street – An eastbound U-turn lane and an U-turn bulb in the northwest corner of the intersection are proposed to accommodate U-turns from the eastbound approach.

As a result of the improvements listed above, vehicles have been redistributed according to the methodology provided in the *Build Conditions – Vehicle Trip Redistribution* section of the FDR and are shown on Figure A-3 in the Appendix. The No-Build and Build capacity analysis incorporates these planned roadway improvements.

The Applicant has been coordinating with MassDOT on The Reserve project and the MassDOT US Route 20 reconstruction project since 2016. They have also been coordinating with MassDOT on the construction of a new temporary access driveway on US Route 20 for the currently active quarry operation. The temporary driveway is proposed to be constructed in the configuration of the final driveway design for the proposed project. MassDOT District 3 is currently reviewing this request. A timeline of coordination with MassDOT between 2016 and 2020 is provided in the Appendix. GPI coordinated with MassDOT District 3 and HDR in order to have the most up-to-date information for the Draft EIR filing.

No-Build Traffic Volumes

The 2030 No-Build peak-hour traffic volumes were accordingly developed by applying a 1.0 percent annual traffic growth rate (or 8.3 percent compounded over eight years [2022 count data] and 7.2 percent compounded over seven years [2023 count data]) to the 2022/23 Existing volumes. The 2030 No-Build traffic volumes are shown graphically on Figures 5 through 7 for the weekday AM, weekday PM, and Saturday midday peak hours, respectively.

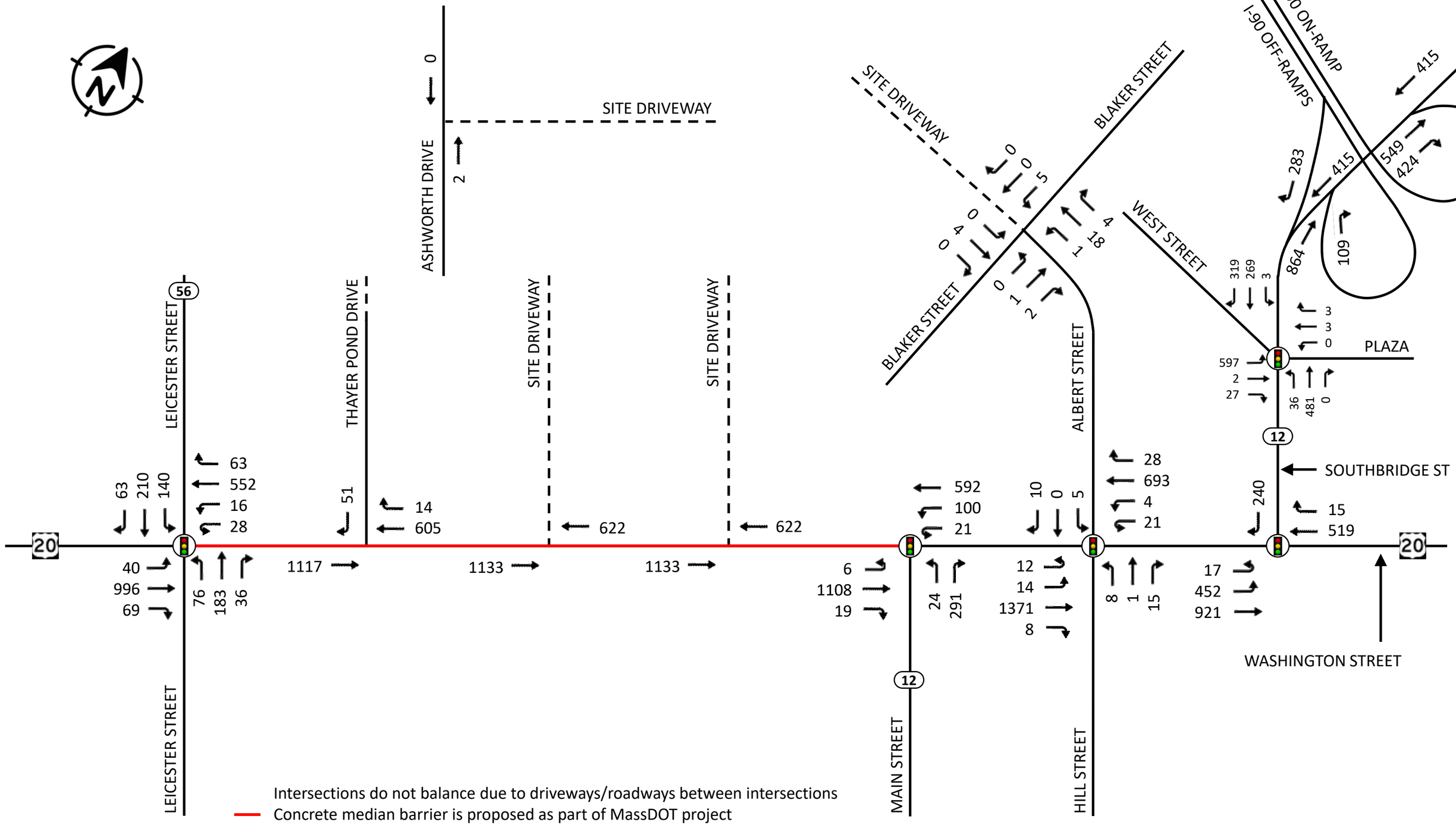


FIGURE 5

2030 NO-BUILD TRAFFIC VOLUMES
WEEKDAY AM PEAK HOUR

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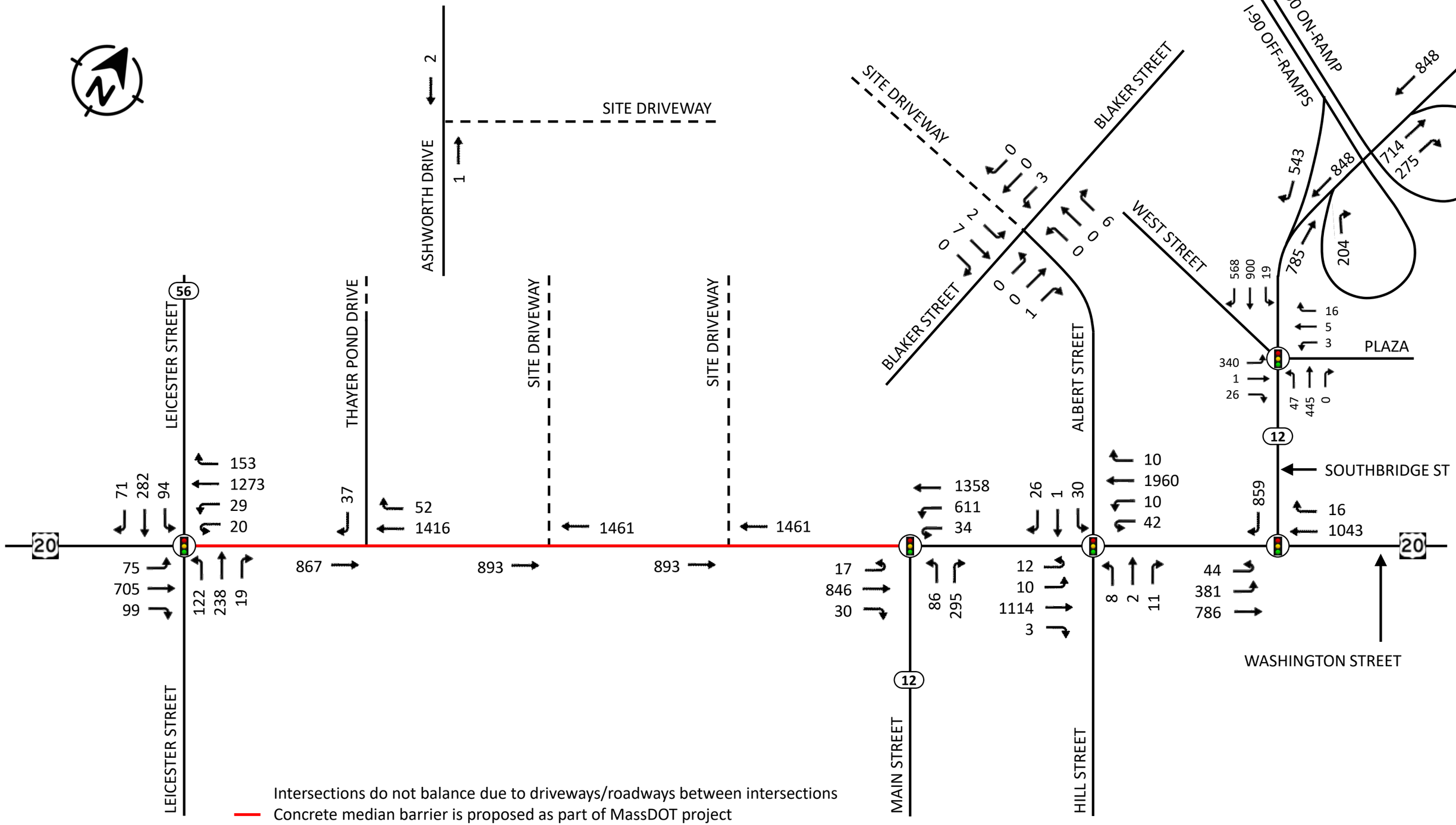


FIGURE 6

2030 NO-BUILD TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

GPI
Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887
THE RESERVE – OXFORD/AUBURN, MA

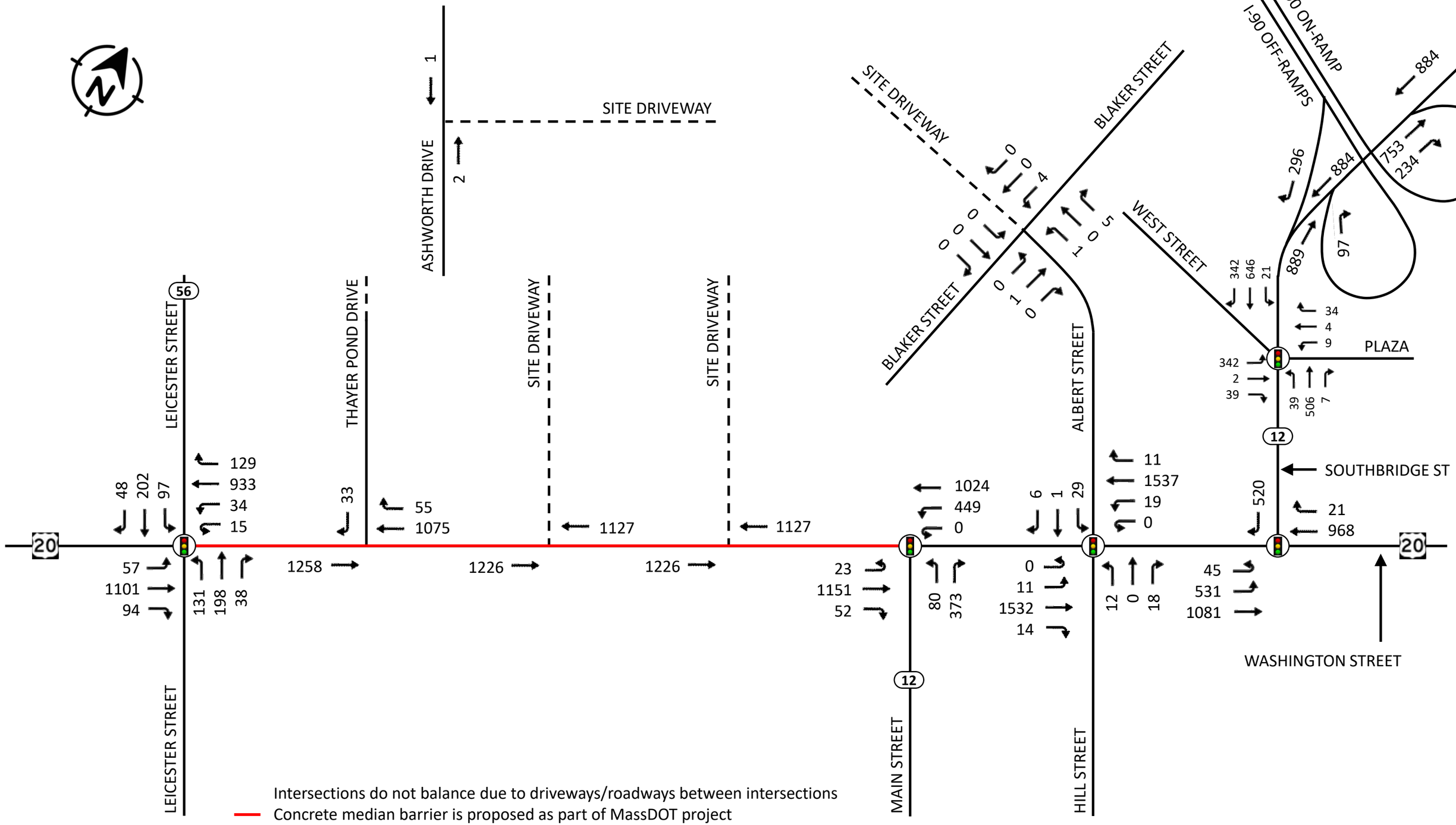


FIGURE 7

2030 NO-BUILD TRAFFIC VOLUMES
SATURDAY MIDDAY PEAK HOUR

Trip Generation

To estimate the volume of traffic to be generated by the proposed development, trip-generation rates published by the Institute of Transportation Engineers (ITE) Trip Generation Manual[2] were researched. The following land use codes (LUCs) were utilized to estimate the traffic for each portion of site.

- The Reserve (Auburn)
  324-unit residential apartment development (40B)
  LUC 220 (Multifamily Housing [Low-Rise])

- Auburn Condos (Auburn)
  Eight (8) condominium units (2 units on 4 lots)
  LUC 215 (Single-Family Attached Housing)

- Ashworth Hills (Oxford)
  320-unit residential condominium development
  LUC 215 (Single-Family Attached Housing)

- Ashworth Commons (Oxford)
  Commercial Development
  - Retail – 49,800 SF
    LUC 821 (Shopping Plaza [40-150k])
  - Convenience Store/Gas Station – 5,000 SF Convenience Store with 12 vfps
    LUC 945 (Convenience Store/Gas Station), Subcategory: GFA (4-5.5k)
  - Restaurant - Fast-Food Restaurant with Drive-Through Window – 5,000 SF
    LUC 934 (Fast-Food Restaurant with Drive-Through Window)
  - Office – 100,000 SF
    LUC 710 (General Office Building) for 90,000 SF
    LUC 712 (Small Office Building) for 10,000 SF

The trip-generation data are provided in the Appendix.

[2] ITE *Trip Generation Manual, 11th Edition*. Institute of Transportation Engineers; Washington, DC; 2021.

TABLE 5
Peak Hour Trip-Generation Summary

Peak Hour/Direction	The Reserve [a]	Auburn Condos [b]	Ashworth Hills [c]	Ashworth Commons [d]	Total Trips [e]
Weekday AM Peak Hour:					
Enter	30	1	37	366	434
Exit	93	3	95	236	427
Total	123	4	132	602	861
Weekday PM Peak Hour:					
Enter	101	3	43	253	400
Exit	59	2	36	334	431
Total	160	5	79	587	831
Saturday Midday Peak Hour:					
Enter	68	2	44	333	447
Exit	65	3	42	314	424
Total	133	5	86	647	871

[a] ITE LUC 220 (Multifamily Housing [Low-Rise]) for 324 dwelling units.
[b] ITE LUC 215 (Single-Family Attached Housing) for 8 dwelling units
[c] ITE LUC 215 (Single-Family Attached Housing) for 320 dwelling units.
[d] ITE LUC 821 (Shopping Plaza [40-150k]) for 49,800 sf, LUC 945 (Convenience Store/Gas Station), Subcategory: GFA (4-5.5k) for 12 vfps, LUC 934 (Fast-Food Restaurant with DT Window) for 5,000 sf, LUC 710 (General Office Building) for 90,000 sf, and LUC 712 (Small Office Building) for 10,000 sf.
[e] Total Trips into and out of the site driveways for The Reserve, Auburn Condos, Ashworth Hills, and Ashworth Commons.

As shown in Table 5, the proposed development project is expected to generate 861 vehicle trips (434 entering and 427 exiting) during the weekday AM peak hour, 831 vehicle trips (400 entering and 431 exiting) during the weekday PM peak hour, and 871 vehicle trips (447 entering and 424 exiting) during the Saturday midday peak hour.

Studies have shown that for developments of mixed-use or multi-use sites, it is realistic to assume that there will be some multi-use trips within the site itself. As Ashworth Commons has various uses, it is likely that trips will be shared between the general retail, gas station/convenience store, restaurant and office uses. An internal connection will also provided between Ashworth Commons and Ashworth Hills, which will also result in multi-use trips. Accordingly, a multi-use rate was used to calculate the external trips generated by the site based on data published in the ITE *Trip Generation Handbook*.[3] These data revealed a 38 percent internal capture rate for the weekday daily, a 24 percent internal capture rate during the weekday AM peak hour, a 37 percent internal capture rate during the weekday PM peak hour, a 28 percent internal capture rate for the Saturday daily, and a 31 percent internal capture rate during the Saturday midday peak hour. The Multi-Use Development Trip Generation and Internal Capture Worksheets are attached.

[3] *Trip Generation Handbook*; 3rd Edition; Institute of Transportation Engineers; Washington, DC; August 2014.

Not all of the vehicle trips expected to be generated by the proposed expansion project represent new trips on the study area roadway system. Studies have shown that for developments such as the one proposed, a substantial portion of the site-generated vehicle trips are already present in the adjacent passing stream of traffic or are diverted from another route to the proposed site. Based on information published in the ITE Trip Generation Manual, the average pass-by trip percentages are as follows:

- LUC 821 (Shopping Plaza [40-150k]) – 40% during weekday PM, 31% during Saturday midday
- LUC 945 (Convenience Store/Gas Station) – 76% during weekday AM and 75% during weekday PM
- LUC 934 (Fast-Food Restaurant with Drive-Through Window) – 50% during weekday AM and 55% during weekday PM

For the peak hours with no data, the lowest percentage of available data was used for each land use code to provide a conservative estimate. Table 6 summarizes the breakdown of total trips, pass-by trips, and new trips associated with the Ashworth Commons commercial development.

TABLE 6
Ashworth Commons Trip-Generation Breakdown

Peak Hour/Direction	Total Trips [a]	Pass-By Trips [d]	New Trips [e]
Weekday AM Peak Hour:			
Enter	366	149	217
Exit	236	149	87
Total	602	298	304
Weekday PM Peak Hour:			
Enter	253	129	124
Exit	334	129	205
Total	587	258	329
Saturday Midday Peak Hour:			
Enter	333	156	177
Exit	314	156	158
Total	647	312	335

[a] Total External Trips based on LUC 820, LUC 960, LUC 934, LUC 710 and LUC 712.
[b] Pass-By Trips based on rates from ITE Trip Generation Manual for LUC 821, LUC 945, and LUC 934.
[c] Total External Trips minus Pass-By Trips.

It should be noted that the volume of pass-by traffic does not reduce the total volume of traffic generated by the development and the total trips generated will still be realized as turning movements at the site driveways.

Project Environmental Review (MEPA) Thresholds

The trip generation of the proposed project was assessed to determine if the proposed project would meet or exceed any thresholds that would require formal environmental review with respect to traffic under MEPA. One of the thresholds for MEPA environmental review is the total volume of daily traffic generated by a project. If a proposed development project requires a state permit and generates a total of more than 3,000 new daily vehicle trips, then both an ENF and an EIR must be prepared and filed with MEPA. These documents must then be subject to both governmental agency and public review and comment, and the primary government entity responsible for reviewing the proposed project plans and issuing the permits and approvals that are required to allow for the construction of the proposed project must take the comments made by other government agencies and the public on these documents into consideration as part of its decision-making process on the proposed project.

To determine the daily trip generation associated with the project, the ITE Trip Generation Manual trip rates for LUC 220 (Multifamily Housing [Low-Rise]), LUC 215 (Single-Family Attached Housing), LUC 821 (Shopping Plaza [40-150k]), LUC 945 (Convenience Store/Gas Station), LUC 934 (Fast-Food Restaurant with Drive-Through Window), LUC 710 (General Office Building), and LUC 712 (Small Office Building) were used. The daily vehicle trips associated with the proposed project are summarized in Table 7.

TABLE 7
Trip Generation Summary –
MEPA Transportation Thresholds

Peak Hour/Direction	The Reserve [a]	Auburn Condos [b]	Ashworth Hills [c]	Ashworth Commons [d]	Total Trips [e]
Weekday Daily:					
Enter	1,076	29	442	3,365	4,912
Exit	1,076	29	660	3,147	4,912
Total	2,152	58	1,102	6,512	9,824
Saturday Daily:					
Enter	737	35	1,193	4,092	6,057
Exit	737	35	1,295	3,990	6,057
Total	1,474	70	2,488	8,082	12,114

[a] ITE LUC 220 (Multifamily Housing [Low-Rise]) for 324 dwelling units.
[b] ITE LUC 215 (Single-Family Attached Housing) for 8 dwelling units
[c] ITE LUC 215 (Single-Family Attached Housing) for 320 dwelling units.
[d] ITE LUC 821 (Shopping Plaza [40-150k]) for 49,800 sf, LUC 945 (Convenience Store/Gas Station), Subcategory: GFA (4-5.5k) for 12 vfps, LUC 934 (Fast-Food Restaurant with DT Window) for 5,000 sf, LUC 710 (General Office Building) for 90,000 sf, and LUC 712 (Small Office Building) for 10,000 sf.
[e] Total Trips into and out of the site driveways for The Reserve, Auburn Condos, Ashworth Hills, and Ashworth Commons.

As shown in Table 7, the daily traffic is estimated to be 9,824 trips during a weekday and 12,114 trips during a Saturday. As a result, the project is expected to exceed the MEPA Transportation review thresholds set forth in 301 CMR 11.10(6)(a) for the preparation of an ENF and an EIR.

Trip Distribution

Having estimated project-generated vehicle trips, the next step is to determine the distribution of project traffic and assign these trips to the local roadway network. The distribution of proposed residential and office site traffic on the area roadways is based on United States Census Bureau 2011-2015 Journey-to-Work information. The Journey-to-Work data are provided in the Appendix. The directional distribution of new retail site traffic (general retail, restaurant, and gas station/convenience store traffic) is expected to follow existing travel patterns. The trip distribution is shown in Table 8 and the distribution percentages shown on the roadway networks are provided in the Appendix on Figures A-4 through A-7. The distribution of pass-by traffic will follow the directional distribution of adjacent street traffic observed during the various peak hours on US Route 20.

TABLE 8
Trip Distribution Summary

Roadway	Direction To/From	The Reserve & Auburn Condos	Ashworth Hills	Ashworth Commons (Office)	Ashworth Commons (Retail)
US Route 20	West	0%	5%	15%	30%
US Route 20	East	45%	20%	30%	25%
Route 56	North	0%	5%	5%	15%
Route 56	South	0%	10%	5%	10%
Route 12	South	0%	10%	25%	10%
Route 12	East	25%	20%	10%	10%
I-90 On/Off Ramps	East	30%	25%	10%	
Rochdale Street	North	--	5%	--	--
TOTAL	--	100%	100%	100%	100%

In order to determine the distribution for Ashworth Hills, a more detailed distribution was first created to show the breakdown by driveway. The percentages by roadway and direction were then combined to obtain the distribution shown in Table 8. The detailed breakdown is shown in Table 9.

TABLE 9
Ashworth Hills Trip Distribution Breakdown

Roadway	Direction To/From		Ashworth Commons (Retail)
US Route 20	West	via Ashworth Drive Driveway	0%
US Route 20	East		0%
Route 56	North		5%
Route 56	South		10%
Route 12	South		0%
Route 12	East		15%
I-90 On/Off Ramps	East		15%
Rochdale Street	North		5%
US Route 20	West	via US Route 20 Driveways	5%
US Route 20	East		20%
Route 56	North		0%
Route 56	South		0%
Route 12	South		10%
Route 12	East		5%
I-90 On/Off Ramps	East		10%
Rochdale Street	North		0%
TOTAL	--	--	100%

It should be noted that for the Ashworth Hills driveway distribution, the only additional trips on Thayer Pond Drive will be entering trips turning right onto Thayer Pond Drive. A concrete median barrier will be constructed as part of the MassDOT project and therefore left turns into or out of the site will not be permitted. All expected traffic entering Ashworth Hills from US Route 20 was assumed to enter via the proposed western commercial site driveway since it is the first entrance the vehicles pass from the east. Although there will be a small percentage of traffic that will pass the western commercial site driveway and enter via Thayer Pond Drive, the number will be minimal. The total number of vehicles expected to enter the Ashworth Hills development via US Route 20 is 17 vehicles during the weekday AM, 23 vehicles during the weekday PM, and 22 vehicles during the Saturday midday.

Build Traffic Volumes

Based on the traffic generation and distribution estimates for this project, the traffic volumes associated with the proposed development were assigned to the roadway network. The site-generated traffic networks are shown on Figures 8 through 10 for the weekday AM, weekday PM, and Saturday midday peak hours. The site-generated traffic volumes were then combined with the 2030 No-Build traffic volumes to develop the 2030 Build peak-hour traffic-volume networks. The 2030 Build traffic volumes are illustrated on Figures 11 through 13 for the weekday AM, weekday PM, and Saturday midday peak hours, respectively.

Traffic Increases

The proposed development will result in increases in traffic on the study area roadways. As shown on Figures 8 through 10, traffic-volume increases beyond the study area are expected to be at most 161 vehicles during the weekday AM peak hour, 179 vehicles during the weekday PM peak hour, and 165 vehicles during the Saturday midday peak hour. These increases represent, on average, approximately two to three additional vehicle trips per minute during the peak hours of the day.

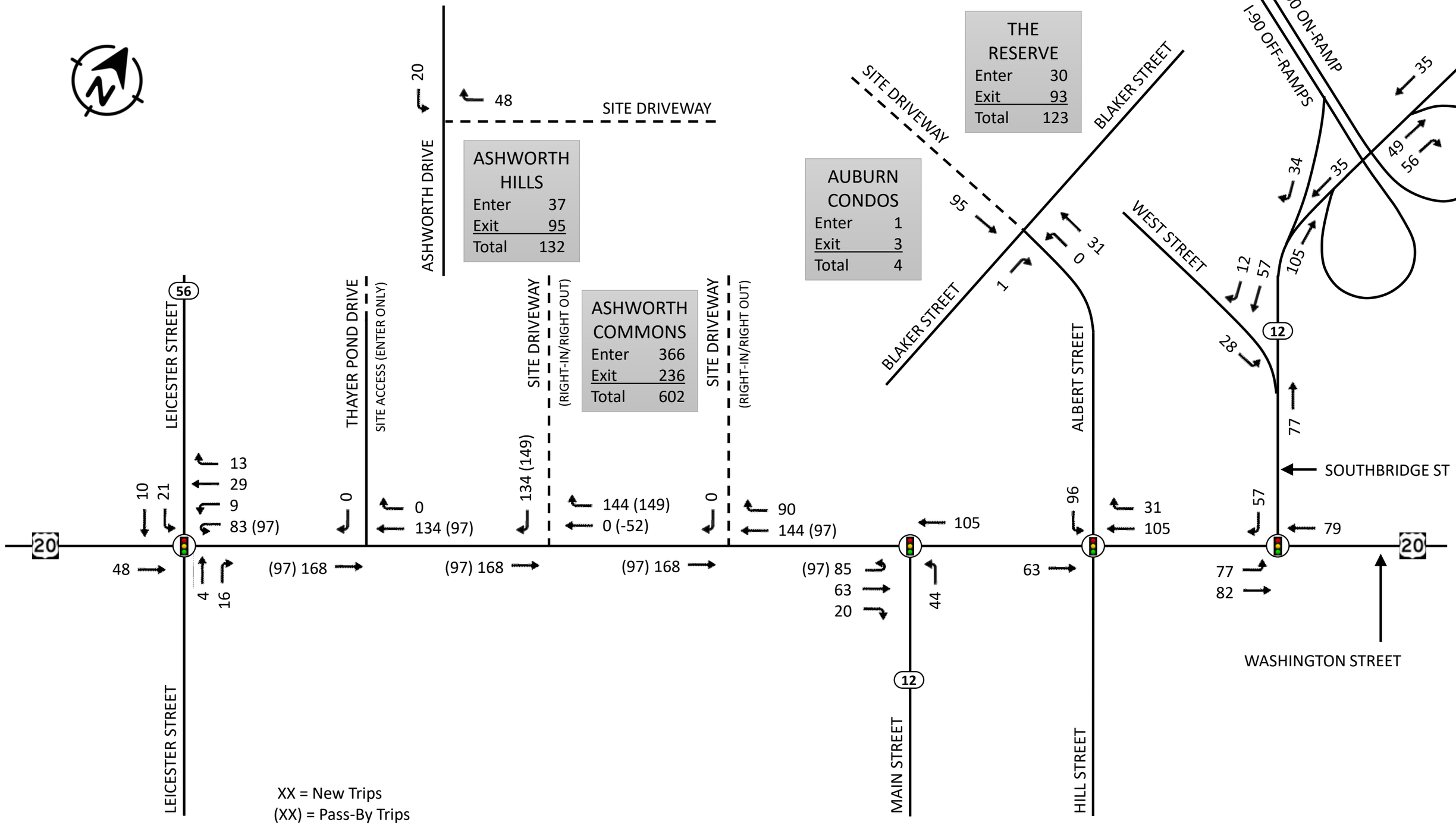


FIGURE 8

SITE-GENERATED TRAFFIC VOLUMES (11th Edition)
WEEKDAY AM PEAK HOUR

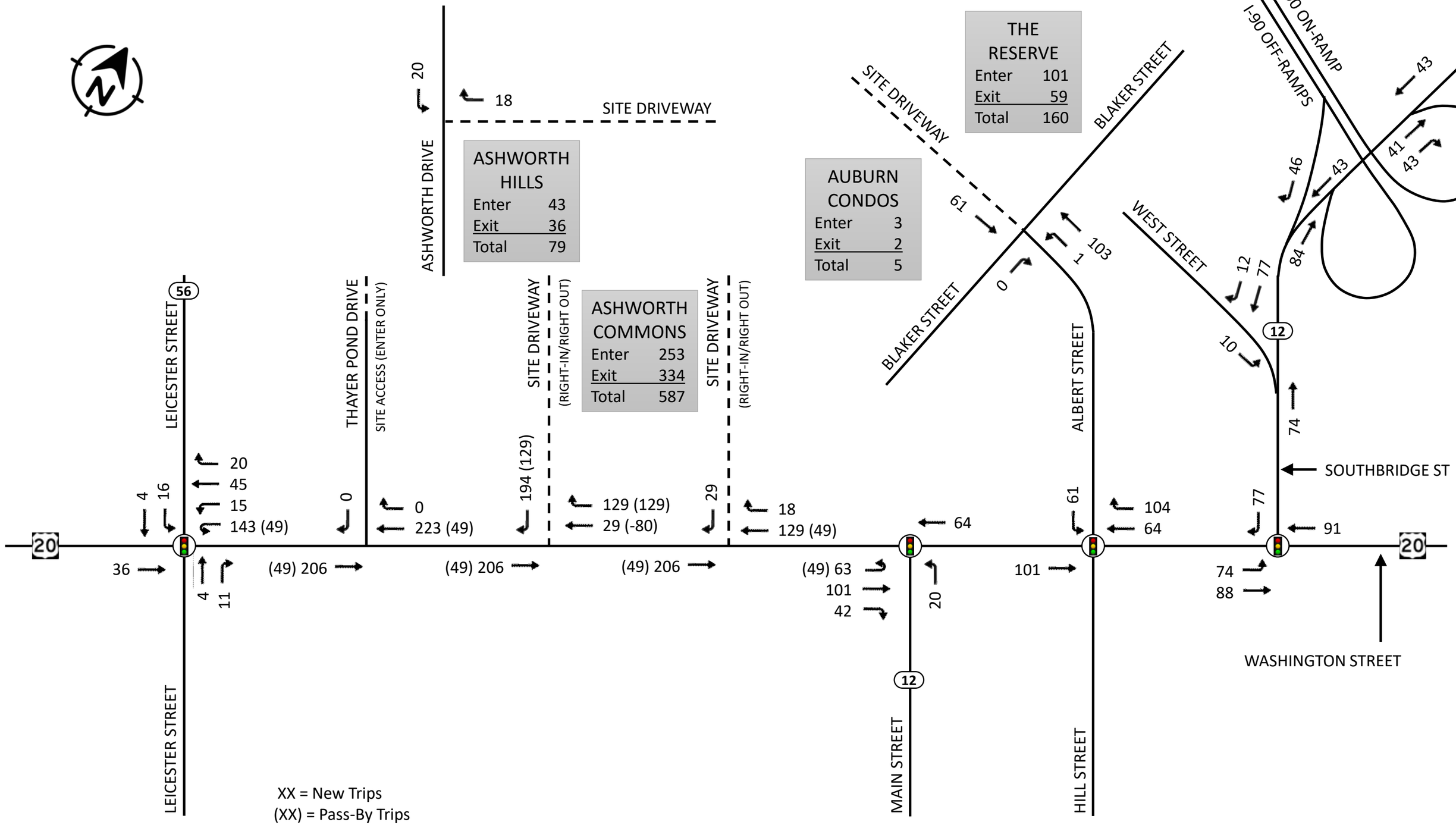


FIGURE 9

SITE-GENERATED TRAFFIC VOLUMES (11th Edition)
WEEKDAY PM PEAK HOUR

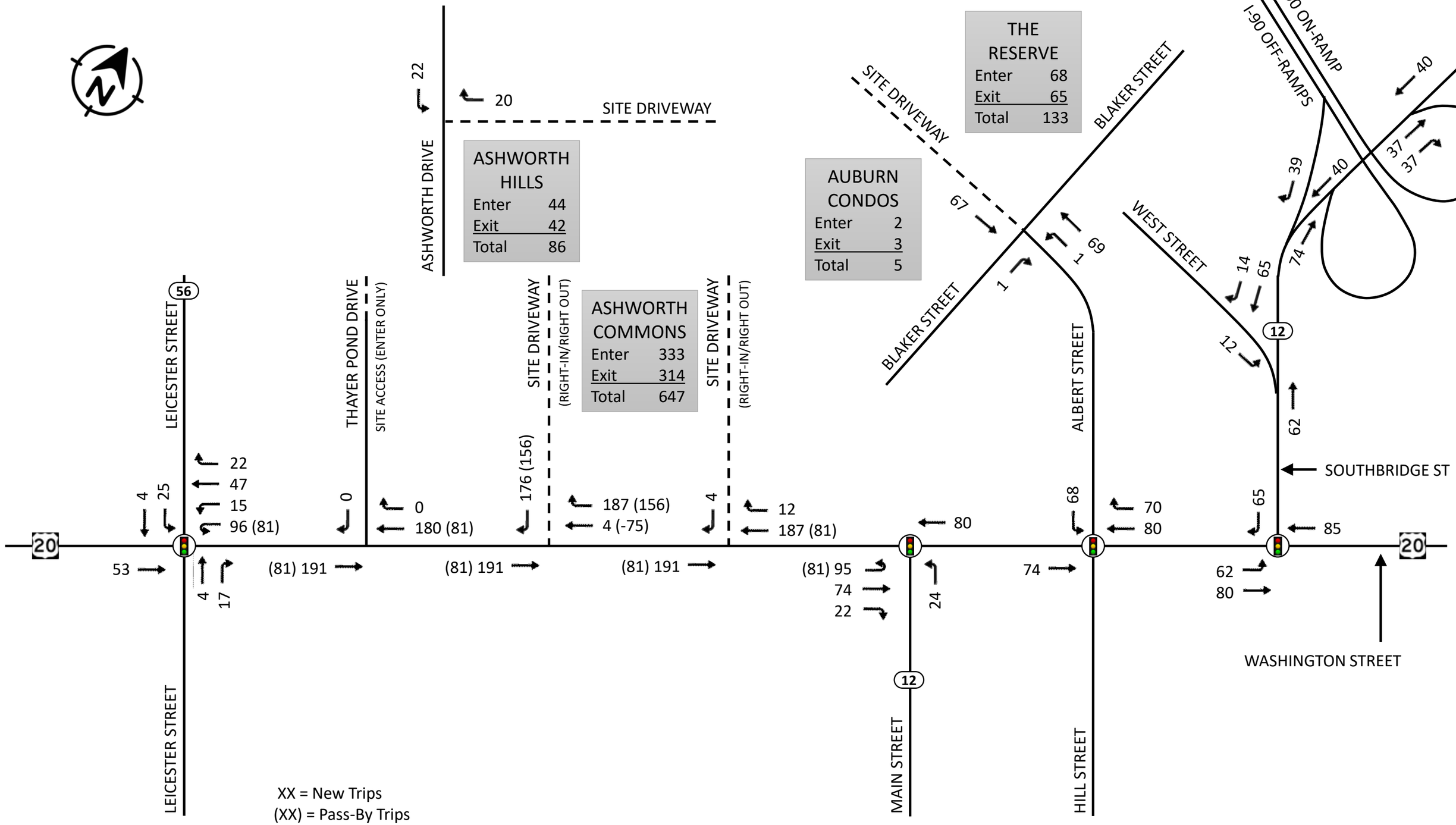


FIGURE 10

SITE-GENERATED TRAFFIC VOLUMES (11th Edition)
SATURDAY MIDDAY PEAK HOUR

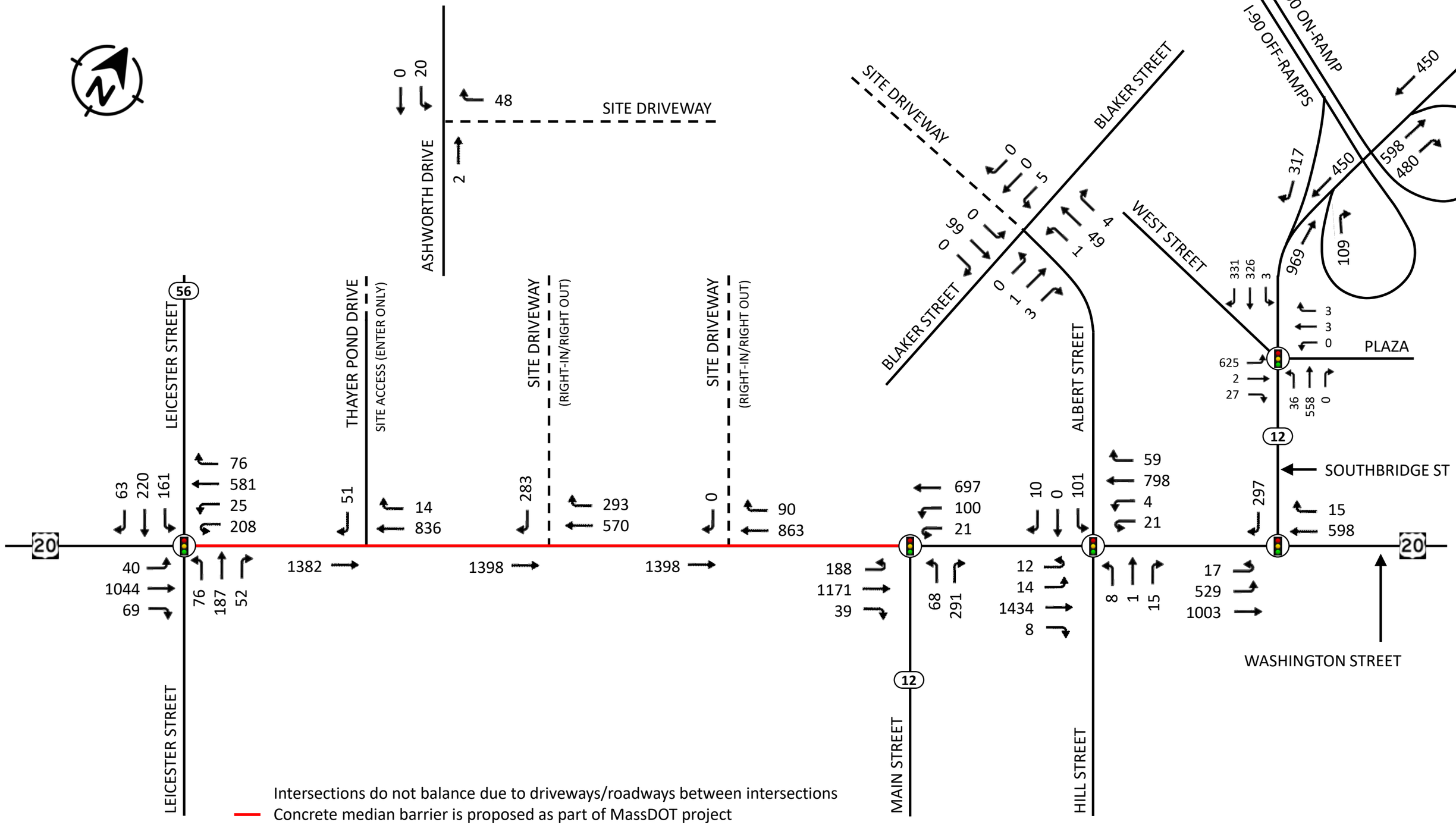
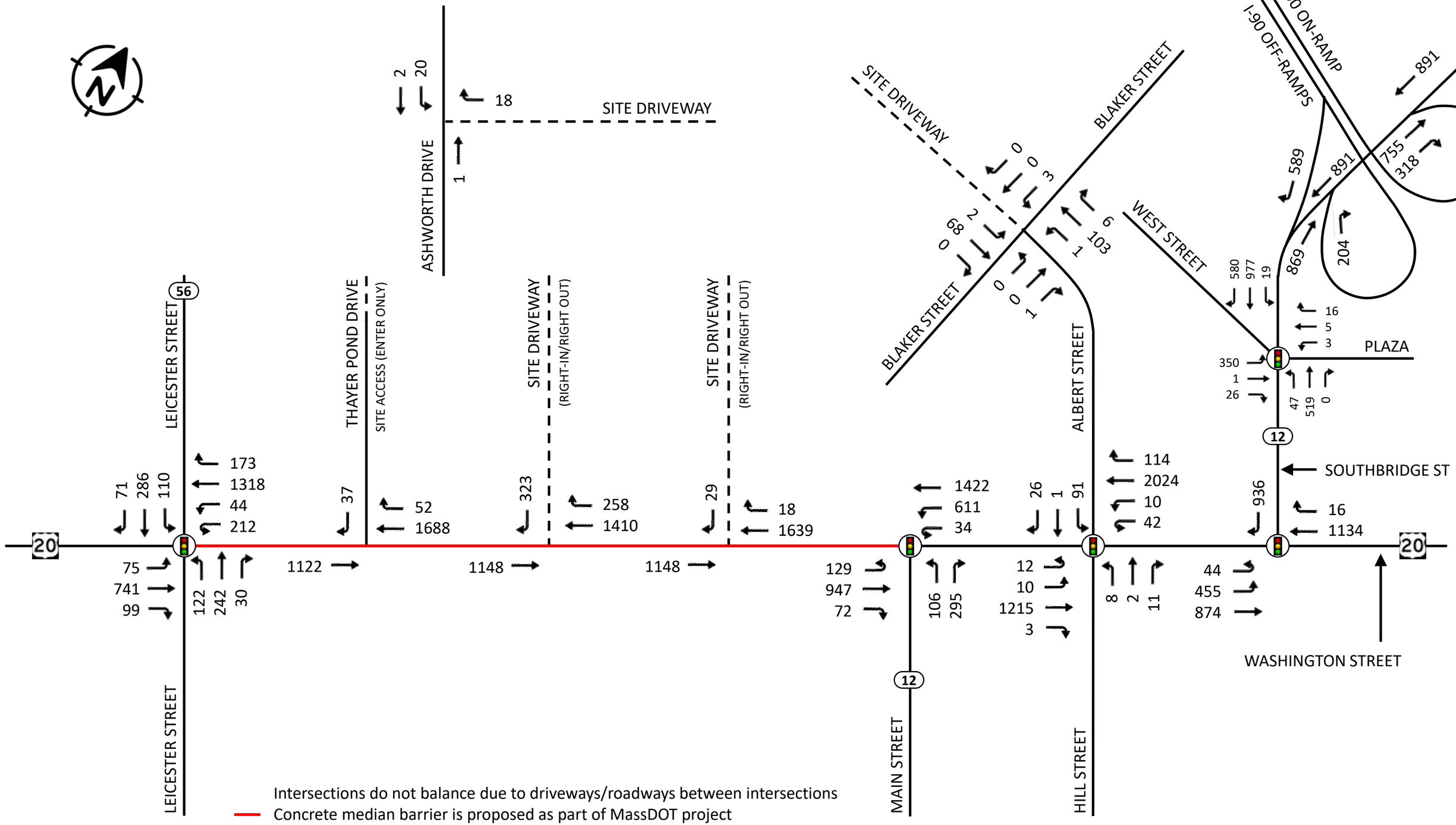


FIGURE 11

2030 BUILD TRAFFIC VOLUMES
WEEKDAY AM PEAK HOUR



Intersections do not balance due to driveways/roadways between intersections

Concrete median barrier is proposed as part of MassDOT project

FIGURE 12

2030 BUILD TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

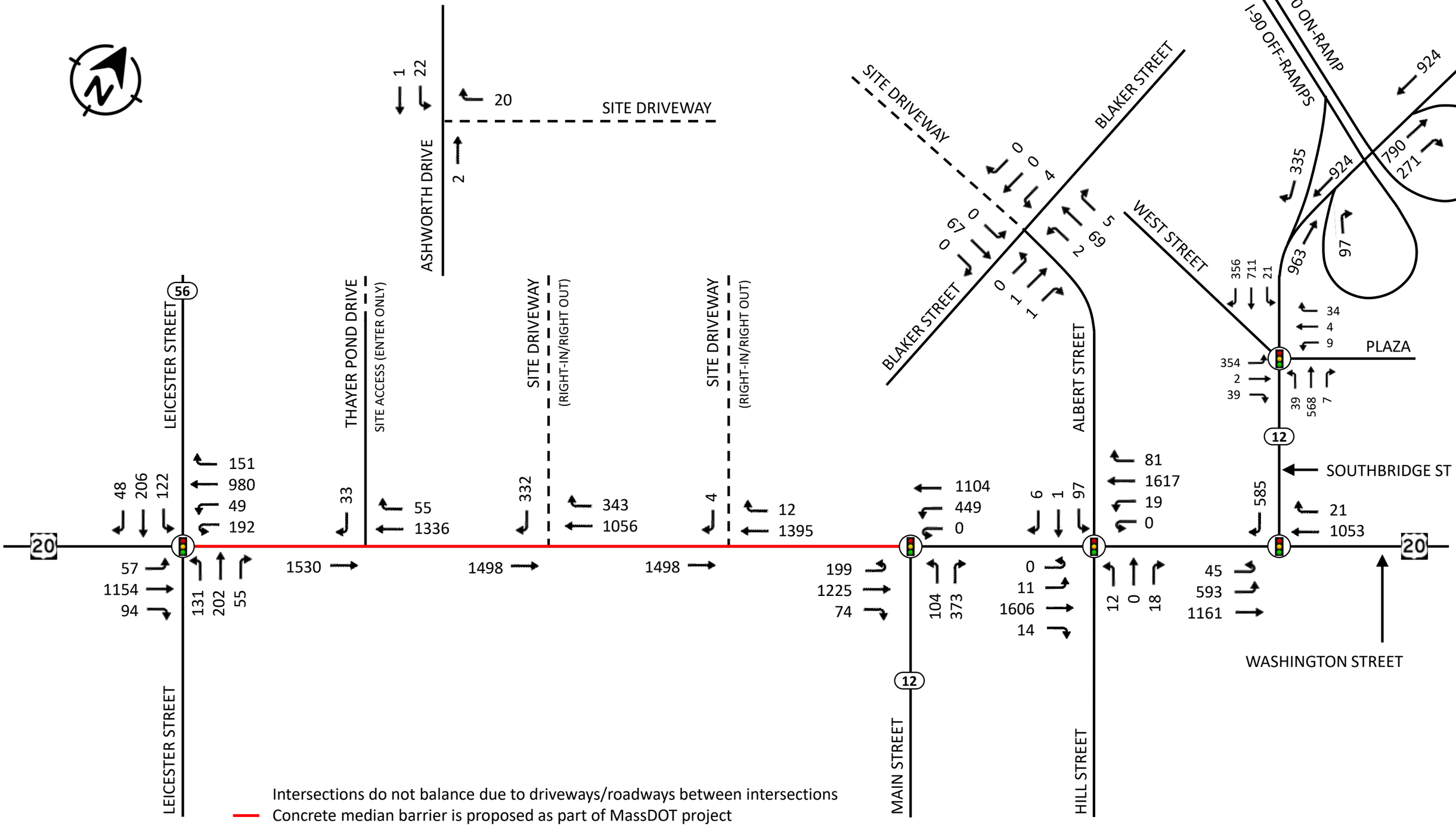


FIGURE 13

2030 BUILD TRAFFIC VOLUMES
SATURDAY MIDDAY PEAK HOUR

Parking Requirements

Proposed Parking Supply

As part of the project, a total of 2,412 parking spaces (including 48 accessible spaces) will be provided on-site. The on-site parking is designed to provide appropriate parking for all land uses. Despite the multiple uses on the site, the residential uses at The Reserve, Auburn Condos, and Ashworth Hills are largely kept separate from the commercial developments at Ashworth Commons. Although it is anticipated that some of the fast-food and convenience market/gas station patrons will be residents within the proposed development, temporary use of spaces was not considered for determining supply.

Projected Parking Demand

The ITE provides parking demand generation rates for various land uses within its *Parking Generation Manual, 5th Edition.*[4] The average peak parking demand rates for LUC 220 (Multifamily Housing [Low-Rise]), LUC 221 (Multifamily Housing [Mid-Rise]), LUC 710 (Office Building), LUC 712 (Small Office Building), LUC 820 (Shopping Center), LUC 934 (Fast-Food Restaurant with Drive-Through Window), and LUC 960 (Super Convenience Market/Gas Station) were obtained and utilized to estimate the potential parking demand. All land uses were assumed to be located in general urban / suburban settings were the use of public transit is not available. The anticipated parking demand for the proposed site is summarized in Table 10.

[4] *Parking Generation Manual, 5*th Edition; Institute of Transportation Engineers; Washington, DC; January 2019.

TABLE 10
Parking Demand Summary

Land Use	Dwelling Units	Size (SF)	Demand Rate [a]	Number of Vehicles [b]	Spaces Provided
Ashworth Hills [c]	320	--	1.21 / 1.31	387 / 419	1,320
Auburn Condos [d]	8	--	1.21 / 1.31	10 / 10	16
The Reserve [e]	324	--	1.31 / 1.22	424 / 395	544
Ashworth Commons					
Office [f]	--	90,000	2.39 / 0.28	215 / 25	189
Small Office [g]	--	10,000	2.56 / --	26 / --	26
Shopping Center [h]	--	49,800	1.95 / 2.91	97 / 145	205
Fast-Food Restaurant [i]	--	5,000	8.66 / 9.18	43 / 46	66
Gas Station/C-Store [j]	--	5,000	8.11 / 5.07	41 / 25	46 [k]
Total	--	--	-- / --	1,243 / 1,065	2,412

[a] Weekday Average Peak Demand rate / Saturday Average Peak Demand rate.
[b] Weekday Demand peak number of vehicles / Saturday Demand peak number of vehicles.
[c] ITE LUC 220 (Multifamily Housing [Low-Rise]) for 320 dwelling units.
[d] ITE LUC 220 (Multifamily Housing [Low-Rise]) for 8 dwelling units.
[e] ITE LUC 221 (Multifamily Housing [Mid-Rise]) for 324 dwelling units.
[f] ITE LUC 710 (Office Building) for 90,000 sf.
[g] ITE LUC 712 (Small Office Building) for 10,000 sf.
[h] ITE LUC 820 (Shopping Center) for 49,800 sf.
[i] ITE LUC 934 (Fast-Food Restaurant with DT Window) for 5,000 sf.
[j] ITE LUC 960 (Super Convenience Market/Gas Station) for 5,000 sf.
[k] Includes vehicle fueling positions as spaces. Thirty-four parking spaces are provided plus the 12 fueling positions.

As shown in Table 10, the average peak parking demand anticipated to be generated by the proposed development is 1,243 spaces during weekday and 1,065 spaces on Saturdays. The ITE data, however, also provides time of day distribution for the different uses which indicated that the peak demands of the different uses will not occur during the same time periods. For example, the peak demand for office uses occur during the middle of the day when demand for residential uses are lowest. The maximum demand is anticipated to be 821 parking spaces and 820 parking spaces for weekdays and Saturdays, respectively. The detailed parking demand by hour is provided in the Appendix. The project will land bank as many parking spaces as possible on the commercial property (Ashworth Commons) to reduce impervious area. It should be noted that the impervious areas have been accounted for in the stormwater system design(s), but the parking will only be built if necessary.

Parking Requirements

Chapter 60 – Handicapped Parking, Section A of the Town of Oxford's General Bylaws provides off-street parking supply requirements for the required number of handicapped spaces. Based on the ordinance, developments with more than 500 but not more than 1,000 spaces shall provide at least one and a half percent accessible spaces but not less than ten spaces for accessible use. The Auburn Zoning bylaws state that the number of accessible spaces must be consistent with 521 CMR of the Architectural Access Board (AAB) Regulations. 521 CMR states that for parking lots with 501 to

1,000 total spaces, 2 percent of the total must be accessible spaces. By comparison, the Project will include 48 accessible spaces which is approximately 9 percent of the total supply (48 spaces/532 spaces) for Ashworth Commons where accessible spaces are required.

Residential

Section 6.3 of the Town of Auburn's Zoning Bylaws provides off-street parking supply requirements. Based on the ordinance, two parking spaces shall be provided per dwelling. **The Reserve** (324-unit apartment development) provides 544 parking spaces (including 40 garage spaces and 26 accessible spaces) which provides 1.7 parking spaces per dwelling unit. The **Auburn Condos** (8-unit condominium development) provides two parking spaces for each unit within the driveway.

Section 3.9.3.8 of the Town of Oxford's Zoning Bylaws provides off-street parking supply requirements for Accessory/In-Law Apartment Standards Single Family Dwellings. Based on the ordinance, at least two off-street parking spaces per dwelling unit. Additional requirements for off-street parking spaces are provided in Chapter XI, Section 3.0:

- Structures with less than four dwelling units – two parking spaces per dwelling units.
- Structures with four or more dwelling units – 1.5 parking spaces per dwelling units.

Ashworth Hills (320-unit condominium development) provides four parking spaces for each unit, two spaces in a garage within each unit, two spaces within the driveway, and 40 visitor spaces.

Commercial

Section 3.9.4 of the Town of Oxford's Zoning Bylaws provides off-street parking supply requirements for Accessory Apartment Standards Retail, Commercial, or Professional Building. Additional requirements for off-street parking spaces are provided in Chapter XI, Section 3.0:

- All retail service– 1 parking space per 250 SF of retail / service floor area plus 1 parking space per employee.
- Fast food and drive-in restaurants – 1 parking space per 40 SF gross floor area (GFA).
- Auto service station – 1 parking space per employee plus 4 per service stall.
- Office – There is no regulation for general office use. The anticipated office use for the proposed development does not include medical, dental, or veterinary uses.

Ashworth Commons provides 205 parking spaces (including 6 accessible) for retail uses, 66 parking spaces (including 3 accessible) for fast-food restaurant, 46 parking spaces (including 3 accessible and the 12 vehicle fueling positions) for Super Convenience Market/Gas Station, and 215 parking spaces for office uses.

Ashworth Commons will bank 54 parking spaces (10 percent of 532 proposed spaces), which equates to 8,748 square feet or 0.20 acres of impervious surface. Additionally, 25 percent of the total parking count within Ashworth Commons will be EV-charging spaces.

Multimodal Access and Connectivity

Exhibit 1 shows the multimodal features of the project.

Auburn Condos – A sidewalk has already been constructed along both sides of Albert Drive Extension. An existing sidewalk exists along the southern side of Albert Street, which ends approximately 300 feet west of the intersection with US Route 20. No existing sidewalk is provided along Blaker Street.

The Reserve – Sidewalk connectivity is provided throughout the development and connects to the Auburn Condos.

Ashworth Hills – The development will provide a sidewalk on one side of the road throughout. A gravel and/or wood chip walking/bike path is planned to connect Ashworth Hills to the Auburn Condos and The Reserve as well as neighboring areas. An 8-foot shared use path (SUP) is proposed to connect Ashworth Hills (from Ashworth Drive) to Ashworth Commons, and ultimately connect to the future SUP on US Route 20 being constructed by MassDOT.

Ashworth Commons – Sidewalk connectivity is provided throughout the development. The sidewalk will also connect to the future SUP on US Route 20 as well as the proposed SUP leading to/from Ashworth Hills.

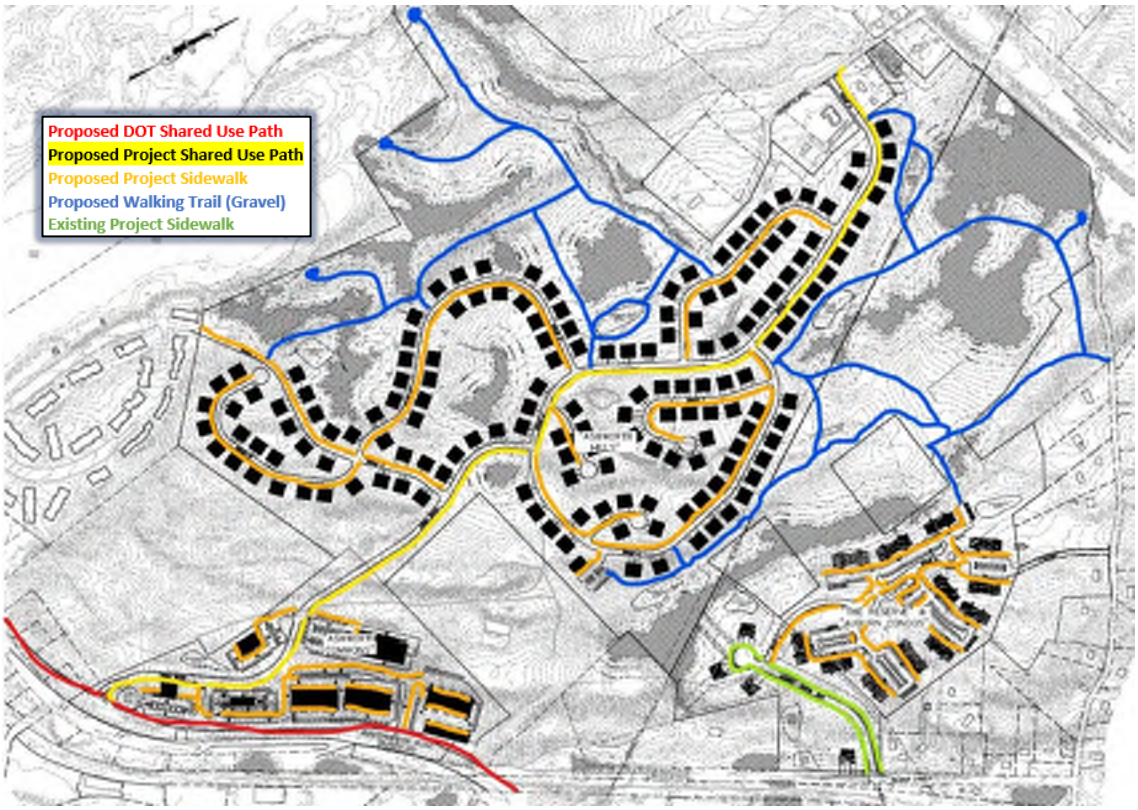


Exhibit 1. Multimodal Access and Connectivity

ANALYSIS

Capacity and queue analyses were conducted at all locations throughout the study area. These analyses were conducted under 2022/2023 Existing, 2030 No-Build, and 2030 Build conditions. The impact of site-generated traffic can be measured by comparing 2030 No-Build conditions to 2030 Build conditions.

Capacity Analysis Methodology

A primary result of capacity analysis is the assignment of levels of service to traffic facilities under various traffic flow conditions. The capacity analysis methodology is based on the concepts and procedures in the Highway Capacity Manual (HCM).[5] The TIAS utilizes HCM 2000 methodology at the signalized intersections due to the fact that HCM 2010 methodology only supports strict NEMA phasing and does not analyze exclusive pedestrian phases. HCM 2000 methodology was used at the unsignalized intersections as well in order to be consistent. The concept of level of service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year. A description of the operating condition under each level of service is provided below:

5 *Highway Capacity Manual 2000*, Transportation Research Board; Washington, D.C.; 2000.

- *LOS A* describes conditions with little to no delay to motorists.
- *LOS B* represents a desirable level with relatively low delay to motorists.
- *LOS C* describes conditions with average delays to motorists.
- *LOS D* describes operations where the influence of congestion becomes more noticeable. Delays are still within an acceptable range.
- *LOS E* represents operating conditions with high delay values. This level is considered by many agencies to be the limit of acceptable delay.
- *LOS F* is considered to be unacceptable to most drivers with high delay values that often occur, when arrival flow rates exceed the capacity of the intersection.

Unsignalized Intersections

Levels of service for unsignalized intersections are calculated using the operational analysis methodology of the HCM. The procedure accounts for lane configuration on both the minor and major street approaches, conflicting traffic stream volumes, and the type of intersection control (STOP, YIELD, or all-way STOP control). The definition of level of service for unsignalized intersections is a function of average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The level-of-service criteria for unsignalized intersections are shown in Table 11.

Signalized Intersections

Levels of service for signalized intersections are also calculated using the operational analysis methodology of the HCM. The methodology for signalized intersections assesses the effects of signal type, timing, phasing, and progression; vehicle mix; and geometrics on average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Table 11 summarizes the relationship between level of service and average control delay.

For signalized intersections, this delay criterion may be applied in assigning level-of-service designations to individual lane groups, to individual intersection approaches, or to the entire intersection. For unsignalized intersections, this delay criterion may be applied in assigning level-of-service designations to individual lane groups or to individual intersection approaches.

TABLE 11
Level-of-Service Criteria for Intersections

Level of Service	Unsignalized Intersection Criteria Average Control Delay (Seconds per Vehicle)	Signalized Intersection Criteria Average Control Delay (Seconds per Vehicle)
A	≤10	≤10
B	>10 and ≤15	>10 and ≤20
C	>15 and ≤25	>20 and ≤35
D	>25 and ≤35	>35 and ≤55
E	>35 and ≤50	>55 and ≤80
F	>50	>80

Source: *Highway Capacity Manual 2000*, Transportation Research Board; Washington, D.C.; 2000. Pages 10-16 and 17-2.

Queue Analysis Methodology

For signalized intersections, the maximum back of queue during a typical (average) signal cycle and a 95th percentile signal cycle were calculated for each lane group during the peak periods studied. The back of queue is the length of a backup of vehicles from the stop line of a signalized intersection to the last vehicle in the queue that is required to stop, regardless of the signal indication. The length of this queue depends on a number of factors including signal timing, vehicle arrival patterns, and the saturation flow rate.

For unsignalized intersections, the 95th percentile queue represents the length of queue of the critical minor-street movement that is not expected to be exceeded 95 percent of the time during the analysis period (typically one hour). In this case, the queue length is a function of the capacity of the movement and the movement's degree of saturation.

Capacity and Queue Analysis Results

The study area intersections have been analyzed through application of the procedures described above. The level-of-service (LOS) and queue analysis results are presented in Table 12 and are discussed below. All analysis worksheets are provided in the Appendix.

US Route 20 at Route 56

Under Existing conditions, the signalized intersection of US Route 20 at Route 56 operates at an overall LOS C, LOS F, and LOS D during the weekday AM, weekday PM, and Saturday midday peak hours, respectively. As part of the MassDOT reconstruction of US Route 20 project, additional turn lanes will be constructed at this intersection and the existing storage lengths on the eastbound and

westbound left turn lanes will be extended. With these improvements, the intersection improves to an overall LOS D/E during the peak hours, but is still expected to see long delays (LOS F) on specific movements during the weekday PM peak hour under future traffic-volume conditions without the proposed project in place. With the proposed project in place, a significant number of westbound U-turns are anticipated to be added to the intersection (180 during the weekday AM, 192 during the weekday PM, and 177 during the Saturday midday) as a result of the right-in/right-out commercial site driveways on US Route 20. In order to accommodate the additional traffic expected to be generated by the proposed project, it is recommended that a traffic signal be installed at the western commercial site driveway on US Route 20 and traffic signal timing changes be implemented at this intersection of US Route 20 at Route 56, as discussed in the *Mitigation* section of this report.

US Route 20 Thayer Pond Drive

The unsignalized intersection of US Route 20 at Thayer Pond Drive operates with all movements on US Route 20 at LOS A with or without the project in place. Under Existing conditions, the Thayer Pond Drive southbound left-turn operates at LOS C, LOS F, LOS E during the weekday AM, weekday PM, and Saturday midday peak hours, respectively. The Thayer Pond Drive southbound right-turn operates at LOS B/C under Existing conditions. Under No-Build conditions, a concrete median barrier will be constructed along US Route 20 and left turns into and out of Thayer Pond Drive will no longer be permitted. Accordingly, the southbound left-turn (LOS C/F/E) will no longer exist and the southbound right-turn will remain at LOS B/C under future traffic-volume conditions. With the proposed project in place, US Route 20 will still operate at LOS A and the Thayer Pond Drive southbound right-turn will remain at LOS B/C with negligible increases in delay (1 second or less). All volume-to-capacity (v/c) ratios will be less than 1.00 indicating ample capacity.

US Route 20 at Route 12 (Main Street)

Under Existing conditions, the signalized intersection of US Route 20 at Route 12 (Main Street) operates at an overall B/C with all movements at LOS D or better during the peak hours. As part of the MassDOT reconstruction of US Route 20 project, an eastbound U-turn lane is proposed to accommodate U-turns from the eastbound approach. With this change, the operations under future traffic-volume conditions (without the proposed project in place) worsen in order to accommodate the additional phase and the added traffic due to growth. With the proposed project in place, a significant number of eastbound U-turns are anticipated to be added to the intersection (182 during the weekday AM, 112 during the weekday PM, and 176 during the Saturday midday) as a result of the right-in/right-out commercial site driveways on US Route 20. In order to accommodate the additional traffic expected to be generated by the proposed project, it is recommended that a traffic signal be installed at the western commercial site driveway on US Route 20 and traffic signal timing changes be implemented at this intersection of US Route 20 at Route 12, as discussed in the *Mitigation* section of this report.

US Route 20 at Hill Street and Albert Street

Under Existing and No-Build traffic-volume conditions, the signalized intersection of US Route 20 at Hill Street and Albert Street operates at an overall LOS A and LOS B during the peak hours with all movements at LOS E or better. With the proposed project in place, traffic will be added to the intersection and the overall intersection is expected to drop to a LOS B during the weekday AM and Saturday midday peak hours and LOS C during the weekday PM peak hour. Increases in overall delay as a result of the project are expected to be between 5 and 10 seconds and v/c ratios are all

expected to remain under 1.00 indicating adequate capacity. However, in order to accommodate the additional traffic expected to be generated by the proposed project, it is recommended that traffic signal timing changes be implemented, as discussed in the *Mitigation* section of this report.

US Route 20 at Route 12 (Southbridge Street)

Under Existing and No-Build traffic-volume conditions, the signalized intersection of US Route 20 at Route 12 (Southbridge Street) operates at an overall LOS D or better with all movements at LOS D or better, with the exception of the Route 12 southbound right-turn during the weekday PM and Saturday midday peak hours which operates at LOS F and the US Route 20 eastbound U-turn during the weekday PM peak hour which operates at LOS E. With the proposed project in place, traffic will be added to the intersection and the overall intersection is expected to drop to a LOS E during the weekday PM peak hour. Additionally, the southbound right-turn is expected to further degrade during the weekday PM and Saturday midday peak hours. Increases in delay as a result of the project are expected to be minimal during the weekday AM peak hour (less than 3 seconds on any movement). However, during the weekday PM and Saturday midday peak hours, increases in delay are more significant, which is likely due to existing capacity constraints. In order to accommodate the additional traffic expected to be generated by the proposed project, it is recommended that traffic signal timing changes be implemented, as discussed in the *Mitigation* section of this report.

Route 12 (Southbridge Street) at West Street / Plaza Driveway

Under Existing conditions, the signalized intersection of Route 12 (Southbridge Street) at West Street and Plaza Driveway operates at an overall C with all movements at LOS D or better during the peak hours. Under future No-Build traffic-volume conditions (without the proposed project in place), the overall intersection is expected to drop to LOS E during the weekday PM peak hour and the Route 12 westbound movement is expected to drop to LOS F. With the proposed project in place, increases in overall delay are expected to be as high as 18 seconds. In order to accommodate the additional traffic expected to be generated by the proposed project, it is recommended that traffic signal timing changes be implemented, as discussed in the *Mitigation* section of this report.

US Route 20 at Western Site Driveway

The proposed intersection of US Route 20 at the western commercial site driveway is expected to operate at an overall LOS A, LOS D, and LOS C during the weekday AM, weekday PM, and Saturday midday peak hours, respectively, and restricts access to right-in/right-out only traffic. During the weekday PM and Saturday midday peak hours, the site driveway right turn movement is expected to be over capacity (v/c > 1.00) and operate with long delays (LOS F). In order to reduce delays at the site driveway approach and eliminate the added U-turns at the intersections of Route 20/Route 56 and Route 20/Route 12 (Main Street), it is recommended that a traffic signal be installed, as discussed in the *Mitigation* section of this report.

US Route 20 at Eastern Site Driveway

The proposed intersection of US Route 20 at the eastern commercial site driveway is expected to operate at an overall LOS A and LOS B during the peak hours and restricts access to right-in/right-out only traffic. All v/c ratios are well below 1.00 indicating ample capacity.

Blaker Street at Albert Street and Site Driveway

Albert Street is proposed to be extended across Blaker Street to provide access to The Reserve and Auburn Condos. All approaches are expected to operate at LOS A/B during the peak hours with all v/c ratios well below 1.00 indicating ample capacity. Queue lengths are expected to be one vehicle or less on any approach. Due to the low volumes on Blaker Street and the proposed volumes to/from the site driveway, it is recommended that the approaches under STOP control at this intersection be re-evaluated, as discussed in the *Mitigation* section of this report.

Ashworth Drive at Site Driveway

The main access to Ashworth Hills is proposed to be provided via a site driveway off Ashworth Drive. The T-type intersection is proposed to be STOP-controlled for the site driveway approach. All approaches are expected to operate at optimal levels (LOS A) during the peak hours with all v/c ratios well below 1.00 indicating ample capacity. Queue lengths are expected to be one vehicle or less on any approach.

Merge / Weave Analysis

As requested in the ENF Certificate for the project, the merge and weave areas on Southbridge Street at the I-90 ramps were analyzed.

Route 12 Westbound (Southbridge Street) at I-90 Off-Ramp Merge

The maneuver of the vehicles exiting the I-90 off-ramps merging with the vehicles traveling westbound on Route 12 (Southbridge Street) was analyzed using the Highway Capacity Software (HCS). As a result, this merging maneuver currently operates at a LOS B during the peak hours and is expected to continue to operate at a LOS B in the future, with and without the proposed project in place. The merge analysis worksheets are provided in the Appendix.

Route 12 Eastbound (Southbridge Street) Weave between I-90 Off-Ramp and I-90 On-Ramp

A weave analysis was performed during the peak hours for the Route 12 (Southbridge Street) eastbound lane between the two I-90 ramps using the HCS. As a result, this weaving maneuver currently operates at a LOS B during the peak hours and is expected to continue to operate at a LOS B in the future, with and without the proposed project in place. The weave analysis worksheets are provided in the Appendix.

TABLE 12
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2022/23 Existing				2030 No-Build				2030 Build			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Route 56												
Weekday AM:												
US Route 20 EB left-turn	0.35	55.6	E	34/70	0.47	59.4	E	34/71	0.48	60.9	E	34/71
US Route 20 EB through/right-turn	0.75	31.5	C	398/442	0.75	31.7	C	384/471	0.79	33.9	C	411/503
US Route 20 EB right-turn	--	--	--	--/--	0.06	20.7	C	<25/<25	0.06	21.2	C	<25/<25
US Route 20 WB U-turn/left-turn	0.12	53.3	D	<25/35	0.57	66.3	E	37/79	2.39	710.8	F	332/502
US Route 20 WB through/right-turn	0.44	24.2	C	173/224	0.47	27.0	C	184/250	0.48	26.8	C	197/266
US Route 20 WB right-turn	--	--	--	--/--	0.06	22.1	C	<25/<25	0.07	21.8	C	<25/<25
Route 56 NB approach	0.82	51.6	D	221/375	--	--	--	--/--	--	--	--	--/--
Route 56 NB left-turn	--	--	--	--/--	0.32	36.1	D	44/82	0.35	37.8	D	44/82
Route 56 NB through/right-turn	--	--	--	--/--	0.68	50.6	D	178/272	0.77	57.7	E	198/320
Route 56 SB left-turn	0.60	39.2	D	106/166	0.54	34.3	C	87/143	0.69	42.9	D	102/163
Route 56 SB through/right-turn	0.57	36.2	D	204/269	0.77	53.1	D	224/356	0.82	59.3	E	234/378
Overall Intersection	**0.76**	**33.6**	**C**	**--/--**	**0.79**	**35.5**	**D**	**--/--**	**0.99**	**93.6**	**F**	**--/--**
Weekday PM:												
US Route 20 EB left-turn	0.52	63.3	E	61/135	0.66	74.1	E	65/197	0.65	72.3	E	65/197
US Route 20 EB through/right-turn	0.53	29.0	C	235/429	0.53	29.6	C	231/480	0.58	31.9	C	247/510
US Route 20 EB right-turn	--	--	--	--/--	0.07	23.4	C	<25/<25	0.07	24.6	C	<25/<25
US Route 20 WB U-turn/left-turn	0.24	60.7	E	25/70	0.69	88.0	F	43/137	2.78	892.2	F	377/756
US Route 20 WB through/right-turn	1.02	66.6	F	616/1146	1.05	82.6	F	583/1223	1.11	103.1	F	656/1282
US Route 20 WB right-turn	--	--	--	--/--	0.15	27.5	C	<25/86	0.19	28.3	C	<25/112
Route 56 NB approach	1.63	350.9	F	447/831	--	--	--	--/--	--	--	--	--/--
Route 56 NB left-turn	--	--	--	--/--	0.99	120.8	F	76/279	0.98	117.1	F	76/279
Route 56 NB through/right-turn	--	--	--	--/--	0.82	67.9	E	215/539	0.86	72.6	E	230/583
Route 56 SB left-turn	0.41	39.8	D	60/148	0.52	44.0	D	58/153	0.63	49.5	D	69/212
Route 56 SB through/right-turn	0.65	44.8	D	244/463	1.10	133.0	F	321/795	1.10	131.6	F	335/804
Overall Intersection	**1.14**	**87.7**	**F**	**--/--**	**0.98**	**71.0**	**E**	**--/--**	**1.14**	**138.2**	**F**	**--/--**

[a] Volume-to-capacity ratio.
[b] Average control delay in seconds per vehicle.
[c] Level of service.
[d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 12 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2022/23 Existing				2030 No-Build				2030 Build			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Route 56												
Saturday Midday:												
US Route 20 EB left-turn	0.37	55.6	E	42/85	0.54	59.6	E	48/93	0.54	61.6	E	48/93
US Route 20 EB through/right-turn	0.70	30.0	C	368/450	0.81	33.7	C	437/540	0.86	37.3	D	470/580
US Route 20 EB right-turn	--	--	--	--/--	0.07	20.3	C	<25/<25	0.07	21.1	C	<25/<25
US Route 20 WB U-turn/left-turn	0.23	54.2	D	26/60	0.62	69.9	E	41/86	2.45	737.7	F	343/519
US Route 20 WB through/right-turn	0.67	29.0	C	339/415	0.73	32.5	C	357/466	0.75	33.1	C	383/499
US Route 20 WB right-turn	--	--	--	--/--	0.09	22.4	C	<25/43	0.13	22.6	C	<25/59
Route 56 NB approach	1.04	100.1	F	321/516	--	--	--	--/--	--	--	--	--/--
Route 56 NB left-turn	--	--	--	--/--	0.51	38.6	D	78/130	0.53	41.0	D	78/130
Route 56 NB through/right-turn	--	--	--	--/--	0.72	52.2	D	193/290	0.81	61.8	E	215/347
Route 56 SB left-turn	0.38	33.3	C	65/112	0.37	32.4	C	58/101	0.51	34.9	C	74/125
Route 56 SB through/right-turn	0.46	34.0	C	173/239	0.67	47.1	D	199/296	0.69	49.2	D	202/301
Overall Intersection	**0.82**	**39.5**	**D**	**--/--**	**0.78**	**36.2**	**D**	**--/--**	**0.99**	**87.2**	**F**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 12 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2022/23 Existing				2030 No-Build				2030 Build			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Thayer Pond Drive												
Weekday AM:												
US Route 20 EB left-turn/through	0.01	0.2	A	--/<25	0.36	0.0	A	--/<25	--	--	--	--/--
US Route 20 EB through	0.45	0.0	A	--/<25	0.36	0.0	A	--/<25	0.44	0.0	A	--/<25
US Route 20 WB through	0.24	0.0	A	--/<25	0.26	0.0	A	--/<25	0.36	0.0	A	--/<25
US Route 20 WB through/right-turn	0.13	0.0	A	--/<25	0.14	0.0	A	--/<25	0.19	0.0	A	--/<25
Thayer Pond Drive SB left-turn	0.09	16.8	C	--/<25	--	--	--	--/--	--	--	--	--/--
Thayer Pond Drive SB right-turn	0.04	10.4	B	--/<25	0.08	11.0	B	--/<25	0.10	12.2	B	--/<25
Overall Intersection	**--**	**0.5**	**A**	**--/--**	**--**	**0.3**	**A**	**--/--**	**--**	**0.3**	**A**	**--/--**
Weekday PM:												
US Route 20 EB left-turn/through	0.05	1.7	A	--/<25	0.28	0.0	A	--/<25	--	--	--	--/--
US Route 20 EB through	0.34	0.0	A	--/<25	0.28	0.0	A	--/<25	0.36	0.0	A	--/<25
US Route 20 WB through	0.62	0.0	A	--/<25	0.60	0.0	A	--/<25	0.72	0.0	A	--/<25
US Route 20 WB through/right-turn	0.34	0.0	A	--/<25	0.34	0.0	A	--/<25	0.39	0.0	A	--/<25
Thayer Pond Drive SB left-turn	0.51	137.4	F	--/47	--	--	--	--/--	--	--	--	--/--
Thayer Pond Drive SB right-turn	0.07	17.0	C	--/<25	0.12	17.3	C	--/<25	0.15	20.9	C	--/<25
Overall Intersection	**--**	**1.7**	**A**	**--/--**	**--**	**0.3**	**A**	**--/--**	**--**	**0.3**	**B**	**--/--**
Saturday Midday:												
US Route 20 EB left-turn/through	0.04	1.1	A	--/<25	--	--	--	--/--	--	--	--	--/--
US Route 20 EB through	0.46	0.0	A	--/<25	0.40	0.0	A	--/<25	0.49	0.0	A	--/<25
US Route 20 WB through	0.40	0.0	A	--/<25	0.46	0.0	A	--/<25	0.57	0.0	A	--/<25
US Route 20 WB through/right-turn	0.22	0.0	A	--/<25	0.26	0.0	A	--/<25	0.32	0.0	A	--/<25
Thayer Pond Drive SB left-turn	0.14	39.9	E	--/<25	--	--	--	--/--	--	--	--	--/--
Thayer Pond Drive SB right-turn	0.05	12.5	B	--/<25	0.08	13.9	B	--/<25	0.10	16.3	C	--/<25
Overall Intersection	**--**	**0.6**	**B**	**--/--**	**--**	**0.2**	**A**	**--/--**	**--**	**0.2**	**A**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 12 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2022/23 Existing				2030 No-Build				2030 Build			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Route 12 (Main Street)												
Weekday AM:												
US Route 20 EB U-turn	--	--	--	--/--	0.18	30.6	C	<25/<25	0.99	83.9	F	72/184
US Route 20 EB through/right-turn	0.76	18.5	B	230/357	0.95	32.9	C	254/398	1.11	80.7	F	318/438
US Route 20 WB left-turn	0.36	31.3	C	28/60	0.45	26.4	C	<25/44	0.42	26.1	C	<25/44
US Route 20 WB through	0.29	5.8	A	55/100	0.44	11.2	B	48/148	0.70	19.2	B	122/180
Route 12 NB left-turn/right-turn	0.60	30.5	C	73/140	0.22	23.2	C	<25/53	0.55	25.3	C	39/109
Route 12 NB right-turn	0.64	31.9	C	77/148	0.12	22.7	C	<25/45	0.13	21.5	C	<25/48
Overall Intersection	**0.68**	**17.7**	**B**	**--/--**	**0.83**	**25.2**	**C**	**--/--**	**1.10**	**53.8**	**D**	**--/--**
Weekday PM:												
US Route 20 EB U-turn	--	--	--	--/--	0.72	107.2	F	<25/29	0.98	107.0	F	76/189
US Route 20 EB through/right-turn	0.79	28.9	C	251/352	0.65	19.1	B	193/255	0.72	20.1	C	240/315
US Route 20 WB left-turn	0.80	35.1	D	188/315	1.37	213.2	F	210/372	1.43	243.1	F	264/372
US Route 20 WB through	0.64	8.7	A	215/334	0.74	14.7	B	191/421	0.85	21.8	C	354/458
Route 12 NB left-turn/right-turn	0.65	36.3	D	105/196	0.77	48.4	D	74/209	0.89	69.5	E	103/236
Route 12 NB right-turn	0.69	38.6	D	105/201	0.13	31.5	C	<25/63	0.14	33.1	C	<25/64
Overall Intersection	**0.77**	**22.6**	**C**	**--/--**	**0.97**	**58.4**	**E**	**--/--**	**1.11**	**67.2**	**E**	**--/--**
Saturday Midday:												
US Route 20 EB U-turn	--	--	--	--/--	0.66	65.3	E	<25/27	1.03	95.2	F	79/195
US Route 20 EB through/right-turn	0.84	28.2	C	304/498	1.02	51.5	D	310/430	1.34	178.7	F	353/474
US Route 20 WB left-turn	0.69	36.0	D	127/195	1.29	176.5	F	107/188	1.17	123.9	F	107/188
US Route 20 WB through	0.44	7.5	A	132/210	0.68	14.7	B	115/332	1.09	76.2	E	257/369
Route 12 NB left-turn/right-turn	0.70	37.5	D	128/227	0.68	32.2	C	53/145	0.74	32.1	C	68/177
Route 12 NB right-turn	0.75	41.3	D	132/238	0.16	23.7	C	<25/53	0.16	20.7	C	<25/54
Overall Intersection	**0.78**	**24.2**	**C**	**--/--**	**1.13**	**54.1**	**D**	**--/--**	**1.28**	**114.4**	**F**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 12 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2022/23 Existing				2030 No-Build				2030 Build			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Hill Street and Albert Street												
Weekday AM:												
US Route 20 EB left-turn	0.37	42.6	D	<25/41	0.48	45.1	D	<25/41	0.48	45.1	D	<25/41
US Route 20 EB through/right-turn	0.61	7.3	A	121/303	0.59	6.5	A	<25/332	0.71	12.8	B	198/583
US Route 20 WB left-turn	0.48	53.8	D	<25/42	0.48	52.0	D	<25/41	0.48	51.5	D	<25/30
US Route 20 WB through/right-turn	0.31	7.3	A	72/90	0.33	6.1	A	<25/98	0.45	12.6	B	98/119
Hill Street NB left-turn	0.12	41.8	D	<25/<25	0.17	43.3	D	<25/<25	0.05	34.5	C	<25/<25
Hill Street NB through/right-turn	0.03	41.4	D	<25/<25	0.03	42.7	D	<25/<25	0.02	34.3	C	<25/<25
Albert Street SB left-turn	0.12	41.8	D	<25/<25	0.12	43.1	D	<25/<25	0.73	51.5	D	60/107
Albert Street SB through/right-turn	0.01	41.3	D	<25/<25	0.01	42.6	D	<25/<25	0.01	34.3	C	<25/<25
Overall Intersection	**0.58**	**9.0**	**A**	**--/--**	**0.57**	**7.9**	**A**	**--/--**	**0.71**	**15.3**	**B**	**--/--**
Weekday PM:												
US Route 20 EB left-turn	0.39	58.1	E	<25/46	0.39	58.1	E	<25/46	0.39	58.1	E	<25/46
US Route 20 EB through/right-turn	0.43	7.1	A	168/260	0.47	7.0	A	186/283	0.55	10.5	B	256/398
US Route 20 WB left-turn	0.53	58.4	E	42/59	0.53	55.9	E	40/52	0.53	56.3	E	42/50
US Route 20 WB through/right-turn	0.79	19.1	B	844/867	0.80	19.6	B	866/857	0.93	32.3	C	986/986
Hill Street NB left-turn	0.19	53.8	D	<25/<25	0.12	54.3	D	<25/<25	0.06	48.3	D	<25/<25
Hill Street NB through/right-turn	0.06	53.1	D	<25/<25	0.03	53.8	D	<25/<25	0.02	48.1	D	<25/<25
Albert Street SB left-turn	0.51	56.7	E	33/53	0.43	56.3	E	25/58	0.66	59.7	E	75/128
Albert Street SB through/right-turn	0.04	53.0	D	<25/<25	0.03	53.8	D	<25/31	0.02	48.1	D	<25/29
Overall Intersection	**0.78**	**17.5**	**B**	**--/--**	**0.78**	**16.9**	**B**	**--/--**	**0.90**	**26.3**	**C**	**--/--**
Saturday Midday:												
US Route 20 EB left-turn	0.42	48.0	D	<25/<25	0.46	48.7	D	<25/<25	0.46	48.7	D	<25/<25
US Route 20 EB through/right-turn	0.59	7.2	A	119/346	0.66	8.2	A	146/430	0.76	12.6	B	222/652
US Route 20 WB left-turn	0.37	31.2	C	<25/<25	0.39	35.0	C	<25/<25	0.39	31.0	C	<25/<25
US Route 20 WB through/right-turn	0.59	9.0	A	282/340	0.64	9.7	A	337/394	0.77	14.7	B	378/410
Hill Street NB left-turn	0.20	41.1	D	<25/<25	0.15	41.1	D	<25/<25	0.08	35.9	D	<25/<25
Hill Street NB through/right-turn	0.02	40.3	D	<25/<25	0.01	40.5	D	<25/<25	0.01	35.5	D	<25/<25
Albert Street SB left-turn	0.43	42.5	D	<25/43	0.40	42.4	D	<25/45	0.68	47.9	D	57/104
Albert Street SB through/right-turn	0.02	40.3	D	<25/<25	0.02	40.5	D	<25/<25	0.01	35.5	D	<25/<25
Overall Intersection	**0.58**	**9.3**	**A**	**--/--**	**0.63**	**9.9**	**A**	**--/--**	**0.76**	**15.2**	**B**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 12 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2022/23 Existing				2030 No-Build				2030 Build			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Route 12 (Southbridge Street)												
Weekday AM:												
US Route 20 EB U-turn	0.09	47.9	D	<25/<25	0.08	48.3	D	<25/<25	0.08	41.8	D	<25/<25
US Route 20 EB left-turn	0.41	20.8	C	63/103	0.39	20.8	C	96/106	0.44	23.6	C	76/181
US Route 20 EB through	0.31	0.1	A	<25/<25	0.30	0.1	A	<25/<25	0.33	0.1	A	<25/<25
US Route 20 WB through	0.32	14.2	B	92/134	0.35	14.8	B	104/147	0.42	16.4	B	127/172
US Route 20 WB right-turn	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25
Route 12 SB right-turn	0.49	32.5	C	68/105	0.51	32.5	C	73/113	0.59	32.7	C	92/139
Overall Intersection	**0.40**	**11.5**	**B**	**--/--**	**0.40**	**11.9**	**B**	**--/--**	**0.47**	**13.4**	**B**	**--/--**
Weekday PM:												
US Route 20 EB U-turn	0.30	56.9	E	29/67	0.29	57.0	E	27/64	0.29	66.9	E	30/70
US Route 20 EB left-turn	0.29	18.8	B	85/71	0.30	18.3	B	86/70	0.36	17.9	B	79/86
US Route 20 EB through	0.25	0.1	A	<25/<25	0.25	0.1	A	<25/<25	0.28	0.1	A	<25/<25
US Route 20 WB through	0.64	23.8	C	324/376	0.65	24.0	C	331/404	0.70	25.5	C	375/457
US Route 20 WB right-turn	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25
Route 12 SB right-turn	1.08	99.2	F	405/543	1.22	153.9	F	504/645	1.33	199.9	F	580/724
Overall Intersection	**0.74**	**36.7**	**D**	**--/--**	**0.80**	**53.3**	**D**	**--/--**	**0.87**	**65.7**	**E**	**--/--**
Saturday Midday:												
US Route 20 EB U-turn	0.11	24.2	C	<25/46	0.12	23.1	C	<25/39	0.12	21.0	C	<25/30
US Route 20 EB left-turn	0.31	20.5	C	87/195	0.35	20.7	C	107/223	0.39	19.7	B	144/234
US Route 20 EB through	0.30	0.1	A	<25/<25	0.34	0.2	A	<25/<25	0.37	0.2	A	<25/<25
US Route 20 WB through	0.68	25.7	C	232/302	0.76	27.7	C	266/344	0.82	30.4	C	302/387
US Route 20 WB right-turn	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25
Route 12 SB right-turn	1.05	88.0	F	207/276	1.01	77.8	E	188/307	1.14	119.7	F	242/359
Overall Intersection	**0.68**	**27.8**	**C**	**--/--**	**0.71**	**25.1**	**C**	**--/--**	**0.79**	**33.2**	**C**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 12 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2022/23 Existing				2030 No-Build				2030 Build			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
Route 12 (Southbridge Street) at West Street / Plaza Driveway												
Weekday AM:												
Route 12 EB approach	0.46	20.4	C	71/215	0.46	16.8	B	64/241	0.54	18.8	B	86/281
Route 12 WB approach	0.70	33.5	C	84/224	0.66	28.3	C	70/241	0.74	31.6	C	102/301
Plaza Driveway NB approach	0.47	52.2	D	<25/<25	0.23	42.2	D	<25/<25	0.25	45.9	D	<25/<25
West Street SB left-turn	0.70	27.7	C	131/405	0.74	30.9	C	110/454	0.74	31.8	C	128/488
West Street SB left/through/right-turn	0.69	27.3	C	127/382	0.73	30.3	C	107/438	0.72	31.1	C	123/469
Overall Intersection	**0.66**	**27.8**	**C**	**--/--**	**0.65**	**25.7**	**C**	**--/--**	**0.70**	**27.6**	**C**	**--/--**
Weekday PM:												
Route 12 EB approach	0.40	9.0	A	72/114	0.38	8.6	A	44/121	0.45	9.2	A	53/142
Route 12 WB approach	0.98	42.0	D	373/630	1.10	78.6	F	364/751	1.18	108.9	F	458/825
Plaza Driveway NB approach	0.17	38.5	D	<25/27	0.18	39.3	D	<25/29	0.18	39.4	D	<25/29
West Street SB left-turn	0.70	38.3	D	103/172	0.69	37.2	D	88/181	0.70	37.5	D	90/186
West Street SB left/through/right-turn	0.68	37.4	D	98/168	0.68	36.3	D	85/176	0.69	36.6	D	87/181
Overall Intersection	**0.89**	**33.6**	**C**	**--/--**	**0.97**	**57.2**	**E**	**--/--**	**1.03**	**75.4**	**E**	**--/--**
Saturday Midday:												
Route 12 EB approach	0.33	9.8	A	74/136	0.37	9.6	A	78/143	0.42	10.2	B	90/163
Route 12 WB approach	0.71	21.8	C	213/353	0.77	23.1	C	239/428	0.84	26.2	C	275/494
Plaza Driveway NB approach	0.20	38.7	D	<25/41	0.17	38.2	D	<25/44	0.17	38.3	D	<25/43
West Street SB left-turn	0.73	39.6	D	121/178	0.71	39.2	D	111/193	0.71	39.1	D	114/197
West Street SB left/through/right-turn	0.69	37.7	D	111/168	0.67	37.1	D	102/181	0.69	37.6	D	107/189
Overall Intersection	**0.70**	**22.7**	**C**	**--/--**	**0.74**	**22.6**	**C**	**--/--**	**0.79**	**24.1**	**C**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 12 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2022/23 Existing				2030 No-Build				2030 Build			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Western Site Driveway (Right-In / Right-Out)												
Weekday AM:												
US Route 20 EB through	--	--	--	--/--	--	--	--	--/--	0.45	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	--	--	--	--/--	0.24	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	--	--	--	--/--	0.31	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	--	--	--	--/--	0.57	20.1	C	--/88
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**--**	**--**	**--/--**	**--**	**2.2**	**A**	**--/--**
Weekday PM:												
US Route 20 EB through	--	--	--	--/--	--	--	--	--/--	0.37	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	--	--	--	--/--	0.60	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	--	--	--	--/--	0.47	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	--	--	--	--/--	1.26	179.8	F	--/421
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**--**	**--**	**--/--**	**--**	**18.5**	**D**	**--/--**
Saturday Midday:												
US Route 20 EB through	--	--	--	--/--	--	--	--	--/--	0.48	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	--	--	--	--/--	0.45	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	--	--	--	--/--	0.44	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	--	--	--	--/--	1.02	89.3	F	--/304
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**--**	**--**	**--/--**	**--**	**9.2**	**C**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 12 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2022/23 Existing				2030 No-Build				2030 Build			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Eastern Site Driveway (Right-In / Right-Out)												
Weekday AM:												
US Route 20 EB through	--	--	--	--/--	--	--	--	--/--	0.45	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	--	--	--	--/--	0.37	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	--	--	--	--/--	0.24	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	--	--	--	--/--	0.00	0.0	A	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**--**	**--**	**--/--**	**--**	**0.0**	**A**	**--/--**
Weekday PM:												
US Route 20 EB through	--	--	--	--/--	--	--	--	--/--	0.37	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	--	--	--	--/--	0.70	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	--	--	--	--/--	0.36	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	--	--	--	--/--	0.05	10.9	B	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**--**	**--**	**--/--**	**--**	**0.1**	**B**	**--/--**
Saturday Midday:												
US Route 20 EB through	--	--	--	--/--	--	--	--	--/--	0.48	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	--	--	--	--/--	0.59	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	--	--	--	--/--	0.30	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	--	--	--	--/--	0.01	9.7	A	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**--**	**--**	**--/--**	**--**	**0.0**	**A**	**--/--**

[a] Volume-to-capacity ratio.
[b] Average control delay in seconds per vehicle.
[c] Level of service.
[d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 12 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2022/23 Existing				2030 No-Build				2030 Build			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
Blaker Street at Albert Street and Site Driveway												
Weekday AM:												
Site Driveway EB approach	0.01	9.6	A	--/<25	0.01	9.6	A	--/<25	0.14	10.3	B	--/<25
Albert Street WB approach	0.04	9.2	A	--/<25	0.03	9.2	A	--/<25	0.07	9.4	A	--/<25
Blaker Street NB approach	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25
Blaker Street SB approach	0.01	7.4	A	--/<25	0.00	7.4	A	--/<25	0.00	7.4	A	--/<25
Overall Intersection	**--/--**	**8.3**	**A**	**--/--**	**--/--**	**8.2**	**A**	**--/--**	**--**	**9.7**	**A**	**--/--**
Weekday PM:												
Site Driveway EB approach	0.02	9.1	A	--/<25	0.01	9.0	A	--/<25	0.09	9.4	A	--/<25
Albert Street WB approach	0.01	8.3	A	--/<25	0.01	8.3	A	--/<25	0.13	9.6	A	--/<25
Blaker Street NB approach	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25
Blaker Street SB approach	0.00	7.2	A	--/<25	0.00	7.2	A	--/<25	0.00	7.2	A	--/<25
Overall Intersection	**--/--**	**7.7**	**A**	**--/--**	**--/--**	**8.1**	**A**	**--/--**	**--**	**9.5**	**A**	**--/--**
Saturday Midday:												
Site Driveway EB approach	--	--	--	--/--	--	--	--	--/--	0.08	9.4	A	--/<25
Albert Street WB approach	0.01	8.6	A	--/<25	0.01	8.5	A	--/<25	0.09	9.5	A	--/<25
Blaker Street NB approach	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25
Blaker Street SB approach	0.01	7.4	A	--/<25	0.00	7.4	A	--/<25	0.00	7.4	A	--/<25
Overall Intersection	**--/--**	**6.8**	**A**	**--/--**	**--/--**	**7.3**	**A**	**--/--**	**--**	**9.3**	**A**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 12 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2022/23 Existing				2030 No-Build				2030 Build			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
Ashworth Drive at Site Driveway												
Weekday AM:												
Site Driveway WB approach	--	--	--	--/--	--	--	--	--/--	0.05	8.5	A	--/<25
Ashworth Drive NB approach	--	--	--	--/--	--	--	--	--/--	0.00	0.0	A	--/<25
Ashworth Drive SB approach	--	--	--	--/--	--	--	--	--/--	0.01	7.3	A	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**--**	**--**	**--/--**	**--**	**7.9**	**A**	**--/--**
Weekday PM:												
Site Driveway WB approach	--	--	--	--/--	--	--	--	--/--	0.02	8.4	A	--/<25
Ashworth Drive NB approach	--	--	--	--/--	--	--	--	--/--	0.00	0.0	A	--/<25
Ashworth Drive SB approach	--	--	--	--/--	--	--	--	--/--	0.01	6.7	A	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**--**	**--**	**--/--**	**--**	**7.3**	**A**	**--/--**
Saturday Midday:												
Site Driveway WB approach	--	--	--	--/--	--	--	--	--/--	0.02	8.4	A	--/<25
Ashworth Drive NB approach	--	--	--	--/--	--	--	--	--/--	0.00	0.0	A	--/<25
Ashworth Drive SB approach	--	--	--	--/--	--	--	--	--/--	0.01	7.0	A	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**--**	**--**	**--/--**	**--**	**7.3**	**A**	**--/--**

[a] Volume-to-capacity ratio.
[b] Average control delay in seconds per vehicle.
[c] Level of service.
[d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

MITIGATION

The final phase of the analysis process is to identify measures useful in improving anticipated deficiencies resulting from traffic growth related to the combination of existing, background, and site-generated traffic. Measures considered desirable to improve roadway system deficiencies are discussed below as they relate to the impacts of the proposed project as well as existing traffic conditions and general traffic growth.

Traffic Signal Warrant Analysis & ICE Stage I Analysis

A traffic signal warrant analysis was conducted to determine if signal control will be warranted at the intersection of US Route 20 at the western commercial site driveway, given the volume of traffic expected to be generated by the proposed commercial development. The hourly distribution of traffic was based on ATR counts conducted in January 2023 on US Route 20 (Southbridge Road) in the vicinity of #176 Southbridge Road (Oxford Auto Sales). The 2030 Build traffic-volume data were compared with the requirements established in the MUTCD.

The available traffic data were compared with the requirements established in the MUTCD for the following volume-related warrants:

- Warrant 1 – Eight Hour Vehicular Volume
    - Condition A – Minimum Vehicular Volume
    - Condition B – Interruption of Continuous Traffic
    - Combination of Conditions A and B
- Warrant 2 – Four-Hour Vehicular Volume; and
- Warrant 3 – One-Hour Vehicular Volume.

In accordance with the MUTCD, a traffic control signal may only be installed if at least one of the signal warrants is met. A number of factors are involved in determining if signal control should be installed, however, including intersection operations, safety, and engineering judgment. It is only in very rare circumstances that a traffic control signal is installed on the basis of the peak hour warrant alone. Normally, at least one of the eight-hour warrants (Warrant 1, Condition A or B) should be met before signal control is considered. The peak-hour volume warrant is applied only in unusual cases such as

driveways serving large office/industrial complexes, manufacturing plants, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short period of time. In addition, the combination of Conditions A and B under Warrant 1 should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. Table 13 summarizes the results of this signal warrant analysis. The signal warrant analysis worksheet is provided in the Appendix.

TABLE 13
Traffic Signal Warrant Analysis Summary

	Warrant #1				
Intersection	**A**	**B**	**Combo**	**Warrant #2**	**Warrant #3**
US Route 20 at Western Site Driveway	Yes	Yes	Yes	Yes	Yes

As shown in Table 13, the proposed intersection of US Route 20 at the western commercial site driveway is expected to meet all of the volume-related signal warrants. Accordingly, a traffic signal is recommended to be installed at this location. To further justify the need for a traffic signal at this location, an Intersection Control Evaluation (ICE) Stage 1 analysis was completed. The results of the analysis indicate that only Signalized Control is a viable option for the US Route 20 at the western commercial site driveway given the right-of-way, environmental, and utility constraints, as well as construction cost associated with implementing alternative traffic control strategies. It should be noted that based on the ICE Applicability Checklist, ICE analysis is not required for the eastern right-in/right-out site driveway. The ICE Stage 1 analysis and applicability checklist is provided in the Appendix.

A Concept Plan (Figure 14) prepared by GPI depicts the proposed geometrics of the site driveways on US Route 20 and signal equipment at the western commercial site driveway. As shown, an exclusive eastbound left-turn lane on US Route 20 will provide approximately 475 feet of storage and an exclusive right-turn lane on US Route 20 will provide approximately 300 feet of storage which is sufficient to accommodate the expected queue lengths. The site driveway southbound approach will include a left-turn lane and a right-turn lane. With a traffic signal in place, left turns into the site and left turns out of the site will be permitted. Accordingly, the site-generated and Build traffic-volume networks under the mitigated condition are provided on Figures 15 through 20.

The improvements for the signalized intersection at the western commercial site driveway are consistent with the criteria approved in the Design Justification Workbook (DJW) for the US Route 20 MassDOT reconstruction project (Project No. 602659) which includes 4-foot shoulders and an 8-foot shared use path. In addition, new 10-foot wide crosswalks are provided across the site driveway and across US Route 20 with signalized pedestrian crossings.

It should be noted that the proposed signalized intersection, with the addition of the US Route 20 eastbound left-turn lane, will require a portion (735 feet) of the double-faced guardrail being installed as part of the US Route 20 reconstruction project to be replaced and offset by 5 feet to accommodate the improvements.

N

LEGEND:

PROPOSED MASSDOT IMPROVEMENT PROJECT NO. 602659

PROPOSED CHANGES

EXISTING CONDITIONS

SITE DRIVEWAY

ROUTE 20
(SOUTHBRIDGE ROAD)

TURNER ROAD
(NO ACCESS TO ROUTE 20)

PC +36.35

PCC +94.96

PT +46.89

PT +25.51

PC +56.88

PROP. FULL DEPTH WIDENING

PROP. STATE LAYOUT

PROP. 20' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 8.0' SHARED USE PATH

PROP. 5.0' SIDEWALK

PROP. DETECTION ZONE (TYP.)

PROP. 10' TRAFFIC SIGNAL POST, BASE & FOUNDATION (TYP.)

PROP. TRAFFIC CONTROLLER CABINET

PROP. 35' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. IMPACT ATTENUATOR (TYP.)

PROP. 45' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 25' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 12"x12" PULL BOX (TYP.)

PROP. 3" CONDUIT (TYP.)

PROP. PEDESTRIAN SIGNAL (TYP.)

RELOCATE DRIVEWAY

PROP. DOUBLE FACED GUARDRAIL

PROP. 5.5' SIDEWALK

RELOCATE PROP. MEDIAN TO PROVIDE LEFT-TURN LANE

NO TURNS

ONE WAY

RIP-RAP

EOP

#167 #168 #170 #171

0 40 100 160

SCALE: 1" = 40'

20145.00_XR01.DWG 1/9/2024

GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street, Suite 202
Wilmington, MA 01887

PREPARED FOR
EASTLAND PARTNERS, INC.
4 CHARLESVIEW ROAD,
SUITE 1
HOPEDALE, MA

SIGNALIZED DRIVEWAY
PROPOSED SITE DRIVE AT ROUTE 20
OXFORD, MA

REVISIONS		
1	EIR COMMENTS	12/20/23
NO.	REVISION	DATE

11/17/20

DRAWN/DESIGN BY	CHECKED BY
DPE	HLM/JRN

CONCEPT PLAN

SCALE: 1"=40'

2020145.00

FIGURE 14A

N

LEGEND:

- PROPOSED MASSDOT IMPROVEMENT PROJECT NO. 602659
- PROPOSED CHANGES
- EXISTING CONDITIONS

SITE DRIVEWAY

PC +36.35

PCC +94.96

PT +93.89

PT +33.33

PC +00.09

PT +04.05

PC +54.78

300' (25' QUEUE + 275' DECEL LENGTH)

PROP. STATE LAYOUT

1932 S.H.L.O.

REMOVE UP AND GUY WIRES (BY OTHERS)

PROP. GUY WIRES (2) (BY OTHERS)

PROP. 8.0' SHARED USE PATH

PROP. 5.5' SIDEWALK

R&R UP W/GUY WIRES (2) (BY OTHERS)

ROUTE 20
(SOUTHBRIDGE ROAD)

#176

#180

RIP-RAP

EOP

0 40 100 160

SCALE: 1" = 40'

20145.00_XR01.DWG 1/9/2024

GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street, Suite 202
Wilmington, MA 01887

PREPARED FOR
EASTLAND PARTNERS, INC.
4 CHARLESVIEW ROAD,
SUITE 1
HOPEDALE, MA

SIGNALIZED DRIVEWAY
PROPOSED SITE DRIVE AT ROUTE 20
OXFORD, MA

REVISIONS		
1	EIR COMMENTS	12/20/23
NO.	REVISION	DATE

11/17/20

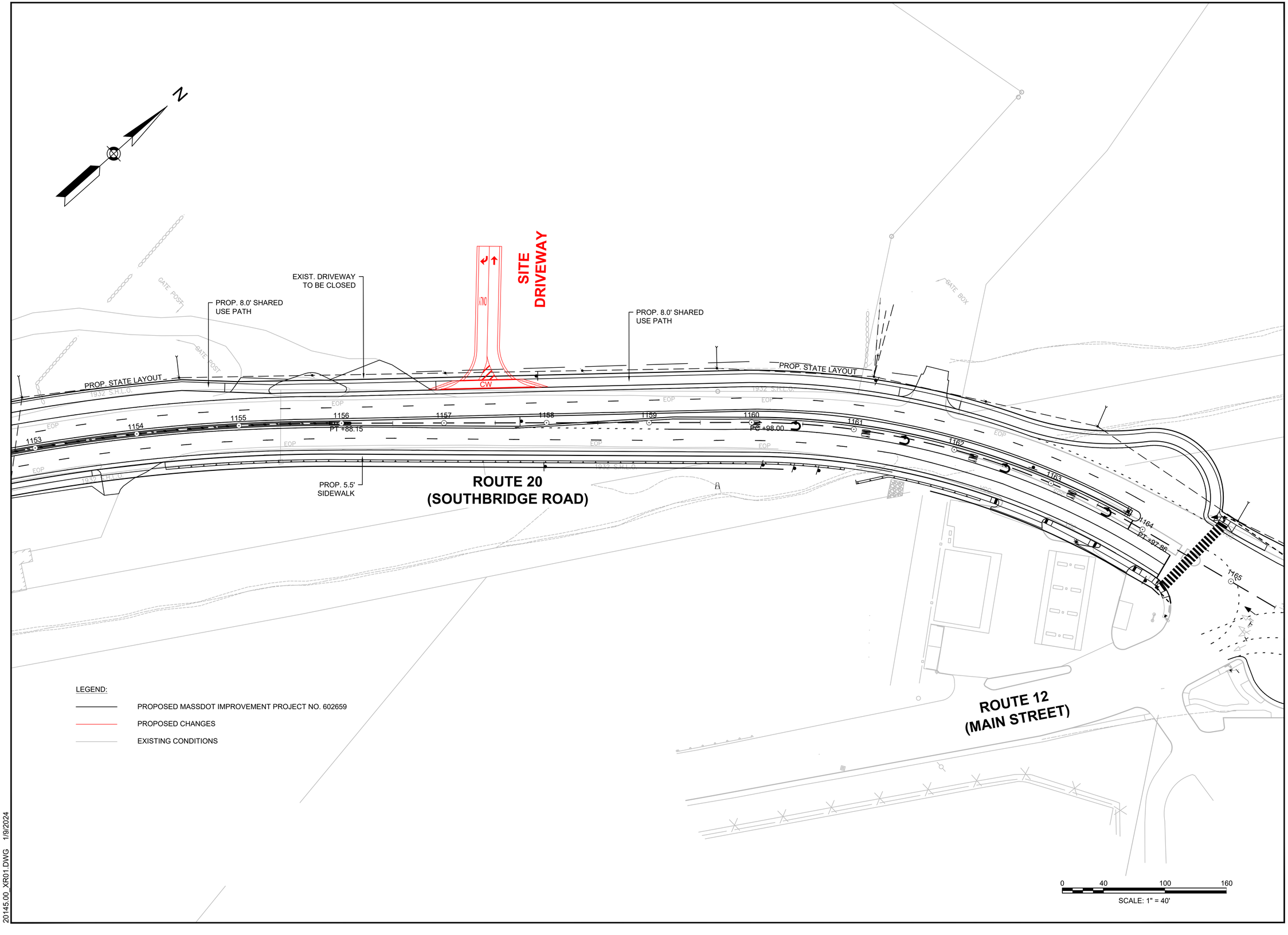
DRAWN/DESIGN BY	CHECKED BY
DPE	HLM/JRN

CONCEPT PLAN

SCALE: 1"=40'

2020145.00

FIGURE 14B



GPI
Engineering
Design
Planning
Construction Management
978.570.2999
GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street, Suite 202
Wilmington, MA 01887

PREPARED FOR
EASTLAND PARTNERS, INC.
4 CHARLESVIEW ROAD,
SUITE 1
HOPEDALE, MA

RIGHT-IN / RIGHT-OUT DRIVEWAY
PROPOSED SITE DRIVE AT ROUTE 20
OXFORD, MA

REVISIONS

NO.	REVISION	DATE
1	EIR COMMENTS	12/20/23

11/17/20

DRAWN/DESIGN BY	CHECKED BY
DPE	HLM/JRN

CONCEPT PLAN

SCALE: 1"=40'

2020145.00

FIGURE 14C

20145.00_XR01.DWG 1/9/2024

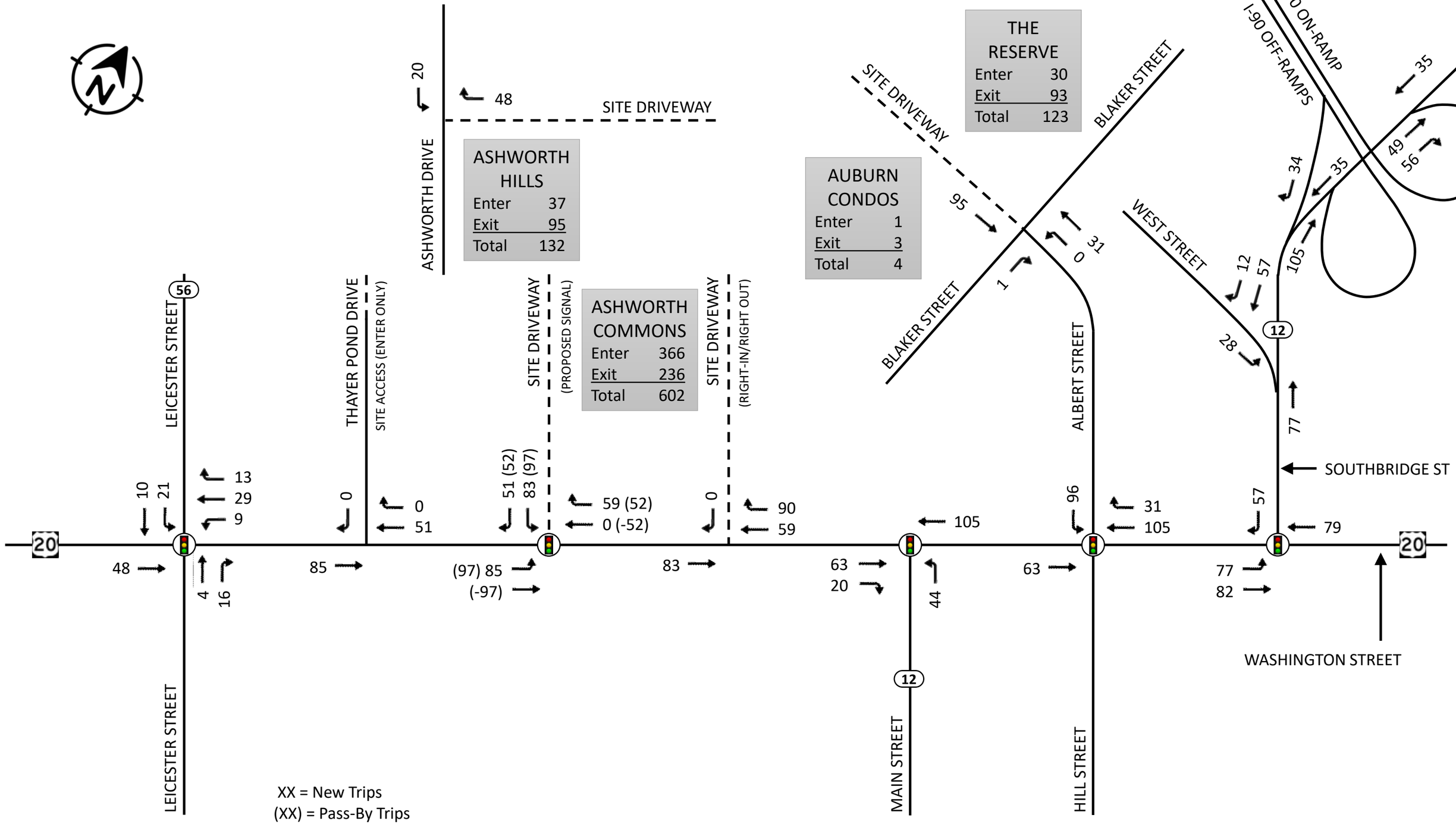


FIGURE 15

SITE-GEN MITIGATED TRAFFIC VOLUMES (11th Edition)
WEEKDAY AM PEAK HOUR

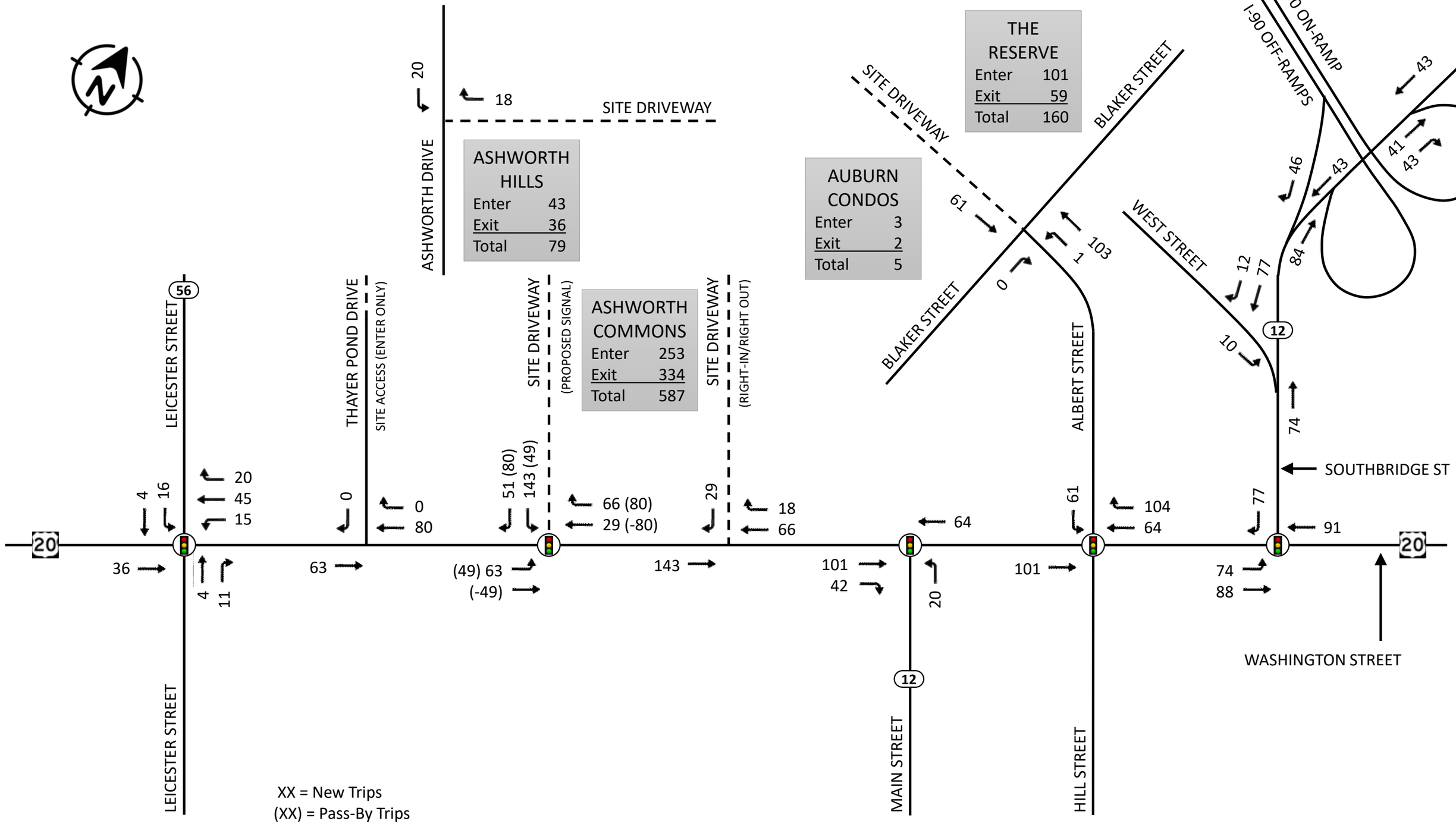


FIGURE 16

SITE-GEN MITIGATED TRAFFIC VOLUMES (11th Edition)
WEEKDAY PM PEAK HOUR

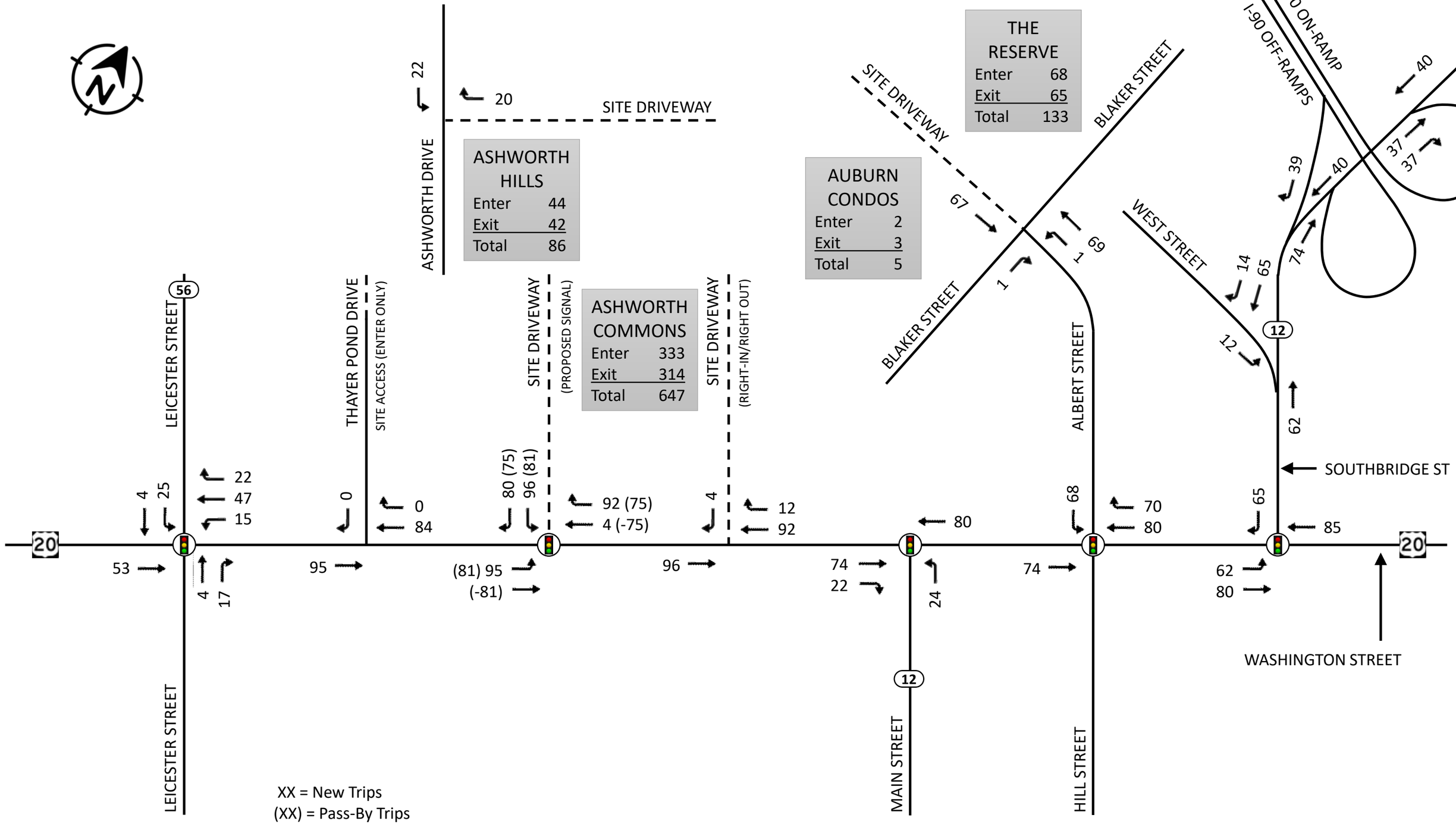


FIGURE 17

SITE-GEN MITIGATED TRAFFIC VOLUMES (11th Edition)
SATURDAY MIDDAY PEAK HOUR

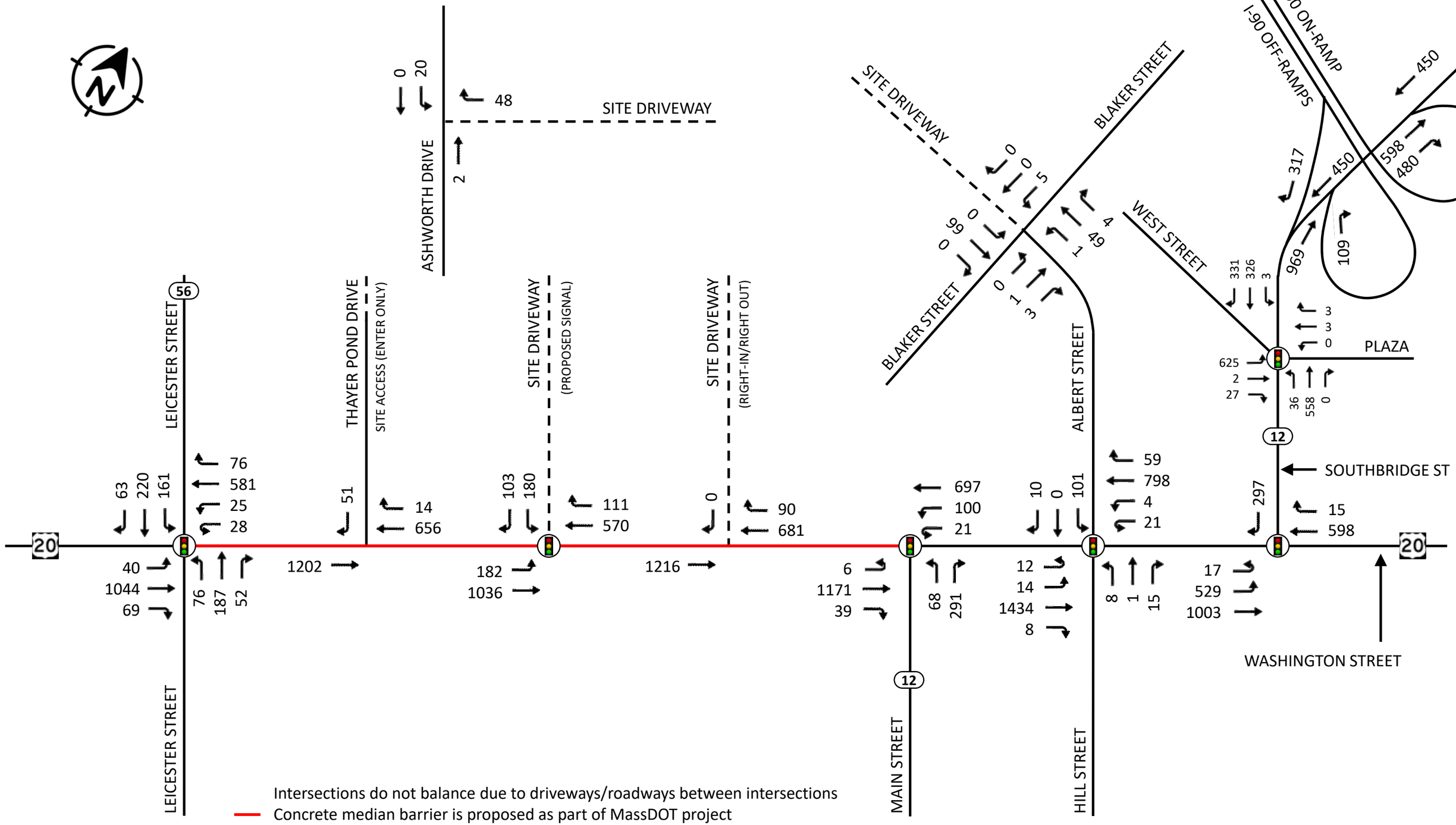


FIGURE 18

2030 BUILD WITH MITIGATION TRAFFIC VOLUMES
WEEKDAY AM PEAK HOUR

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THE RESERVE – OXFORD/AUBURN, MA

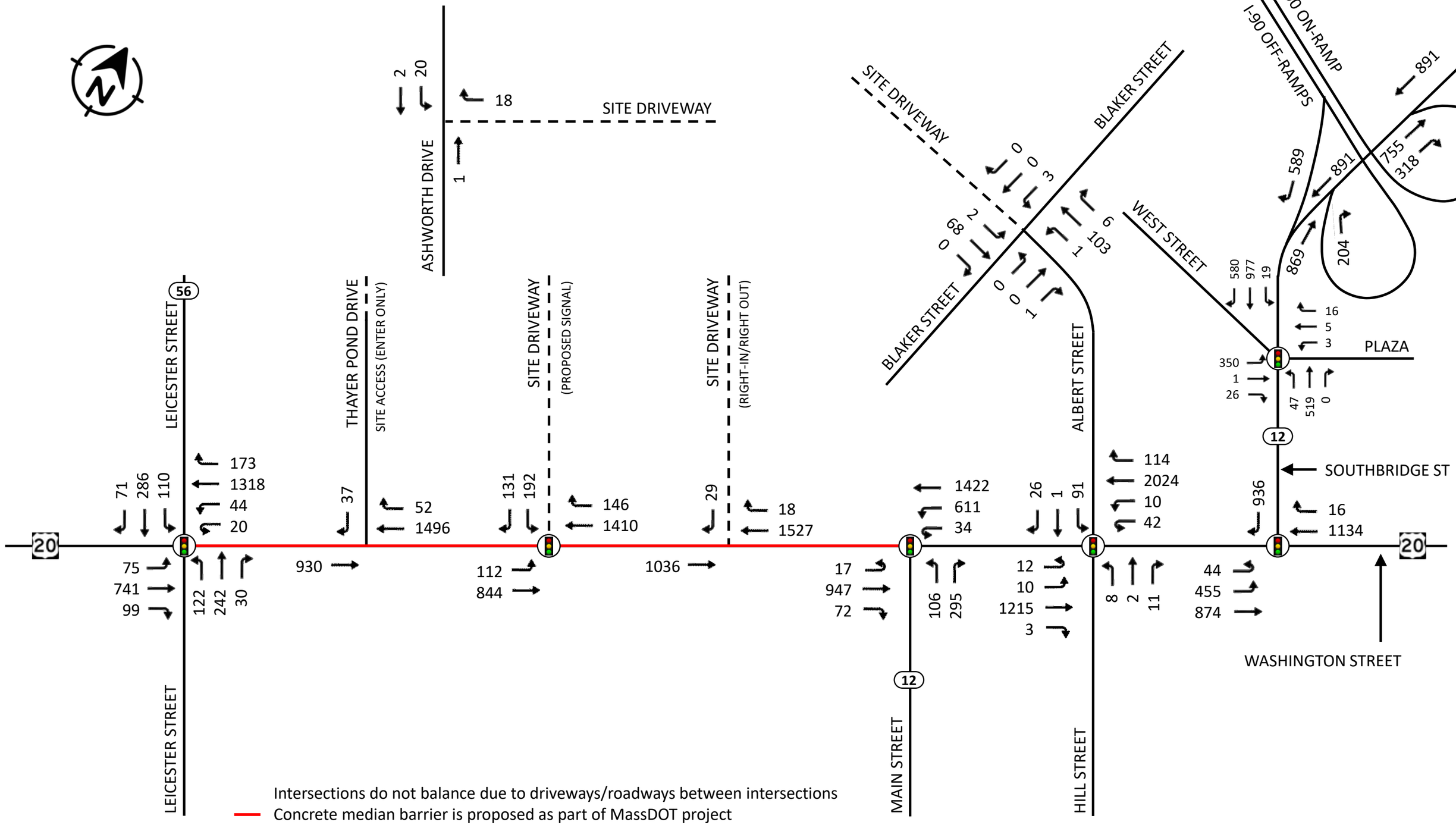


FIGURE 19

2030 BUILD WITH MITIGATION TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

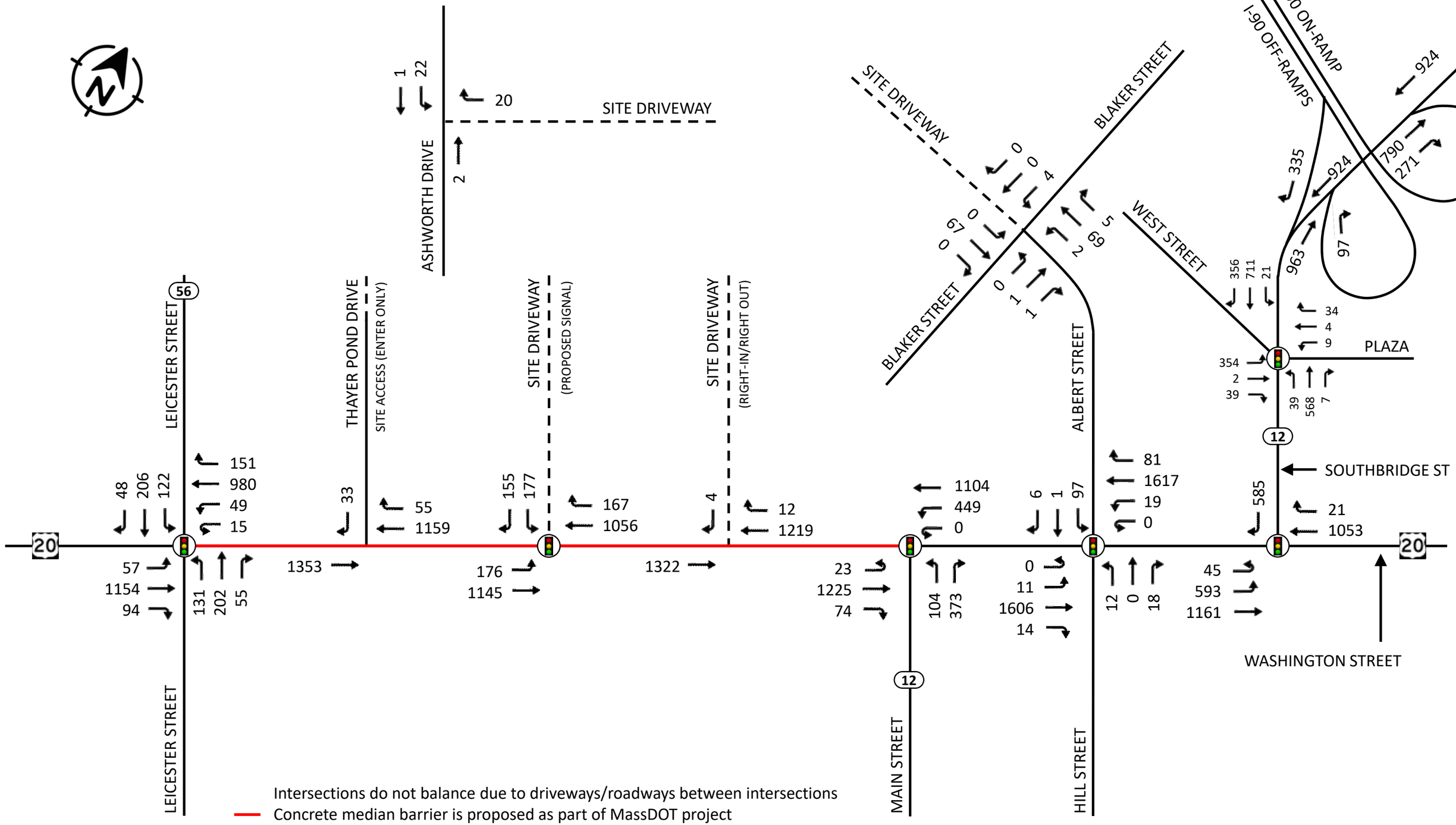


FIGURE 20

2030 BUILD WITH MITIGATION TRAFFIC VOLUMES
SATURDAY MIDDAY PEAK HOUR

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THE RESERVE – OXFORD/AUBURN, MA

Capacity and Queue Analysis Results with Mitigation

Aside from the construction/mitigation at the proposed site driveways on US Route 20, additional mitigation is recommended at the study area intersections. The level-of-service and queue analysis results are presented in Table 14 and are discussed below. All analysis worksheets are provided in the Appendix.

US Route 20 at Route 56

Due to the impacts that the proposed project would have at the signalized intersection of US Route 20 at Route 56, improvement measures have been investigated. As demonstrated in the *Traffic Signal Warrant Analysis & ICE Stage I Analysis* section, a traffic signal is warranted at the western commercial site driveway on US Route 20. With the traffic signal in place, left turns will be permitted in/out of the site driveway and U-turns at the intersection of US Route 20 at Route 56 as a result of the project will be eliminated. Furthermore, traffic signal timing modifications including the addition of eastbound and westbound right-turn overlaps running with the northbound and southbound left turns as well as minor updates to the splits, are recommended at this location during the peak periods. With the improved timings and the elimination of project-related U-turns, the intersection is anticipated to operate at an overall LOS D during the weekday AM and Saturday midday peak hours, and LOS E during the weekday PM peak hour. The improvements during the weekday AM peak hour result in LOS improvements on multiple movements and bring the overall delay within approximately 2 seconds of the No-Build condition. The improvements during the weekday PM peak hour bring the overall delay back to the No-Build condition. The improvements during the Saturday midday peak hour result in LOS improvements on multiple movements and bring the overall delay within approximately 2 seconds of the No-Build condition.

US Route 20 at Route 12 (Main Street)

Under future traffic-volume conditions without the proposed project in place, the overall intersection is expected to operate at an overall LOS E during the weekday PM peak hour with some movements at LOS F during the weekday PM and Saturday midday peak hours. Due to the existing capacity constraints as well as the impacts that the proposed project would have at the signalized intersection of US Route 20 at Route 12 (Main Street), improvement measures have been investigated. As demonstrated in the *Traffic Signal Warrant Analysis & ICE Stage I Analysis* section, a traffic signal is warranted at the western commercial site driveway on US Route 20. With the traffic signal in place, left turns will be permitted in/out of the site driveway and U-turns at the intersection of US Route 20 at Route 12 as a result of the project will be eliminated. Furthermore, traffic signal timing modifications including the optimization of the cycle length and splits are recommended at this location during the peak periods. With the improved timings and the elimination of project-related U-turns, the intersection is anticipated to operate at an overall LOS C during the peak hours with all movements at LOS E or better, which is an improvement over the No-Build condition.

US Route 20 at Hill Street and Albert Street

Due to the impacts that the proposed project would have at the signalized intersection of US Route 20 at Hill Street and Albert Street, improvement measures have been investigated. Accordingly, traffic signal timing modifications including the optimization of the offsets and splits are recommended at this location during the peak periods. With the improved timings, the intersection is anticipated to operate

at an overall LOS B with all movements at LOS E or better, bringing overall delay within 5 seconds of the No-Build condition.

US Route 20 at Route 12 (Southbridge Street)

Due to the impacts that the proposed project would have at the signalized intersection of US Route 20 at Route 12 (Southbridge Street), improvement measures have been investigated. Accordingly, traffic signal timing modifications including the optimization of the splits are recommended at this location during the peak periods. With the improved timings, the intersection is anticipated to operate at an overall LOS C or better during the peak hours, which is an improvement over the No-Build condition. The improvements during the weekday PM and Saturday midday peak hours bring the intersection below capacity and result in all movements at LOS D or better.

Route 12 (Southbridge Street) at West Street / Plaza Driveway

Due to the existing capacity constraints as well as the impacts that the proposed project would have at the signalized intersection of Route 12 (Southbridge Street) at West Street, improvement measures have been investigated. Accordingly, traffic signal timing modifications including the optimization of the splits are recommended at this location. The signal currently runs the same timings 24/7 and the proposed timings continue to do so. With the improved timings, the intersection is anticipated to operate at an overall LOS C during the peak hours, which is an improvement over the No-Build condition. The improvements during the weekday PM peak hour bring the intersection below capacity and result in all movements at LOS E or better. During the MassDOT permitting process, it can be determined if separate time-of-day plans are necessary.

US Route 20 at Western Site Driveway

As demonstrated in the *Traffic Signal Warrant Analysis & ICE Stage I Analysis* section, a traffic signal is warranted at the western commercial site driveway on US Route 20. Accordingly, the installation of a traffic signal is recommended. With the traffic signal in place, the proposed intersection of US Route 20 at the western commercial site driveway, which also provides access to the Ashworth Hills development is expected to operate at an overall LOS B during the peak hours under signal control. An exclusive eastbound left-turn lane on US Route 20 will provide approximately 475 feet of storage and an exclusive right-turn lane on US Route 20 will provide approximately 300 feet of storage which is sufficient to accommodate the expected queue lengths. The site driveway southbound approach will include a left-turn lane and a right-turn lane. All v/c ratios are below 1.00 indicating adequate capacity.

Blaker Street at Albert Street and Site Driveway

Albert Street is proposed to be extended across Blaker Street to provide access to The Reserve and Auburn Condos. Currently, Albert Street and the site driveway are under STOP control. Due to the projected volumes on each approach, it is recommended that Albert Street and the site driveway operate freely and the Blaker Street approaches operate under STOP control. As a result, overall delay at the intersection is expected to be reduced and all queue lengths will remain one vehicle or less.

LOS and Queue Graphics

LOS Graphics for the Existing, No-Build, and Build, and Build with Mitigation conditions are shown on the following figures in the Appendix:

- Figure A-8– Weekday AM
- Figure A-9 – Weekday PM
- Figure A-10 – Saturday Midday

Queue Graphics for the Existing, No-Build, and Build, and Build with Mitigation conditions are shown on the following figures in the Appendix:

- Figure A-11 – Route 20 / Route 56
- Figure A-12 – Route 20 / Route 12 (Main Street)
- Figure A-13 – Route 20 / Hill Street
- Figure A-14 – Route 20 / Route 12 (Southbridge Street)
- Figure A-15 – Route 12 (Southbridge Street) at West Street and Plaza Driveway
- Figure A-16 – Route 20 / Site Driveway (Signalized)
- Figure A-17 – Unsignalized Intersections

TABLE 14
Intersection Capacity Analysis Summary – with Mitigation

Intersection/Peak Hour/Lane Group	2030 No-Build				2030 Build				2030 Build with Mitigation			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Route 56												
Weekday AM:												
US Route 20 EB left-turn	0.47	59.4	E	34/71	0.48	60.9	E	34/71	0.48	59.8	E	34/72
US Route 20 EB through/right-turn	0.75	31.7	C	384/471	0.79	33.9	C	411/503	0.84	37.7	D	436/532
US Route 20 EB right-turn	0.06	20.7	C	<25/<25	0.06	21.2	C	<25/<25	0.06	15.4	B	<25/<25
US Route 20 WB left-turn	0.57	66.3	E	37/79	2.39	710.8	F	332/502	0.58	64.0	E	45/91
US Route 20 WB through/right-turn	0.47	27.0	C	184/250	0.48	26.8	C	197/266	0.52	28.8	C	203/273
US Route 20 WB right-turn	0.06	22.1	C	<25/<25	0.07	21.8	C	<25/<25	0.07	13.6	B	<25/<25
Route 56 NB approach	--	--	--	--/--	--	--	--	--/--	--	--	--	--/--
Route 56 NB left-turn	0.32	36.1	D	44/82	0.35	37.8	D	44/82	0.31	36.0	D	44/81
Route 56 NB through/right-turn	0.68	50.6	D	178/272	0.77	57.7	E	198/320	0.75	54.9	D	200/323
Route 56 SB left-turn	0.54	34.3	C	87/143	0.69	42.9	D	102/163	0.61	33.7	C	100/161
Route 56 SB through/right-turn	0.77	53.1	D	224/356	0.82	59.3	E	234/378	0.75	49.6	D	231/362
Overall Intersection	**0.79**	**35.5**	**D**	**--/--**	**0.99**	**93.6**	**F**	**--/--**	**0.84**	**37.9**	**D**	**--/--**
Weekday PM:												
US Route 20 EB left-turn	0.66	74.1	E	65/197	0.65	72.3	E	65/197	0.87	117.2	F	67/229
US Route 20 EB through/right-turn	0.53	29.6	C	231/480	0.58	31.9	C	247/510	0.59	33.0	C	254/519
US Route 20 EB right-turn	0.07	23.4	C	<25/<25	0.07	24.6	C	<25/<25	0.07	18.0	B	<25/43
US Route 20 WB left-turn	0.69	88.0	F	43/137	2.78	892.2	F	377/756	0.60	69.6	E	55/166
US Route 20 WB through/right-turn	1.05	82.6	F	583/1223	1.11	103.1	F	656/1282	1.05	79.8	E	590/1245
US Route 20 WB right-turn	0.15	27.5	C	<25/86	0.19	28.3	C	<25/112	0.19	19.1	B	30/123
Route 56 NB approach	--	--	--	--/--	--	--	--	--/--	--	--	--	--/--
Route 56 NB left-turn	0.99	120.8	F	76/279	0.98	117.1	F	76/279	0.98	117.3	F	76/279
Route 56 NB through/right-turn	0.82	67.9	E	215/539	0.86	72.6	E	230/583	0.87	73.4	E	230/583
Route 56 SB left-turn	0.52	44.0	D	58/153	0.63	49.5	D	69/212	0.64	50.0	D	69/213
Route 56 SB through/right-turn	1.10	133.0	F	321/795	1.10	131.6	F	335/804	1.11	134.0	F	335/804
Overall Intersection	**0.98**	**71.0**	**E**	**--/--**	**1.14**	**138.2**	**F**	**--/--**	**0.99**	**70.7**	**E**	**--/--**

[a] Volume-to-capacity ratio.
[b] Average control delay in seconds per vehicle.
[c] Level of service.
[d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 14 (CONTINUED)
Intersection Capacity Analysis Summary – with Mitigation

Intersection/Peak Hour/Lane Group	2030 No-Build				2030 Build				2030 Build with Mitigation			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Route 56												
Saturday Midday:												
US Route 20 EB left-turn	0.54	59.6	E	48/93	0.54	61.6	E	48/93	0.58	64.8	E	50/109
US Route 20 EB through/right-turn	0.81	33.7	C	437/540	0.86	37.3	D	470/580	0.86	38.2	D	477/578
US Route 20 EB right-turn	0.07	20.3	C	<25/<25	0.07	21.1	C	<25/<25	0.07	14.4	B	<25/25
US Route 20 WB left-turn	0.62	69.9	E	41/86	2.45	737.7	F	343/519	0.58	63.4	E	55/113
US Route 20 WB through/right-turn	0.73	32.5	C	357/466	0.75	33.1	C	383/499	0.73	32.0	C	373/456
US Route 20 WB right-turn	0.09	22.4	C	<25/43	0.13	22.6	C	<25/59	0.14	15.1	B	21/56
Route 56 NB approach	--	--	--	--/--	--	--	--	--/--	--	--	--	--/--
Route 56 NB left-turn	0.51	38.6	D	78/130	0.53	41.0	D	78/130	0.54	39.3	D	81/133
Route 56 NB through/right-turn	0.72	52.2	D	193/290	0.81	61.8	E	215/347	0.73	52.8	D	213/319
Route 56 SB left-turn	0.37	32.4	C	58/101	0.51	34.9	C	74/125	0.54	38.3	D	76/128
Route 56 SB through/right-turn	0.67	47.1	D	199/296	0.69	49.2	D	202/301	0.70	49.8	D	207/307
Overall Intersection	**0.78**	**36.2**	**D**	**--/--**	**0.99**	**87.2**	**F**	**--/--**	**0.81**	**37.7**	**D**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 14 (CONTINUED)
Intersection Capacity Analysis Summary – with Mitigation

Intersection/Peak Hour/Lane Group	2030 No-Build				2030 Build				2030 Build with Mitigation			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Route 12 (Main Street)												
Weekday AM:												
US Route 20 EB U-turn	0.18	30.6	C	<25/<25	0.99	83.9	F	72/184	0.33	61.5	E	<25/<25
US Route 20 EB through/right-turn	0.95	32.9	C	254/398	1.11	80.7	F	318/438	0.69	17.6	B	317/464
US Route 20 WB left-turn	0.45	26.4	C	<25/44	0.42	26.1	C	<25/44	0.57	51.2	D	42/81
US Route 20 WB through	0.44	11.2	B	48/148	0.70	19.2	B	122/180	0.37	9.8	A	90/217
Route 12 NB left-turn/right-turn	0.22	23.2	C	<25/53	0.55	25.3	C	39/109	0.70	52.4	D	92/176
Route 12 NB right-turn	0.12	22.7	C	<25/45	0.13	21.5	C	<25/48	0.13	40.1	D	<25/63
Overall Intersection	**0.83**	**25.2**	**C**	**--/--**	**1.10**	**53.8**	**D**	**--/--**	**0.73**	**21.4**	**C**	**--/--**
Weekday PM:												
US Route 20 EB U-turn	0.72	107.2	F	<25/29	0.98	107.0	F	76/189	0.41	59.0	E	<25/38
US Route 20 EB through/right-turn	0.65	19.1	B	193/255	0.72	20.1	C	240/315	0.75	28.4	C	336/415
US Route 20 WB left-turn	1.37	213.2	F	210/372	1.43	243.1	F	264/372	0.99	74.0	E	240/422
US Route 20 WB through	0.74	14.7	B	191/421	0.85	21.8	C	354/458	0.72	15.7	B	263/503
Route 12 NB left-turn/right-turn	0.77	48.4	D	74/209	0.89	69.5	E	103/236	0.79	60.5	E	129/291
Route 12 NB right-turn	0.13	31.5	C	<25/63	0.14	33.1	C	<25/64	0.14	40.9	D	<25/74
Overall Intersection	**0.97**	**58.4**	**E**	**--/--**	**1.11**	**67.2**	**E**	**--/--**	**0.86**	**34.4**	**C**	**--/--**
Saturday Midday:												
US Route 20 EB U-turn	0.66	65.3	E	<25/27	1.03	95.2	F	79/195	0.40	61.0	E	<25/47
US Route 20 EB through/right-turn	1.02	51.5	D	310/430	1.34	178.7	F	353/474	0.88	34.9	C	511/641
US Route 20 WB left-turn	1.29	176.5	F	107/188	1.17	123.9	F	107/188	0.87	63.5	E	188/272
US Route 20 WB through	0.68	14.7	B	115/332	1.09	76.2	E	257/369	0.57	15.2	B	302/373
Route 12 NB left-turn/right-turn	0.68	32.2	C	53/145	0.74	32.1	C	68/177	0.79	60.5	E	169/298
Route 12 NB right-turn	0.16	23.7	C	<25/53	0.16	20.7	C	<25/54	0.16	42.5	D	<25/76
Overall Intersection	**1.13**	**54.1**	**D**	**--/--**	**1.28**	**114.4**	**F**	**--/--**	**0.89**	**34.8**	**C**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 14 (CONTINUED)
Intersection Capacity Analysis Summary – with Mitigation

Intersection/Peak Hour/Lane Group	2030 No-Build				2030 Build				2030 Build with Mitigation			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Hill Street and Albert Street												
Weekday AM:												
US Route 20 EB left-turn	0.48	45.1	D	<25/41	0.48	45.1	D	<25/41	0.48	45.1	D	<25/41
US Route 20 EB through/right-turn	0.59	6.5	A	<25/332	0.71	12.8	B	198/583	0.71	12.8	B	197/583
US Route 20 WB left-turn	0.48	52.0	D	<25/41	0.48	51.5	D	<25/30	0.48	56.2	E	<25/34
US Route 20 WB through/right-turn	0.33	6.1	A	<25/98	0.45	12.6	B	98/119	0.45	3.4	A	32/39
Hill Street NB left-turn	0.17	43.3	D	<25/<25	0.05	34.5	C	<25/<25	0.05	34.5	C	<25/<25
Hill Street NB through/right-turn	0.03	42.7	D	<25/<25	0.02	34.3	C	<25/<25	0.02	34.3	C	<25/<25
Albert Street SB left-turn	0.12	43.1	D	<25/<25	0.73	51.5	D	60/107	0.73	51.5	D	60/107
Albert Street SB through/right-turn	0.01	42.6	D	<25/<25	0.01	34.3	C	<25/<25	0.01	34.3	C	<25/<25
Overall Intersection	**0.57**	**7.9**	**A**	**--/--**	**0.71**	**15.3**	**B**	**--/--**	**0.71**	**12.2**	**B**	**--/--**
Weekday PM:												
US Route 20 EB left-turn	0.39	58.1	E	<25/46	0.39	58.1	E	<25/46	0.39	58.1	E	<25/46
US Route 20 EB through/right-turn	0.47	7.0	A	186/283	0.55	10.5	B	256/398	0.55	10.4	B	256/387
US Route 20 WB left-turn	0.53	55.9	E	40/52	0.53	56.3	E	42/50	0.54	60.9	E	42/49
US Route 20 WB through/right-turn	0.80	19.6	B	866/857	0.93	32.3	C	986/986	0.93	11.2	B	476/1164
Hill Street NB left-turn	0.12	54.3	D	<25/<25	0.06	48.3	D	<25/<25	0.06	48.3	D	<25/<25
Hill Street NB through/right-turn	0.03	53.8	D	<25/<25	0.02	48.1	D	<25/<25	0.02	48.1	D	<25/<25
Albert Street SB left-turn	0.43	56.3	E	25/58	0.66	59.7	E	75/128	0.66	59.7	E	75/128
Albert Street SB through/right-turn	0.03	53.8	D	<25/31	0.02	48.1	D	<25/29	0.02	48.1	D	<25/29
Overall Intersection	**0.78**	**16.9**	**B**	**--/--**	**0.90**	**26.3**	**C**	**--/--**	**0.90**	**13.7**	**B**	**--/--**
Saturday Midday:												
US Route 20 EB left-turn	0.46	48.7	D	<25/<25	0.46	48.7	D	<25/<25	0.46	48.7	D	<25/<25
US Route 20 EB through/right-turn	0.66	8.2	A	146/430	0.76	12.6	B	222/652	0.77	13.7	B	222/600
US Route 20 WB left-turn	0.39	35.0	C	<25/<25	0.39	31.0	C	<25/<25	0.29	32.0	C	<25/<25
US Route 20 WB through/right-turn	0.64	9.7	A	337/394	0.77	14.7	B	378/410	0.77	4.8	A	<25/683
Hill Street NB left-turn	0.15	41.1	D	<25/<25	0.08	35.9	D	<25/<25	0.08	35.9	D	<25/<25
Hill Street NB through/right-turn	0.01	40.5	D	<25/<25	0.01	35.5	D	<25/<25	0.01	35.5	D	<25/<25
Albert Street SB left-turn	0.40	42.4	D	<25/45	0.68	47.9	D	57/104	0.68	47.9	D	57/104
Albert Street SB through/right-turn	0.02	40.5	D	<25/<25	0.01	35.5	D	<25/<25	0.01	35.5	D	<25/<25
Overall Intersection	**0.63**	**9.9**	**A**	**--/--**	**0.76**	**15.2**	**B**	**--/--**	**0.80**	**10.8**	**B**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 14 (CONTINUED)
Intersection Capacity Analysis Summary – with Mitigation

Intersection/Peak Hour/Lane Group	2030 No-Build				2030 Build				2030 Build with Mitigation			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Route 12 (Southbridge Street)												
Weekday AM:												
US Route 20 EB U-turn	0.08	48.3	D	<25/<25	0.08	41.8	D	<25/<25	0.06	30.3	C	<25/<25
US Route 20 EB left-turn	0.39	20.8	C	96/106	0.44	23.6	C	76/181	0.38	9.3	A	110/110
US Route 20 EB through	0.30	0.1	A	<25/<25	0.33	0.1	A	<25/<25	0.33	0.1	A	<25/<25
US Route 20 WB through	0.35	14.8	B	104/147	0.42	16.4	B	127/172	0.48	21.0	C	145/196
US Route 20 WB right-turn	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25
Route 12 SB right-turn	0.51	32.5	C	73/113	0.59	32.7	C	92/139	0.59	32.7	C	92/139
Overall Intersection	**0.40**	**11.9**	**B**	**--/--**	**0.47**	**13.4**	**B**	**--/--**	**0.49**	**11.3**	**B**	**--/--**
Weekday PM:												
US Route 20 EB U-turn	0.29	57.0	E	27/64	0.29	66.9	E	30/70	0.36	52.0	D	37/63
US Route 20 EB left-turn	0.30	18.3	B	86/70	0.36	17.9	B	79/86	0.28	14.2	B	125/125
US Route 20 EB through	0.25	0.1	A	<25/<25	0.28	0.1	A	<25/<25	0.28	0.1	A	<25/<25
US Route 20 WB through	0.65	24.0	C	331/404	0.70	25.5	C	375/457	0.90	44.6	D	473/612
US Route 20 WB right-turn	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25
Route 12 SB right-turn	1.22	153.9	F	504/645	1.33	199.9	F	580/724	0.91	44.1	D	410/553
Overall Intersection	**0.80**	**53.3**	**D**	**--/--**	**0.87**	**65.7**	**E**	**--/--**	**0.86**	**29.1**	**C**	**--/--**
Saturday Midday:												
US Route 20 EB U-turn	0.12	23.1	C	<25/39	0.12	21.0	C	<25/30	0.22	39.6	D	<25/35
US Route 20 EB left-turn	0.35	20.7	C	107/223	0.39	19.7	B	144/234	0.40	8.2	A	92/92
US Route 20 EB through	0.34	0.2	A	<25/<25	0.37	0.2	A	<25/<25	0.37	0.2	A	<25/<25
US Route 20 WB through	0.76	27.7	C	266/344	0.82	30.4	C	302/387	0.79	28.0	C	295/379
US Route 20 WB right-turn	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25
Route 12 SB right-turn	1.01	77.8	E	188/307	1.14	119.7	F	242/359	0.77	33.1	C	185/256
Overall Intersection	**0.71**	**25.1**	**C**	**--/--**	**0.79**	**33.2**	**C**	**--/--**	**0.74**	**16.1**	**B**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 14 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2030 No-Build				2030 Build				2030 Build with Mitigation			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
Route 12 (Southbridge Street) at West Street / Plaza Driveway												
Weekday AM:												
Route 12 EB approach	0.46	16.8	B	64/241	0.54	18.8	B	86/281	0.51	14.6	B	58/220
Route 12 WB approach	0.66	28.3	C	70/241	0.74	31.6	C	102/301	0.72	27.0	C	67/224
Plaza Driveway NB approach	0.23	42.2	D	<25/<25	0.25	45.9	D	<25/<25	0.22	37.8	D	<25/<25
West Street SB left-turn	0.74	30.9	C	110/454	0.74	31.8	C	128/488	0.96	62.5	E	109/581
West Street SB left/through/right-turn	0.73	30.3	C	107/438	0.72	31.1	C	123/469	0.94	57.4	E	105/569
Overall Intersection	**0.65**	**25.7**	**C**	**--/--**	**0.70**	**27.6**	**C**	**--/--**	**0.75**	**34.5**	**C**	**--/--**
Weekday PM:												
Route 12 EB approach	0.38	8.6	A	44/121	0.45	9.2	A	53/142	0.40	7.8	A	82/111
Route 12 WB approach	1.10	78.6	F	364/751	1.18	108.9	F	458/825	0.95	33.0	C	535/748
Plaza Driveway NB approach	0.18	39.3	D	<25/29	0.18	39.4	D	<25/29	0.16	49.8	D	<25/33
West Street SB left-turn	0.69	37.2	D	88/181	0.70	37.5	D	90/186	0.87	69.9	E	145/289
West Street SB left/through/right-turn	0.68	36.3	D	85/176	0.69	36.6	D	87/181	0.85	66.6	E	141/283
Overall Intersection	**0.97**	**57.2**	**E**	**--/--**	**1.03**	**75.4**	**E**	**--/--**	**0.92**	**32.8**	**C**	**--/--**
Saturday Midday:												
Route 12 EB approach	0.37	9.6	A	78/143	0.42	10.2	B	90/163	0.41	9.8	A	91/122
Route 12 WB approach	0.77	23.1	C	239/428	0.84	26.2	C	275/494	0.81	24.2	C	271/355
Plaza Driveway NB approach	0.17	38.2	D	<25/44	0.17	38.3	D	<25/43	0.20	39.9	D	<25/47
West Street SB left-turn	0.71	39.2	D	111/193	0.71	39.1	D	114/197	0.72	40.0	D	120/281
West Street SB left/through/right-turn	0.67	37.1	D	102/181	0.69	37.6	D	107/189	0.70	38.9	D	114/271
Overall Intersection	**0.74**	**22.6**	**C**	**--/--**	**0.79**	**24.1**	**C**	**--/--**	**0.77**	**23.2**	**C**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 14 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2030 No-Build				2030 Build				2030 Build with Mitigation			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Western Site Driveway (Signalized under Mitigation)												
Weekday AM:												
US Route 20 EB left-turn	--	--	--	--/--	--	--	--	--/--	0.57	23.2	C	64/122
US Route 20 EB through	--	--	--	--/--	0.45	0.0	A	--/<25	0.51	5.6	A	88/124
US Route 20 WB through	--	--	--	--/--	0.24	0.0	A	--/<25	0.64	18.8	B	96/144
US Route 20 WB right-turn	--	--	--	--/--	0.31	0.0	A	--/<25	0.08	8.8	A	<25/<25
Site Driveway SB left-turn	--	--	--	--/--	--	--	--	--/--	0.71	30.8	C	67/155
Site Driveway SB right-turn	--	--	--	--/--	0.57	20.1	C	--/88	0.45	23.2	C	37/79
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**2.2**	**A**	**--/--**	**0.78**	**13.6**	**B**	**--/--**
Weekday PM:												
US Route 20 EB left-turn	--	--	--	--/--	--	--	--	--/--	0.66	51.2	D	75/152
US Route 20 EB through	--	--	--	--/--	0.37	0.0	A	--/<25	0.36	4.9	A	93/119
US Route 20 WB through	--	--	--	--/--	0.60	0.0	A	--/<25	0.81	21.1	C	393/492
US Route 20 WB right-turn	--	--	--	--/--	0.47	0.0	A	--/<25	0.10	5.0	A	<25/<25
Site Driveway SB left-turn	--	--	--	--/--	--	--	--	--/--	0.78	53.7	D	128/242
Site Driveway SB right-turn	--	--	--	--/--	1.26	179.8	F	--/421	0.59	42.9	D	84/149
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**18.5**	**D**	**--/--**	**0.82**	**19.9**	**B**	**--/--**
Saturday Midday:												
US Route 20 EB left-turn	--	--	--	--/--	--	--	--	--/--	0.64	36.4	D	93/195
US Route 20 EB through	--	--	--	--/--	0.48	0.0	A	--/<25	0.50	5.9	A	130/166
US Route 20 WB through	--	--	--	--/--	0.45	0.0	A	--/<25	0.76	22.1	C	255/328
US Route 20 WB right-turn	--	--	--	--/--	0.44	0.0	A	--/<25	0.11	7.4	A	<25/<25
Site Driveway SB left-turn	--	--	--	--/--	--	--	--	--/--	0.66	37.8	D	95/202
Site Driveway SB right-turn	--	--	--	--/--	1.02	89.3	F	--/304	0.65	37.6	D	82/184
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**9.2**	**C**	**--/--**	**0.78**	**17.5**	**B**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 14 (CONTINUED)
Intersection Capacity Analysis Summary

Intersection/Peak Hour/Lane Group	2030 No-Build				2030 Build				2030 Build with Mitigation			
	V/C [a]	Del. [b]	LOS [c]	Queue [d]	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
Blaker Street at Albert Street and Site Driveway												
Weekday AM:												
Site Driveway EB approach	0.01	9.6	A	--/<25	0.14	10.3	B	--/<25	0.00	0.0	A	--/<25
Albert Street WB approach	0.03	9.2	A	--/<25	0.07	9.4	A	--/<25	0.00	0.1	A	--/<25
Blaker Street NB approach	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25	0.00	9.1	A	--/<25
Blaker Street SB approach	0.00	7.4	A	--/<25	0.00	7.4	A	--/<25	0.01	9.8	A	--/<25
Overall Intersection	**--/--**	**8.2**	**A**	**--/--**	**--**	**9.7**	**A**	**--/--**	**--**	**0.5**	**A**	**--/--**
Weekday PM:												
Site Driveway EB approach	0.01	9.0	A	--/<25	0.09	9.4	A	--/<25	0.00	0.2	A	--/<25
Albert Street WB approach	0.01	8.3	A	--/<25	0.13	9.6	A	--/<25	0.00	0.1	A	--/<25
Blaker Street NB approach	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25	0.00	8.6	A	--/<25
Blaker Street SB approach	0.00	7.2	A	--/<25	0.00	7.2	A	--/<25	0.00	9.7	A	--/<25
Overall Intersection	**--/--**	**8.1**	**A**	**--/--**	**--**	**9.5**	**A**	**--/--**	**--**	**0.3**	**A**	**--/--**
Saturday Midday:												
Site Driveway EB approach	--	--	--	--/--	0.08	9.4	A	--/<25	0.00	0.0	A	--/<25
Albert Street WB approach	0.01	8.5	A	--/<25	0.09	9.5	A	--/<25	0.00	0.2	A	--/<25
Blaker Street NB approach	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25	0.00	9.9	A	--/<25
Blaker Street SB approach	0.00	7.4	A	--/<25	0.00	7.4	A	--/<25	0.01	9.8	A	--/<25
Overall Intersection	**--/--**	**7.3**	**A**	**--/--**	**--**	**9.3**	**A**	**--/--**	**--**	**0.5**	**A**	**--/--**

[a] Volume-to-capacity ratio.
[b] Average control delay in seconds per vehicle.
[c] Level of service.
[d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

Transportation Demand Management

The Applicant intends to implement several Transportation Demand Management (TDM) measures to reduce vehicles trips to the site. The following summarizes these measures:

- **Pedestrian Accommodations** – The Ashworth Hills development will provide a sidewalk on one side of the road throughout. A gravel and/or wood chip walking/bike path is planned to connect Ashworth Hills to the Auburn Condos and The Reserve as well as neighboring areas. An 8-foot shared use path (SUP) is proposed to connect Ashworth Hills (from Ashworth Drive) to Ashworth Commons, and ultimately connect to the future SUP on US Route 20 being constructed by MassDOT. A sidewalk has already been constructed for the Auburn Condos along both sides of Albert Drive Extension and will connect to The Reserve, where sidewalk connectivity will continue throughout The Reserve development. Additionally, sidewalk connectivity will be provided throughout the Ashworth Commons development and connect to the previously mentioned 8-foot SUP proposed on the internal roadway. Accordingly, the project is a mixed-use development with the availability of shopping, employment, restaurants, etc. on-site without having to go out onto the surrounding area roadways which will reduce vehicle traffic.
- **Public Transportation** – The Applicant has coordinated with Worcester Regional Transit Authority (WRTA) and at this time WRTA has determined that they do not want to add a bus stop within Ashworth Commons. The Applicant will continue to coordinate with WRTA to determine if a bus stop within the Ashworth Commons development is feasible as the development is built out. The WRTA currently provides a fixed-route bus service (WRTA Route 29) along Route 20, which operates as a 'flag-stop' route but is closed-door once the bus travels through the intersection of Route 12 and Route 20. The future SUP being constructed as part of the US Route 20 reconstruction project by MassDOT provides safe pedestrian/bicycle connectivity from Ashworth Commons to the intersection of Route 12 and Route 20.
- **WRTA ADA Paratransit** – Demand-response paratransit services are available through the WRTA for those individuals who apply. Once eligible, transit is available by calling to schedule the trip. Americans with Disabilities Act (ADA) complementary paratransit service is available within a ¾ mile buffer of existing WRTA fixed-routes.
- **NuRide** – The Applicant will sign up all residents and employees with NuRide as part of their move-in and orientation. NuRide offers rewards to individuals making greener trips, such as walking, biking, carpooling, using transit, or telecommuting. NuRide also provides Guaranteed Ride Home service for anyone who needs to get home in an emergency situation when making a green trip. So if someone carpooled to work and had an emergency, they could take an Uber and get reimbursed through NuRide. NuRide also provides assistance in finding ride share and carpool matches within your area so they don't all have to be residents or employees of the site.
- **Resident/Employee Information** – The Applicant will provide residents, tenants, and employees with information regarding public transportation services available in the area during move-in and maintain maps/schedules on-site.
- **Bicycle Storage/Racks** – Secure bicycle storage/racks will be provided on each individual site.

- The Reserve: A bike rack capable of securing 10 bikes will be provided at each building of the Reserve and the Clubhouse.
- Auburn Condos: Each residential unit currently has a private attached garage which offers secure bike storage for each unit owner.
- Ashworth Hills: Each residential unit will have a private attached garage which offers secure bike storage for each future unit owner. There will also be secure bike storage at the Community Center.
- Ashworth Commons: Each proposed building/business will have a bike rack capable of securing 10 bikes.

The Applicant has no current intentions to offer a Bike Share program. The future Home Owners Association (HOA) of Ashworth Hills or the property management company of The Reserve could consider this in the future should there be a need.

- **Recreation Areas** – The Reserve and Ashworth Hills will both provide a playground, dog park, community garden, gym, and open space. Additionally, a swimming pool will be provided at The Reserve. Pedestrian connections will be provided between the residential entrances and open space to provide a safe walking route to recreational space for residents.
- **Teleworking** – The residential units will provide Wi-Fi on site as noted below. The Reserve and Ashworth Hills will have a clubhouse with spaces within them for residents to use for work, host meetings, or hold events.
  - Auburn Condos: Owners of the residential units currently have access to Wi-Fi and can sign up at their expense.
  - The Reserve: High-speed Wi-Fi is included in the rent. Free Wi-Fi will be provided in the Community Center.
  - Ashworth Hills: Owners of residential units will have the option to sign up for high-speed Wi-Fi at their expense. Free Wi-Fi will be provided in the Community Center.
- **Parking Fees** – Although parking lot parking is free at The Reserve, additional parking within 40 secure garage spaces will be available for rent to tenants.
- **Electric Vehicle Charging Spaces** – The Applicant will install electric / plug-in hybrid vehicle parking spaces as noted below.
  - The Reserve: 20% of all parking spaces will have EV chargers and they will be dispersed throughout the community.
  - Ashworth Hills: Each unit will be wired for an EV charger (100%).
  - Ashworth Commons: 5% of the proposed spaces will have EV chargers and 20% will be EV ready.
- **Banked Parking** – Ten percent of the parking spaces within Ashworth Commons will be “banked” to reduce impervious area.
- **Flexible Work Hours** – The Applicant will promote tenants of Ashworth Commons to implement flexible work hours to avoid peak commute hours and to align with public transit schedules.

- **Direct Deposit for Employees** – Employees of the businesses at Ashworth Commons will have the option for direct deposit.
- **On-Line Rental Payment** – Residents will have the option to pay rent online.
- **Subsidized transit passes for employees** – No plan is in place at this time, however, future businesses within Ashworth Commons could offer this to their employees.

Transportation Monitoring Program

The Applicant intends to conduct an annual traffic monitoring program for a period of five years, beginning six months after occupancy of the full-build project, or a schedule that is acceptable to MassDOT. The monitoring project will include the following:

- Simultaneous ATR counts at each site driveway for a continuous 24-hour period on a typical weekday and Saturday;
- Travel survey of employees and residents at the site (to be administered by the Transportation Coordinator); and
- Weekday AM, weekday PM, and Saturday midday peak hour TMCs and operations analyses at "mitigated" intersections, including those involving the site driveways.

The yearly monitoring studies will evaluate the assumptions made in the EIR and the adequacy of the mitigation measures, as well as determine the effectiveness of the TDM program.

If additional monitoring or updated analyses are required as the development constructs and occupies as suggested in the *Project Phasing* section of this study, this will be coordinated with the MassDOT District 3 Office.

PROJECT PHASING

MassDOT requested additional analysis based on the phasing of the project to determine when off-site improvements needed to be implemented. The phasing of the proposed project is outlined below.

- Auburn Condos: Complete
- Auburn Reserve Apartments:
  - First Occupancy: November 2024
  - Final Occupancy: November 2026
- Ashworth Hills: 4 closings per month
  - First Occupancy 1st Quarter 2026
  - Final Occupancy 1st Quarter 2032
- Ashworth Commons:
  - Earth Work finished 2026
  - Pad sites marketed 2026
  - Building Construction begins late 2026
    - Gas Station/Convenience
    - Fast Food
    - Retail
    - Office
  - 50% Occupancy 2027
  - Full Occupancy 2028

In an effort to determine when a signal is to be warranted at the western site driveway on US Route 20, sensitivity signal warrant analyses were performed under 2026 (Phase I) and 2027 (Phase II) Build conditions. Under both conditions, Auburn Condos and Auburn Reserve Apartments will be completely built/occupied. Ashworth Hills and Ashworth Commons, which provide access to the western site driveway, will be partially built/occupied under the sensitivity signal warrant analyses as described further below.

2026 Phase I Analysis

Traffic utilizing the western site driveway on Route 20 by the end of 2026 was based on the following occupancy:

- 17% occupancy of Ashworth Hills
- 0% occupancy of Ashworth Commons

A traffic signal warrant analysis was conducted to determine if signal control will be warranted at the intersection of US Route 20 at the western commercial site driveway, given the volume of traffic expected to be generated by Ashworth Commons and Ashworth Hills in 2026. As a result, the western site driveway does not meet any of the volume-related signal warrants (Warrant 1, Warrant 2, or Warrant 3).

The signal warrant associated with the Phase I analysis is provided in the Appendix. The Site-Generated and Build peak-hour traffic-volume networks associated with this Phase I condition are provided on Figures 21 through 26.

Aside from the western site driveway intersection, in order to determine whether or not signal timing modifications are necessary at the other study area intersections at Phase I, the capacity and queue analysis was reviewed, and a summary is provided in Table 15. Based on the impacts of Phase I, it is recommended that the signal timing modifications detailed in the *Mitigation* section of this report be implemented at the following intersections only by the end of 2026 when the specified occupancies are expected to be reached:

- US Route 20 at Route 12 (Southbridge Street)
- Route 12 at West Street / Plaza Driveway

Additionally, the proposed mitigation (updating the approaches under STOP control) at the following intersection should be implemented at this time:

- Blaker Street at Albert Street and Site Driveway

The impacts at the remainder study area intersections are minimal in this phase, and therefore do not need to be implemented by the end of 2026 when the specified occupancies are expected to be reached.

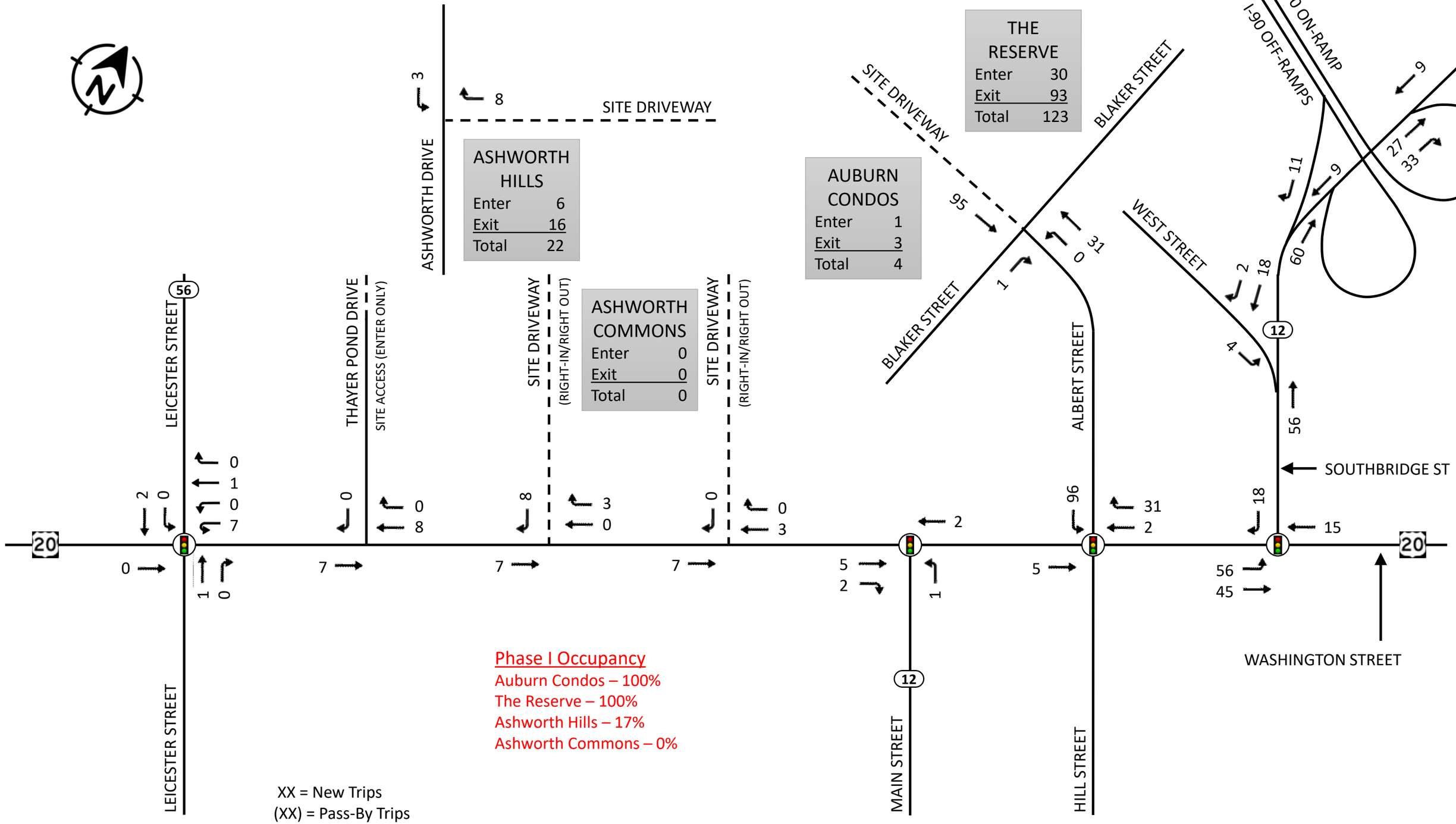


FIGURE 21

PHASE I SITE-GEN MITIGATED TRAFFIC VOLUMES (11th Edition)
WEEKDAY AM PEAK HOUR

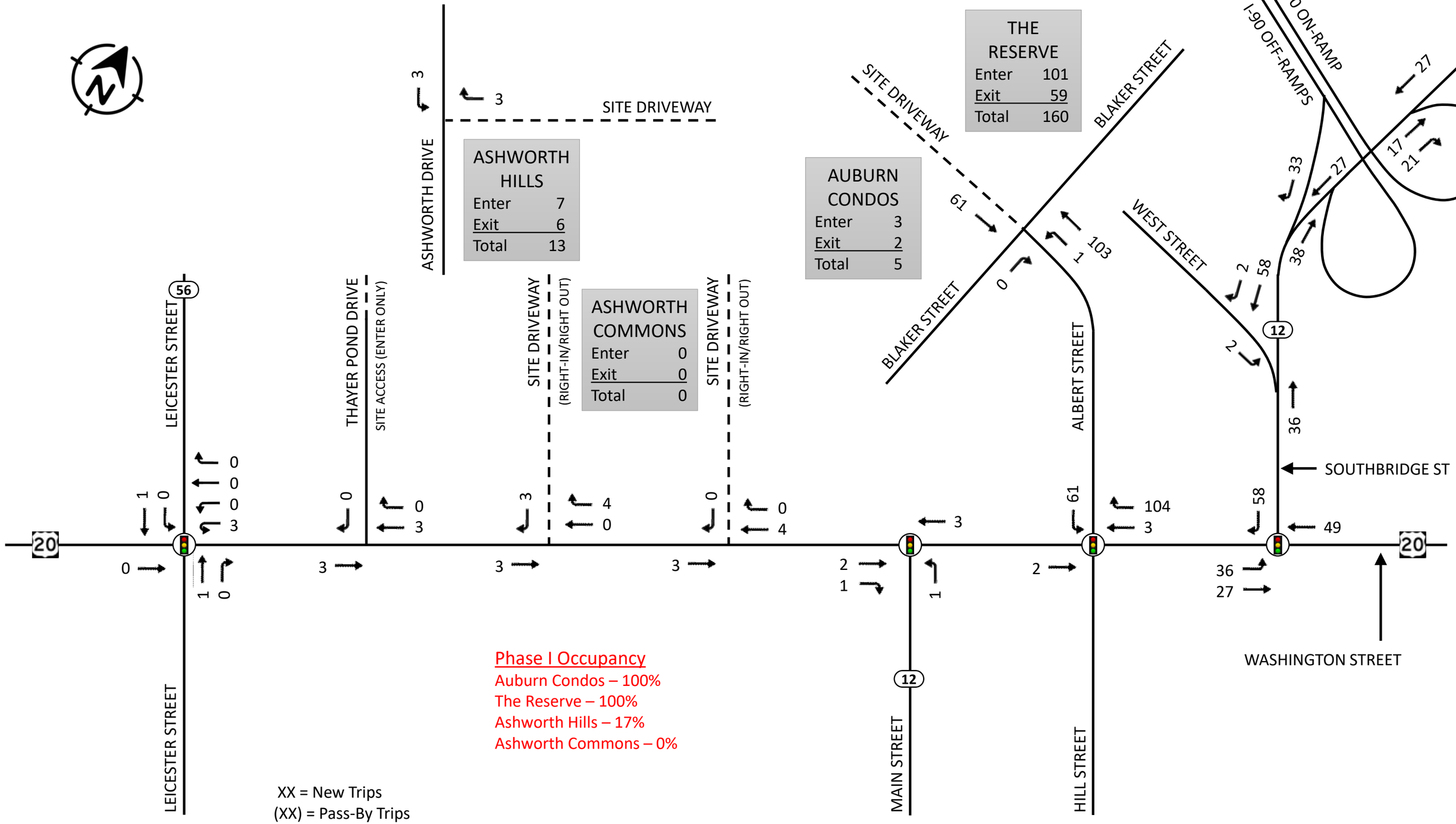


FIGURE 22

PHASE I SITE-GEN MITIGATED TRAFFIC VOLUMES (11th Edition)
WEEKDAY PM PEAK HOUR

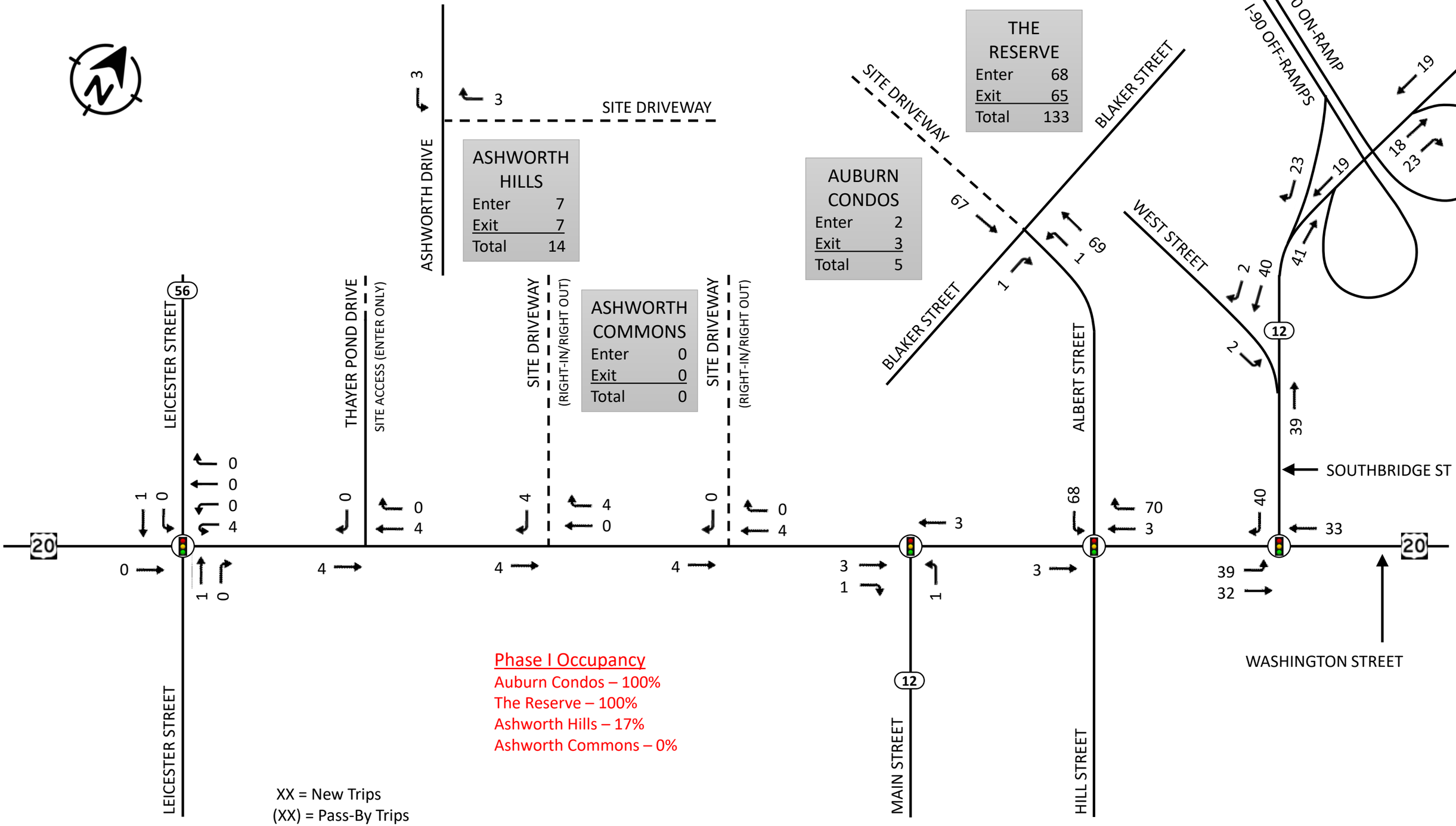


FIGURE 23

PHASE I SITE-GEN MITIGATED TRAFFIC VOLUMES (11th Edition)
SATURDAY MIDDAY PEAK HOUR

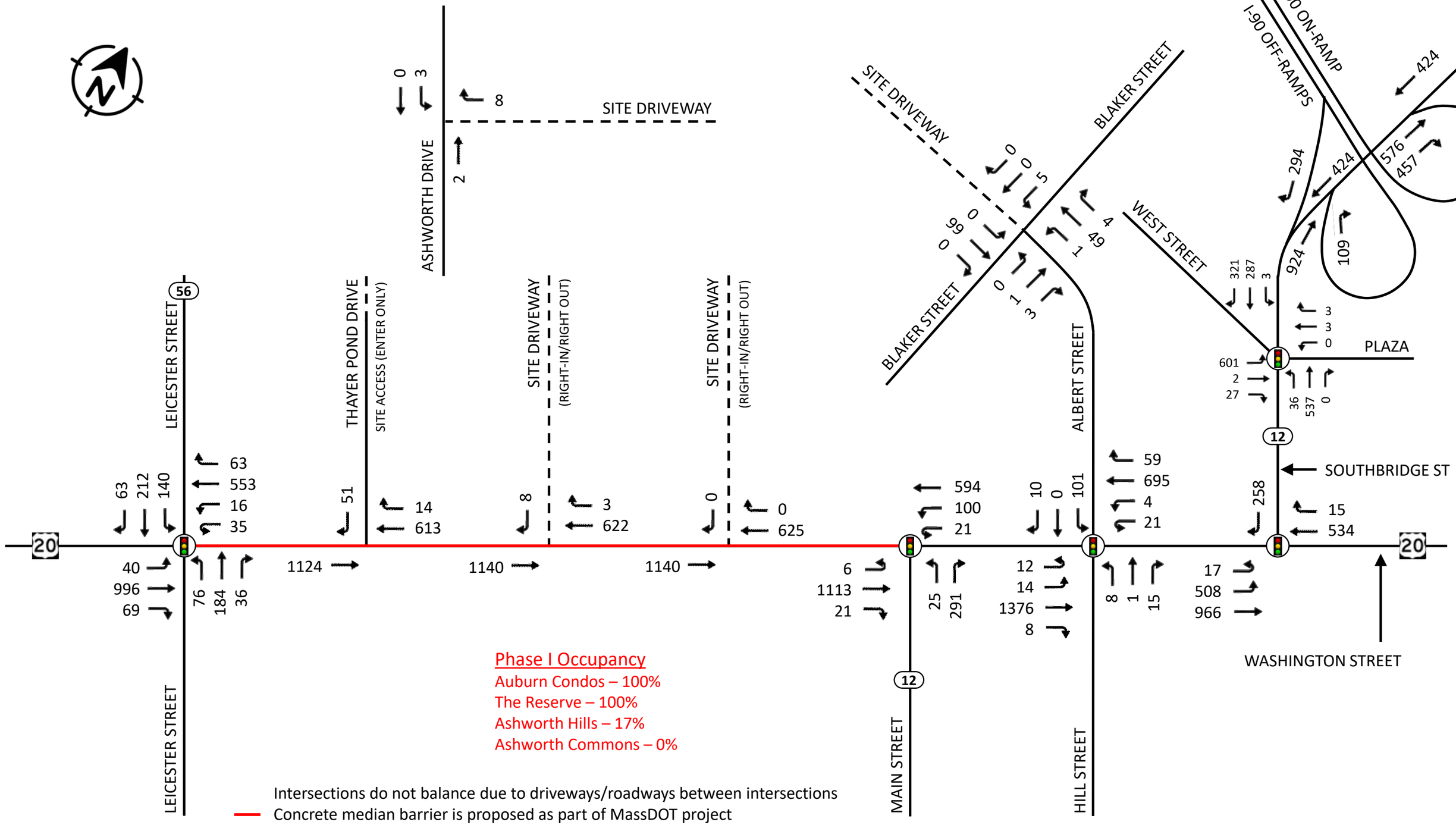
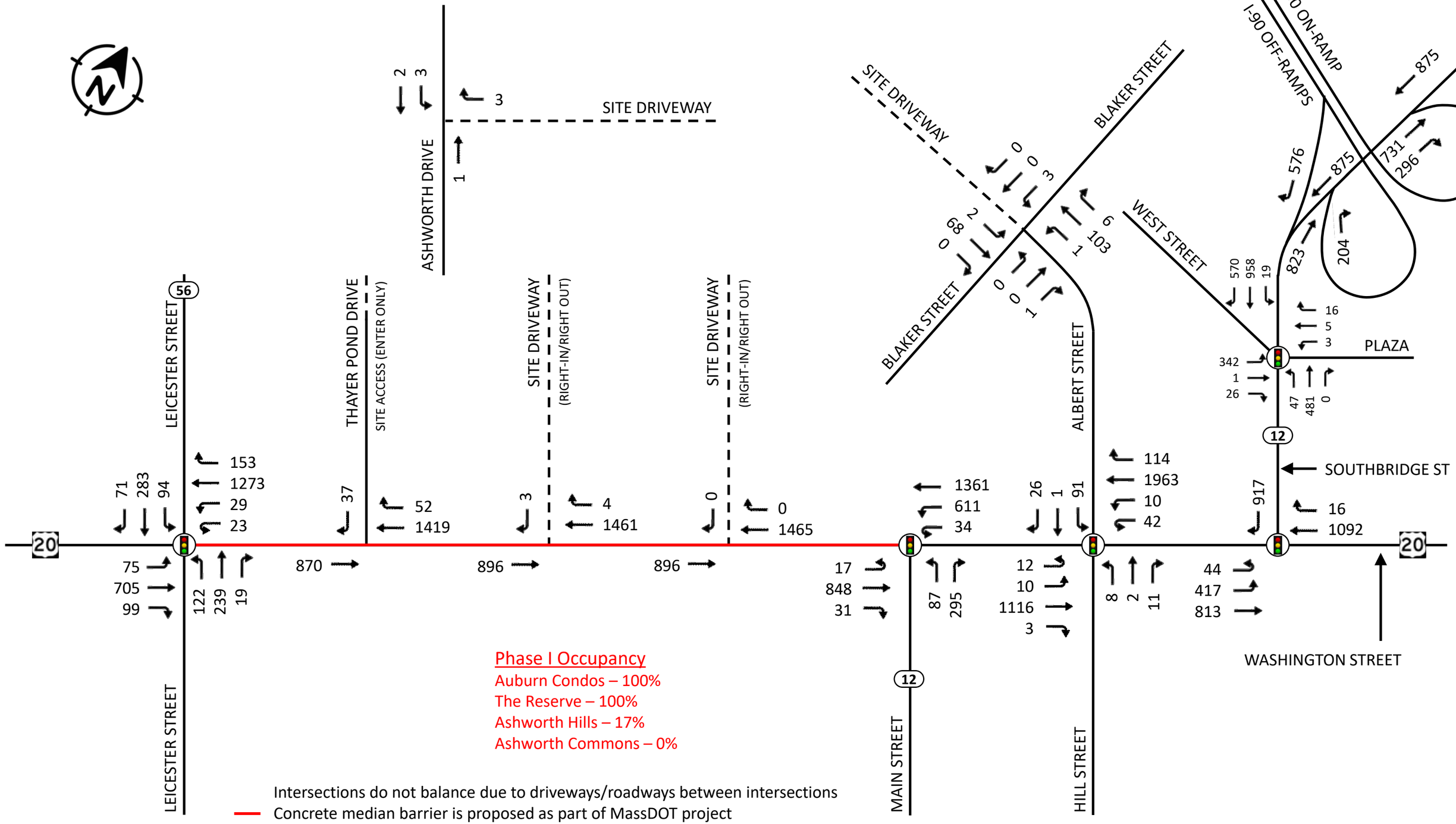


FIGURE 24

PHASE I BUILD TRAFFIC VOLUMES
WEEKDAY AM PEAK HOUR



Phase I Occupancy
Auburn Condos – 100%
The Reserve – 100%
Ashworth Hills – 17%
Ashworth Commons – 0%

Intersections do not balance due to driveways/roadways between intersections
Concrete median barrier is proposed as part of MassDOT project

FIGURE 25

PHASE I BUILD TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

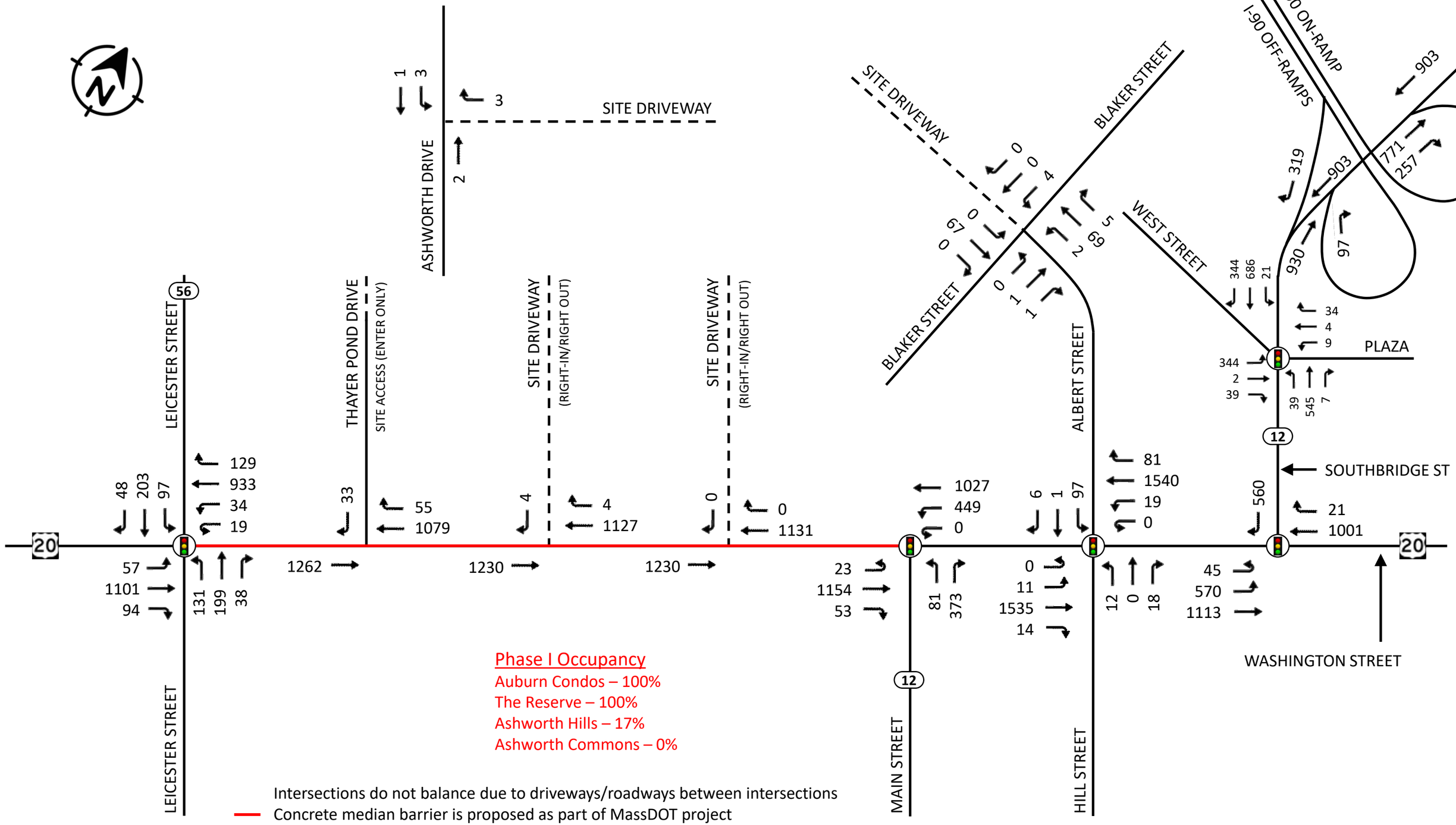


FIGURE 26

PHASE I BUILD TRAFFIC VOLUMES
SATURDAY MIDDAY PEAK HOUR

TABLE 15
Intersection Capacity Analysis Summary – Phase I

Intersection/Peak Hour/Lane Group	2030 No-Build V/C	2030 No-Build Del.	2030 No-Build LOS	2030 No-Build Queue	Phase I Build V/C	Phase I Build Del.	Phase I Build LOS	Phase I Build Queue
US Route 20 at Route 56								
Weekday AM:								
US Route 20 EB left-turn	0.47	59.4	E	34/71	0.48	60.8	E	34/71
US Route 20 EB through/right-turn	0.75	31.7	C	384/471	0.75	32.4	C	384/471
US Route 20 EB right-turn	0.06	20.7	C	<25/<25	0.06	21.1	C	<25/<25
US Route 20 WB U-turn/left-turn	0.57	66.3	E	37/79	0.54	62.5	E	44/93
US Route 20 WB through/right-turn	0.47	27.0	C	184/250	0.46	26.4	C	185/251
US Route 20 WB right-turn	0.06	22.1	C	<25/<25	0.06	21.7	C	<25/<25
Route 56 NB approach	--	--	--	--/--	--	--	--	--/--
Route 56 NB left-turn	0.32	36.1	D	44/82	0.34	37.6	D	44/82
Route 56 NB through/right-turn	0.68	50.6	D	178/272	0.70	53.1	D	179/272
Route 56 SB left-turn	0.54	34.3	C	87/143	0.56	36.2	D	87/143
Route 56 SB through/right-turn	0.77	53.1	D	224/356	0.80	56.6	E	226/361
Overall Intersection	**0.79**	**35.5**	**D**	**--/--**	**0.79**	**36.4**	**D**	**--/--**
Weekday PM:								
US Route 20 EB left-turn	0.66	74.1	E	65/197	0.65	72.3	E	65/197
US Route 20 EB through/right-turn	0.53	29.6	C	231/480	0.55	31.1	C	231/480
US Route 20 EB right-turn	0.07	23.4	C	<25/<25	0.07	24.5	C	<25/<25
US Route 20 WB U-turn/left-turn	0.69	88.0	F	43/137	0.59	71.3	E	45/149
US Route 20 WB through/right-turn	1.05	82.6	F	583/1223	1.07	88.9	F	583/1223
US Route 20 WB right-turn	0.15	27.5	C	<25/86	0.15	27.8	C	<25/86
Route 56 NB approach	--	--	--	--/--	--	--	--	--/--
Route 56 NB left-turn	0.99	120.8	F	76/279	0.98	117.1	F	76/279
Route 56 NB through/right-turn	0.82	67.9	E	215/539	0.81	66.2	E	216/541
Route 56 SB left-turn	0.52	44.0	D	58/153	0.51	43.0	D	58/153
Route 56 SB through/right-turn	1.10	133.0	F	321/795	1.09	128.8	F	330/800
Overall Intersection	**0.98**	**71.0**	**E**	**--/--**	**0.97**	**72.8**	**E**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 15 (CONTINUED)
Intersection Capacity Analysis Summary – Phase I

Intersection/Peak Hour/Lane Group	2030 No-Build				Phase I Build			
	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Route 56								
Saturday Midday:								
US Route 20 EB left-turn	0.54	59.6	E	48/93	0.54	60.9	E	48/93
US Route 20 EB through/right-turn	0.81	33.7	C	437/540	0.81	34.4	C	470/580
US Route 20 EB right-turn	0.07	20.3	C	<25/<25	0.07	20.7	C	<25/<25
US Route 20 WB U-turn/left-turn	0.62	69.9	E	41/86	0.55	62.8	E	343/519
US Route 20 WB through/right-turn	0.73	32.5	C	357/466	0.71	31.6	C	383/499
US Route 20 WB right-turn	0.09	22.4	C	<25/43	0.09	22.0	C	<25/59
Route 56 NB approach	--	--	--	--/--	--	--	--	--/--
Route 56 NB left-turn	0.51	38.6	D	78/130	0.53	40.7	D	78/130
Route 56 NB through/right-turn	0.72	52.2	D	193/290	0.74	55.0	D	215/347
Route 56 SB left-turn	0.37	32.4	C	58/101	0.38	33.8	C	74/125
Route 56 SB through/right-turn	0.67	47.1	D	199/296	0.69	49.4	D	202/301
Overall Intersection	**0.78**	**36.2**	**D**	**--/--**	**0.78**	**36.7**	**D**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 15 (CONTINUED)
Intersection Capacity Analysis Summary – Phase I

Intersection/Peak Hour/Lane Group	2030 No-Build V/C	2030 No-Build Del.	2030 No-Build LOS	2030 No-Build Queue	Phase I Build V/C	Phase I Build Del.	Phase I Build LOS	Phase I Build Queue
US Route 20 at Thayer Pond Drive								
Weekday AM:								
US Route 20 EB left-turn/through	0.36	0.0	A	--/<25	--	--	--	--/--
US Route 20 EB through	0.36	0.0	A	--/<25	0.36	0.0	A	--/<25
US Route 20 WB through	0.26	0.0	A	--/<25	0.26	0.0	A	--/<25
US Route 20 WB through/right-turn	0.14	0.0	A	--/<25	0.14	0.0	A	--/<25
Thayer Pond Drive SB left-turn	--	--	--	--/--	--	--	--	--/--
Thayer Pond Drive SB right-turn	0.08	11.0	B	--/<25	0.08	10.9	B	--/<25
Overall Intersection	**--**	**0.3**	**A**	**--/--**	**--**	**0.3**	**A**	**--/--**
Weekday PM:								
US Route 20 EB left-turn/through	0.28	0.0	A	--/<25	--	--	--	--/--
US Route 20 EB through	0.28	0.0	A	--/<25	0.28	0.0	A	--/<25
US Route 20 WB through	0.60	0.0	A	--/<25	0.60	0.0	A	--/<25
US Route 20 WB through/right-turn	0.34	0.0	A	--/<25	0.34	0.0	A	--/<25
Thayer Pond Drive SB left-turn	--	--	--	--/--	--	--	--	--/--
Thayer Pond Drive SB right-turn	0.12	17.3	C	--/<25	0.12	17.3	C	--/<25
Overall Intersection	**--**	**0.3**	**A**	**--/--**	**--**	**0.3**	**A**	**--/--**
Saturday Midday:								
US Route 20 EB left-turn/through	--	--	--	--/--	--	--	--	--/--
US Route 20 EB through	0.40	0.0	A	--/<25	0.40	0.0	A	--/<25
US Route 20 WB through	0.46	0.0	A	--/<25	0.46	0.0	A	--/<25
US Route 20 WB through/right-turn	0.26	0.0	A	--/<25	0.27	0.0	A	--/<25
Thayer Pond Drive SB left-turn	--	--	--	--/--	--	--	--	--/--
Thayer Pond Drive SB right-turn	0.08	13.9	B	--/<25	0.08	14.0	B	--/<25
Overall Intersection	**--**	**0.2**	**A**	**--/--**	**--**	**0.2**	**A**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 15 (CONTINUED)
Intersection Capacity Analysis Summary – Phase I

Intersection/Peak Hour/Lane Group	2030 No-Build				Phase I Build			
	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
US Route 20 at Route 12 (Main Street)								
Weekday AM:								
US Route 20 EB U-turn	0.18	30.6	C	<25/<25	0.18	30.6	C	<25/<25
US Route 20 EB through/right-turn	0.95	32.9	C	254/398	0.96	34.3	C	257/402
US Route 20 WB left-turn	0.45	26.4	C	<25/44	0.45	26.4	C	<25/44
US Route 20 WB through	0.44	11.2	B	48/148	0.44	11.2	B	48/149
Route 12 NB left-turn/right-turn	0.22	23.2	C	<25/53	0.22	23.3	C	<25/53
Route 12 NB right-turn	0.12	22.7	C	<25/45	0.12	22.7	C	<25/45
Overall Intersection	**0.83**	**25.2**	**C**	**--/--**	**0.83**	**25.9**	**C**	**--/--**
Weekday PM:								
US Route 20 EB U-turn	0.72	107.2	F	<25/29	0.72	107.1	F	<25/29
US Route 20 EB through/right-turn	0.65	19.1	B	193/255	0.65	19.1	B	194/256
US Route 20 WB left-turn	1.37	213.2	F	210/372	1.37	211.9	F	210/372
US Route 20 WB through	0.74	14.7	B	191/421	0.74	14.6	B	192/424
Route 12 NB left-turn/right-turn	0.77	48.4	D	74/209	0.78	50.3	D	76/212
Route 12 NB right-turn	0.13	31.5	C	<25/63	0.13	31.5	C	<25/63
Overall Intersection	**0.97**	**58.4**	**E**	**--/--**	**0.97**	**58.1**	**E**	**--/--**
Saturday Midday:								
US Route 20 EB U-turn	0.66	65.3	E	<25/27	0.66	65.3	E	<25/27
US Route 20 EB through/right-turn	1.02	51.5	D	310/430	1.03	54.2	D	312/431
US Route 20 WB left-turn	1.29	176.5	F	107/188	1.29	176.5	F	107/188
US Route 20 WB through	0.68	14.7	B	115/332	0.68	14.7	B	116/333
Route 12 NB left-turn/right-turn	0.68	32.2	C	53/145	0.68	32.7	C	54/147
Route 12 NB right-turn	0.16	23.7	C	<25/53	0.16	23.7	C	<25/53
Overall Intersection	**1.13**	**54.1**	**D**	**--/--**	**1.13**	**54.4**	**D**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 15 (CONTINUED)
Intersection Capacity Analysis Summary – Phase I

Intersection/Peak Hour/Lane Group	2030 No-Build V/C	2030 No-Build Del.	2030 No-Build LOS	2030 No-Build Queue	Phase I Build V/C	Phase I Build Del.	Phase I Build LOS	Phase I Build Queue
US Route 20 at Hill Street and Albert Street								
Weekday AM:								
US Route 20 EB left-turn	0.48	45.1	D	<25/41	0.48	45.1	D	<25/41
US Route 20 EB through/right-turn	0.59	6.5	A	<25/332	0.69	12.2	B	183/497
US Route 20 WB left-turn	0.48	52.0	D	<25/41	0.48	50.9	D	<25/32
US Route 20 WB through/right-turn	0.33	6.1	A	<25/98	0.40	11.9	B	85/104
Hill Street NB left-turn	0.17	43.3	D	<25/<25	0.05	34.5	C	<25/<25
Hill Street NB through/right-turn	0.03	42.7	D	<25/<25	0.02	34.3	C	<25/<25
Albert Street SB left-turn	0.12	43.1	D	<25/<25	0.73	51.5	D	60/107
Albert Street SB through/right-turn	0.01	42.6	D	<25/<25	0.01	34.3	C	<25/<25
Overall Intersection	**0.57**	**7.9**	**A**	**--/--**	**0.68**	**14.9**	**B**	**--/--**
Weekday PM:								
US Route 20 EB left-turn	0.39	58.1	E	<25/46	0.39	58.1	E	<25/46
US Route 20 EB through/right-turn	0.47	7.0	A	186/283	0.51	9.9	A	224/350
US Route 20 WB left-turn	0.53	55.9	E	40/52	0.53	56.4	E	42/52
US Route 20 WB through/right-turn	0.80	19.6	B	866/857	0.91	30.4	C	952/952
Hill Street NB left-turn	0.12	54.3	D	<25/<25	0.06	48.3	D	<25/<25
Hill Street NB through/right-turn	0.03	53.8	D	<25/<25	0.02	48.1	D	<25/<25
Albert Street SB left-turn	0.43	56.3	E	25/58	0.66	59.7	E	75/128
Albert Street SB through/right-turn	0.03	53.8	D	<25/31	0.02	48.1	D	<25/29
Overall Intersection	**0.78**	**16.9**	**B**	**--/--**	**0.88**	**25.3**	**C**	**--/--**
Saturday Midday:								
US Route 20 EB left-turn	0.46	48.7	D	<25/<25	0.46	48.7	D	<25/<25
US Route 20 EB through/right-turn	0.66	8.2	A	146/430	0.72	12.1	B	203/549
US Route 20 WB left-turn	0.39	35.0	C	<25/<25	0.39	29.7	C	<25/<25
US Route 20 WB through/right-turn	0.64	9.7	A	337/394	0.74	14.2	B	358/397
Hill Street NB left-turn	0.15	41.1	D	<25/<25	0.08	35.9	D	<25/<25
Hill Street NB through/right-turn	0.01	40.5	D	<25/<25	0.01	35.5	D	<25/<25
Albert Street SB left-turn	0.40	42.4	D	<25/45	0.68	47.9	D	57/104
Albert Street SB through/right-turn	0.02	40.5	D	<25/<25	0.01	35.5	D	<25/<25
Overall Intersection	**0.63**	**9.9**	**A**	**--/--**	**0.73**	**14.6**	**B**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 15 (CONTINUED)
Intersection Capacity Analysis Summary – Phase I

Intersection/Peak Hour/Lane Group	2030 No-Build V/C	2030 No-Build Del.	2030 No-Build LOS	2030 No-Build Queue	Phase I Build V/C	Phase I Build Del.	Phase I Build LOS	Phase I Build Queue
US Route 20 at Route 12 (Southbridge Street)								
Weekday AM:								
US Route 20 EB U-turn	0.08	48.3	D	<25/<25	0.08	41.8	D	<25/<25
US Route 20 EB left-turn	0.39	20.8	C	96/106	0.43	24.0	C	73/175
US Route 20 EB through	0.30	0.1	A	<25/<25	0.32	0.1	A	<25/<25
US Route 20 WB through	0.35	14.8	B	104/147	0.36	15.3	B	110/152
US Route 20 WB right-turn	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25
Route 12 SB right-turn	0.51	32.5	C	73/113	0.53	32.4	C	78/121
Overall Intersection	**0.40**	**11.9**	**B**	**--/--**	**0.43**	**12.9**	**B**	**--/--**
Weekday PM:								
US Route 20 EB U-turn	0.29	57.0	E	27/64	0.29	66.0	E	29/74
US Route 20 EB left-turn	0.30	18.3	B	86/70	0.33	17.9	B	72/81
US Route 20 EB through	0.25	0.1	A	<25/<25	0.26	0.1	A	<25/<25
US Route 20 WB through	0.65	24.0	C	331/404	0.68	24.8	C	354/432
US Route 20 WB right-turn	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25
Route 12 SB right-turn	1.22	153.9	F	504/645	1.30	188.7	F	561/705
Overall Intersection	**0.80**	**53.3**	**D**	**--/--**	**0.84**	**63.8**	**E**	**--/--**
Saturday Midday:								
US Route 20 EB U-turn	0.12	23.1	C	<25/39	0.12	21.4	C	25/32
US Route 20 EB left-turn	0.35	20.7	C	107/223	0.37	19.5	B	136/220
US Route 20 EB through	0.34	0.2	A	<25/<25	0.35	0.2	A	<25/<25
US Route 20 WB through	0.76	27.7	C	266/344	0.78	28.6	C	280/360
US Route 20 WB right-turn	0.01	0.0	A	<25/<25	0.01	0.0	A	<25/<25
Route 12 SB right-turn	1.01	77.8	E	188/307	1.09	102.1	F	224/339
Overall Intersection	**0.71**	**25.1**	**C**	**--/--**	**0.75**	**29.6**	**C**	**--/--**

[a] Volume-to-capacity ratio.
[b] Average control delay in seconds per vehicle.
[c] Level of service.
[d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 15 (CONTINUED)
Intersection Capacity Analysis Summary – Phase I

Intersection/Peak Hour/Lane Group	2030 No-Build				Phase I Build			
	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
Route 12 (Southbridge Street) at West Street / Plaza Driveway								
Weekday AM:								
Route 12 EB approach	0.46	16.8	B	64/241	0.51	17.4	B	75/270
Route 12 WB approach	0.66	28.3	C	70/241	0.68	28.9	C	80/260
Plaza Driveway NB approach	0.23	42.2	D	<25/<25	0.23	43.1	D	<25/<25
West Street SB left-turn	0.74	30.9	C	110/454	0.74	31.6	C	114/458
West Street SB left/through/right-turn	0.73	30.3	C	107/438	0.73	30.8	C	110/443
Overall Intersection	**0.65**	**25.7**	**C**	**--/--**	**0.67**	**26.1**	**C**	**--/--**
Weekday PM:								
Route 12 EB approach	0.38	8.6	A	44/121	0.42	8.9	A	48/131
Route 12 WB approach	1.10	78.6	F	364/751	1.15	97.9	F	439/800
Plaza Driveway NB approach	0.18	39.3	D	<25/29	0.18	39.3	D	<25/29
West Street SB left-turn	0.69	37.2	D	88/181	0.70	37.3	D	88/182
West Street SB left/through/right-turn	0.68	36.3	D	85/176	0.68	36.6	D	85/177
Overall Intersection	**0.97**	**57.2**	**E**	**--/--**	**1.01**	**69.2**	**E**	**--/--**
Saturday Midday:								
Route 12 EB approach	0.37	9.6	A	78/143	0.40	9.9	A	85/155
Route 12 WB approach	0.77	23.1	C	239/428	0.81	24.6	C	258/464
Plaza Driveway NB approach	0.17	38.2	D	<25/44	0.17	38.2	D	<25/43
West Street SB left-turn	0.71	39.2	D	111/193	0.71	38.8	D	112/194
West Street SB left/through/right-turn	0.67	37.1	D	102/181	0.67	36.8	D	103/182
Overall Intersection	**0.74**	**22.6**	**C**	**--/--**	**0.76**	**23.2**	**C**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 15 (CONTINUED)
Intersection Capacity Analysis Summary – Phase I

Intersection/Peak Hour/Lane Group	2030 No-Build V/C	2030 No-Build Del.	2030 No-Build LOS	2030 No-Build Queue	Phase I Build V/C	Phase I Build Del.	Phase I Build LOS	Phase I Build Queue
US Route 20 at Western Site Driveway (Right-In / Right-Out)								
Weekday AM:								
US Route 20 EB through	--	--	--	--/--	0.36	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	0.27	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	0.13	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	0.01	10.6	B	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**0.0**	**A**	**--/--**
Weekday PM:								
US Route 20 EB through	--	--	--	--/--	0.29	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	0.62	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	0.31	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	0.01	16.0	C	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**0.0**	**A**	**--/--**
Saturday Midday:								
US Route 20 EB through	--	--	--	--/--	0.39	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	0.48	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	0.24	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	0.01	13.3	B	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**0.0**	**A**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 15 (CONTINUED)
Intersection Capacity Analysis Summary – Phase I

Intersection/Peak Hour/Lane Group	2030 No-Build V/C	2030 No-Build Del.	2030 No-Build LOS	2030 No-Build Queue	Phase I Build V/C	Phase I Build Del.	Phase I Build LOS	Phase I Build Queue
US Route 20 at Eastern Site Driveway (Right-In / Right-Out)								
Weekday AM:								
US Route 20 EB through	--	--	--	--/--	0.36	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	0.27	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	0.13	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	0.00	0.0	A	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**0.0**	**A**	**--/--**
Weekday PM:								
US Route 20 EB through	--	--	--	--/--	0.29	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	0.62	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	0.31	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	0.00	0.0	A	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**0.0**	**A**	**--/--**
Saturday Midday:								
US Route 20 EB through	--	--	--	--/--	0.39	0.0	A	--/<25
US Route 20 WB through	--	--	--	--/--	0.48	0.0	A	--/<25
US Route 20 WB right-turn	--	--	--	--/--	0.24	0.0	A	--/<25
Site Driveway SB right-turn	--	--	--	--/--	0.00	0.0	A	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**0.0**	**A**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 15 (CONTINUED)
Intersection Capacity Analysis Summary – Phase I

Intersection/Peak Hour/Lane Group	2030 No-Build V/C	2030 No-Build Del.	2030 No-Build LOS	2030 No-Build Queue	Phase I Build V/C	Phase I Build Del.	Phase I Build LOS	Phase I Build Queue
Blaker Street at Albert Street and Site Driveway								
Weekday AM:								
Site Driveway EB approach	0.01	9.6	A	--/<25	0.14	10.3	B	--/<25
Albert Street WB approach	0.03	9.2	A	--/<25	0.07	9.4	A	--/<25
Blaker Street NB approach	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25
Blaker Street SB approach	0.00	7.4	A	--/<25	0.00	7.4	A	--/<25
Overall Intersection	**--/--**	**8.2**	**A**	**--/--**	**--**	**9.7**	**A**	**--/--**
Weekday PM:								
Site Driveway EB approach	0.01	9.0	A	--/<25	0.09	9.4	A	--/<25
Albert Street WB approach	0.01	8.3	A	--/<25	0.13	9.6	A	--/<25
Blaker Street NB approach	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25
Blaker Street SB approach	0.00	7.2	A	--/<25	0.00	7.2	A	--/<25
Overall Intersection	**--/--**	**8.1**	**A**	**--/--**	**--**	**9.5**	**A**	**--/--**
Saturday Midday:								
Site Driveway EB approach	--	--	--	--/--	0.08	9.4	A	--/<25
Albert Street WB approach	0.01	8.5	A	--/<25	0.09	9.5	A	--/<25
Blaker Street NB approach	0.00	0.0	A	--/<25	0.00	0.0	A	--/<25
Blaker Street SB approach	0.00	7.4	A	--/<25	0.00	7.4	A	--/<25
Overall Intersection	**--/--**	**7.3**	**A**	**--/--**	**--**	**9.3**	**A**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

TABLE 15 (CONTINUED)
Intersection Capacity Analysis Summary – Phase I

Intersection/Peak Hour/Lane Group	2030 No-Build				Phase I Build			
	V/C	Del.	LOS	Queue	V/C	Del.	LOS	Queue
Ashworth Drive at Site Driveway								
Weekday AM:								
Site Driveway WB approach	--	--	--	--/--	0.01	8.4	A	--/<25
Ashworth Drive NB approach	--	--	--	--/--	0.00	0.0	A	--/<25
Ashworth Drive SB approach	--	--	--	--/--	0.00	7.2	A	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**6.9**	**A**	**--/--**
Weekday PM:								
Site Driveway WB approach	--	--	--	--/--	0.00	8.3	A	--/<25
Ashworth Drive NB approach	--	--	--	--/--	0.00	0.0	A	--/<25
Ashworth Drive SB approach	--	--	--	--/--	0.00	4.3	A	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**5.2**	**A**	**--/--**
Saturday Midday:								
Site Driveway WB approach	--	--	--	--/--	0.00	8.3	A	--/<25
Ashworth Drive NB approach	--	--	--	--/--	0.00	0.0	A	--/<25
Ashworth Drive SB approach	--	--	--	--/--	0.00	5.4	A	--/<25
Overall Intersection	**--**	**--**	**--**	**--/--**	**--**	**5.2**	**A**	**--/--**

[a] Volume-to-capacity ratio. [b] Average control delay in seconds per vehicle.
[c] Level of service. [d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

2027 Phase II Signal Warrant Analysis

Traffic utilizing the western site driveway on Route 20 by the end of 2027 was based on the following occupancy based on the project phasing:

- 33% occupancy of Ashworth Hills
- 50% occupancy of Ashworth Commons

A traffic signal warrant analysis was conducted to determine if signal control will be warranted at the intersection of US Route 20 at the western commercial site driveway, given the volume of traffic expected to be generated by Ashworth Commons and Ashworth Hills in 2027. At least one of the eight-hour warrants (Warrant 1, Condition A or B) should be met before signal control is considered. As shown in Table 16, under the 2027 Build (Phase II) conditions, Warrant 1B is met at the western site driveway.

TABLE 16
Phase II Traffic Signal Warrant Analysis Summary

	Warrant #1				
Intersection	**A**	**B**	**Combo**	**Warrant #2**	**Warrant #3**
US Route 20 at Site Driveway	No	Yes	No	Yes	Yes

The signal warrant associated with the Phase II analysis is provided in the Appendix. The Site-Generated and Build peak-hour traffic-volume networks associated with this Phase II condition are provided on Figures 27 through 32.

In addition to the traffic signal being implemented under this Phase at the end of 2027 when the specified occupancies are expected to be reached, the remainder of the final proposed *Mitigation* should be implemented at this time. This includes signal timing modifications at the following intersections:

- US Route 20 at Route 56
- US Route 20 at Route 12 (Main Street)
- US Route 20 at Hill Street and Albert Street

A Transportation Monitoring Program will be a requirement of the project. Accordingly, as the project moves through the MassDOT Access Permit process, if additional traffic signal warrant analyses or capacity and queue analyses at the western site driveway or the two signalized intersections west and east of the site driveway need to be conducted as the development constructs and occupies those requested analyses can be worked out and provided with the MassDOT District 3 Office.

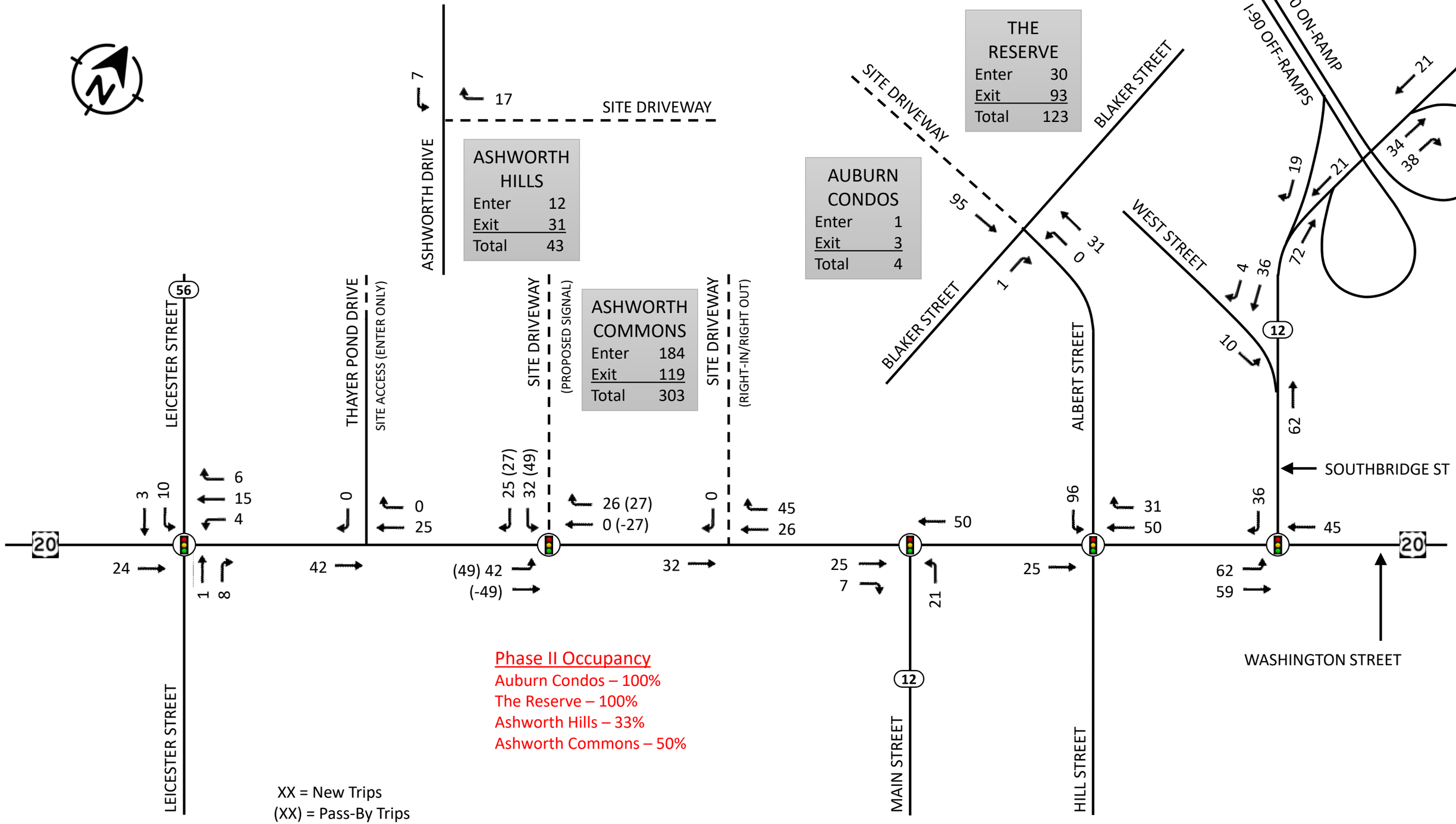


FIGURE 27

PHASE II SITE-GEN MITIGATED TRAFFIC VOLUMES (11th Edition)
WEEKDAY AM PEAK HOUR

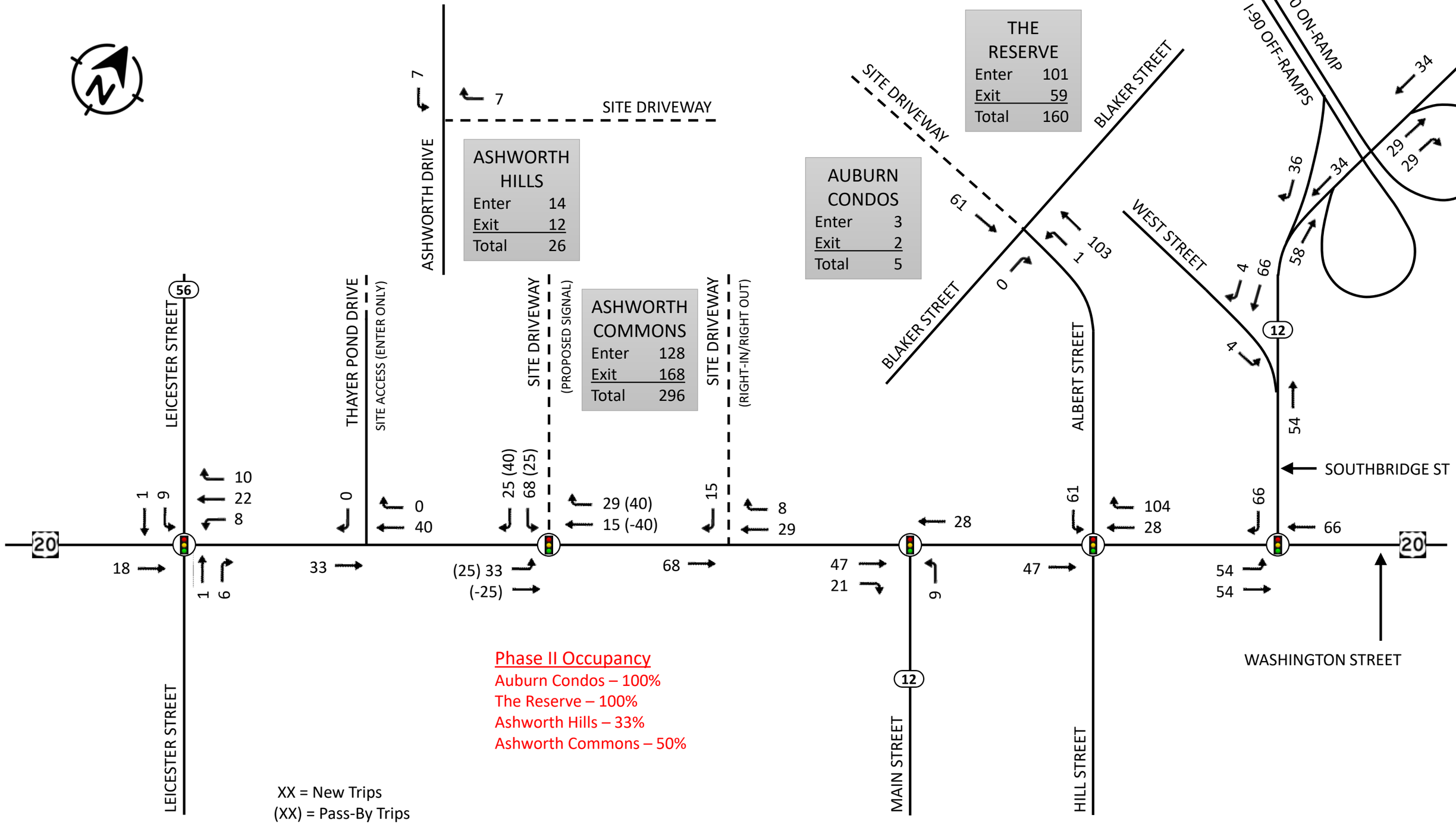


FIGURE 28

PHASE II SITE-GEN MITIGATED TRAFFIC VOLUMES (11th Edition)
WEEKDAY PM PEAK HOUR

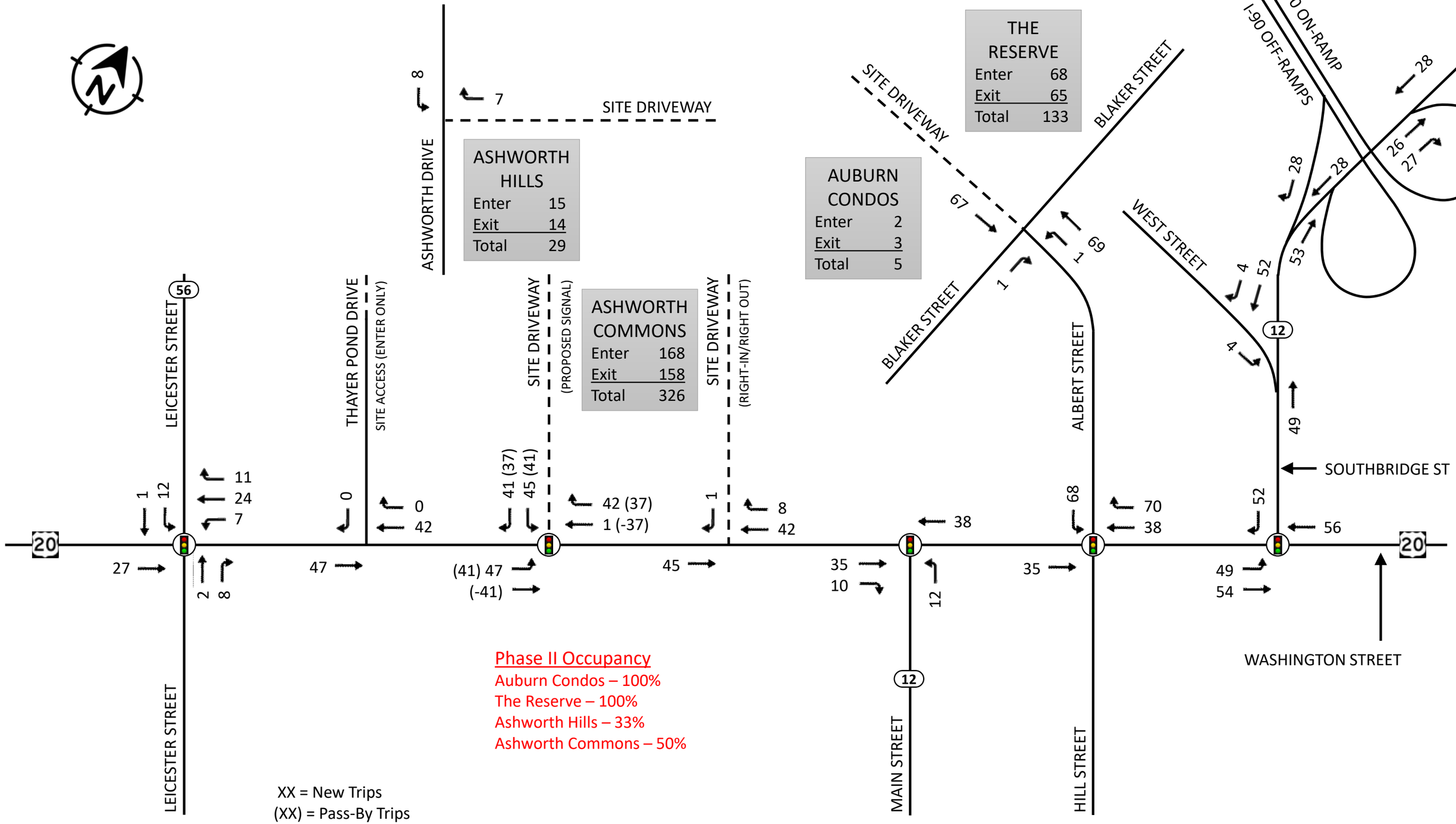


FIGURE 29

PHASE II SITE-GEN MITIGATED TRAFFIC VOLUMES (11th Edition)
SATURDAY MIDDAY PEAK HOUR

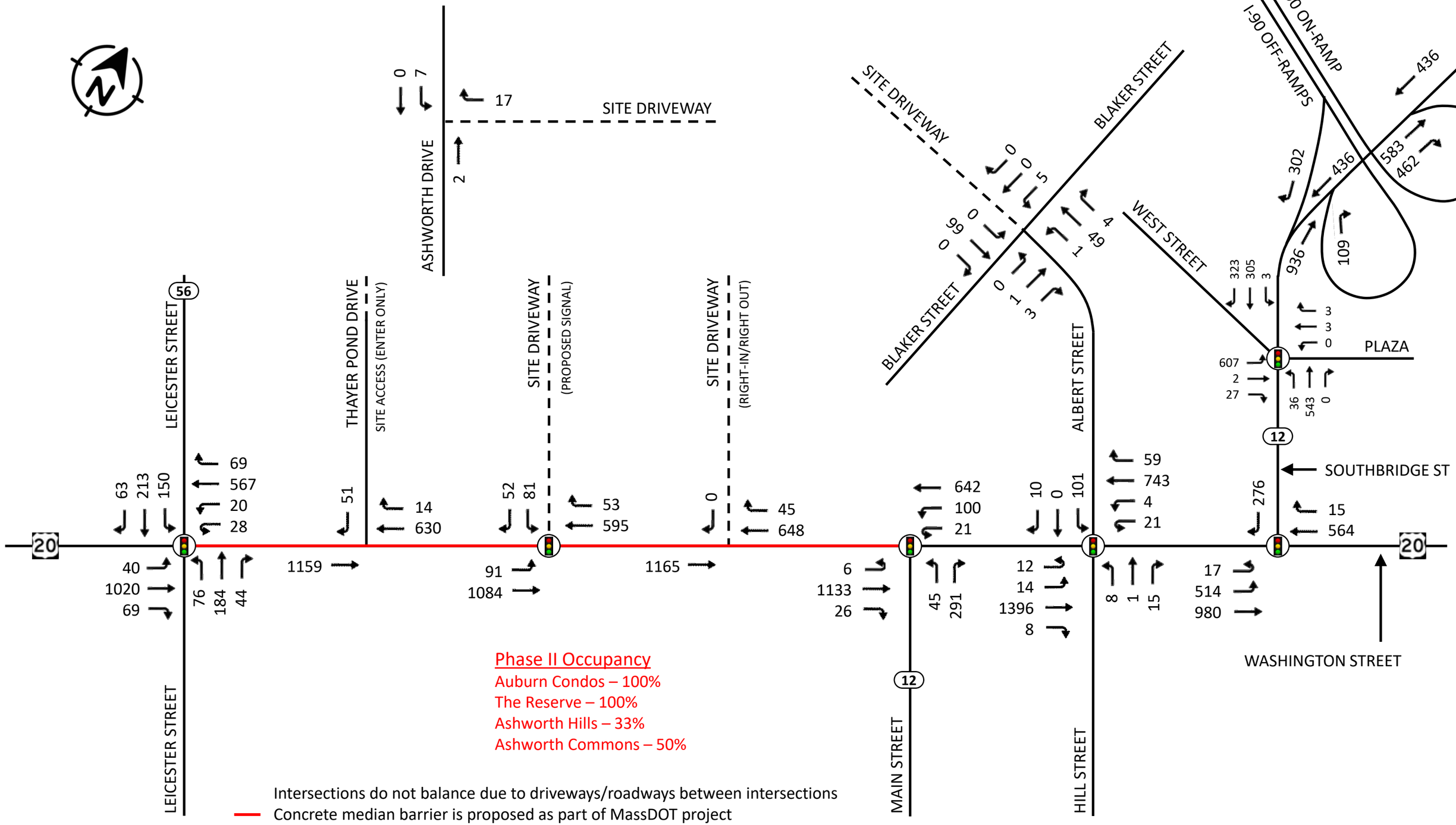


FIGURE 30

PHASE II BUILD WITH MITIGATION TRAFFIC VOLUMES WEEKDAY AM PEAK HOUR

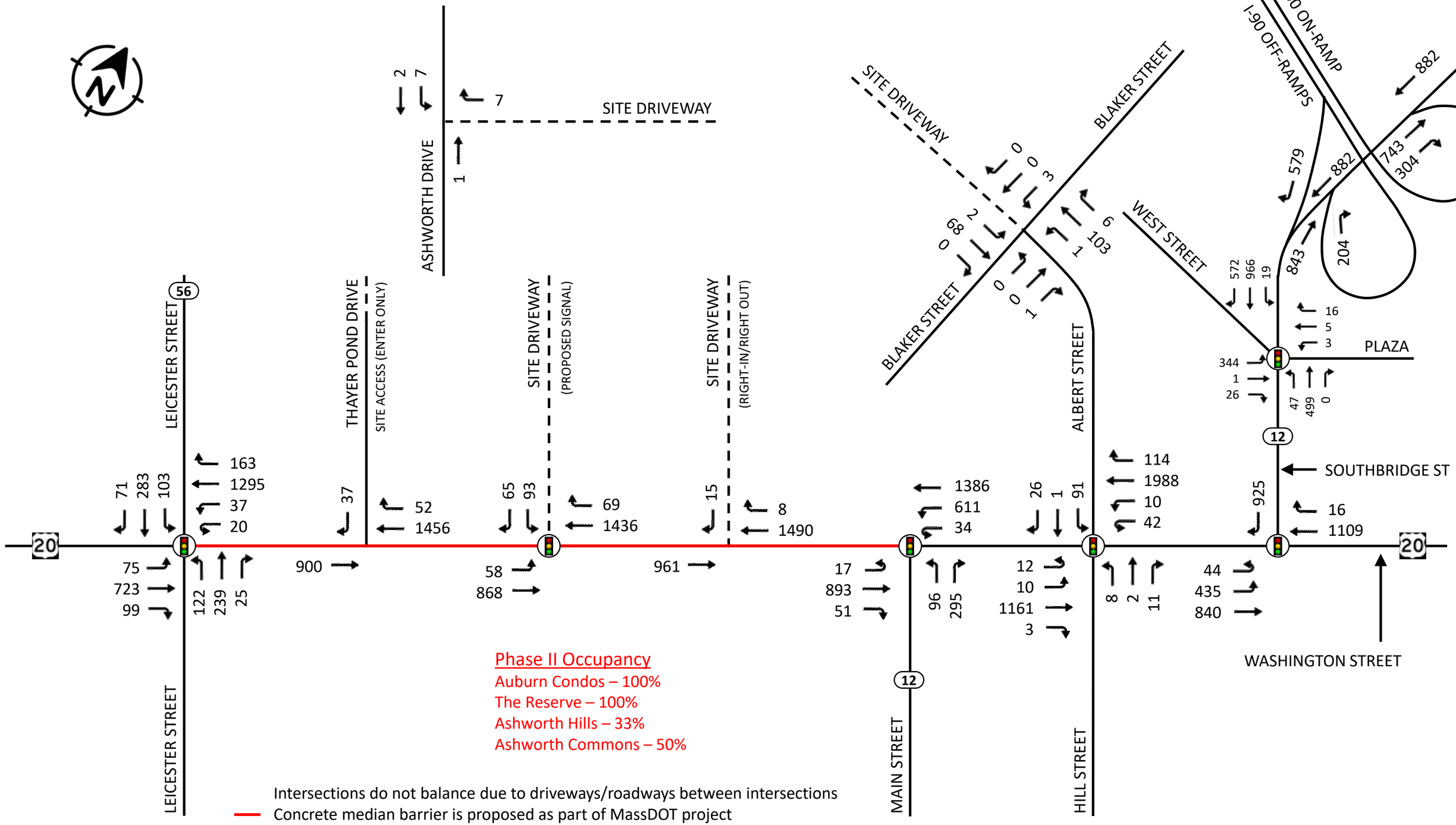


FIGURE 31

PHASE II BUILD WITH MITIGATION TRAFFIC VOLUMES WEEKDAY PM PEAK HOUR

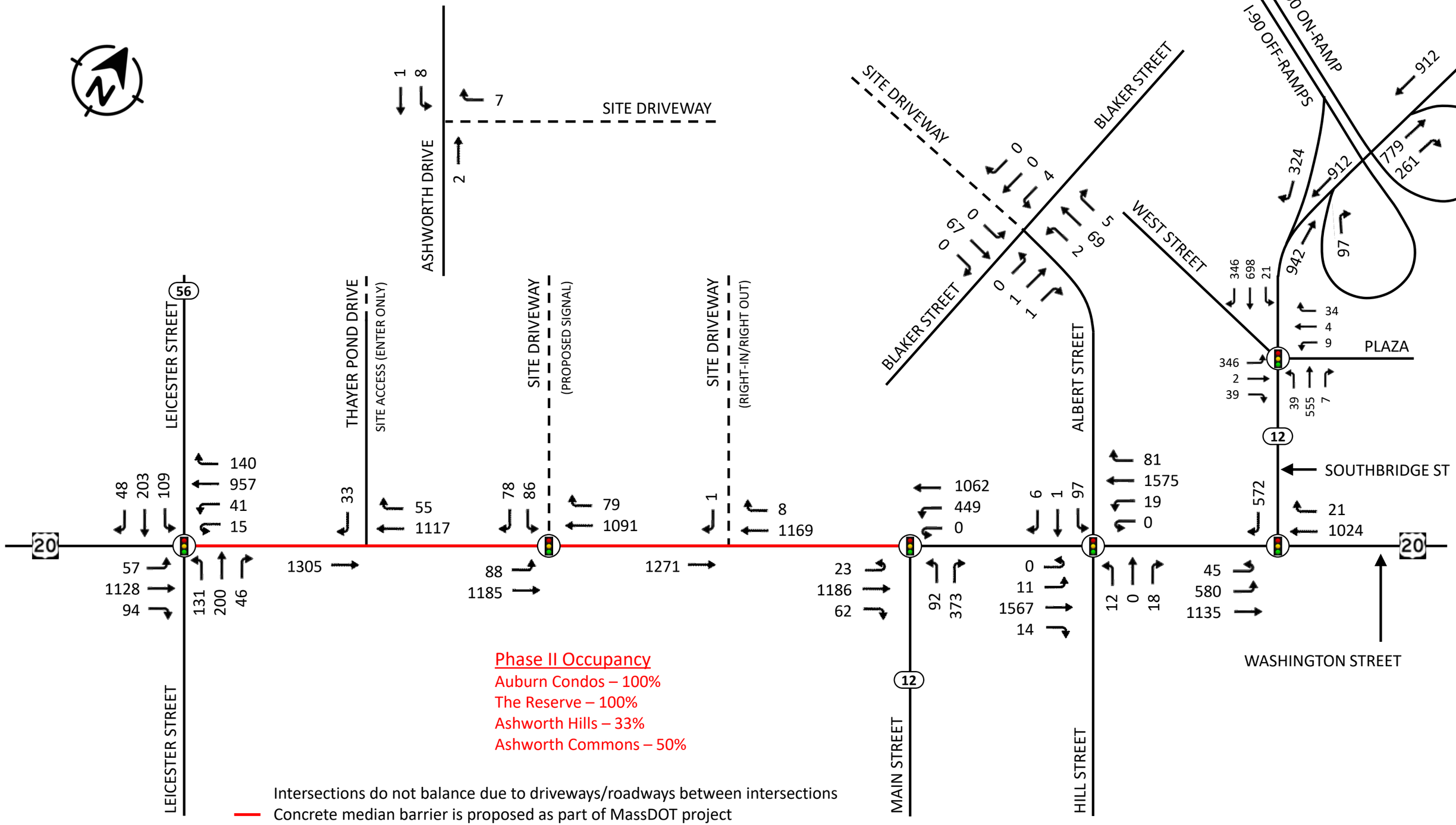


FIGURE 32

PHASE II BUILD WITH MITIGATION TRAFFIC VOLUMES SATURDAY MIDDAY PEAK HOUR

SUPPLEMENTAL ANALYSIS

Per the request of MassDOT, a supplemental analysis was provided at the intersection of US Route 20 at Route 12 (Main Street), which included incorporating 2030 No-Build volumes into the Build mitigated Synchro analysis. The comparison of the 2030 No-Build mitigated analysis to the other conditions analyzed is provided in Table 17 on the following page. All supplemental analysis worksheets are provided in the Appendix.

TABLE 17
Intersection Capacity Analysis Summary – No-Build with Mitigation

	2030 No-Build				2030 No-Build with Mitigation				2030 Build				2030 Build with Mitigation			
Intersection/Peak Hour/Lane Group	**V/C [a]**	**Del. [b]**	**LOS [c]**	**Queue [d]**	**V/C**	**Del.**	**LOS**	**Queue**	**V/C**	**Del.**	**LOS**	**Queue**	**V/C**	**Del.**	**LOS**	**Queue**
US Route 20 at Route 12 (Main Street)																
Weekday AM:																
US Route 20 EB U-turn	0.18	30.6	C	<25/<25	0.29	48.0	D	<25/<25	0.99	83.9	F	72/184	0.33	61.5	E	<25/<25
US Route 20 EB through/right-turn	0.95	32.9	C	254/398	0.68	15.4	B	224/340	1.11	80.7	F	318/438	0.69	17.6	B	317/464
US Route 20 WB left-turn	0.45	26.4	C	<25/44	0.45	37.7	D	30/70	0.42	26.1	C	<25/44	0.57	51.2	D	42/81
US Route 20 WB through	0.44	11.2	B	48/148	0.32	8.0	A	48/145	0.70	19.2	B	122/180	0.37	9.8	A	90/217
Route 12 NB left-turn/right-turn	0.22	23.2	C	<25/53	0.26	36.0	D	<25/75	0.55	25.3	C	39/109	0.70	52.4	D	92/176
Route 12 NB right-turn	0.12	22.7	C	<25/45	0.12	35.0	C	<25/61	0.13	21.5	C	<25/48	0.13	40.1	D	<25/63
Overall Intersection	**0.83**	**25.2**	**C**	**--/--**	**0.65**	**17.7**	**B**	**--/--**	**1.10**	**53.8**	**D**	**--/--**	**0.73**	**21.4**	**C**	**--/--**
Weekday PM:																
US Route 20 EB U-turn	0.72	107.2	F	<25/29	0.40	55.1	E	<25/37	0.98	107.0	F	76/189	0.41	59.0	E	<25/38
US Route 20 EB through/right-turn	0.65	19.1	B	193/255	0.71	28.0	C	271/341	0.72	20.1	C	240/315	0.75	28.4	C	336/415
US Route 20 WB left-turn	1.37	213.2	F	210/372	0.92	55.2	E	211/390	1.43	243.1	F	264/372	0.99	74.0	E	240/422
US Route 20 WB through	0.74	14.7	B	191/421	0.71	16.2	B	242/467	0.85	21.8	C	354/458	0.72	15.7	B	263/503
Route 12 NB left-turn/right-turn	0.77	48.4	D	74/209	0.67	47.2	D	101/239	0.89	69.5	E	103/236	0.79	60.5	E	129/291
Route 12 NB right-turn	0.13	31.5	C	<25/63	0.13	37.3	D	<25/70	0.14	33.1	C	<25/64	0.14	40.9	D	<25/74
Overall Intersection	**0.97**	**58.4**	**E**	**--/--**	**0.83**	**30.3**	**C**	**--/--**	**1.11**	**67.2**	**E**	**--/--**	**0.86**	**34.4**	**C**	**--/--**
Saturday Midday:																
US Route 20 EB U-turn	0.66	65.3	E	<25/27	0.40	60.1	E	<25/47	1.03	95.2	F	79/195	0.40	61.0	E	<25/47
US Route 20 EB through/right-turn	1.02	51.5	D	310/430	0.80	28.9	C	448/550	1.34	178.7	F	353/474	0.88	34.9	C	511/641
US Route 20 WB left-turn	1.29	176.5	F	107/188	0.86	60.5	E	187/272	1.17	123.9	F	107/188	0.87	63.5	E	188/272
US Route 20 WB through	0.68	14.7	B	115/332	0.52	13.5	B	269/335	1.09	76.2	E	257/369	0.57	15.2	B	302/373
Route 12 NB left-turn/right-turn	0.68	32.2	C	53/145	0.76	58.8	E	143/240	0.74	32.1	C	68/177	0.79	60.5	E	169/298
Route 12 NB right-turn	0.16	23.7	C	<25/53	0.16	43.2	D	<25/75	0.16	20.7	C	<25/54	0.16	42.5	D	<25/76
Overall Intersection	**1.13**	**54.1**	**D**	**--/--**	**0.84**	**31.8**	**C**	**--/--**	**1.28**	**114.4**	**F**	**--/--**	**0.89**	**34.8**	**C**	**--/--**

[a] Volume-to-capacity ratio.
[b] Average control delay in seconds per vehicle.
[c] Level of service.
[d] Maximum queue in an average/95th percentile cycle in feet per lane (assuming 25 feet per vehicle).

- APPENDIX

- ***MassDOT Email Correspondence***
- ***Traffic Count Data***
- ***Traffic Volume Adjustment Data***
- ***Crash Rate Worksheets***
- ***Sight Distance Plans (Figure A-1 & A-2) & Calculations***
- ***Public Transportation Data***
- ***Redistributed Trips (Figure A-3)***
- ***MassDOT Coordination Timeline***
- ***Trip Generation Calculations***
- ***Trip Distribution Data (Figures A-4 through A-7 & Journey-To-Work)***
- ***Parking Demand Data***
- ***Capacity and Queue Analysis Worksheets***
- ***Merge Analysis Worksheets***
- ***Weave Analysis Worksheets***
- ***Signal Warrant Analysis Worksheet***
- ***ICE Stage 1 Analysis***
- ***LOS & Queue Graphics (Figure A-8 through A-17)***
- ***Phase I & II Analysis***
- ***Supplemental Analysis Worksheets***

MASSDOT EMAIL CORRESPONDENCE

Heather Monticup

From: Lucien, Lionel (DOT) <Lionel.Lucien@dot.state.ma.us>
Sent: Thursday, September 28, 2023 10:31 AM
To: Heather Monticup; Simon, William M. (DOT)
Cc: Lipton, Amitai I. (DOT); Shattuck, Lori (DOT); Gomes, Jeffrey R. (DOT); Tong, Robert T. (DOT); Nascimento, Eric (DOT); Gonzalez, Emmanuel A. (DOT); Thompson, Noah (DOT); Susannah Theriault; DOT Teams 4314; soconnell@tpecivildesign.com; Chad Boardman; Clayton Williams
Subject: RE: Auburn\Oxford - The Reserve - Additional Traffic Information (Email 1 of 2)

Heather

I believe you mentioned new traffic counts were collected, I assume after March 2022. If so, please use these counts for all analyses. MassDOT does not accept analyses based on traffic data that were collected before March 2022, even if the older data were higher, per our current Engineering Directive. If you want to use any data pre-March 2022, you might have to submit a proposal for review and approval.

Lionel

From: Heather Monticup <hmonticup@gpinet.com>
Sent: Thursday, September 28, 2023 9:56 AM
To: Lucien, Lionel (DOT) <Lionel.Lucien@dot.state.ma.us>; Simon, William M. (DOT) <William.M.Simon@dot.state.ma.us>
Cc: Lipton, Amitai I. (DOT) <Amitai.Lipton@dot.state.ma.us>; Shattuck, Lori (DOT) <Lori.Shattuck@dot.state.ma.us>; Gomes, Jeffrey R. (DOT) <Jeffrey.R.Gomes@dot.state.ma.us>; Tong, Robert T. (DOT) <Robert.Tong@dot.state.ma.us>; Nascimento, Eric (DOT) <Eric.Nascimento@dot.state.ma.us>; Gonzalez, Emmanuel A. (DOT) <Emmanuel.A.Gonzalez@dot.state.ma.us>; Thompson, Noah (DOT) <Noah.Thompson@dot.state.ma.us>; Susannah Theriault <stheriault@gpinet.com>; DOT Teams 4314 <Teams.4314@dot.state.ma.us>; soconnell@tpecivildesign.com; Chad Boardman <cboardman@eastlandpartners.com>; Clayton Williams <cwilliams@eastlandpartners.com>
Subject: RE: Auburn\Oxford - The Reserve - Additional Traffic Information (Email 1 of 2)

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Hi Lionel - I wanted to follow-up on my email below from last week. Can you please provide feedback so we can move forward with updates? Please let me know if you have any questions or would like to discuss.

Thank you,
Heather

GPI
Heather L. Monticup, P.E.
d 978.570.2968 | c 978.870.3145
Greenman-Pedersen, Inc., *An Equal Opportunity Employer*

From: Heather Monticup
Sent: Friday, September 22, 2023 9:47 AM
To: Lucien, Lionel (DOT) <Lionel.Lucien@dot.state.ma.us>; Simon, William M. (DOT)

<William.M.Simon@dot.state.ma.us>
Cc: Lipton, Amitai I. (DOT) <Amitai.Lipton@dot.state.ma.us>; Shattuck, Lori (DOT) <Lori.Shattuck@dot.state.ma.us>; Gomes, Jeffrey R. (DOT) <Jeffrey.R.Gomes@dot.state.ma.us>; Tong, Robert T. (DOT) <Robert.Tong@dot.state.ma.us>; Nascimento, Eric (DOT) <Eric.Nascimento@dot.state.ma.us>; Gonzalez, Emmanuel A. (DOT) <Emmanuel.A.Gonzalez@dot.state.ma.us>; Thompson, Noah (DOT) <Noah.Thompson@dot.state.ma.us>; Susannah Theriault <stheriault@gpinet.com>; DOT Teams 4314 <Teams.4314@dot.state.ma.us>; soconnell@tpecivildesign.com; Chad Boardman <cboardman@eastlandpartners.com>; Clayton Williams <cwilliams@eastlandpartners.com>
Subject: RE: Auburn\Oxford - The Reserve - Additional Traffic Information (Email 1 of 2)

Hi Lionel,

Thank you for the information so that we can move forward. Everything appears to make sense, but I'd like more clarification on #2. With the adjustments used, we note the following in our Traffic Impact and Access Study (TIAS) under the No-Build Traffic Volumes: *It should be noted that 2022 traffic volumes are either back to 2019 conditions or still lower than 2019 conditions, and therefore, by providing eight years of compounded annual growth to the 2019 volumes, the 2027 conditions are representative of 2030 conditions due to the lack of growth during the COVID-19 pandemic.*

Based on this, do you agree that we can call the 2027 No-Build traffic volumes that were presented in the TIAS 2030 conditions…or even 2029 as you have requested below? We would then calculate the new Build volumes based on the updated trip generation you have requested.

Please let us know if you have any questions or need anything else.

Thank you,
Heather

GPI
Heather L. Monticup, P.E.
d 978.570.2968 | c 978.870.3145
Greenman-Pedersen, Inc., *An Equal Opportunity Employer*

From: Lucien, Lionel (DOT) <Lionel.Lucien@dot.state.ma.us>
Sent: Wednesday, September 20, 2023 3:45 PM
To: Heather Monticup <hmonticup@gpinet.com>; Simon, William M. (DOT) <William.M.Simon@dot.state.ma.us>
Cc: Lipton, Amitai I. (DOT) <Amitai.Lipton@dot.state.ma.us>; Shattuck, Lori (DOT) <Lori.Shattuck@dot.state.ma.us>; Gomes, Jeffrey R. (DOT) <Jeffrey.R.Gomes@dot.state.ma.us>; Tong, Robert T. (DOT) <Robert.Tong@dot.state.ma.us>; Nascimento, Eric (DOT) <Eric.Nascimento@dot.state.ma.us>; Gonzalez, Emmanuel A. (DOT) <Emmanuel.A.Gonzalez@dot.state.ma.us>; Thompson, Noah (DOT) <Noah.Thompson@dot.state.ma.us>; Susannah Theriault <stheriault@gpinet.com>; DOT Teams 4314 <Teams.4314@dot.state.ma.us>; soconnell@tpecivildesign.com; Chad Boardman <cboardman@eastlandpartners.com>; Clayton Williams <cwilliams@eastlandpartners.com>
Subject: RE: Auburn\Oxford - The Reserve - Additional Traffic Information (Email 1 of 2)

Heather

Sorry for the delay in responding to your letter, which included additional info to address MassDOT comments on the DEIR and conduct the FEIR transportation impact assessment (TIA) for the project. Based on consultation with the District 3 and Headquarters Traffic Section, please see the following recommendations and comments.

1. For consistency, please use the ITE Trip Generation Manual 11th edition to estimate the trip generation for the Project. Also, use the ITE Trip Generation Handbook for any internal credits between land uses. The information you provided includes comparison for trip generation between the 10th and 11th edition. We note the trip generation are slightly lower using the 11th edition.
2. Please use 2029 No Build and Build conditions for the analysis since the DEIR was submitted in 2022.

3. Since the trip generation using the 11th edition is lower than the DEIR trip generation using the 10th edition, we agree with the study area previously outlined in the DEIR, except for the Route 12/West Street we would like to see added. If you do not concur, please document that the intersection does not meet the MassDOT Guidelines criteria and there are no safety issues associated with the intersection.
4. Based on the revised trip generation and new traffic counts, please provide the necessary warrant analysis and the ICE Stage I analysis. As necessary, please address how access can be safely provided at the primary site drive pending the installation of the traffic signal.
5. With respect to the installation of the traffic signal at the primary site drive, we would need to further discuss the phasing of the project with the timing of implementation.
6. As previously mentioned, please address the Project's consistency with the Healthy Transportation Policy Directive.

Hope that helps with moving forward and feel free to reach out to schedule a meeting to discuss. Again, sorry for the delay and we look forward to working with you on this project.

Lionel

From: Heather Monticup <hmonticup@gpinet.com>
Sent: Tuesday, September 19, 2023 4:36 PM
To: Lucien, Lionel (DOT) <Lionel.Lucien@dot.state.ma.us>; Simon, William M. (DOT) <William.M.Simon@dot.state.ma.us>
Cc: Lipton, Amitai I. (DOT) <Amitai.Lipton@dot.state.ma.us>; Shattuck, Lori (DOT) <Lori.Shattuck@dot.state.ma.us>; Gomes, Jeffrey R. (DOT) <Jeffrey.R.Gomes@dot.state.ma.us>; Tong, Robert T. (DOT) <Robert.Tong@dot.state.ma.us>; Nascimento, Eric (DOT) <Eric.Nascimento@dot.state.ma.us>; Gonzalez, Emmanuel A. (DOT) <Emmanuel.A.Gonzalez@dot.state.ma.us>; Thompson, Noah (DOT) <Noah.Thompson@dot.state.ma.us>; Susannah Theriault <stheriault@gpinet.com>; DOT Teams 4314 <Teams.4314@dot.state.ma.us>; soconnell@tpecivildesign.com; Chad Boardman <cboardman@eastlandpartners.com>; Clayton Williams <cwilliams@eastlandpartners.com>
Subject: RE: Auburn\Oxford - The Reserve - Additional Traffic Information (Email 1 of 2)

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Hi Lionel – I wanted to check in again on MassDOT's review of The Reserve project. Any update on when we can expect to receive comments?

Thank you,
Heather

GPI
Heather L. Monticup, P.E.
d 978.570.2968 | c 978.870.3145
Greenman-Pedersen, Inc., *An Equal Opportunity Employer*

From: Heather Monticup
Sent: Friday, June 16, 2023 10:18 AM
To: 'Lucien, Lionel (DOT)' <lionel.lucien@state.ma.us>; 'Simon, William M. (DOT)' <william.m.simon@state.ma.us>
Cc: 'Lipton, Amitai I. (DOT)' <amitai.lipton@state.ma.us>; 'Shattuck, Lori (DOT)' <lori.shattuck@state.ma.us>; 'Gomes, Jeffrey R (DOT)' <jeffrey.r.gomes@state.ma.us>; 'Tong, Robert T. (DOT)' <robert.tong@state.ma.us>; 'Nascimento, Eric (DOT)' <eric.nascimento@state.ma.us>; 'Gonzalez, Emmanuel A (DOT)' <emmanuel.a.gonzalez@state.ma.us>; 'Thompson, Noah (DOT)' <noah.thompson@state.ma.us>; Susannah Theriault <stheriault@gpinet.com>; 'DOT Teams 4314' <Teams.4314@dot.state.ma.us>; 'soconnell@tpecivildesign.com' <soconnell@tpecivildesign.com>; 'Chad

Boardman' <cboardman@eastlandpartners.com>; 'Clayton Williams' <cwilliams@eastlandpartners.com>
Subject: RE: Auburn\Oxford - The Reserve - Additional Traffic Information (Email 1 of 2)

Hi Lionel,

Any update on MassDOT's review of The Reserve project and the additional information that was submitted? Please let me know if there is any update or when we can expect to have comments.

Thank you and have a great weekend,
Heather

Heather L. Monticup, P.E.
d 978.570.2968 | c 978.870.3145
Greenman-Pedersen, Inc., *An Equal Opportunity Employer*

From: Lucien, Lionel (DOT) <lionel.lucien@state.ma.us>
Sent: Friday, June 2, 2023 9:29 AM
To: Heather Monticup <hmonticup@gpinet.com>; Simon, William M. (DOT) <william.m.simon@state.ma.us>
Cc: Lipton, Amitai I. (DOT) <amitai.lipton@state.ma.us>; Shattuck, Lori (DOT) <lori.shattuck@state.ma.us>; Gomes, Jeffrey R (DOT) <jeffrey.r.gomes@state.ma.us>; Tong, Robert T. (DOT) <robert.tong@state.ma.us>; Nascimento, Eric (DOT) <eric.nascimento@state.ma.us>; Gonzalez, Emmanuel A (DOT) <emmanuel.a.gonzalez@state.ma.us>; Thompson, Noah (DOT) <noah.thompson@state.ma.us>; Susannah Theriault <stheriault@gpinet.com>; DOT Teams 4314 <Teams.4314@dot.state.ma.us>; soconnell@tpecivildesign.com; Chad Boardman <cboardman@eastlandpartners.com>; Clayton Williams <cwilliams@eastlandpartners.com>
Subject: Re: Auburn\Oxford - The Reserve - Additional Traffic Information (Email 1 of 2)

Heather

Let me look into it and get.back to you. Thanks

Lionel

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

From: Heather Monticup <hmonticup@gpinet.com>
Sent: Thursday, June 1, 2023 1:52:51 PM
To: Lucien, Lionel (DOT) <Lionel.Lucien@dot.state.ma.us>; Simon, William M. (DOT) <William.M.Simon@dot.state.ma.us>
Cc: Lipton, Amitai I. (DOT) <Amitai.Lipton@dot.state.ma.us>; Shattuck, Lori (DOT) <Lori.Shattuck@dot.state.ma.us>; Gomes, Jeffrey R. (DOT) <Jeffrey.R.Gomes@dot.state.ma.us>; Tong, Robert T. (DOT) <Robert.Tong@dot.state.ma.us>; Nascimento, Eric (DOT) <Eric.Nascimento@dot.state.ma.us>; Gonzalez, Emmanuel A. (DOT) <Emmanuel.A.Gonzalez@dot.state.ma.us>; Thompson, Noah (DOT) <Noah.Thompson@dot.state.ma.us>; Susannah Theriault <stheriault@gpinet.com>; DOT Teams 4314 <Teams.4314@dot.state.ma.us>; soconnell@tpecivildesign.com <soconnell@tpecivildesign.com>; Chad Boardman <cboardman@eastlandpartners.com>; Clayton Williams <cwilliams@eastlandpartners.com>
Subject: RE: Auburn\Oxford - The Reserve - Additional Traffic Information (Email 1 of 2)

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Hi Lionel,

I wanted to follow-up on MassDOT's review of The Reserve project and the additional information that was submitted. Please let me know if there is any update or when we can expect to have an update.

Thank you,
Heather

Heather L. Monticup, P.E.
d 978.570.2968 | c 978.870.3145
Greenman-Pedersen, Inc., *An Equal Opportunity Employer*

From: Lucien, Lionel (DOT) <lionel.lucien@state.ma.us>
Sent: Thursday, May 4, 2023 10:55 AM
To: Heather Monticup <hmonticup@gpinet.com>; Wiemann, Curtis B. (DOT) <curtis.b.wiemann@state.ma.us>; Simon, William M (DOT) <william.m.simon@state.ma.us>
Cc: Lipton, Amitai I. (DOT) <amitai.lipton@state.ma.us>; Shattuck, Lori (DOT) <lori.shattuck@state.ma.us>; Gomes, Jeffrey R (DOT) <jeffrey.r.gomes@state.ma.us>; Tong, Robert T. (DOT) <robert.tong@state.ma.us>; Nascimento, Eric (DOT) <eric.nascimento@state.ma.us>; Gonzalez, Emmanuel A (DOT) <emmanuel.a.gonzalez@state.ma.us>; Thompson, Noah (DOT) <noah.thompson@state.ma.us>; Susannah Theriault <stheriault@gpinet.com>; DOT Teams 4314 <Teams.4314@dot.state.ma.us>; soconnell@tpecivildesign.com; Chad Boardman <cboardman@eastlandpartners.com>; Clayton Williams <cwilliams@eastlandpartners.com>
Subject: RE: Auburn\Oxford - The Reserve - Additional Traffic Information (Email 1 of 2)

Thanks Heather, we will review and get back to you. Please note that Curtis is no longer with PPDU and has moved to District 2.

Lionel

From: Heather Monticup <hmonticup@gpinet.com>
Sent: Thursday, May 4, 2023 10:12 AM
To: Lucien, Lionel (DOT) <Lionel.Lucien@dot.state.ma.us>; Wiemann, Curtis B. (DOT) <Curtis.B.Wiemann@dot.state.ma.us>
Cc: Lipton, Amitai I. (DOT) <Amitai.Lipton@dot.state.ma.us>; Shattuck, Lori (DOT) <Lori.Shattuck@dot.state.ma.us>; Gomes, Jeffrey R. (DOT) <Jeffrey.R.Gomes@dot.state.ma.us>; Tong, Robert T. (DOT) <Robert.Tong@dot.state.ma.us>; Nascimento, Eric (DOT) <Eric.Nascimento@dot.state.ma.us>; Gonzalez, Emmanuel A. (DOT) <Emmanuel.A.Gonzalez@dot.state.ma.us>; Thompson, Noah (DOT) <Noah.Thompson@dot.state.ma.us>; Susannah Theriault <stheriault@gpinet.com>; DOT Teams 4314 <Teams.4314@dot.state.ma.us>; soconnell@tpecivildesign.com; Chad Boardman <cboardman@eastlandpartners.com>; Clayton Williams <cwilliams@eastlandpartners.com>
Subject: Auburn\Oxford - The Reserve - Additional Traffic Information (Email 1 of 2)

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Hi Lionel and Curtis,

Per our meeting on December 12, 2023, we are submitting the attached letter and supplemental information to address some of the MassDOT comments on the Draft EIR for The Reserve project in Oxford and Auburn, MA (EEA # 15912). We

are looking for some direction from MassDOT in order to move forward with the Final EIR. Please let me know if you have any questions or need us to schedule a follow-up Teams Meeting to discuss anything.

Due to the size of the traffic study, it will be sent in a separate email.

Thank you,
Heather

Heather L. Monticup, P.E.
Vice President / Director of Land Development
44 Stiles Road, Salem, NH 03079
d 978.570.2968 | c 978.870.3145
hmonticup@gpinet.com | www.gpinet.com

GPI Engineering | Design | Planning | Construction Management

Greenman-Pedersen, Inc.
An Equal Opportunity Employer

-----Original Appointment-----
From: Lucien, Lionel (DOT) <Lionel.Lucien@dot.state.ma.us>
Sent: Tuesday, December 6, 2022 10:30 AM
To: Lucien, Lionel (DOT); Lipton, Amitai I. (DOT); Shattuck, Lori (DOT); Gomes, Jeffrey R. (DOT); Wiemann, Curtis B. (DOT); Tong, Robert T. (DOT); Nascimento, Eric (DOT); Gonzalez, Emmanuel A. (DOT); Thompson, Noah (DOT); Heather Monticup; Susannah Theriault; soconnell@tpecivildesign.com; DOT Teams 4314
Subject: Auburn\Oxford - The Reserve
When: Monday, December 12, 2022 1:00 PM-2:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where:

To discuss DEIR comments on the Reserve project in Auburn and Oxford.

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Heather Monticup

From: Heather Monticup
Sent: Tuesday, November 5, 2024 10:36 AM
To: Simon, William M. (DOT)
Cc: Lucien, Lionel (DOT); Susannah Theriault
Subject: RE: EEA #15912 - The Reserve

Thank you for the clarification, Willie!

GPI
Heather L. Monticup, P.E.
d 978.570.2968 | c 978.870.3145
Greenman-Pedersen, Inc., *An Equal Opportunity Employer*

From: Simon, William M. (DOT) <William.M.Simon@dot.state.ma.us>
Sent: Tuesday, November 5, 2024 10:19 AM
To: Heather Monticup <hmonticup@gpinet.com>
Cc: Lucien, Lionel (DOT) <Lionel.Lucien@dot.state.ma.us>; Susannah Theriault <stheriault@gpinet.com>
Subject: RE: EEA #15912 - The Reserve

Hi Heather,

I hope this message finds you well.

I concur with your responses other than further clarification regarding the following.

Phase 1 Site-Generated Volume Diagrams:

- Clarify which development portions are included in Phase 1 analysis. We would like some more clarification on this. The *Project Phasing* section of the traffic study noted what was included in Phase I. It was also noted on the summary sheet of the Traffic Control Signal Warrant Analyses summary sheets for Phase I and Phase II. We understand that we need to provide the details to back up each of the Signal Warrant Analyses. Is that all you are looking for, or do you also need to see Site-Generated and Build Networks for Phase I and Phase II at the site driveway intersection with Route 20?

For the Phase 1 Site-Generated Volume Diagrams, we would appreciate seeing both the Site-Generated and Build Networks for Phase I, as well as the full build-out. The development program and associated trip generation must remain consistent across the different phases.

Thanks,
William Simon
Transportation Planner II
Office of Transportation Planning
William.M.Simon@dot.state.ma.us
10 Park Plaza Room, 4150 Boston, MA 02116
massDOT
Massachusetts Department of Transportation

From: Heather Monticup <hmonticup@gpinet.com>
Sent: Thursday, October 31, 2024 3:53 PM
To: Simon, William M. (DOT) <William.M.Simon@dot.state.ma.us>
Cc: Lucien, Lionel (DOT) <Lionel.Lucien@dot.state.ma.us>; Susannah Theriault <stheriault@gpinet.com>
Subject: RE: EEA #15912 - The Reserve

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Hi Willie,

Thank you again for sending along these comments. We have reviewed the initial comments that MassDOT has on the traffic study for The Reserve project. Please see our questions/comments/responses below in red. We would appreciate some direction on the items with questions (Phase 1 Site-Generated Volume Diagrams and Route 20 and Route 12 Main St Synchro Analysis) and concurrence on everything else as we move forward with updating the traffic study. Please let me know if you need anything else or would like to discuss further.

Thank you,
Heather

GPI
Heather L. Monticup, P.E.
d 978.570.2968 | c 978.870.3145
Greenman-Pedersen, Inc., *An Equal Opportunity Employer*

From: Simon, William M. (DOT) <William.M.Simon@dot.state.ma.us>
Sent: Monday, October 28, 2024 12:47 PM
To: Heather Monticup <hmonticup@gpinet.com>
Cc: Lucien, Lionel (DOT) <Lionel.Lucien@dot.state.ma.us>
Subject: EEA #15912 - The Reserve

Hi Heather,

Please see comments below:

Seasonal Adjustment Factors:

- Use the most recent seasonal adjustment factors for 2022 and 2023 that are available on the MassDOT website. We will update with this information.

Phase 1 Site-Generated Volume Diagrams:

- Clarify which development portions are included in Phase 1 analysis. We would like some more clarification on this. The *Project Phasing* section of the traffic study noted what was included in Phase I. It was also noted on the summary sheet of the Traffic Control Signal Warrant Analyses summary sheets for Phase I and Phase II. We understand that we need to provide the details to back up each of the Signal Warrant Analyses. Is that all you are looking for, or do you also need to see Site-Generated and Build Networks for Phase I and Phase II at the site driveway intersection with Route 20?
- Include site access evaluation for Ashworth Hills with right in/out only access; focus on trips destined to/from the east on Route 20. For the Phase I analysis we provided analysis for right-in/right-out

only access as well as showing the u-turns at the traffic signals west and east of the site driveway. Are you looking for something else? We can clarify this more in the updated traffic study, but please provide additional clarification if you are looking for something in addition.

Route 20 and Route 12 Main St Synchro Analysis:

- Recommend incorporating 2030 No-Build volumes into the Build mitigated Synchro analysis for comparison. We can add this comparison in a Supplemental Analysis section of the updated traffic study.
- Confirm whether full Build volume analysis was conducted without the proposed signal and its necessity under full Build conditions. We will update the Build condition to show the main site driveway on Route 20 to be right-in/right-out only for full build without a traffic signal. The analysis results with the traffic signal at the main site driveway will be moved into the *Mitigation* section of the traffic study.
- Clarify whether Phase 1 analysis assumes the same site-generated traffic as the Build analysis. The Phase I analysis has a reduced Build program so it is not the same site-generated traffic as the Build analysis. Again, we will be providing all the back-up calcs for the Signal Warrant Analysis which will better show the traffic volumes used for the Phase I analysis. Is there anything else you are looking for here?

Existing Conditions and Traffic Counts:

- Document currently reflects 2019 conditions; clarification is needed as other sections indicate 2023 as existing and 2030 for No-Build and Build. New traffic counts were conducted so the document reflects 2022/2023 Existing conditions. There only refence in the traffic study to 2019 was in the second sentence of the *Analysis* section. That was inadvertently not updated from the Draft EIR to the Final EIR. Sorry for any confusion. All traffic counts were done in 2022 or 2023 as shown in the *Traffic Volumes* section of the traffic study.
- Saturday volumes on Route 20 are adjusted based on pre-pandemic conditions; adjustments should align with MassDOT guidelines post-March 2022. Since counts were done after March 2022, no COVID adjustment will be applied.

Trip Generation Concerns:

- Ashworth Hills trip generation appears low; LUC 215 (Single-Family Attached Housing) may be more suitable. We will update Ashworth Hills to LUC 215. This Land Use Code was overlooked when the calculations were updated from Trip-Gen Manual 10th edition to Trip-Gen Manual 11th edition during MassDOT's review of our trip generation methodology.
- Similarly, LUC 215 is recommended for the Auburn Condominiums. We will update the Auburn Condos to LUC 215.
- LUC 712 (Small Office Building) is recommended for applicable office buildings (10,000 sf or less) in Ashworth Commons. We will update the trip generation for the one proposed office building that is proposed to be 10,000 SF to LUC 712.

Traffic Analysis Compliance:

- Pass-by trips must not exceed 15% of adjacent street traffic volume; weekday morning peak hour pass-by trips are at 17%. One pass-by vehicle makes two trips to the site (one entering and one exiting). Accordingly, 15% of the adjacent street traffic during the weekday AM peak hour is 264 (1755 * 0.15). This means that the total pass-by trips cannot exceed 528 trips (264*2). Based on the current trip generation calculations, we only have 150 entering and exiting for a total of 300 pass-by trips during the weekday AM peak hour which does not exceed the 15% of the adjacent street traffic.
- Approval of a traffic signal at the site driveway is contingent on meeting MUTCD requirements; Warrant 1 must be satisfied for signals on State Highways. Understood, we will run the appropriate traffic signal warrant analyses.

Phased Development and Mitigation Implementation:

- Include in the TIA and the Section 61 Finding a clear description of the development phasing aligned with associated traffic analysis and as needed a commensurate level of mitigation for each phase. Comment acknowledged.

William Simon
Transportation Planner II
Office of Transportation Planning
William.M.Simon@dot.state.ma.us
10 Park Plaza Room, 4150 Boston, MA 02116



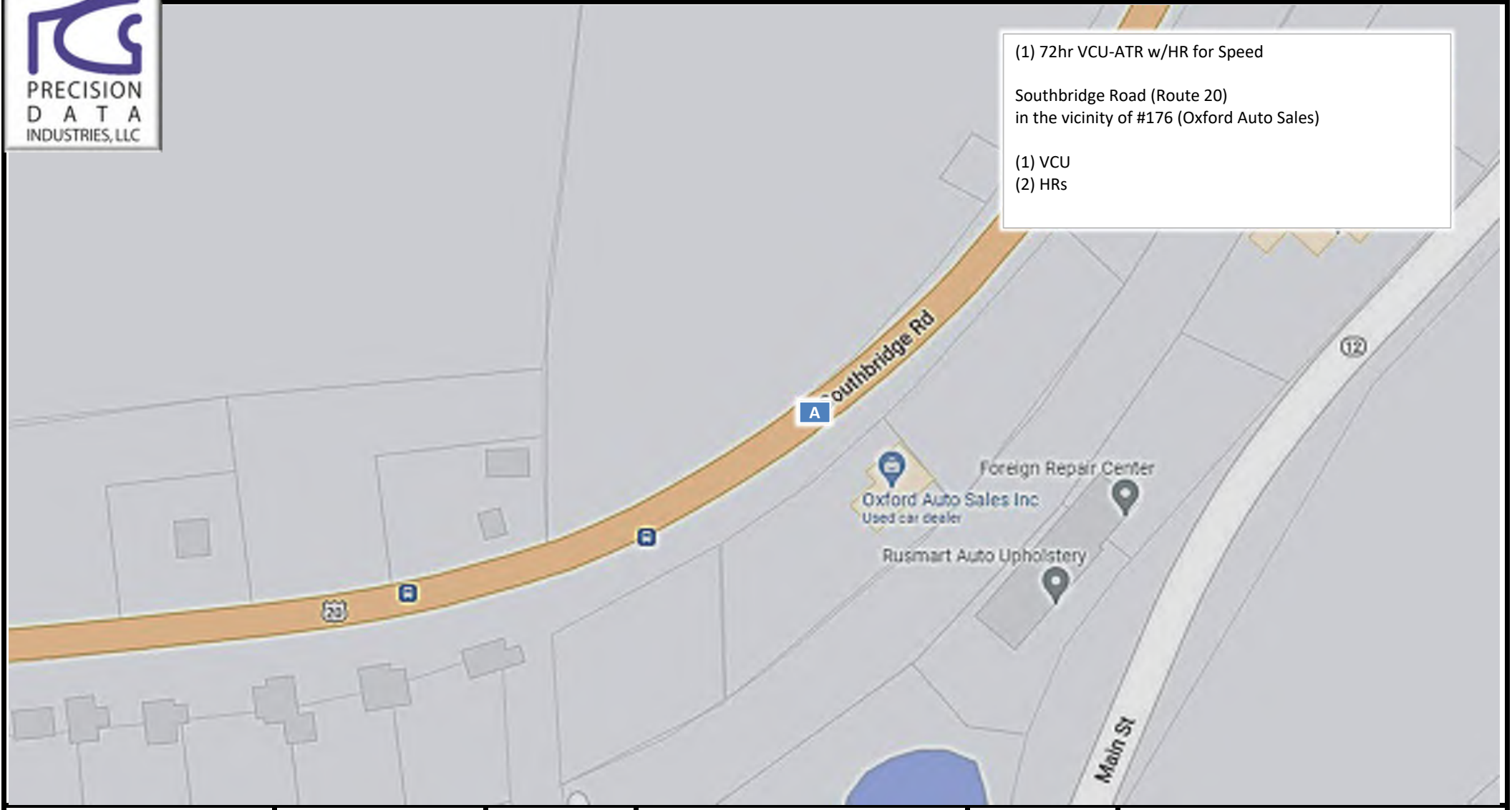
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TRAFFIC COUNT DATA

Location Map: 229066 Oxford, MA

Precision Data Industries, LLC 157 Washington Street, Hudson, MA 01749 ph: 508-875-0100 email: datarequests@pdillc.com



Client:	Engineer:	Site Code:	Date:	PDI Job #	City, State:
GPI	S. Theriault	NEX-2020145.00	Thursday 1/19/23-Saturday 1/21/23	229066	Oxford, MA

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A

Count Date: Thursday, January 19, 2023
Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	10	0	0	0	10
12:15 AM	0	0	15	0	1	3	19
12:30 AM	0	0	10	0	0	3	13
12:45 AM	0	0	8	0	0	1	9
1:00 AM	0	0	9	0	0	1	10
1:15 AM	0	0	7	0	0	0	7
1:30 AM	0	0	3	0	0	0	3
1:45 AM	0	0	10	0	0	3	13
2:00 AM	0	0	22	0	3	2	27
2:15 AM	0	0	18	0	0	2	20
2:30 AM	0	0	16	0	0	0	16
2:45 AM	0	0	11	0	1	1	13
3:00 AM	0	0	13	0	0	2	15
3:15 AM	0	0	17	0	0	1	18
3:30 AM	0	0	9	0	0	1	10
3:45 AM	0	0	24	0	1	1	26
4:00 AM	0	0	28	0	1	2	31
4:15 AM	0	0	52	0	0	3	55
4:30 AM	0	0	82	0	2	1	85
4:45 AM	0	0	77	0	1	4	82
5:00 AM	0	0	114	0	1	2	117
5:15 AM	0	0	154	0	4	2	160
5:30 AM	0	0	174	0	5	5	184
5:45 AM	0	0	195	0	3	3	201
6:00 AM	0	0	189	1	5	8	203
6:15 AM	0	0	241	1	4	5	251
6:30 AM	1	0	269	0	6	5	281
6:45 AM	0	0	257	1	9	1	268
7:00 AM	0	0	268	2	11	7	288
7:15 AM	0	0	321	0	3	5	329
7:30 AM	0	0	288	1	9	4	302
7:45 AM	0	0	324	1	13	7	345
8:00 AM	0	0	355	0	16	8	379
8:15 AM	0	0	330	1	11	13	355
8:30 AM	0	0	345	1	17	19	382
8:45 AM	0	0	315	1	18	34	368
9:00 AM	0	0	300	1	14	22	337
9:15 AM	0	0	271	1	10	38	320
9:30 AM	0	0	240	1	15	39	295
9:45 AM	0	0	244	0	7	43	294
10:00 AM	0	0	257	1	12	40	310
10:15 AM	0	0	253	0	17	42	312
10:30 AM	0	0	252	0	16	33	301
10:45 AM	0	0	277	1	15	29	322
11:00 AM	0	0	282	1	15	28	326
11:15 AM	0	0	247	1	17	40	305
11:30 AM	0	0	264	0	24	31	319
11:45 AM	0	0	252	0	21	37	310
AM Total	**1**	**0**	**7719**	**17**	**328**	**581**	**8646**
Percentage	**0.01%**	**0.00%**	**89.28%**	**0.20%**	**3.79%**	**6.72%**	
AM Peak	**5:45 AM**	**12:00 AM**	**7:45 AM**	**6:15 AM**	**11:00 AM**	**9:30 AM**	**8:00 AM**
Volume	**1**	**0**	**1354**	**4**	**77**	**164**	**1484**

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	217	0	6	32	255
12:15 PM	0	0	180	2	6	11	199
12:30 PM	0	0	143	1	8	4	156
12:45 PM	0	0	136	0	5	2	143
1:00 PM	0	0	141	1	9	9	160
1:15 PM	0	0	159	0	10	8	177
1:30 PM	0	0	164	0	9	3	176
1:45 PM	0	0	191	0	10	5	206
2:00 PM	0	0	136	1	10	5	152
2:15 PM	0	0	185	2	8	4	199
2:30 PM	0	0	181	2	8	4	195
2:45 PM	0	0	204	1	5	2	212
3:00 PM	0	0	167	2	4	3	176
3:15 PM	0	0	170	0	4	3	177
3:30 PM	0	0	175	1	8	1	185
3:45 PM	0	0	190	1	5	4	200
4:00 PM	0	0	129	2	4	0	135
4:15 PM	0	0	183	1	3	6	193
4:30 PM	0	0	171	0	2	2	175
4:45 PM	0	0	166	0	1	2	169
5:00 PM	0	0	171	1	0	3	175
5:15 PM	0	0	186	0	2	0	188
5:30 PM	0	0	135	0	3	1	139
5:45 PM	0	0	117	0	2	0	119
6:00 PM	0	0	106	0	2	1	109
6:15 PM	0	0	109	0	4	4	117
6:30 PM	0	0	121	1	2	4	128
6:45 PM	0	0	48	0	3	2	53
7:00 PM	0	0	46	0	3	2	51
7:15 PM	0	0	53	0	3	1	57
7:30 PM	0	0	52	0	1	0	53
7:45 PM	0	0	43	0	0	1	44
8:00 PM	0	0	34	0	0	1	35
8:15 PM	0	0	68	0	0	1	69
8:30 PM	0	0	48	0	1	0	49
8:45 PM	0	0	51	0	0	2	53
9:00 PM	0	0	58	0	0	0	58
9:15 PM	0	0	64	0	2	0	66
9:30 PM	0	0	38	0	0	0	38
9:45 PM	0	0	43	0	1	1	45
10:00 PM	0	0	49	0	0	2	51
10:15 PM	0	0	45	0	0	0	45
10:30 PM	0	0	34	0	0	1	35
10:45 PM	0	0	26	0	0	2	28
11:00 PM	0	0	23	0	0	0	23
11:15 PM	0	0	31	0	1	1	33
11:30 PM	0	0	14	0	0	1	15
11:45 PM	0	0	13	0	1	0	14
PM Total	**0**	**0**	**5214**	**19**	**156**	**141**	**5530**
Percentage	**0.00%**	**0.00%**	**94.29%**	**0.34%**	**2.82%**	**2.55%**	
PM Peak	**12:00 PM**	**12:00 PM**	**2:15 PM**	**2:15 PM**	**1:15 PM**	**12:00 PM**	**2:15 PM**
Volume	**0**	**0**	**737**	**7**	**39**	**49**	**782**
Day Total	**1**	**0**	**12933**	**36**	**484**	**722**	**14176**
Percentage	**0.01%**	**0.00%**	**91.23%**	**0.25%**	**3.41%**	**5.09%**	

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A

Count Date: Friday, January 20, 2023
Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	21	0	2	5	28
12:15 AM	0	0	24	0	0	1	25
12:30 AM	0	0	16	0	0	2	18
12:45 AM	0	0	15	0	0	0	15
1:00 AM	0	0	12	0	1	1	14
1:15 AM	0	0	14	0	3	0	17
1:30 AM	0	0	13	0	0	0	13
1:45 AM	0	0	15	0	0	1	16
2:00 AM	0	0	23	0	0	0	23
2:15 AM	0	0	19	0	1	2	22
2:30 AM	0	0	12	0	2	1	15
2:45 AM	0	0	9	0	1	0	10
3:00 AM	0	0	16	0	1	4	21
3:15 AM	0	0	19	0	0	2	21
3:30 AM	0	0	12	0	0	3	15
3:45 AM	0	0	23	0	1	2	26
4:00 AM	0	0	37	0	2	0	39
4:15 AM	0	0	41	0	0	0	41
4:30 AM	0	0	59	0	3	3	65
4:45 AM	0	0	68	0	3	2	73
5:00 AM	0	0	79	0	3	3	85
5:15 AM	0	0	118	0	2	3	123
5:30 AM	0	0	176	0	2	6	184
5:45 AM	0	0	174	0	3	5	182
6:00 AM	0	0	143	0	1	3	147
6:15 AM	0	0	208	0	1	1	210
6:30 AM	0	0	229	0	7	2	238
6:45 AM	0	0	256	1	4	5	266
7:00 AM	0	0	260	2	10	3	275
7:15 AM	0	0	268	0	6	2	276
7:30 AM	0	0	284	1	6	3	294
7:45 AM	0	0	245	0	8	4	257
8:00 AM	0	0	220	0	8	2	230
8:15 AM	0	0	233	2	11	7	253
8:30 AM	0	0	187	2	7	5	201
8:45 AM	0	0	204	0	4	4	212
9:00 AM	0	0	203	1	9	2	215
9:15 AM	0	0	186	1	7	2	196
9:30 AM	0	0	161	0	6	3	170
9:45 AM	0	0	164	2	7	4	177
10:00 AM	0	0	154	0	7	6	167
10:15 AM	0	0	132	0	5	6	143
10:30 AM	0	0	139	0	6	4	149
10:45 AM	0	0	140	1	3	3	147
11:00 AM	0	0	142	0	4	2	148
11:15 AM	0	0	121	0	7	6	134
11:30 AM	0	0	141	0	8	6	155
11:45 AM	0	0	142	0	7	5	154
AM Total	**0**	**0**	**5577**	**13**	**179**	**136**	**5905**
Percentage	**0.00%**	**0.00%**	**94.45%**	**0.22%**	**3.03%**	**2.30%**	
AM Peak	**12:00 AM**	**12:00 AM**	**6:45 AM**	**8:15 AM**	**7:45 AM**	**9:45 AM**	**6:45 AM**
Volume	**0**	**0**	**1068**	**5**	**34**	**20**	**1111**

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	145	0	5	5	155
12:15 PM	0	0	132	0	6	6	144
12:30 PM	0	0	151	0	7	1	159
12:45 PM	0	0	160	1	9	8	178
1:00 PM	0	0	155	0	2	5	162
1:15 PM	0	0	153	0	8	1	162
1:30 PM	0	0	143	0	6	2	151
1:45 PM	0	0	158	0	8	4	170
2:00 PM	0	0	142	1	2	2	147
2:15 PM	0	0	151	0	4	2	157
2:30 PM	0	1	162	1	5	1	170
2:45 PM	0	0	181	2	4	1	188
3:00 PM	0	0	171	2	5	1	179
3:15 PM	0	0	239	0	5	7	251
3:30 PM	0	0	202	0	4	2	208
3:45 PM	0	0	235	1	4	0	240
4:00 PM	0	0	243	0	3	5	251
4:15 PM	0	0	227	2	7	4	240
4:30 PM	0	0	258	0	1	4	263
4:45 PM	0	0	224	0	1	0	225
5:00 PM	0	0	205	0	1	2	208
5:15 PM	0	0	241	1	4	1	247
5:30 PM	0	0	212	1	2	1	216
5:45 PM	0	0	147	0	2	0	149
6:00 PM	0	0	125	0	2	3	130
6:15 PM	0	0	127	0	3	2	132
6:30 PM	0	2	106	0	2	3	113
6:45 PM	0	0	91	0	1	0	92
7:00 PM	0	0	82	1	3	1	87
7:15 PM	0	0	80	0	2	0	82
7:30 PM	0	0	89	0	1	0	90
7:45 PM	0	0	60	0	1	0	61
8:00 PM	0	0	56	0	1	1	58
8:15 PM	0	0	50	0	0	0	50
8:30 PM	0	0	39	0	0	1	40
8:45 PM	0	0	35	0	1	2	38
9:00 PM	0	0	42	0	1	1	44
9:15 PM	0	0	42	0	0	0	42
9:30 PM	0	0	40	0	0	1	41
9:45 PM	0	0	42	0	0	0	42
10:00 PM	0	0	44	0	0	1	45
10:15 PM	0	0	33	0	0	3	36
10:30 PM	0	0	47	0	0	0	47
10:45 PM	0	0	35	0	0	0	35
11:00 PM	0	0	22	0	2	1	25
11:15 PM	0	0	20	0	0	1	21
11:30 PM	0	0	19	0	0	1	20
11:45 PM	0	0	24	0	2	0	26
PM Total	**0**	**3**	**5787**	**13**	**127**	**87**	**6017**
Percentage	**0.00%**	**0.05%**	**96.18%**	**0.22%**	**2.11%**	**1.45%**	
PM Peak	**12:00 PM**	**5:45 PM**	**3:45 PM**	**2:15 PM**	**12:00 PM**	**12:00 PM**	**3:45 PM**
Volume	**0**	**2**	**963**	**5**	**27**	**20**	**994**
Day Total	**0**	**3**	**11364**	**26**	**306**	**223**	**11922**
Percentage	**0.00%**	**0.03%**	**95.32%**	**0.22%**	**2.57%**	**1.87%**	

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A

Count Date: Saturday, January 21, 2023
Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	24	0	0	0	24
12:15 AM	0	0	15	0	0	0	15
12:30 AM	0	0	14	0	1	2	17
12:45 AM	0	0	16	0	0	0	16
1:00 AM	0	0	13	0	0	0	13
1:15 AM	0	0	8	0	0	1	9
1:30 AM	0	0	10	0	0	1	11
1:45 AM	0	0	7	0	0	1	8
2:00 AM	0	0	11	0	0	0	11
2:15 AM	0	0	12	0	0	0	12
2:30 AM	0	0	11	0	0	1	12
2:45 AM	0	0	13	0	2	0	15
3:00 AM	0	0	10	0	3	2	15
3:15 AM	0	0	2	0	0	1	3
3:30 AM	0	0	12	0	0	1	13
3:45 AM	0	0	11	0	1	0	12
4:00 AM	0	0	15	0	0	1	16
4:15 AM	0	0	20	0	0	1	21
4:30 AM	0	0	25	0	0	1	26
4:45 AM	0	0	31	0	4	0	35
5:00 AM	0	0	31	0	1	0	32
5:15 AM	0	0	36	0	0	3	39
5:30 AM	0	0	35	0	1	3	39
5:45 AM	0	0	38	0	1	2	41
6:00 AM	0	0	55	0	1	1	57
6:15 AM	0	0	80	0	1	0	81
6:30 AM	0	0	58	0	3	1	62
6:45 AM	0	0	69	0	2	1	72
7:00 AM	0	0	69	0	1	3	73
7:15 AM	0	0	84	0	0	0	84
7:30 AM	0	0	94	0	3	0	97
7:45 AM	0	0	126	0	0	0	126
8:00 AM	0	0	123	0	4	1	128
8:15 AM	0	0	141	0	2	2	145
8:30 AM	0	0	181	0	2	1	184
8:45 AM	0	0	151	0	1	0	152
9:00 AM	0	0	125	0	2	0	127
9:15 AM	0	0	165	1	3	3	172
9:30 AM	0	0	175	0	2	0	177
9:45 AM	0	0	167	1	4	3	175
10:00 AM	0	0	150	0	1	1	152
10:15 AM	0	0	200	0	4	4	208
10:30 AM	0	0	192	0	2	0	194
10:45 AM	0	0	203	0	2	1	206
11:00 AM	0	0	213	1	2	2	218
11:15 AM	0	0	285	1	0	0	286
11:30 AM	0	0	340	0	5	4	349
11:45 AM	0	0	320	1	2	2	325
AM Total	**0**	**0**	**4186**	**5**	**63**	**51**	**4305**
Percentage	**0.00%**	**0.00%**	**97.24%**	**0.12%**	**1.46%**	**1.18%**	
AM Peak	**12:00 AM**	**12:00 AM**	**11:00 AM**	**11:00 AM**	**9:00 AM**	**5:15 AM**	**11:00 AM**
Volume	**0**	**0**	**1158**	**3**	**11**	**9**	**1178**

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	299	0	1	0	300
12:15 PM	0	0	313	0	2	1	316
12:30 PM	0	0	340	0	2	2	344
12:45 PM	0	0	292	0	5	3	300
1:00 PM	0	0	290	0	1	4	295
1:15 PM	0	0	276	1	2	1	280
1:30 PM	0	0	281	0	5	3	289
1:45 PM	0	0	256	0	4	3	263
2:00 PM	0	0	283	0	2	1	286
2:15 PM	0	0	300	0	3	1	304
2:30 PM	0	0	230	0	1	1	232
2:45 PM	0	0	163	0	2	0	165
3:00 PM	0	0	161	0	1	1	163
3:15 PM	0	0	208	1	3	0	212
3:30 PM	0	0	186	0	2	0	188
3:45 PM	0	1	177	0	1	1	180
4:00 PM	0	0	173	0	3	0	176
4:15 PM	0	0	192	0	4	1	197
4:30 PM	0	0	164	0	1	2	167
4:45 PM	0	0	167	0	0	1	168
5:00 PM	0	0	164	0	2	0	166
5:15 PM	0	0	166	0	0	0	166
5:30 PM	0	0	139	0	2	0	141
5:45 PM	0	0	124	0	2	0	126
6:00 PM	0	0	145	0	0	0	145
6:15 PM	0	0	146	0	1	2	149
6:30 PM	0	0	94	0	1	0	95
6:45 PM	0	0	92	0	0	1	93
7:00 PM	0	0	89	0	1	0	90
7:15 PM	0	0	81	1	1	0	83
7:30 PM	0	0	60	0	1	0	61
7:45 PM	0	0	76	0	0	0	76
8:00 PM	0	0	72	0	0	0	72
8:15 PM	0	0	41	0	0	0	41
8:30 PM	0	0	52	0	0	0	52
8:45 PM	0	0	57	0	0	1	58
9:00 PM	0	0	51	0	1	0	52
9:15 PM	0	0	39	0	0	0	39
9:30 PM	0	0	39	0	1	0	40
9:45 PM	0	0	40	0	0	0	40
10:00 PM	0	0	45	0	0	1	46
10:15 PM	0	0	37	0	0	1	38
10:30 PM	0	0	41	0	0	0	41
10:45 PM	0	0	40	0	0	0	40
11:00 PM	0	0	26	0	0	1	27
11:15 PM	0	0	30	0	0	0	30
11:30 PM	0	0	30	0	0	1	31
11:45 PM	0	0	15	0	0	1	16
PM Total	**0**	**1**	**6782**	**3**	**58**	**35**	**6879**
Percentage	**0.00%**	**0.01%**	**98.59%**	**0.04%**	**0.84%**	**0.51%**	
PM Peak	**12:00 PM**	**3:00 PM**	**12:00 PM**	**12:30 PM**	**1:30 PM**	**12:45 PM**	**12:00 PM**
Volume	**0**	**1**	**1244**	**1**	**14**	**11**	**1260**
Day Total	**0**	**1**	**10968**	**8**	**121**	**86**	**11184**
Percentage	**0.00%**	**0.01%**	**98.07%**	**0.07%**	**1.08%**	**0.77%**	

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A

Count Date: Thursday, January 19, 2023
Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	26	0	0	0	26
12:15 AM	0	0	16	0	0	1	17
12:30 AM	0	0	12	0	0	1	13
12:45 AM	0	0	13	0	0	1	14
1:00 AM	0	0	21	0	1	3	25
1:15 AM	0	0	14	0	0	2	16
1:30 AM	0	0	7	0	0	0	7
1:45 AM	0	0	7	0	0	1	8
2:00 AM	0	0	8	0	1	1	10
2:15 AM	0	0	8	0	0	0	8
2:30 AM	0	0	7	0	1	0	8
2:45 AM	0	0	10	0	1	1	12
3:00 AM	0	0	6	0	0	1	7
3:15 AM	0	0	4	0	0	2	6
3:30 AM	0	0	5	0	2	1	8
3:45 AM	0	0	6	0	1	2	9
4:00 AM	0	0	6	1	1	1	9
4:15 AM	0	0	12	0	0	1	13
4:30 AM	0	0	21	0	0	1	22
4:45 AM	0	0	31	0	3	2	36
5:00 AM	0	0	26	0	2	0	28
5:15 AM	0	0	35	0	1	1	37
5:30 AM	0	0	67	0	3	2	72
5:45 AM	0	0	74	0	4	1	79
6:00 AM	0	0	80	3	1	6	90
6:15 AM	0	0	74	2	4	1	81
6:30 AM	0	0	98	0	6	6	110
6:45 AM	0	0	93	0	6	3	102
7:00 AM	0	0	127	2	9	4	142
7:15 AM	0	0	155	0	10	7	172
7:30 AM	0	0	139	0	6	4	149
7:45 AM	0	0	147	0	5	2	154
8:00 AM	0	0	106	3	7	6	122
8:15 AM	0	0	110	1	8	4	123
8:30 AM	0	0	126	1	7	3	137
8:45 AM	0	0	111	0	5	7	123
9:00 AM	0	0	92	0	10	4	106
9:15 AM	0	0	103	0	9	7	119
9:30 AM	0	0	136	0	14	7	157
9:45 AM	0	0	101	1	19	7	128
10:00 AM	0	0	97	2	12	7	118
10:15 AM	0	0	114	0	10	4	128
10:30 AM	0	0	141	0	2	3	146
10:45 AM	0	0	137	1	13	5	156
11:00 AM	0	0	127	1	11	5	144
11:15 AM	0	0	134	0	13	12	159
11:30 AM	0	0	142	0	9	13	164
11:45 AM	0	0	162	1	7	8	178
AM Total	**0**	**0**	**3294**	**19**	**224**	**161**	**3698**
Percentage	**0.00%**	**0.00%**	**89.08%**	**0.51%**	**6.06%**	**4.35%**	
AM Peak	**12:00 AM**	**12:00 AM**	**7:00 AM**	**5:30 AM**	**9:30 AM**	**11:00 AM**	**11:00 AM**
Volume	**0**	**0**	**568**	**5**	**55**	**38**	**645**

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	128	1	11	2	142
12:15 PM	0	1	182	0	13	7	203
12:30 PM	0	0	166	1	4	6	177
12:45 PM	0	0	161	0	13	7	181
1:00 PM	0	0	174	1	6	4	185
1:15 PM	0	0	189	0	7	5	201
1:30 PM	0	0	182	0	16	7	205
1:45 PM	0	0	202	1	14	2	219
2:00 PM	0	0	183	2	16	6	207
2:15 PM	0	0	249	0	7	6	262
2:30 PM	0	0	239	1	10	3	253
2:45 PM	0	0	234	2	6	4	246
3:00 PM	0	0	302	1	12	3	318
3:15 PM	0	0	282	0	6	6	294
3:30 PM	0	0	298	1	9	6	314
3:45 PM	0	0	302	2	6	4	314
4:00 PM	0	0	321	3	5	5	334
4:15 PM	0	0	347	0	8	5	360
4:30 PM	0	0	327	0	5	6	338
4:45 PM	0	0	318	0	3	7	328
5:00 PM	0	0	317	0	3	3	323
5:15 PM	0	0	326	0	5	8	339
5:30 PM	0	0	294	0	4	1	299
5:45 PM	0	0	265	0	3	1	269
6:00 PM	0	0	236	1	3	4	244
6:15 PM	0	0	195	0	2	1	198
6:30 PM	0	0	179	0	2	2	183
6:45 PM	0	0	177	0	1	0	178
7:00 PM	0	0	130	0	2	0	132
7:15 PM	0	0	154	0	3	2	159
7:30 PM	0	0	124	0	0	2	126
7:45 PM	0	0	110	0	2	0	112
8:00 PM	0	0	108	0	1	1	110
8:15 PM	0	0	125	0	2	1	128
8:30 PM	0	0	120	0	2	2	124
8:45 PM	0	0	116	0	4	3	123
9:00 PM	0	0	99	0	1	1	101
9:15 PM	0	0	78	0	2	3	83
9:30 PM	0	0	98	0	1	0	99
9:45 PM	0	0	61	0	2	2	65
10:00 PM	0	0	61	0	0	0	61
10:15 PM	0	0	67	0	0	1	68
10:30 PM	0	0	62	0	0	2	64
10:45 PM	0	0	54	1	0	2	57
11:00 PM	0	0	46	0	0	0	46
11:15 PM	0	0	38	0	0	1	39
11:30 PM	0	0	47	0	0	0	47
11:45 PM	0	0	36	0	0	0	36
PM Total	**0**	**1**	**8509**	**18**	**222**	**144**	**8894**
Percentage	**0.00%**	**0.01%**	**95.67%**	**0.20%**	**2.50%**	**1.62%**	
PM Peak	**12:00 PM**	**12:00 PM**	**4:00 PM**	**3:15 PM**	**1:15 PM**	**12:15 PM**	**4:00 PM**
Volume	**0**	**1**	**1313**	**6**	**53**	**24**	**1360**
Day Total	**0**	**1**	**11803**	**37**	**446**	**305**	**12592**
Percentage	**0.00%**	**0.01%**	**93.73%**	**0.29%**	**3.54%**	**2.42%**	

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A

Count Date: Friday, January 20, 2023
Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	25	0	0	0	25
12:15 AM	0	0	34	0	0	1	35
12:30 AM	0	0	20	0	1	2	23
12:45 AM	0	0	24	0	0	1	25
1:00 AM	0	0	22	0	0	3	25
1:15 AM	0	0	15	0	0	0	15
1:30 AM	0	0	7	0	0	0	7
1:45 AM	0	0	12	0	0	1	13
2:00 AM	0	0	8	0	0	3	11
2:15 AM	0	0	13	0	1	0	14
2:30 AM	0	0	13	0	3	3	19
2:45 AM	0	0	18	0	1	3	22
3:00 AM	0	0	8	0	0	2	10
3:15 AM	0	0	7	0	1	2	10
3:30 AM	0	0	14	0	1	1	16
3:45 AM	0	0	14	0	2	1	17
4:00 AM	0	0	11	0	3	0	14
4:15 AM	0	0	20	0	2	1	23
4:30 AM	0	0	20	0	1	0	21
4:45 AM	0	0	24	0	2	0	26
5:00 AM	0	0	20	0	0	1	21
5:15 AM	0	0	26	0	1	2	29
5:30 AM	0	0	46	1	0	3	50
5:45 AM	0	0	50	0	2	2	54
6:00 AM	0	0	51	1	4	0	56
6:15 AM	0	0	72	1	2	1	76
6:30 AM	0	0	92	0	5	9	106
6:45 AM	0	0	84	0	3	3	90
7:00 AM	0	0	96	1	10	3	110
7:15 AM	0	0	88	0	10	5	103
7:30 AM	0	0	120	0	10	4	134
7:45 AM	0	0	119	1	9	3	132
8:00 AM	0	0	101	1	6	6	114
8:15 AM	0	0	97	3	15	2	117
8:30 AM	0	0	111	0	6	3	120
8:45 AM	0	0	114	0	11	2	127
9:00 AM	0	0	106	0	9	2	117
9:15 AM	0	0	107	0	3	2	112
9:30 AM	0	0	116	0	6	10	132
9:45 AM	0	0	111	0	13	4	128
10:00 AM	0	0	94	1	12	5	112
10:15 AM	0	0	123	0	11	9	143
10:30 AM	0	0	114	0	5	7	126
10:45 AM	0	0	131	1	12	5	149
11:00 AM	0	0	139	0	6	4	149
11:15 AM	0	0	139	0	10	1	150
11:30 AM	0	0	138	0	4	6	148
11:45 AM	0	0	108	0	11	5	124
AM Total	**0**	**0**	**3042**	**11**	**214**	**133**	**3400**
Percentage	**0.00%**	**0.00%**	**89.47%**	**0.32%**	**6.29%**	**3.91%**	
AM Peak	**12:00 AM**	**12:00 AM**	**10:45 AM**	**7:30 AM**	**9:30 AM**	**9:30 AM**	**10:45 AM**
Volume	**0**	**0**	**547**	**5**	**42**	**28**	**596**

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	128	1	13	5	147
12:15 PM	0	0	166	0	6	4	176
12:30 PM	0	0	142	0	8	5	155
12:45 PM	0	0	176	0	7	5	188
1:00 PM	0	0	167	0	6	10	183
1:15 PM	0	0	174	1	6	4	185
1:30 PM	0	0	183	0	4	10	197
1:45 PM	0	0	177	0	14	9	200
2:00 PM	0	0	223	2	6	5	236
2:15 PM	0	0	208	0	5	1	214
2:30 PM	0	0	239	0	2	4	245
2:45 PM	0	0	238	1	2	7	248
3:00 PM	0	0	263	1	6	2	272
3:15 PM	0	0	341	1	10	6	358
3:30 PM	0	0	373	2	5	5	385
3:45 PM	0	1	340	2	5	4	352
4:00 PM	0	0	340	2	7	3	352
4:15 PM	0	0	350	0	2	4	356
4:30 PM	0	0	336	0	5	4	345
4:45 PM	0	0	329	0	2	1	332
5:00 PM	0	0	303	0	4	5	312
5:15 PM	0	0	324	0	10	2	336
5:30 PM	0	0	297	0	2	1	300
5:45 PM	0	0	258	0	3	4	265
6:00 PM	0	0	199	0	4	0	203
6:15 PM	0	0	206	1	1	3	211
6:30 PM	0	0	182	0	1	2	185
6:45 PM	0	0	170	0	0	2	172
7:00 PM	0	0	146	0	0	2	148
7:15 PM	0	0	127	0	0	0	127
7:30 PM	0	0	137	0	0	2	139
7:45 PM	0	0	133	0	0	0	133
8:00 PM	0	0	140	0	1	3	144
8:15 PM	0	0	98	0	0	3	101
8:30 PM	0	0	82	0	3	0	85
8:45 PM	0	0	99	0	0	0	99
9:00 PM	0	0	93	0	2	0	95
9:15 PM	0	0	84	0	0	1	85
9:30 PM	0	0	91	0	0	0	91
9:45 PM	0	0	96	0	1	1	98
10:00 PM	0	0	77	0	1	0	78
10:15 PM	0	0	79	0	0	1	80
10:30 PM	0	0	75	0	0	2	77
10:45 PM	0	0	78	0	0	0	78
11:00 PM	0	0	65	0	0	2	67
11:15 PM	0	0	51	0	2	0	53
11:30 PM	0	0	47	0	1	2	50
11:45 PM	0	0	44	0	1	0	45
PM Total	**0**	**1**	**8674**	**14**	**158**	**136**	**8983**
Percentage	**0.00%**	**0.01%**	**96.56%**	**0.16%**	**1.76%**	**1.51%**	
PM Peak	**12:00 PM**	**3:00 PM**	**3:30 PM**	**3:15 PM**	**12:00 PM**	**1:00 PM**	**3:15 PM**
Volume	**0**	**1**	**1403**	**7**	**34**	**33**	**1447**
Day Total	**0**	**1**	**11716**	**25**	**372**	**269**	**12383**
Percentage	**0.00%**	**0.01%**	**94.61%**	**0.20%**	**3.00%**	**2.17%**	

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A

Count Date: Saturday, January 21, 2023
Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	40	0	2	0	42
12:15 AM	0	0	18	0	3	0	21
12:30 AM	0	0	32	0	0	2	34
12:45 AM	0	0	25	0	0	0	25
1:00 AM	0	0	22	0	1	0	23
1:15 AM	0	0	18	0	0	1	19
1:30 AM	0	0	15	0	0	0	15
1:45 AM	0	0	15	0	0	0	15
2:00 AM	0	0	11	0	1	1	13
2:15 AM	0	0	14	0	0	1	15
2:30 AM	0	0	10	0	1	0	11
2:45 AM	0	0	8	0	1	0	9
3:00 AM	0	0	13	1	0	0	14
3:15 AM	0	0	7	0	0	0	7
3:30 AM	0	0	11	0	0	1	12
3:45 AM	0	0	5	0	2	1	8
4:00 AM	0	0	7	0	0	1	8
4:15 AM	0	0	8	0	1	2	11
4:30 AM	0	0	10	0	0	0	10
4:45 AM	0	0	8	0	0	2	10
5:00 AM	0	0	9	0	1	0	10
5:15 AM	0	0	17	0	2	1	20
5:30 AM	0	0	24	0	0	2	26
5:45 AM	0	0	28	0	3	3	34
6:00 AM	0	0	34	0	1	2	37
6:15 AM	0	0	44	0	1	2	47
6:30 AM	0	0	59	0	4	0	63
6:45 AM	0	0	48	0	2	5	55
7:00 AM	0	0	100	0	3	2	105
7:15 AM	0	0	108	1	5	4	118
7:30 AM	0	0	173	0	6	3	182
7:45 AM	0	0	209	0	3	5	217
8:00 AM	0	0	217	3	3	5	228
8:15 AM	0	0	261	1	4	9	275
8:30 AM	0	0	311	0	6	12	329
8:45 AM	0	0	317	2	2	5	326
9:00 AM	0	0	319	0	6	6	331
9:15 AM	0	0	276	1	4	10	291
9:30 AM	0	0	360	0	6	7	373
9:45 AM	0	0	303	2	7	9	321
10:00 AM	0	0	285	0	1	9	295
10:15 AM	0	0	319	2	4	8	333
10:30 AM	0	0	306	1	5	5	317
10:45 AM	0	0	265	0	4	14	283
11:00 AM	0	0	295	0	4	6	305
11:15 AM	0	0	272	1	2	2	277
11:30 AM	0	0	269	1	11	7	288
11:45 AM	0	0	320	0	2	3	325
AM Total	**0**	**0**	**5845**	**16**	**114**	**158**	**6133**
Percentage	**0.00%**	**0.00%**	**95.30%**	**0.26%**	**1.86%**	**2.58%**	
AM Peak	**12:00 AM**	**12:00 AM**	**8:45 AM**	**8:00 AM**	**9:00 AM**	**10:00 AM**	**9:30 AM**
Volume	**0**	**0**	**1272**	**6**	**23**	**36**	**1322**

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	330	0	1	5	336
12:15 PM	0	0	357	2	6	3	368
12:30 PM	0	0	345	0	2	1	348
12:45 PM	0	0	320	0	2	3	325
1:00 PM	0	0	289	0	5	4	298
1:15 PM	0	0	277	0	2	1	280
1:30 PM	0	0	316	0	1	3	320
1:45 PM	0	0	332	0	6	3	341
2:00 PM	0	0	395	3	2	2	402
2:15 PM	0	0	300	0	2	2	304
2:30 PM	0	0	214	1	0	0	215
2:45 PM	0	0	204	0	2	2	208
3:00 PM	0	0	221	0	1	2	224
3:15 PM	0	0	200	0	2	0	202
3:30 PM	0	0	209	0	4	1	214
3:45 PM	0	0	215	0	2	2	219
4:00 PM	0	0	223	0	0	1	224
4:15 PM	0	0	231	1	2	2	236
4:30 PM	0	1	214	0	1	1	217
4:45 PM	0	0	190	0	0	2	192
5:00 PM	0	0	169	0	2	3	174
5:15 PM	0	0	196	0	1	0	197
5:30 PM	0	0	181	0	0	3	184
5:45 PM	0	0	150	0	1	2	153
6:00 PM	0	0	190	0	0	0	190
6:15 PM	0	0	145	1	0	0	146
6:30 PM	0	0	149	0	0	1	150
6:45 PM	0	0	124	0	1	0	125
7:00 PM	0	0	140	0	0	0	140
7:15 PM	0	0	122	0	1	2	125
7:30 PM	0	0	123	0	0	0	123
7:45 PM	0	0	130	0	1	0	131
8:00 PM	0	0	114	0	0	0	114
8:15 PM	0	0	107	0	0	1	108
8:30 PM	0	0	106	0	0	0	106
8:45 PM	0	0	92	0	0	1	93
9:00 PM	0	0	133	0	0	2	135
9:15 PM	0	0	83	0	0	0	83
9:30 PM	0	0	92	0	0	0	92
9:45 PM	0	0	98	0	0	1	99
10:00 PM	0	0	79	0	0	0	79
10:15 PM	0	0	67	0	0	2	69
10:30 PM	0	0	55	0	0	0	55
10:45 PM	0	0	67	0	1	0	68
11:00 PM	0	0	52	0	1	0	53
11:15 PM	0	0	50	0	3	0	53
11:30 PM	0	0	50	0	0	0	50
11:45 PM	0	0	36	0	0	0	36
PM Total	**0**	**1**	**8482**	**8**	**55**	**58**	**8604**
Percentage	**0.00%**	**0.01%**	**98.58%**	**0.09%**	**0.64%**	**0.67%**	
PM Peak	**12:00 PM**	**3:45 PM**	**12:00 PM**	**1:45 PM**	**12:15 PM**	**12:00 PM**	**12:00 PM**
Volume	**0**	**1**	**1352**	**4**	**15**	**12**	**1377**
Day Total	**0**	**1**	**14327**	**24**	**169**	**216**	**14737**
Percentage	**0.00%**	**0.01%**	**97.22%**	**0.16%**	**1.15%**	**1.47%**	

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION D A T A INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File # **229066 ATR-A**

Direction: **EB**

Weekly Report

Day	Thursday		Friday		Saturday										Week	
Date	01/19/23		01/20/23		01/21/23										Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	10	255	28	155	24	300	0	0	0	0	0	0	0	0	21	237
12:15	19	199	25	144	15	316	0	0	0	0	0	0	0	0	20	220
12:30	13	156	18	159	17	344	0	0	0	0	0	0	0	0	16	220
12:45	9	143	15	178	16	300	0	0	0	0	0	0	0	0	13	207
1:00	10	160	14	162	13	295	0	0	0	0	0	0	0	0	12	206
1:15	7	177	17	162	9	280	0	0	0	0	0	0	0	0	11	206
1:30	3	176	13	151	11	289	0	0	0	0	0	0	0	0	9	205
1:45	13	206	16	170	8	263	0	0	0	0	0	0	0	0	12	213
2:00	27	152	23	147	11	286	0	0	0	0	0	0	0	0	20	195
2:15	20	199	22	157	12	304	0	0	0	0	0	0	0	0	18	220
2:30	16	195	15	170	12	232	0	0	0	0	0	0	0	0	14	199
2:45	13	212	10	188	15	165	0	0	0	0	0	0	0	0	13	188
3:00	15	176	21	179	15	163	0	0	0	0	0	0	0	0	17	173
3:15	18	177	21	251	3	212	0	0	0	0	0	0	0	0	14	213
3:30	10	185	15	208	13	188	0	0	0	0	0	0	0	0	13	194
3:45	26	200	26	240	12	180	0	0	0	0	0	0	0	0	21	207
4:00	31	135	39	251	16	176	0	0	0	0	0	0	0	0	29	187
4:15	55	193	41	240	21	197	0	0	0	0	0	0	0	0	39	210
4:30	85	175	65	263	26	167	0	0	0	0	0	0	0	0	59	202
4:45	82	169	73	225	35	168	0	0	0	0	0	0	0	0	63	187
5:00	117	175	85	208	32	166	0	0	0	0	0	0	0	0	78	183
5:15	160	188	123	247	39	166	0	0	0	0	0	0	0	0	107	200
5:30	184	139	184	216	39	141	0	0	0	0	0	0	0	0	136	165
5:45	201	119	182	149	41	126	0	0	0	0	0	0	0	0	141	131
6:00	203	109	147	130	57	145	0	0	0	0	0	0	0	0	136	128
6:15	251	117	210	132	81	149	0	0	0	0	0	0	0	0	181	133
6:30	281	128	238	113	62	95	0	0	0	0	0	0	0	0	194	112
6:45	268	53	266	92	72	93	0	0	0	0	0	0	0	0	202	79
7:00	288	51	275	87	73	90	0	0	0	0	0	0	0	0	212	76
7:15	329	57	276	82	84	83	0	0	0	0	0	0	0	0	230	74
7:30	302	53	294	90	97	61	0	0	0	0	0	0	0	0	231	68
7:45	345	44	257	61	126	76	0	0	0	0	0	0	0	0	243	60
8:00	379	35	230	58	128	72	0	0	0	0	0	0	0	0	246	55
8:15	355	69	253	50	145	41	0	0	0	0	0	0	0	0	251	53
8:30	382	49	201	40	184	52	0	0	0	0	0	0	0	0	256	47
8:45	368	53	212	38	152	58	0	0	0	0	0	0	0	0	244	50
9:00	337	58	215	44	127	52	0	0	0	0	0	0	0	0	226	51
9:15	320	66	196	42	172	39	0	0	0	0	0	0	0	0	229	49
9:30	295	38	170	41	177	40	0	0	0	0	0	0	0	0	214	40
9:45	294	45	177	42	175	40	0	0	0	0	0	0	0	0	215	42
10:00	310	51	167	45	152	46	0	0	0	0	0	0	0	0	210	47
10:15	312	45	143	36	208	38	0	0	0	0	0	0	0	0	221	40
10:30	301	35	149	47	194	41	0	0	0	0	0	0	0	0	215	41
10:45	322	28	147	35	206	40	0	0	0	0	0	0	0	0	225	34
11:00	326	23	148	25	218	27	0	0	0	0	0	0	0	0	231	25
11:15	305	33	134	21	286	30	0	0	0	0	0	0	0	0	242	28
11:30	319	15	155	20	349	31	0	0	0	0	0	0	0	0	274	22
11:45	310	14	154	26	325	16	0	0	0	0	0	0	0	0	263	19
Total	**8646**	**5530**	**5905**	**6017**	**4305**	**6879**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6285**	**6142**
Day Total	**14176**		**11922**		**11184**		**0**		**0**		**0**		**0**		**12427**	
Peak HR	**8:00 AM**	**2:15 PM**	**6:45 AM**	**3:45 PM**	**11:00 AM**	**12:00 PM**									**11:00 AM**	**12:00 PM**
Volume	**1484**	**782**	**1111**	**994**	**1178**	**1260**									**1010**	**883**

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION
D A T A
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File # **229066 ATR-A**

Direction: **WB**

Weekly Report

Day	Thursday		Friday		Saturday										Week	
Date	01/19/23		01/20/23		01/21/23										Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	26	142	25	147	42	336	0	0	0	0	0	0	0	0	31	208
12:15	17	203	35	176	21	368	0	0	0	0	0	0	0	0	24	249
12:30	13	177	23	155	34	348	0	0	0	0	0	0	0	0	23	227
12:45	14	181	25	188	25	325	0	0	0	0	0	0	0	0	21	231
1:00	25	185	25	183	23	298	0	0	0	0	0	0	0	0	24	222
1:15	16	201	15	185	19	280	0	0	0	0	0	0	0	0	17	222
1:30	7	205	7	197	15	320	0	0	0	0	0	0	0	0	10	241
1:45	8	219	13	200	15	341	0	0	0	0	0	0	0	0	12	253
2:00	10	207	11	236	13	402	0	0	0	0	0	0	0	0	11	282
2:15	8	262	14	214	15	304	0	0	0	0	0	0	0	0	12	260
2:30	8	253	19	245	11	215	0	0	0	0	0	0	0	0	13	238
2:45	12	246	22	248	9	208	0	0	0	0	0	0	0	0	14	234
3:00	7	318	10	272	14	224	0	0	0	0	0	0	0	0	10	271
3:15	6	294	10	358	7	202	0	0	0	0	0	0	0	0	8	285
3:30	8	314	16	385	12	214	0	0	0	0	0	0	0	0	12	304
3:45	9	314	17	352	8	219	0	0	0	0	0	0	0	0	11	295
4:00	9	334	14	352	8	224	0	0	0	0	0	0	0	0	10	303
4:15	13	360	23	356	11	236	0	0	0	0	0	0	0	0	16	317
4:30	22	338	21	345	10	217	0	0	0	0	0	0	0	0	18	300
4:45	36	328	26	332	10	192	0	0	0	0	0	0	0	0	24	284
5:00	28	323	21	312	10	174	0	0	0	0	0	0	0	0	20	270
5:15	37	339	29	336	20	197	0	0	0	0	0	0	0	0	29	291
5:30	72	299	50	300	26	184	0	0	0	0	0	0	0	0	49	261
5:45	79	269	54	265	34	153	0	0	0	0	0	0	0	0	56	229
6:00	90	244	56	203	37	190	0	0	0	0	0	0	0	0	61	212
6:15	81	198	76	211	47	146	0	0	0	0	0	0	0	0	68	185
6:30	110	183	106	185	63	150	0	0	0	0	0	0	0	0	93	173
6:45	102	178	90	172	55	125	0	0	0	0	0	0	0	0	82	158
7:00	142	132	110	148	105	140	0	0	0	0	0	0	0	0	119	140
7:15	172	159	103	127	118	125	0	0	0	0	0	0	0	0	131	137
7:30	149	126	134	139	182	123	0	0	0	0	0	0	0	0	155	129
7:45	154	112	132	133	217	131	0	0	0	0	0	0	0	0	168	125
8:00	122	110	114	144	228	114	0	0	0	0	0	0	0	0	155	123
8:15	123	128	117	101	275	108	0	0	0	0	0	0	0	0	172	112
8:30	137	124	120	85	329	106	0	0	0	0	0	0	0	0	195	105
8:45	123	123	127	99	326	93	0	0	0	0	0	0	0	0	192	105
9:00	106	101	117	95	331	135	0	0	0	0	0	0	0	0	185	110
9:15	119	83	112	85	291	83	0	0	0	0	0	0	0	0	174	84
9:30	157	99	132	91	373	92	0	0	0	0	0	0	0	0	221	94
9:45	128	65	128	98	321	99	0	0	0	0	0	0	0	0	192	87
10:00	118	61	112	78	295	79	0	0	0	0	0	0	0	0	175	73
10:15	128	68	143	80	333	69	0	0	0	0	0	0	0	0	201	72
10:30	146	64	126	77	317	55	0	0	0	0	0	0	0	0	196	65
10:45	156	57	149	78	283	68	0	0	0	0	0	0	0	0	196	68
11:00	144	46	149	67	305	53	0	0	0	0	0	0	0	0	199	55
11:15	159	39	150	53	277	53	0	0	0	0	0	0	0	0	195	48
11:30	164	47	148	50	288	50	0	0	0	0	0	0	0	0	200	49
11:45	178	36	124	45	325	36	0	0	0	0	0	0	0	0	209	39
Total	**3698**	**8894**	**3400**	**8983**	**6133**	**8604**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4410**	**8827**
Day Total	**12592**		**12383**		**14737**		**0**		**0**		**0**		**0**		**13237**	
Peak HR	**11:00 AM**	**4:00 PM**	**10:45 AM**	**3:15 PM**	**9:30 AM**	**12:00 PM**									**11:00 AM**	**3:30 PM**
Volume	**645**	**1360**	**596**	**1447**	**1322**	**1377**									**804**	**1220**

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A (Speed)

Count Date
Thursday, January 19, 2023

Speed (60-minute)

EB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	3	7	20	16	7	2	0	0	0	55	49.9	43.8
1:00 AM	0	0	0	0	0	11	9	12	3	0	0	0	0	35	48.0	43.6
2:00 AM	0	0	0	0	1	12	24	24	12	1	0	0	0	74	50.0	44.5
3:00 AM	0	0	0	0	2	8	7	24	22	3	0	0	0	66	52.0	47.0
4:00 AM	0	0	0	0	0	7	25	113	71	33	1	1	0	251	54.0	49.1
5:00 AM	0	0	0	0	4	14	80	259	246	54	12	1	0	670	53.0	49.1
6:00 AM	0	0	0	0	5	34	116	395	351	80	14	2	0	997	53.0	48.8
7:00 AM	0	0	0	0	2	36	130	451	465	100	13	1	0	1198	53.0	49.0
8:00 AM	0	0	0	0	6	68	324	635	233	36	6	0	0	1308	51.0	46.5
9:00 AM	0	0	2	1	28	163	338	397	146	23	2	3	0	1103	50.0	44.4
10:00 AM	0	0	2	3	21	155	425	374	116	22	1	0	0	1119	49.0	44.0
11:00 AM	6	5	19	56	66	159	303	255	62	11	1	2	0	945	48.0	41.1
12:00 PM	2	4	4	6	13	71	160	265	117	35	5	1	0	683	51.0	45.4
1:00 PM	0	0	1	0	7	82	207	261	121	15	2	0	0	696	50.0	45.3
2:00 PM	0	0	0	0	6	57	228	266	97	21	1	0	0	676	50.0	45.5
3:00 PM	1	0	0	1	2	60	264	235	71	14	4	0	0	652	49.0	44.7
4:00 PM	0	1	0	2	9	103	286	170	34	5	1	0	0	611	48.0	43.1
5:00 PM	0	0	0	13	16	108	246	133	24	2	0	1	0	543	47.0	42.1
6:00 PM	0	0	0	0	9	50	193	91	32	4	0	0	0	379	48.0	43.2
7:00 PM	0	0	0	0	3	30	71	69	26	2	1	0	0	202	49.0	44.3
8:00 PM	0	0	0	0	5	46	96	52	9	1	0	0	0	209	47.0	42.5
9:00 PM	0	0	0	1	9	63	66	41	10	1	1	0	0	192	46.4	41.4
10:00 PM	0	0	0	2	14	50	53	38	5	1	0	0	0	163	46.0	41.0
11:00 PM	0	0	0	0	7	27	26	20	6	2	0	0	0	88	48.0	41.8
Total	9	10	28	85	238	1421	3697	4596	2286	468	65	12	0	12915	51.0	45.3
Percent	0.07%	0.08%	0.22%	0.66%	1.84%	11.00%	28.63%	35.59%	17.70%	3.62%	0.50%	0.09%	0.00%			
AM Peak	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	9:00 AM	10:00 AM	8:00 AM	7:00 AM	7:00 AM	6:00 AM	9:00 AM		8:00 AM		
Volume	6	5	19	56	66	163	425	635	465	100	14	3	0	1308		
PM Peak	12:00 PM	12:00 PM	12:00 PM	5:00 PM	5:00 PM	5:00 PM	4:00 PM	2:00 PM	1:00 PM	12:00 PM	12:00 PM	12:00 PM		1:00 PM		
Volume	2	4	4	13	16	108	286	266	121	35	5	1	0	696		

15th Percentile:	40.0 MPH	Average Speed:	45.3 MPH	Posted Speed Limit:	45 MPH
50th Percentile:	46.0 MPH	10 MPH Pace:	41 to 50 MPH	Number of Vehicles > 45 MPH:	6481
85th Percentile:	51.0 MPH	Number in Pace:	8418	Percent of Vehicles > 45 MPH:	50.2%
95th Percentile:	54.0 MPH	Percent in Pace:	65.2%		

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
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PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A (Speed)

Count Date
Thursday, January 19, 2023

Speed (60-minute)

WB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	1	6	15	29	17	2	2	0	0	72	52.0	47.0
1:00 AM	0	0	0	0	0	8	13	17	15	6	0	0	0	59	53.0	46.7
2:00 AM	0	0	0	0	1	2	7	21	2	4	1	0	0	38	52.9	46.7
3:00 AM	0	0	0	0	0	10	16	6	8	0	0	0	0	40	51.0	43.0
4:00 AM	0	0	0	1	2	7	15	30	15	14	3	0	0	87	55.0	47.7
5:00 AM	0	0	0	0	0	9	45	65	59	25	9	0	0	212	55.0	48.7
6:00 AM	1	0	0	0	2	19	66	122	103	50	7	1	0	371	55.0	48.5
7:00 AM	1	0	0	0	3	30	106	149	148	53	11	2	0	503	54.0	48.2
8:00 AM	0	0	0	0	10	15	76	146	119	45	7	1	0	419	54.0	48.1
9:00 AM	0	0	0	1	8	42	130	156	96	24	2	0	0	459	52.0	46.0
10:00 AM	0	0	0	1	10	49	122	170	111	28	4	0	0	495	52.0	46.3
11:00 AM	0	2	1	1	13	78	139	155	118	22	0	0	0	529	52.0	45.3
12:00 PM	0	0	0	2	5	59	198	283	148	30	7	1	0	733	51.0	46.3
1:00 PM	0	0	1	2	9	81	245	317	144	27	2	1	0	829	51.0	45.5
2:00 PM	0	0	1	0	11	78	255	396	194	31	1	1	0	968	51.0	46.1
3:00 PM	0	0	0	2	32	149	457	407	146	16	0	0	0	1209	49.0	44.2
4:00 PM	2	0	0	1	29	280	525	399	135	10	1	0	0	1382	48.0	43.2
5:00 PM	0	1	2	3	45	205	452	314	64	5	0	0	0	1091	47.0	42.6
6:00 PM	1	0	0	3	15	159	245	251	91	15	2	0	0	782	49.0	43.7
7:00 PM	0	0	0	0	9	73	173	178	83	8	1	0	0	525	50.0	44.6
8:00 PM	0	0	0	0	11	67	169	162	73	7	1	0	0	490	50.0	44.4
9:00 PM	1	0	0	0	11	48	118	107	47	6	0	0	0	338	50.0	44.2
10:00 PM	0	0	0	1	7	45	77	88	30	4	0	0	0	252	49.0	43.8
11:00 PM	1	0	0	1	3	32	61	52	19	3	0	0	0	172	49.0	43.6
Total	7	3	5	19	237	1551	3725	4020	1985	435	61	7	0	12055	51.0	45.1
Percent	0.06%	0.02%	0.04%	0.16%	1.97%	12.87%	30.90%	33.35%	16.47%	3.61%	0.51%	0.06%	0.00%			
AM Peak	6:00 AM	11:00 AM	11:00 AM	4:00 AM	11:00 AM	11:00 AM	11:00 AM	10:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM		11:00 AM		
Volume	1	2	1	1	13	78	139	170	148	53	11	2	0	529		
PM Peak	4:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	4:00 PM	4:00 PM	3:00 PM	2:00 PM	2:00 PM	12:00 PM	12:00 PM		4:00 PM		
Volume	2	1	2	3	45	280	525	407	194	31	7	1	0	1382		

15th Percentile:	39.0 MPH	Average Speed:	45.1 MPH	Posted Speed Limit:	45 MPH
50th Percentile:	45.0 MPH	10 MPH Pace:	41 to 50 MPH	Number of Vehicles > 45 MPH:	5630
85th Percentile:	51.0 MPH	Number in Pace:	7761	Percent of Vehicles > 45 MPH:	46.7%
95th Percentile:	54.0 MPH	Percent in Pace:	64.4%		

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
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Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A (Speed)

Count Date
Thursday, January 19, 2023

Speed (60-minute)

Combined EB and WB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	4	13	35	45	24	4	2	0	0	127	51.0	45.6
1:00 AM	0	0	0	0	0	19	22	29	18	6	0	0	0	94	52.0	45.5
2:00 AM	0	0	0	0	2	14	31	45	14	5	1	0	0	112	50.4	45.2
3:00 AM	0	0	0	0	2	18	23	30	30	3	0	0	0	106	51.0	45.5
4:00 AM	0	0	0	1	2	14	40	143	86	47	4	1	0	338	55.0	48.7
5:00 AM	0	0	0	0	4	23	125	324	305	79	21	1	0	882	54.0	49.0
6:00 AM	1	0	0	0	7	53	182	517	454	130	21	3	0	1368	53.0	48.7
7:00 AM	1	0	0	0	5	66	236	600	613	153	24	3	0	1701	53.0	48.8
8:00 AM	0	0	0	0	16	83	400	781	352	81	13	1	0	1727	51.0	46.9
9:00 AM	0	0	2	2	36	205	468	553	242	47	4	3	0	1562	50.0	44.9
10:00 AM	0	0	2	4	31	204	547	544	227	50	5	0	0	1614	50.0	44.7
11:00 AM	6	7	20	57	79	237	442	410	180	33	1	2	0	1474	49.0	42.6
12:00 PM	2	4	4	8	18	130	358	548	265	65	12	2	0	1416	51.0	45.9
1:00 PM	0	0	2	2	16	163	452	578	265	42	4	1	0	1525	51.0	45.4
2:00 PM	0	0	1	0	17	135	483	662	291	52	2	1	0	1644	51.0	45.8
3:00 PM	1	0	0	3	34	209	721	642	217	30	4	0	0	1861	49.0	44.4
4:00 PM	2	1	0	3	38	383	811	569	169	15	2	0	0	1993	48.0	43.2
5:00 PM	0	1	2	16	61	313	698	447	88	7	0	1	0	1634	47.0	42.5
6:00 PM	1	0	0	3	24	209	438	342	123	19	2	0	0	1161	49.0	43.5
7:00 PM	0	0	0	0	12	103	244	247	109	10	2	0	0	727	50.0	44.5
8:00 PM	0	0	0	0	16	113	265	214	82	8	1	0	0	699	49.0	43.9
9:00 PM	1	0	0	1	20	111	184	148	57	7	1	0	0	530	49.0	43.2
10:00 PM	0	0	0	3	21	95	130	126	35	5	0	0	0	415	48.0	42.7
11:00 PM	1	0	0	1	10	59	87	72	25	5	0	0	0	260	49.0	43.0
Total	16	13	33	104	475	2972	7422	8616	4271	903	126	19	0	24970	51.0	45.2
Percent	0.06%	0.05%	0.13%	0.42%	1.90%	11.90%	29.72%	34.51%	17.10%	3.62%	0.50%	0.08%	0.00%			
AM Peak	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	10:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM	6:00 AM		8:00 AM		
Volume	6	7	20	57	79	237	547	781	613	153	24	3	0	1727		
PM Peak	12:00 PM	12:00 PM	12:00 PM	5:00 PM	5:00 PM	4:00 PM	4:00 PM	2:00 PM	2:00 PM	12:00 PM	12:00 PM	12:00 PM		4:00 PM		
Volume	2	4	4	16	61	383	811	662	291	65	12	2	0	1993		

15th Percentile:	40.0 MPH	Average Speed:	45.2 MPH	Posted Speed Limit:	45 MPH
50th Percentile:	45.0 MPH	10 MPH Pace:	41 to 50 MPH	Number of Vehicles > 45 MPH:	12111
85th Percentile:	51.0 MPH	Number in Pace:	16179	Percent of Vehicles > 45 MPH:	48.5%
95th Percentile:	54.0 MPH	Percent in Pace:	64.8%		

Southbridge Road (Route 20)
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157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A (Speed)

Count Date
Friday, January 20, 2023

Speed (60-minute)

EB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	2	15	20	27	17	3	0	0	0	0	84	46.6	40.1
1:00 AM	0	0	0	0	4	9	30	19	3	0	0	0	0	65	47.0	42.7
2:00 AM	0	0	0	0	0	9	33	19	13	0	0	0	0	74	50.0	44.4
3:00 AM	0	0	0	0	0	15	22	23	21	4	1	0	0	86	52.3	45.9
4:00 AM	0	0	0	0	2	8	56	79	52	12	0	0	0	209	52.0	47.0
5:00 AM	0	0	0	0	1	24	125	285	124	18	0	0	0	577	51.0	46.8
6:00 AM	0	0	0	0	2	36	194	407	149	24	4	2	0	818	51.0	46.7
7:00 AM	0	0	0	0	8	45	202	464	274	45	7	0	0	1045	52.0	47.4
8:00 AM	0	0	0	1	5	70	175	320	188	29	9	1	0	798	51.0	46.6
9:00 AM	0	0	0	0	5	54	189	275	116	18	3	1	0	661	51.0	45.9
10:00 AM	0	1	4	0	2	49	154	232	113	23	3	0	0	581	51.0	46.0
11:00 AM	1	0	1	2	2	37	158	222	113	18	3	1	0	558	51.0	46.0
12:00 PM	0	1	1	0	1	32	180	241	114	31	2	0	0	603	51.7	46.4
1:00 PM	1	0	0	0	5	27	133	264	152	29	1	1	0	613	52.0	47.0
2:00 PM	2	0	0	1	3	22	158	252	110	31	3	0	0	582	52.0	46.7
3:00 PM	0	0	0	0	6	56	261	331	136	26	6	0	1	823	51.0	46.0
4:00 PM	0	1	1	1	14	95	404	282	77	11	4	0	0	890	48.0	44.0
5:00 PM	0	0	0	5	38	165	331	153	23	5	0	0	0	720	46.0	41.7
6:00 PM	0	0	0	0	9	80	163	148	29	6	1	1	0	437	48.0	43.6
7:00 PM	0	0	0	0	2	35	110	100	42	7	1	0	0	297	50.0	44.8
8:00 PM	0	0	0	0	10	19	63	71	22	7	1	0	0	193	50.0	44.7
9:00 PM	0	0	0	1	8	20	71	49	13	2	1	0	0	165	48.0	43.5
10:00 PM	0	0	0	0	3	24	47	62	19	5	0	0	0	160	49.2	44.8
11:00 PM	0	0	0	4	5	15	30	26	12	5	0	0	0	97	50.0	43.5
Total	4	3	7	17	150	966	3316	4341	1918	356	50	7	1	11136	51.0	45.7
Percent	0.04%	0.03%	0.06%	0.15%	1.35%	8.67%	29.78%	38.98%	17.22%	3.20%	0.45%	0.06%	0.01%			
AM Peak	11:00 AM	10:00 AM	10:00 AM	12:00 AM	12:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	8:00 AM	6:00 AM		7:00 AM		
Volume	1	1	4	2	15	70	202	464	274	45	9	2	0	1045		
PM Peak	2:00 PM	12:00 PM	12:00 PM	5:00 PM	5:00 PM	5:00 PM	4:00 PM	3:00 PM	1:00 PM	12:00 PM	3:00 PM	1:00 PM	3:00 PM	4:00 PM		
Volume	2	1	1	5	38	165	404	331	152	31	6	1	1	890		

15th Percentile:	41.0 MPH	Average Speed:	45.7 MPH	Posted Speed Limit:	45 MPH
50th Percentile:	46.0 MPH	10 MPH Pace:	41 to 50 MPH	Number of Vehicles > 45 MPH:	5811
85th Percentile:	51.0 MPH	Number in Pace:	7748	Percent of Vehicles > 45 MPH:	52.2%
95th Percentile:	54.0 MPH	Percent in Pace:	69.6%		

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Count Date
Friday, January 20, 2023

Speed (60-minute)

WB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	1	0	0	1	10	26	32	31	7	2	0	0	0	110	48.0	41.6
1:00 AM	0	0	0	0	3	5	16	27	10	1	0	0	0	62	50.0	45.1
2:00 AM	0	0	0	0	5	16	20	21	11	3	1	0	0	77	50.0	44.0
3:00 AM	0	0	0	0	4	13	22	12	4	2	0	0	0	57	48.0	42.4
4:00 AM	0	0	0	0	1	4	26	28	23	5	1	0	0	88	53.0	46.7
5:00 AM	0	0	0	0	3	21	38	51	30	16	1	2	0	162	53.0	46.6
6:00 AM	1	0	0	0	4	26	71	101	85	21	4	1	0	314	52.1	46.9
7:00 AM	0	0	0	0	9	36	119	138	104	38	4	0	0	448	53.0	46.8
8:00 AM	0	0	1	3	7	46	118	151	100	26	1	0	0	453	52.0	46.0
9:00 AM	0	0	0	1	13	74	152	176	81	15	1	0	0	513	50.0	44.8
10:00 AM	0	0	0	1	14	60	159	170	105	16	0	0	0	525	51.0	45.3
11:00 AM	0	0	0	1	10	46	160	208	126	30	0	0	0	581	51.0	46.2
12:00 PM	0	0	1	3	10	62	197	248	146	31	2	0	0	700	52.0	45.9
1:00 PM	0	0	1	1	10	64	201	288	177	54	3	0	0	799	52.0	46.6
2:00 PM	1	1	0	1	17	70	244	366	202	48	5	0	0	955	51.9	46.3
3:00 PM	1	0	0	0	11	85	415	479	230	44	7	0	0	1272	51.0	45.9
4:00 PM	36	47	44	60	110	154	168	102	35	2	0	0	0	758	45.0	35.4
5:00 PM	1	0	0	6	39	200	443	303	65	9	0	0	0	1066	47.0	42.7
6:00 PM	0	0	0	2	28	148	262	226	69	10	0	0	0	745	48.4	43.2
7:00 PM	0	0	0	1	10	65	181	180	74	19	1	0	0	531	50.0	44.8
8:00 PM	0	0	2	1	6	53	132	139	72	11	2	0	0	418	51.0	45.0
9:00 PM	0	0	0	2	13	49	108	122	43	10	1	0	0	348	50.0	44.3
10:00 PM	0	0	0	0	3	28	88	121	67	15	3	1	0	326	52.0	46.3
11:00 PM	0	0	0	5	11	27	60	67	28	11	1	0	0	210	51.0	44.3
Total	41	48	49	89	351	1378	3432	3755	1894	439	38	4	0	11518	51.0	44.6
Percent	0.36%	0.42%	0.43%	0.77%	3.05%	11.96%	29.80%	32.60%	16.44%	3.81%	0.33%	0.03%	0.00%			
AM Peak	12:00 AM		8:00 AM	8:00 AM	10:00 AM	9:00 AM	11:00 AM	11:00 AM	11:00 AM	7:00 AM	6:00 AM	5:00 AM		11:00 AM		
Volume	1	0	1	3	14	74	160	208	126	38	4	2	0	581		
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	5:00 PM	5:00 PM	3:00 PM	3:00 PM	1:00 PM	3:00 PM	10:00 PM		3:00 PM		
Volume	36	47	44	60	110	200	443	479	230	54	7	1	0	1272		

15th Percentile:	39.0 MPH	Average Speed:	44.6 MPH	Posted Speed Limit:	45 MPH
50th Percentile:	45.0 MPH	10 MPH Pace:	41 to 50 MPH	Number of Vehicles > 45 MPH:	5281
85th Percentile:	51.0 MPH	Number in Pace:	7210	Percent of Vehicles > 45 MPH:	45.8%
95th Percentile:	54.0 MPH	Percent in Pace:	62.6%		

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A (Speed)

Count Date
Friday, January 20, 2023

Speed (60-minute)

Combined EB and WB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	1	0	0	3	25	46	59	48	10	2	0	0	0	194	47.0	40.9
1:00 AM	0	0	0	0	7	14	46	46	13	1	0	0	0	127	49.0	43.9
2:00 AM	0	0	0	0	5	25	53	40	24	3	1	0	0	151	50.0	44.2
3:00 AM	0	0	0	0	4	28	44	35	25	6	1	0	0	143	51.0	44.5
4:00 AM	0	0	0	0	3	12	82	107	75	17	1	0	0	297	52.0	46.9
5:00 AM	0	0	0	0	4	45	163	336	154	34	1	2	0	739	51.0	46.8
6:00 AM	1	0	0	0	6	62	265	508	234	45	8	3	0	1132	51.0	46.7
7:00 AM	0	0	0	0	17	81	321	602	378	83	11	0	0	1493	52.0	47.2
8:00 AM	0	0	1	4	12	116	293	471	288	55	10	1	0	1251	52.0	46.4
9:00 AM	0	0	0	1	18	128	341	451	197	33	4	1	0	1174	51.0	45.4
10:00 AM	0	1	4	1	16	109	313	402	218	39	3	0	0	1106	51.0	45.6
11:00 AM	1	0	1	3	12	83	318	430	239	48	3	1	0	1139	51.0	46.1
12:00 PM	0	1	2	3	11	94	377	489	260	62	4	0	0	1303	52.0	46.1
1:00 PM	1	0	1	1	15	91	334	552	329	83	4	1	0	1412	52.0	46.7
2:00 PM	3	1	0	2	20	92	402	618	312	79	8	0	0	1537	52.0	46.5
3:00 PM	1	0	0	0	17	141	676	810	366	70	13	0	1	2095	51.0	45.9
4:00 PM	36	48	45	61	124	249	572	384	112	13	4	0	0	1648	47.0	40.0
5:00 PM	1	0	0	11	77	365	774	456	88	14	0	0	0	1786	47.0	42.3
6:00 PM	0	0	0	2	37	228	425	374	98	16	1	1	0	1182	48.0	43.3
7:00 PM	0	0	0	1	12	100	291	280	116	26	2	0	0	828	50.0	44.8
8:00 PM	0	0	2	1	16	72	195	210	94	18	3	0	0	611	50.0	44.9
9:00 PM	0	0	0	3	21	69	179	171	56	12	2	0	0	513	49.0	44.0
10:00 PM	0	0	0	0	6	52	135	183	86	20	3	1	0	486	51.0	45.8
11:00 PM	0	0	0	9	16	42	90	93	40	16	1	0	0	307	51.0	44.0
Total	45	51	56	106	501	2344	6748	8096	3812	795	88	11	1	22654	51.0	45.1
Percent	0.20%	0.23%	0.25%	0.47%	2.21%	10.35%	29.79%	35.74%	16.83%	3.51%	0.39%	0.05%	0.00%			
AM Peak	12:00 AM	10:00 AM	10:00 AM	8:00 AM	12:00 AM	9:00 AM	9:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	6:00 AM		7:00 AM		
Volume	1	1	4	4	25	128	341	602	378	83	11	3	0	1493		
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	5:00 PM	5:00 PM	3:00 PM	3:00 PM	1:00 PM	3:00 PM	1:00 PM	3:00 PM	3:00 PM		
Volume	36	48	45	61	124	365	774	810	366	83	13	1	1	2095		

15th Percentile:	40.0 MPH	Average Speed:	45.1 MPH	Posted Speed Limit:	45 MPH
50th Percentile:	45.0 MPH	10 MPH Pace:	41 to 50 MPH	Number of Vehicles > 45 MPH:	11092
85th Percentile:	51.0 MPH	Number in Pace:	14958	Percent of Vehicles > 45 MPH:	49.0%
95th Percentile:	54.0 MPH	Percent in Pace:	66.0%		

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A (Speed)

Count Date
Saturday, January 21, 2023

Speed (60-minute)

EB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	3	9	29	26	4	2	0	0	0	73	48.0	43.7
1:00 AM	0	0	0	0	2	11	15	10	2	0	0	0	0	40	49.0	42.0
2:00 AM	0	0	0	0	3	22	18	7	0	0	0	0	0	50	44.0	39.9
3:00 AM	0	0	5	2	7	11	15	7	0	0	0	0	0	47	44.1	37.7
4:00 AM	0	0	0	4	8	30	36	17	6	0	0	0	0	101	46.0	40.5
5:00 AM	0	0	0	1	5	19	47	62	16	1	0	0	0	151	49.0	44.1
6:00 AM	0	0	0	2	8	27	86	96	46	12	2	0	0	279	51.0	45.1
7:00 AM	0	0	0	0	0	10	67	146	94	38	5	0	0	360	54.0	48.5
8:00 AM	0	0	0	0	4	20	112	241	170	37	3	0	1	588	52.0	47.9
9:00 AM	0	0	0	0	2	27	132	300	124	24	4	0	0	613	51.0	47.0
10:00 AM	1	2	3	0	4	33	255	284	106	28	4	0	0	720	50.0	45.8
11:00 AM	0	0	0	1	3	43	338	524	151	20	2	0	0	1082	50.0	45.9
12:00 PM	0	0	0	1	2	51	382	573	147	24	1	0	0	1181	49.0	45.8
1:00 PM	0	2	0	1	4	57	347	456	148	14	2	1	0	1032	50.0	45.5
2:00 PM	1	0	0	1	4	19	215	485	171	46	6	1	0	949	51.0	47.0
3:00 PM	0	0	0	1	1	13	111	366	194	39	5	1	0	731	52.0	48.0
4:00 PM	0	0	0	1	0	25	142	324	153	32	4	1	0	682	52.0	47.2
5:00 PM	0	0	0	1	6	33	176	239	117	17	1	0	0	590	51.0	46.1
6:00 PM	0	0	0	1	0	28	124	234	96	12	5	1	0	501	51.0	46.6
7:00 PM	0	0	0	0	1	15	109	108	48	8	4	1	0	294	50.0	46.0
8:00 PM	0	0	0	0	5	22	70	82	37	7	1	0	0	224	51.0	45.4
9:00 PM	0	0	0	1	2	10	48	71	36	8	2	1	0	179	52.0	46.6
10:00 PM	0	0	0	0	2	13	44	55	31	15	3	0	0	163	53.0	46.9
11:00 PM	0	0	0	0	0	9	33	41	18	3	1	0	0	105	51.0	45.8
Total	2	4	8	18	76	557	2951	4754	1915	387	55	7	1	10735	51.0	46.3
Percent	0.02%	0.04%	0.07%	0.17%	0.71%	5.19%	27.49%	44.29%	17.84%	3.61%	0.51%	0.07%	0.01%			
AM Peak	10:00 AM	10:00 AM	3:00 AM	4:00 AM	4:00 AM	11:00 AM	11:00 AM	11:00 AM	8:00 AM	7:00 AM	7:00 AM		8:00 AM	11:00 AM		
Volume	1	2	5	4	8	43	338	524	170	38	5	0	1	1082		
PM Peak	2:00 PM	1:00 PM		12:00 PM	5:00 PM	1:00 PM	12:00 PM	12:00 PM	3:00 PM	2:00 PM	2:00 PM	1:00 PM		12:00 PM		
Volume	1	2	0	1	6	57	382	573	194	46	6	1	0	1181		

15th Percentile:	42.0 MPH	Average Speed:	46.3 MPH	Posted Speed Limit:	45 MPH
50th Percentile:	46.0 MPH	10 MPH Pace:	42 to 51 MPH	Number of Vehicles > 45 MPH:	6141
85th Percentile:	51.0 MPH	Number in Pace:	8023	Percent of Vehicles > 45 MPH:	57.2%
95th Percentile:	54.0 MPH	Percent in Pace:	74.7%		

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A (Speed)

Count Date
Saturday, January 21, 2023

Speed (60-minute)

WB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	2	15	39	45	19	4	0	0	0	124	50.0	45.2
1:00 AM	0	0	0	0	3	11	24	18	17	4	1	0	0	78	51.5	45.2
2:00 AM	0	0	0	0	7	10	17	17	1	0	0	0	0	52	47.4	41.7
3:00 AM	0	0	0	2	3	8	20	9	1	2	0	0	0	45	47.8	41.8
4:00 AM	0	0	0	0	8	11	14	8	3	0	0	0	0	44	45.6	40.6
5:00 AM	0	0	0	1	5	20	31	33	9	2	0	0	0	101	48.0	43.1
6:00 AM	0	0	0	3	4	22	85	65	28	3	0	0	0	210	49.0	44.2
7:00 AM	0	0	0	0	0	47	192	268	99	20	1	0	0	627	50.0	45.8
8:00 AM	1	3	13	11	27	108	454	444	118	13	0	0	0	1192	49.0	43.9
9:00 AM	57	32	28	29	48	86	212	176	55	5	1	0	0	729	47.0	37.9
10:00 AM	65	23	20	16	21	8	0	0	1	0	0	0	0	154	31.0	19.2
11:00 AM	19	4	1	7	10	48	251	283	125	30	1	0	0	779	50.0	44.5
12:00 PM	48	12	5	3	11	57	300	238	71	9	3	0	0	757	48.0	41.7
1:00 PM	23	8	6	3	9	54	209	314	116	24	0	0	0	766	50.0	44.0
2:00 PM	0	0	0	4	4	48	270	494	235	60	5	1	0	1121	52.0	46.9
3:00 PM	1	0	0	1	6	37	146	302	224	56	9	1	0	783	53.0	47.7
4:00 PM	0	0	0	0	1	20	193	334	192	69	8	1	0	818	53.0	47.7
5:00 PM	0	0	1	1	15	61	209	253	142	26	4	0	0	712	51.0	45.7
6:00 PM	0	0	0	0	3	36	141	233	154	34	2	0	0	603	52.0	47.1
7:00 PM	0	0	0	0	2	21	120	205	128	26	4	0	0	506	52.0	47.3
8:00 PM	0	0	0	0	2	23	108	181	96	23	5	1	0	439	52.0	47.0
9:00 PM	0	0	1	1	2	15	105	159	104	41	2	2	0	432	53.0	47.5
10:00 PM	0	0	0	1	0	12	62	106	65	25	4	0	0	275	53.0	47.7
11:00 PM	0	0	0	0	1	10	34	74	54	16	3	1	0	193	53.0	48.0
Total	214	82	75	83	194	788	3236	4259	2057	492	53	7	0	11540	51.0	44.9
Percent	1.85%	0.71%	0.65%	0.72%	1.68%	6.83%	28.04%	36.91%	17.82%	4.26%	0.46%	0.06%	0.00%			
AM Peak	10:00 AM	9:00 AM	9:00 AM	9:00 AM	9:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	1:00 AM			8:00 AM		
Volume	65	32	28	29	48	108	454	444	125	30	1	0	0	1192		
PM Peak	12:00 PM	12:00 PM	1:00 PM	2:00 PM	5:00 PM	5:00 PM	12:00 PM	2:00 PM	2:00 PM	4:00 PM	3:00 PM	9:00 PM		2:00 PM		
Volume	48	12	6	4	15	61	300	494	235	69	9	2	0	1121		

15th Percentile:	40.0 MPH	Average Speed:	44.9 MPH	Posted Speed Limit:	45 MPH
50th Percentile:	46.0 MPH	10 MPH Pace:	41 to 50 MPH	Number of Vehicles > 45 MPH:	5890
85th Percentile:	51.0 MPH	Number in Pace:	7787	Percent of Vehicles > 45 MPH:	51.0%
95th Percentile:	54.0 MPH	Percent in Pace:	67.5%		

Southbridge Road (Route 20)
near #176 (Oxford Auto Sales)
City, State: Oxford, MA
Client: GPI/ S. Theriault
Site Code: NEX-2020145.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 229066 ATR-A (Speed)

Count Date
Saturday, January 21, 2023

Speed (60-minute)

Combined EB and WB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	5	24	68	71	23	6	0	0	0	197	49.0	44.6
1:00 AM	0	0	0	0	5	22	39	28	19	4	1	0	0	118	51.0	44.1
2:00 AM	0	0	0	0	10	32	35	24	1	0	0	0	0	102	46.0	40.8
3:00 AM	0	0	5	4	10	19	35	16	1	2	0	0	0	92	46.0	39.7
4:00 AM	0	0	0	4	16	41	50	25	9	0	0	0	0	145	46.0	40.6
5:00 AM	0	0	0	2	10	39	78	95	25	3	0	0	0	252	49.0	43.7
6:00 AM	0	0	0	5	12	49	171	161	74	15	2	0	0	489	50.0	44.7
7:00 AM	0	0	0	0	0	57	259	414	193	58	6	0	0	987	52.0	46.8
8:00 AM	1	3	13	11	31	128	566	685	288	50	3	0	1	1780	50.0	45.2
9:00 AM	57	32	28	29	50	113	344	476	179	29	5	0	0	1342	50.0	42.1
10:00 AM	66	25	23	16	25	41	255	284	107	28	4	0	0	874	50.0	41.1
11:00 AM	19	4	1	8	13	91	589	807	276	50	3	0	0	1861	50.0	45.3
12:00 PM	48	12	5	4	13	108	682	811	218	33	4	0	0	1938	49.0	44.2
1:00 PM	23	10	6	4	13	111	556	770	264	38	2	1	0	1798	50.0	44.9
2:00 PM	1	0	0	5	8	67	485	979	406	106	11	2	0	2070	51.0	47.0
3:00 PM	1	0	0	2	7	50	257	668	418	95	14	2	0	1514	52.0	47.9
4:00 PM	0	0	0	1	1	45	335	658	345	101	12	2	0	1500	52.0	47.5
5:00 PM	0	0	1	2	21	94	385	492	259	43	5	0	0	1302	51.0	45.9
6:00 PM	0	0	0	1	3	64	265	467	250	46	7	1	0	1104	52.0	46.9
7:00 PM	0	0	0	0	3	36	229	313	176	34	8	1	0	800	52.0	46.8
8:00 PM	0	0	0	0	7	45	178	263	133	30	6	1	0	663	52.0	46.4
9:00 PM	0	0	1	2	4	25	153	230	140	49	4	3	0	611	53.0	47.2
10:00 PM	0	0	0	1	2	25	106	161	96	40	7	0	0	438	53.0	47.4
11:00 PM	0	0	0	0	1	19	67	115	72	19	4	1	0	298	52.0	47.3
Total	216	86	83	101	270	1345	6187	9013	3972	879	108	14	1	22275	51.0	45.6
Percent	0.97%	0.39%	0.37%	0.45%	1.21%	6.04%	27.78%	40.46%	17.83%	3.95%	0.48%	0.06%	0.00%			
AM Peak	10:00 AM	9:00 AM	9:00 AM	9:00 AM	9:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	7:00 AM	7:00 AM		8:00 AM	11:00 AM		
Volume	66	32	28	29	50	128	589	807	288	58	6	0	1	1861		
PM Peak	12:00 PM	12:00 PM	1:00 PM	2:00 PM	5:00 PM	1:00 PM	12:00 PM	2:00 PM	3:00 PM	2:00 PM	3:00 PM	9:00 PM		2:00 PM		
Volume	48	12	6	5	21	111	682	979	418	106	14	3	0	2070		

15th Percentile:	41.0 MPH	Average Speed:	45.6 MPH	Posted Speed Limit:	45 MPH
50th Percentile:	46.0 MPH	10 MPH Pace:	41 to 50 MPH	Number of Vehicles > 45 MPH:	12031
85th Percentile:	51.0 MPH	Number in Pace:	15750	Percent of Vehicles > 45 MPH:	54.0%
95th Percentile:	54.0 MPH	Percent in Pace:	70.7%		

Location Map: 228607 Oxford/ Auburn, MA

Precision Data Industries, LLC 46 Morton Street, Framingham, MA 01702 ph: 508-875-0100 email: datarequests@pdillc.com



Client:	Engineer:	Site Code:	Date:	PDI Job #	City, State:
GPI	S. Theriault	NEX-2020145.00	Thurs 5/12/22-Sat 5/14/22	228607	Oxford/ Auburn, MA

PDI File #: **228607 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	10	52	22	0	84	26	178	8	0	212	12	39	32	0	83	16	158	13	0	187	566
11:15 AM	14	43	18	0	75	32	235	4	0	271	10	40	28	0	78	12	185	12	0	209	633
11:30 AM	10	39	14	0	63	33	217	10	0	260	6	45	32	0	83	17	194	11	0	222	628
11:45 AM	17	53	25	0	95	24	212	8	0	244	13	44	27	0	84	20	163	15	0	198	621
Total	51	187	79	0	317	115	842	30	0	987	41	168	119	0	328	65	700	51	0	816	2448
12:00 PM	8	38	31	0	77	22	251	6	0	279	12	42	39	0	93	13	207	11	0	231	680
12:15 PM	7	34	30	0	71	27	236	12	1	276	8	49	19	0	76	22	225	11	0	258	681
12:30 PM	12	52	22	0	86	28	220	8	1	257	13	47	37	0	97	17	204	14	0	235	675
12:45 PM	13	49	32	0	94	22	243	8	0	273	9	46	23	0	78	19	257	12	0	288	733
Total	40	173	115	0	328	99	950	34	2	1085	42	184	118	0	344	71	893	48	0	1012	2769
1:00 PM	11	50	14	0	75	32	197	4	0	233	14	44	35	0	93	24	253	11	0	288	689
1:15 PM	11	41	23	0	75	24	200	14	1	239	10	48	32	0	90	23	251	14	0	288	692
1:30 PM	9	47	21	0	77	41	222	5	0	268	2	45	31	0	78	21	256	16	0	293	716
1:45 PM	8	45	14	0	67	25	215	6	0	246	10	43	25	0	78	23	264	4	0	291	682
Total	39	183	72	0	294	122	834	29	1	986	36	180	123	0	339	91	1024	45	0	1160	2779
Grand Total	130	543	266	0	939	336	2626	93	3	3058	119	532	360	0	1011	227	2617	144	0	2988	7996
Approach %	13.8	57.8	28.3	0.0		11.0	85.9	3.0	0.1		11.8	52.6	35.6	0.0		7.6	87.6	4.8	0.0		
Total %	1.6	6.8	3.3	0.0	11.7	4.2	32.8	1.2	0.0	38.2	1.5	6.7	4.5	0.0	12.6	2.8	32.7	1.8	0.0	37.4	
Exiting Leg Total					1012					3005					863					3116	7996
Cars	124	540	262	0	926	327	2583	92	3	3005	116	526	358	0	1000	224	2572	142	0	2938	7869
% Cars	95.4	99.4	98.5	0.0	98.6	97.3	98.4	98.9	100.0	98.3	97.5	98.9	99.4	0.0	98.9	98.7	98.3	98.6	0.0	98.3	98.4
Exiting Leg Total					995					2953					856					3065	7869
Heavy Vehicles	6	3	4	0	13	9	43	1	0	53	3	6	2	0	11	3	45	2	0	50	127
% Heavy Vehicles	4.6	0.6	1.5	0.0	1.4	2.7	1.6	1.1	0.0	1.7	2.5	1.1	0.6	0.0	1.1	1.3	1.7	1.4	0.0	1.7	1.6
Exiting Leg Total					17					52					7					51	127

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:45 PM	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:45 PM	13	49	32	0	94	22	243	8	0	273	9	46	23	0	78	19	257	12	0	288	733
1:00 PM	11	50	14	0	75	32	197	4	0	233	14	44	35	0	93	24	253	11	0	288	689
1:15 PM	11	41	23	0	75	24	200	14	1	239	10	48	32	0	90	23	251	14	0	288	692
1:30 PM	9	47	21	0	77	41	222	5	0	268	2	45	31	0	78	21	256	16	0	293	716
Total Volume	44	187	90	0	321	119	862	31	1	1013	35	183	121	0	339	87	1017	53	0	1157	2830
% Approach Total	13.7	58.3	28.0	0.0		11.7	85.1	3.1	0.1		10.3	54.0	35.7	0.0		7.5	87.9	4.6	0.0		
PHF	0.846	0.935	0.703	0.000	0.854	0.726	0.887	0.554	0.250	0.928	0.625	0.953	0.864	0.000	0.911	0.906	0.989	0.828	0.000	0.987	0.965
Cars	43	186	88	0	317	117	849	31	1	998	35	181	120	0	336	86	999	53	0	1138	2789
Cars %	97.7	99.5	97.8	0.0	98.8	98.3	98.5	100.0	100.0	98.5	100.0	98.9	99.2	0.0	99.1	98.9	98.2	100.0	0.0	98.4	98.6
Heavy Vehicles	1	1	2	0	4	2	13	0	0	15	0	2	1	0	3	1	18	0	0	19	41
Heavy Vehicles %	2.3	0.5	2.2	0.0	1.2	1.7	1.5	0.0	0.0	1.5	0.0	1.1	0.8	0.0	0.9	1.1	1.8	0.0	0.0	1.6	1.4
Cars Enter Leg	43	186	88	0	317	117	849	31	1	998	35	181	120	0	336	86	999	53	0	1138	2789
Heavy Enter Leg	1	1	2	0	4	2	13	0	0	15	0	2	1	0	3	1	18	0	0	19	41
Total Entering Leg	44	187	90	0	321	119	862	31	1	1013	35	183	121	0	339	87	1017	53	0	1157	2830
Cars Exiting Leg					351					1123					303					1012	2789
Heavy Exiting Leg					4					20					2					15	41
Total Exiting Leg					355					1143					305					1027	2830

PDI File #: **228607 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	9	52	22	0	83	25	175	8	0	208	12	39	31	0	82	16	156	13	0	185	558
11:15 AM	13	43	18	0	74	29	232	4	0	265	10	40	28	0	78	12	180	12	0	204	621
11:30 AM	9	39	14	0	62	32	212	10	0	254	5	45	32	0	82	17	188	11	0	216	614
11:45 AM	15	53	25	0	93	24	208	8	0	240	12	43	27	0	82	20	161	14	0	195	610
Total	46	187	79	0	312	110	827	30	0	967	39	167	118	0	324	65	685	50	0	800	2403
12:00 PM	8	38	30	0	76	22	246	6	0	274	12	42	39	0	93	12	204	11	0	227	670
12:15 PM	7	33	29	0	69	26	232	12	1	271	7	48	19	0	74	21	221	11	0	253	667
12:30 PM	12	52	22	0	86	28	218	8	1	255	13	47	37	0	97	17	201	14	0	232	670
12:45 PM	13	48	30	0	91	21	238	8	0	267	9	46	22	0	77	19	250	12	0	281	716
Total	40	171	111	0	322	97	934	34	2	1067	41	183	117	0	341	69	876	48	0	993	2723
1:00 PM	11	50	14	0	75	32	195	4	0	231	14	44	35	0	93	23	251	11	0	285	684
1:15 PM	10	41	23	0	74	24	196	14	1	235	10	48	32	0	90	23	245	14	0	282	681
1:30 PM	9	47	21	0	77	40	220	5	0	265	2	43	31	0	76	21	253	16	0	290	708
1:45 PM	8	44	14	0	66	24	211	5	0	240	10	41	25	0	76	23	262	3	0	288	670
Total	38	182	72	0	292	120	822	28	1	971	36	176	123	0	335	90	1011	44	0	1145	2743
Grand Total	124	540	262	0	926	327	2583	92	3	3005	116	526	358	0	1000	224	2572	142	0	2938	7869
Approach %	13.4	58.3	28.3	0.0		10.9	86.0	3.1	0.1		11.6	52.6	35.8	0.0		7.6	87.5	4.8	0.0		
Total %	1.6	6.9	3.3	0.0	11.8	4.2	32.8	1.2	0.0	38.2	1.5	6.7	4.5	0.0	12.7	2.8	32.7	1.8	0.0	37.3	
Exiting Leg Total					995					2953					856					3065	7869

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:45 PM	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:45 PM	13	48	30	0	91	21	238	8	0	267	9	46	22	0	77	19	250	12	0	281	716
1:00 PM	11	50	14	0	75	32	195	4	0	231	14	44	35	0	93	23	251	11	0	285	684
1:15 PM	10	41	23	0	74	24	196	14	1	235	10	48	32	0	90	23	245	14	0	282	681
1:30 PM	9	47	21	0	77	40	220	5	0	265	2	43	31	0	76	21	253	16	0	290	708
Total Volume	43	186	88	0	317	117	849	31	1	998	35	181	120	0	336	86	999	53	0	1138	2789
% Approach Total	13.6	58.7	27.8	0.0		11.7	85.1	3.1	0.1		10.4	53.9	35.7	0.0		7.6	87.8	4.7	0.0		
PHF	0.827	0.930	0.733	0.000	0.871	0.731	0.892	0.554	0.250	0.934	0.625	0.943	0.857	0.000	0.903	0.935	0.987	0.828	0.000	0.981	0.974
Entering Leg	43	186	88	0	317	117	849	31	1	998	35	181	120	0	336	86	999	53	0	1138	2789
Exiting Leg					351					1123					303					1012	2789
Total					668					2121					639					2150	5578

PDI File #: **228607 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	1	0	0	0	1	1	3	0	0	4	0	0	1	0	1	0	2	0	0	2	8
11:15 AM	1	0	0	0	1	3	3	0	0	6	0	0	0	0	0	0	5	0	0	5	12
11:30 AM	1	0	0	0	1	1	5	0	0	6	1	0	0	0	1	0	6	0	0	6	14
11:45 AM	2	0	0	0	2	0	4	0	0	4	1	1	0	0	2	0	2	1	0	3	11
Total	5	0	0	0	5	5	15	0	0	20	2	1	1	0	4	0	15	1	0	16	45
12:00 PM	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	1	3	0	0	4	10
12:15 PM	0	1	1	0	2	1	4	0	0	5	1	1	0	0	2	1	4	0	0	5	14
12:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
12:45 PM	0	1	2	0	3	1	5	0	0	6	0	0	1	0	1	0	7	0	0	7	17
Total	0	2	4	0	6	2	16	0	0	18	1	1	1	0	3	2	17	0	0	19	46
1:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	2	0	0	3	5
1:15 PM	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	11
1:30 PM	0	0	0	0	0	1	2	0	0	3	0	2	0	0	2	0	3	0	0	3	8
1:45 PM	0	1	0	0	1	1	4	1	0	6	0	2	0	0	2	0	2	1	0	3	12
Total	1	1	0	0	2	2	12	1	0	15	0	4	0	0	4	1	13	1	0	15	36
Grand Total	6	3	4	0	13	9	43	1	0	53	3	6	2	0	11	3	45	2	0	50	127
Approach %	46.2	23.1	30.8	0.0		17.0	81.1	1.9	0.0		27.3	54.5	18.2	0.0		6.0	90.0	4.0	0.0		
Total %	4.7	2.4	3.1	0.0	10.2	7.1	33.9	0.8	0.0	41.7	2.4	4.7	1.6	0.0	8.7	2.4	35.4	1.6	0.0	39.4	
Exiting Leg Total					17					52					7					51	127
Buses	0	1	0	0	1	0	3	1	0	4	0	0	0	0	0	0	3	0	0	3	8
% Buses	0.0	33.3	0.0	0.0	7.7	0.0	7.0	100.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	6.0	6.3
Exiting Leg Total					0					3					2					3	8
Single-Unit Trucks	6	2	4	0	12	9	26	0	0	35	3	3	2	0	8	1	28	2	0	31	86
% Single-Unit	100.0	66.7	100.0	0.0	92.3	100.0	60.5	0.0	0.0	66.0	100.0	50.0	100.0	0.0	72.7	33.3	62.2	100.0	0.0	62.0	67.7
Exiting Leg Total					14					35					3					34	86
Articulated Trucks	0	0	0	0	0	0	14	0	0	14	0	3	0	0	3	2	14	0	0	16	33
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	32.6	0.0	0.0	26.4	0.0	50.0	0.0	0.0	27.3	66.7	31.1	0.0	0.0	32.0	26.0
Exiting Leg Total					3					14					2					14	33

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:30 AM	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:30 AM	1	0	0	0	1	1	5	0	0	6	1	0	0	0	1	0	6	0	0	6	14
11:45 AM	2	0	0	0	2	0	4	0	0	4	1	1	0	0	2	0	2	1	0	3	11
12:00 PM	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	1	3	0	0	4	10
12:15 PM	0	1	1	0	2	1	4	0	0	5	1	1	0	0	2	1	4	0	0	5	14
Total Volume	3	1	2	0	6	2	18	0	0	20	3	2	0	0	5	2	15	1	0	18	49
% Approach Total	50.0	16.7	33.3	0.0		10.0	90.0	0.0	0.0		60.0	40.0	0.0	0.0		11.1	83.3	5.6	0.0		
PHF	0.375	0.250	0.500	0.000	0.750	0.500	0.900	0.000	0.000	0.833	0.750	0.500	0.000	0.000	0.625	0.500	0.625	0.250	0.000	0.750	0.875
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Single-Unit Trucks	3	1	2	0	6	2	11	0	0	13	3	1	0	0	4	1	12	1	0	14	37
Single-Unit %	100.0	100.0	100.0	0.0	100.0	100.0	61.1	0.0	0.0	65.0	100.0	50.0	0.0	0.0	80.0	50.0	80.0	100.0	0.0	77.8	75.5
Articulated Trucks	0	0	0	0	0	0	6	0	0	6	0	1	0	0	1	1	3	0	0	4	11
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	30.0	0.0	50.0	0.0	0.0	20.0	50.0	20.0	0.0	0.0	22.2	22.4
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Single-Unit Trucks	3	1	2	0	6	2	11	0	0	13	3	1	0	0	4	1	12	1	0	14	37
Articulated Trucks	0	0	0	0	0	0	6	0	0	6	0	1	0	0	1	1	3	0	0	4	11
Total Entering Leg	3	1	2	0	6	2	18	0	0	20	3	2	0	0	5	2	15	1	0	18	49
Buses					0					0					0					1	1
Single-Unit Trucks					4					17					2					14	37
Articulated Trucks					1					3					1					6	11
Total Exiting Leg					5					20					3					21	49

PDI File #: **228607 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Total	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	4
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	3
Grand Total	0	1	0	0	1	0	3	1	0	4	0	0	0	0	0	0	3	0	0	3	8
Approach %	0.0	100.0	0.0	0.0		0.0	75.0	25.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	12.5	0.0	0.0	12.5	0.0	37.5	12.5	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	0.0	0.0	37.5	
Exiting Leg Total					0					3					2					3	8

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Volume	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5
% Approach Total	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.625
Entering Leg	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5
Exiting Leg					0					2					1					2	5
Total					1					4					1					4	10

PDI File #: **228607 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	1	0	0	0	1	1	3	0	0	4	0	0	1	0	1	0	0	0	0	0	6
11:15 AM	1	0	0	0	1	3	2	0	0	5	0	0	0	0	0	0	3	0	0	3	9
11:30 AM	1	0	0	0	1	1	4	0	0	5	1	0	0	0	1	0	4	0	0	4	11
11:45 AM	2	0	0	0	2	0	2	0	0	2	1	0	0	0	1	0	2	1	0	3	8
Total	5	0	0	0	5	5	11	0	0	16	2	0	1	0	3	0	9	1	0	10	34
12:00 PM	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	1	2	0	0	3	8
12:15 PM	0	1	1	0	2	1	1	0	0	2	1	1	0	0	2	0	4	0	0	4	10
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
12:45 PM	0	0	2	0	2	1	3	0	0	4	0	0	1	0	1	0	5	0	0	5	12
Total	0	1	4	0	5	2	8	0	0	10	1	1	1	0	3	1	13	0	0	14	32
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4
1:30 PM	0	0	0	0	0	1	2	0	0	3	0	1	0	0	1	0	2	0	0	2	6
1:45 PM	0	1	0	0	1	1	4	0	0	5	0	1	0	0	1	0	2	1	0	3	10
Total	1	1	0	0	2	2	7	0	0	9	0	2	0	0	2	0	6	1	0	7	20
Grand Total	6	2	4	0	12	9	26	0	0	35	3	3	2	0	8	1	28	2	0	31	86
Approach %	50.0	16.7	33.3	0.0		25.7	74.3	0.0	0.0		37.5	37.5	25.0	0.0		3.2	90.3	6.5	0.0		
Total %	7.0	2.3	4.7	0.0	14.0	10.5	30.2	0.0	0.0	40.7	3.5	3.5	2.3	0.0	9.3	1.2	32.6	2.3	0.0	36.0	
Exiting Leg Total					14					35					3					34	86

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:30 AM	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:30 AM	1	0	0	0	1	1	4	0	0	5	1	0	0	0	1	0	4	0	0	4	11
11:45 AM	2	0	0	0	2	0	2	0	0	2	1	0	0	0	1	0	2	1	0	3	8
12:00 PM	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	1	2	0	0	3	8
12:15 PM	0	1	1	0	2	1	1	0	0	2	1	1	0	0	2	0	4	0	0	4	10
Total Volume	3	1	2	0	6	2	11	0	0	13	3	1	0	0	4	1	12	1	0	14	37
% Approach Total	50.0	16.7	33.3	0.0		15.4	84.6	0.0	0.0		75.0	25.0	0.0	0.0		7.1	85.7	7.1	0.0		
PHF	0.375	0.250	0.500	0.000	0.750	0.500	0.688	0.000	0.000	0.650	0.750	0.250	0.000	0.000	0.500	0.250	0.750	0.250	0.000	0.875	0.841
Entering Leg	3	1	2	0	6	2	11	0	0	13	3	1	0	0	4	1	12	1	0	14	37
Exiting Leg					4					17					2					14	37
Total					10					30					6					28	74

PDI File #: **228607 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
11:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
11:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
11:45 AM	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	3
Total	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	0	5	0	0	5	10
12:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
12:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	3
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
12:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	1	4	0	0	5	10
1:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	2	0	0	3	5
1:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	5	0	0	5	0	2	0	0	2	1	5	0	0	6	13
Grand Total	0	0	0	0	0	0	14	0	0	14	0	3	0	0	3	2	14	0	0	16	33
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		12.5	87.5	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	42.4	0.0	0.0	42.4	0.0	9.1	0.0	0.0	9.1	6.1	42.4	0.0	0.0	48.5	
Exiting Leg Total					3					14					2					14	33

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
12:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
1:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	2	0	0	3	5
1:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
Total Volume	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	1	7	0	0	8	15
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		12.5	87.5	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.250	0.875	0.000	0.000	0.667	0.750
Entering Leg	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	1	7	0	0	8	15
Exiting Leg					0					7					1					7	15
Total					0					14					1					15	30

PDI File #: **228607 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	1	0	0	0	0	0	1	5
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	0.0	0.0	0.0	80.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	
Exiting Leg Total							4							0							1							0	5

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	2
Exiting Leg							2							0							0							0	2
Total							2							0							2							0	4

PDI File #: **228607 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **228607 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
11:00 AM	3	4	0	7	7	215	0	222	190	2	0	192	421
11:15 AM	4	2	0	6	7	252	0	259	207	4	0	211	476
11:30 AM	5	3	0	8	6	254	0	260	212	2	0	214	482
11:45 AM	6	8	0	14	4	252	0	256	198	2	0	200	470
Total	18	17	0	35	24	973	0	997	807	10	0	817	1849
12:00 PM	6	8	0	14	8	280	0	288	249	3	0	252	554
12:15 PM	4	5	0	9	7	268	0	275	262	5	0	267	551
12:30 PM	7	2	0	9	2	248	0	250	235	4	0	239	498
12:45 PM	4	4	0	8	7	255	0	262	291	9	0	300	570
Total	21	19	0	40	24	1051	0	1075	1037	21	0	1058	2173
1:00 PM	4	4	0	8	12	233	0	245	280	4	0	284	537
1:15 PM	6	1	0	7	7	255	0	262	282	6	0	288	557
1:30 PM	5	5	0	10	6	250	0	256	275	4	0	279	545
1:45 PM	5	8	0	13	2	230	0	232	283	4	0	287	532
Total	20	18	0	38	27	968	0	995	1120	18	0	1138	2171
Grand Total	59	54	0	113	75	2992	0	3067	2964	49	0	3013	6193
Approach %	52.2	47.8	0.0		2.4	97.6	0.0		98.4	1.6	0.0		
Total %	1.0	0.9	0.0	1.8	1.2	48.3	0.0	49.5	47.9	0.8	0.0	48.7	
Exiting Leg Total				124				3018				3051	6193
Cars	59	53	0	112	75	2943	0	3018	2917	47	0	2964	6094
% Cars	100.0	98.1	0.0	99.1	100.0	98.4	0.0	98.4	98.4	95.9	0.0	98.4	98.4
Exiting Leg Total				122				2970				3002	6094
Heavy Vehicles	0	1	0	1	0	49	0	49	47	2	0	49	99
% Heavy Vehicles	0.0	1.9	0.0	0.9	0.0	1.6	0.0	1.6	1.6	4.1	0.0	1.6	1.6
Exiting Leg Total				2				48				49	99

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:45 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
12:45 PM	4	4	0	8	7	255	0	262	291	9	0	300	570
1:00 PM	4	4	0	8	12	233	0	245	280	4	0	284	537
1:15 PM	6	1	0	7	7	255	0	262	282	6	0	288	557
1:30 PM	5	5	0	10	6	250	0	256	275	4	0	279	545
Total Volume	19	14	0	33	32	993	0	1025	1128	23	0	1151	2209
% Approach Total	57.6	42.4	0.0		3.1	96.9	0.0		98.0	2.0	0.0		
PHF	0.792	0.700	0.000	0.825	0.667	0.974	0.000	0.978	0.969	0.639	0.000	0.959	0.969
Cars	19	13	0	32	32	978	0	1010	1109	22	0	1131	2173
Cars %	100.0	92.9	0.0	97.0	100.0	98.5	0.0	98.5	98.3	95.7	0.0	98.3	98.4
Heavy Vehicles	0	1	0	1	0	15	0	15	19	1	0	20	36
Heavy Vehicles %	0.0	7.1	0.0	3.0	0.0	1.5	0.0	1.5	1.7	4.3	0.0	1.7	1.6
Cars Enter Leg	19	13	0	32	32	978	0	1010	1109	22	0	1131	2173
Heavy Enter Leg	0	1	0	1	0	15	0	15	19	1	0	20	36
Total Entering Leg	19	14	0	33	32	993	0	1025	1128	23	0	1151	2209
Cars Exiting Leg				54				1122				997	2173
Heavy Exiting Leg				1				20				15	36
Total Exiting Leg				55				1142				1012	2209

PDI File #: **228607 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
11:00 AM	3	4	0	7	7	212	0	219	188	2	0	190	416
11:15 AM	4	2	0	6	7	246	0	253	202	4	0	206	465
11:30 AM	5	3	0	8	6	248	0	254	207	2	0	209	471
11:45 AM	6	8	0	14	4	249	0	253	196	1	0	197	464
Total	18	17	0	35	24	955	0	979	793	9	0	802	1816
12:00 PM	6	8	0	14	8	273	0	281	245	3	0	248	543
12:15 PM	4	5	0	9	7	265	0	272	257	5	0	262	543
12:30 PM	7	2	0	9	2	246	0	248	232	4	0	236	493
12:45 PM	4	4	0	8	7	248	0	255	283	8	0	291	554
Total	21	19	0	40	24	1032	0	1056	1017	20	0	1037	2133
1:00 PM	4	3	0	7	12	231	0	243	278	4	0	282	532
1:15 PM	6	1	0	7	7	250	0	257	277	6	0	283	547
1:30 PM	5	5	0	10	6	249	0	255	271	4	0	275	540
1:45 PM	5	8	0	13	2	226	0	228	281	4	0	285	526
Total	20	17	0	37	27	956	0	983	1107	18	0	1125	2145
Grand Total	59	53	0	112	75	2943	0	3018	2917	47	0	2964	6094
Approach %	52.7	47.3	0.0		2.5	97.5	0.0		98.4	1.6	0.0		
Total %	1.0	0.9	0.0	1.8	1.2	48.3	0.0	49.5	47.9	0.8	0.0	48.6	
Exiting Leg Total				122				2970				3002	6094

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:45 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
12:45 PM	4	4	0	8	7	248	0	255	283	8	0	291	554
1:00 PM	4	3	0	7	12	231	0	243	278	4	0	282	532
1:15 PM	6	1	0	7	7	250	0	257	277	6	0	283	547
1:30 PM	5	5	0	10	6	249	0	255	271	4	0	275	540
Total Volume	19	13	0	32	32	978	0	1010	1109	22	0	1131	2173
% Approach Total	59.4	40.6	0.0		3.2	96.8	0.0		98.1	1.9	0.0		
PHF	0.792	0.650	0.000	0.800	0.667	0.978	0.000	0.982	0.980	0.688	0.000	0.972	0.981
Entering Leg	19	13	0	32	32	978	0	1010	1109	22	0	1131	2173
Exiting Leg				54				1122				997	2173
Total				86				2132				2128	4346

PDI File #: **228607 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	3	0	3	2	0	0	2	5
11:15 AM	0	0	0	0	0	6	0	6	5	0	0	5	11
11:30 AM	0	0	0	0	0	6	0	6	5	0	0	5	11
11:45 AM	0	0	0	0	0	3	0	3	2	1	0	3	6
Total	0	0	0	0	0	18	0	18	14	1	0	15	33
12:00 PM	0	0	0	0	0	7	0	7	4	0	0	4	11
12:15 PM	0	0	0	0	0	3	0	3	5	0	0	5	8
12:30 PM	0	0	0	0	0	2	0	2	3	0	0	3	5
12:45 PM	0	0	0	0	0	7	0	7	8	1	0	9	16
Total	0	0	0	0	0	19	0	19	20	1	0	21	40
1:00 PM	0	1	0	1	0	2	0	2	2	0	0	2	5
1:15 PM	0	0	0	0	0	5	0	5	5	0	0	5	10
1:30 PM	0	0	0	0	0	1	0	1	4	0	0	4	5
1:45 PM	0	0	0	0	0	4	0	4	2	0	0	2	6
Total	0	1	0	1	0	12	0	12	13	0	0	13	26
Grand Total	0	1	0	1	0	49	0	49	47	2	0	49	99
Approach %	0.0	100.0	0.0		0.0	100.0	0.0		95.9	4.1	0.0		
Total %	0.0	1.0	0.0	1.0	0.0	49.5	0.0	49.5	47.5	2.0	0.0	49.5	
Exiting Leg Total				2				48				49	99
Buses	0	0	0	0	0	2	0	2	3	0	0	3	5
% Buses	0.0	0.0	0.0	0.0	0.0	4.1	0.0	4.1	6.4	0.0	0.0	6.1	5.1
Exiting Leg Total				0				3				2	5
Single-Unit Trucks	0	1	0	1	0	32	0	32	30	2	0	32	65
% Single-Unit	0.0	100.0	0.0	100.0	0.0	65.3	0.0	65.3	63.8	100.0	0.0	65.3	65.7
Exiting Leg Total				2				31				32	65
Articulated Trucks	0	0	0	0	0	15	0	15	14	0	0	14	29
% Articulated	0.0	0.0	0.0	0.0	0.0	30.6	0.0	30.6	29.8	0.0	0.0	28.6	29.3
Exiting Leg Total				0				14				15	29

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:00 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
12:00 PM	0	0	0	0	0	7	0	7	4	0	0	4	11
12:15 PM	0	0	0	0	0	3	0	3	5	0	0	5	8
12:30 PM	0	0	0	0	0	2	0	2	3	0	0	3	5
12:45 PM	0	0	0	0	0	7	0	7	8	1	0	9	16
Total Volume	0	0	0	0	0	19	0	19	20	1	0	21	40
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		95.2	4.8	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.679	0.000	0.679	0.625	0.250	0.000	0.583	0.625
Buses	0	0	0	0	0	2	0	2	0	0	0	0	2
Buses %	0.0	0.0	0.0	0.0	0.0	10.5	0.0	10.5	0.0	0.0	0.0	0.0	5.0
Single-Unit Trucks	0	0	0	0	0	12	0	12	16	1	0	17	29
Single-Unit %	0.0	0.0	0.0	0.0	0.0	63.2	0.0	63.2	80.0	100.0	0.0	81.0	72.5
Articulated Trucks	0	0	0	0	0	5	0	5	4	0	0	4	9
Articulated %	0.0	0.0	0.0	0.0	0.0	26.3	0.0	26.3	20.0	0.0	0.0	19.0	22.5
Buses	0	0	0	0	0	2	0	2	0	0	0	0	2
Single-Unit Trucks	0	0	0	0	0	12	0	12	16	1	0	17	29
Articulated Trucks	0	0	0	0	0	5	0	5	4	0	0	4	9
Total Entering Leg	0	0	0	0	0	19	0	19	20	1	0	21	40
Buses				0				0				2	2
Single-Unit Trucks				1				16				12	29
Articulated Trucks				0				4				5	9
Total Exiting Leg				1				20				19	40

PDI File #: **228607 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
12:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	2	0	0	0	0	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	2	2
Grand Total	0	0	0	0	0	2	0	2	3	0	0	3	5
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	40.0	0.0	40.0	60.0	0.0	0.0	60.0	
Exiting Leg Total				0				3				2	5

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
12:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Volume	0	0	0	0	0	1	0	1	2	0	0	2	3
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.250	0.375
Entering Leg	0	0	0	0	0	1	0	1	2	0	0	2	3
Exiting Leg				0				2				1	3
Total				0				3				3	6

PDI File #: **228607 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	3
11:15 AM	0	0	0	0	0	4	0	4	3	0	0	3	7
11:30 AM	0	0	0	0	0	5	0	5	3	0	0	3	8
11:45 AM	0	0	0	0	0	1	0	1	2	1	0	3	4
Total	0	0	0	0	0	13	0	13	8	1	0	9	22
12:00 PM	0	0	0	0	0	5	0	5	3	0	0	3	8
12:15 PM	0	0	0	0	0	1	0	1	5	0	0	5	6
12:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
12:45 PM	0	0	0	0	0	6	0	6	6	1	0	7	13
Total	0	0	0	0	0	12	0	12	16	1	0	17	29
1:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	2	0	2	1	0	0	1	3
1:30 PM	0	0	0	0	0	1	0	1	3	0	0	3	4
1:45 PM	0	0	0	0	0	4	0	4	2	0	0	2	6
Total	0	1	0	1	0	7	0	7	6	0	0	6	14
Grand Total	0	1	0	1	0	32	0	32	30	2	0	32	65
Approach %	0.0	100.0	0.0		0.0	100.0	0.0		93.8	6.3	0.0		
Total %	0.0	1.5	0.0	1.5	0.0	49.2	0.0	49.2	46.2	3.1	0.0	49.2	
Exiting Leg Total				2				31				32	65

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:00 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
12:00 PM	0	0	0	0	0	5	0	5	3	0	0	3	8
12:15 PM	0	0	0	0	0	1	0	1	5	0	0	5	6
12:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
12:45 PM	0	0	0	0	0	6	0	6	6	1	0	7	13
Total Volume	0	0	0	0	0	12	0	12	16	1	0	17	29
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		94.1	5.9	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.667	0.250	0.000	0.607	0.558
Entering Leg	0	0	0	0	0	12	0	12	16	1	0	17	29
Exiting Leg				1				16				12	29
Total				1				28				29	58

PDI File #: **228607 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
11:15 AM	0	0	0	0	0	2	0	2	1	0	0	1	3
11:30 AM	0	0	0	0	0	1	0	1	2	0	0	2	3
11:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	0	0	0	0	5	0	5	5	0	0	5	10
12:00 PM	0	0	0	0	0	2	0	2	1	0	0	1	3
12:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
12:30 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
12:45 PM	0	0	0	0	0	1	0	1	2	0	0	2	3
Total	0	0	0	0	0	5	0	5	4	0	0	4	9
1:00 PM	0	0	0	0	0	2	0	2	2	0	0	2	4
1:15 PM	0	0	0	0	0	3	0	3	2	0	0	2	5
1:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	5	0	5	5	0	0	5	10
Grand Total	0	0	0	0	0	15	0	15	14	0	0	14	29
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	51.7	0.0	51.7	48.3	0.0	0.0	48.3	
Exiting Leg Total				0				14				15	29

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
12:30 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
12:45 PM	0	0	0	0	0	1	0	1	2	0	0	2	3
1:00 PM	0	0	0	0	0	2	0	2	2	0	0	2	4
1:15 PM	0	0	0	0	0	3	0	3	2	0	0	2	5
Total Volume	0	0	0	0	0	7	0	7	7	0	0	7	14
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.583	0.875	0.000	0.000	0.875	0.700
Entering Leg	0	0	0	0	0	7	0	7	7	0	0	7	14
Exiting Leg				0				7				7	14
Total				0				14				14	28

PDI File #: **228607 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0	
Exiting Leg Total						0						1						0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Exiting Leg						0						1						0	1
Total						0						1						1	2

PDI File #: **228607 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **228607 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	205	93	0	298	105	21	0	126	15	180	0	195	619
11:15 AM	242	103	0	345	100	28	0	128	12	181	0	193	666
11:30 AM	241	120	0	361	91	25	0	116	9	203	0	212	689
11:45 AM	248	124	0	372	80	15	0	95	12	200	0	212	679
Total	936	440	0	1376	376	89	0	465	48	764	0	812	2653
12:00 PM	258	87	0	345	97	22	0	119	13	221	0	234	698
12:15 PM	270	97	0	367	100	10	0	110	15	240	0	255	732
12:30 PM	217	108	0	325	93	25	0	118	14	231	0	245	688
12:45 PM	251	115	0	366	84	22	0	106	10	256	0	266	738
Total	996	407	0	1403	374	79	0	453	52	948	0	1000	2856
1:00 PM	219	88	0	307	96	20	0	116	15	278	0	293	716
1:15 PM	236	117	0	353	82	15	0	97	8	276	0	284	734
1:30 PM	240	95	0	335	82	17	0	99	15	253	0	268	702
1:45 PM	205	112	0	317	90	26	0	116	15	265	0	280	713
Total	900	412	0	1312	350	78	0	428	53	1072	0	1125	2865
Grand Total	2832	1259	0	4091	1100	246	0	1346	153	2784	0	2937	8374
Approach %	69.2	30.8	0.0		81.7	18.3	0.0		5.2	94.8	0.0		
Total %	33.8	15.0	0.0	48.9	13.1	2.9	0.0	16.1	1.8	33.2	0.0	35.1	
Exiting Leg Total				3884				1412				3078	8374
Cars	2785	1250	0	4035	1097	244	0	1341	152	2740	0	2892	8268
% Cars	98.3	99.3	0.0	98.6	99.7	99.2	0.0	99.6	99.3	98.4	0.0	98.5	98.7
Exiting Leg Total				3837				1402				3029	8268
Heavy Vehicles	47	9	0	56	3	2	0	5	1	44	0	45	106
% Heavy Vehicles	1.7	0.7	0.0	1.4	0.3	0.8	0.0	0.4	0.7	1.6	0.0	1.5	1.3
Exiting Leg Total				47				10				49	106

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:45 PM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
12:45 PM	251	115	0	366	84	22	0	106	10	256	0	266	738
1:00 PM	219	88	0	307	96	20	0	116	15	278	0	293	716
1:15 PM	236	117	0	353	82	15	0	97	8	276	0	284	734
1:30 PM	240	95	0	335	82	17	0	99	15	253	0	268	702
Total Volume	946	415	0	1361	344	74	0	418	48	1063	0	1111	2890
% Approach Total	69.5	30.5	0.0		82.3	17.7	0.0		4.3	95.7	0.0		
PHF	0.942	0.887	0.000	0.930	0.896	0.841	0.000	0.901	0.800	0.956	0.000	0.948	0.979
Cars	930	414	0	1344	344	74	0	418	47	1046	0	1093	2855
Cars %	98.3	99.8	0.0	98.8	100.0	100.0	0.0	100.0	97.9	98.4	0.0	98.4	98.8
Heavy Vehicles	16	1	0	17	0	0	0	0	1	17	0	18	35
Heavy Vehicles %	1.7	0.2	0.0	1.2	0.0	0.0	0.0	0.0	2.1	1.6	0.0	1.6	1.2
Cars Enter Leg	930	414	0	1344	344	74	0	418	47	1046	0	1093	2855
Heavy Enter Leg	16	1	0	17	0	0	0	0	1	17	0	18	35
Total Entering Leg	946	415	0	1361	344	74	0	418	48	1063	0	1111	2890
Cars Exiting Leg				1390				461				1004	2855
Heavy Exiting Leg				17				2				16	35
Total Exiting Leg				1407				463				1020	2890

PDI File #: **228607 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	202	91	0	293	105	21	0	126	15	179	0	194	613
11:15 AM	237	102	0	339	100	27	0	127	12	177	0	189	655
11:30 AM	234	119	0	353	91	25	0	116	9	197	0	206	675
11:45 AM	243	123	0	366	80	15	0	95	12	197	0	209	670
Total	916	435	0	1351	376	88	0	464	48	750	0	798	2613
12:00 PM	253	86	0	339	96	22	0	118	13	220	0	233	690
12:15 PM	268	97	0	365	100	10	0	110	15	234	0	249	724
12:30 PM	215	107	0	322	92	24	0	116	14	227	0	241	679
12:45 PM	246	115	0	361	84	22	0	106	10	248	0	258	725
Total	982	405	0	1387	372	78	0	450	52	929	0	981	2818
1:00 PM	217	88	0	305	96	20	0	116	15	276	0	291	712
1:15 PM	231	117	0	348	82	15	0	97	7	270	0	277	722
1:30 PM	236	94	0	330	82	17	0	99	15	252	0	267	696
1:45 PM	203	111	0	314	89	26	0	115	15	263	0	278	707
Total	887	410	0	1297	349	78	0	427	52	1061	0	1113	2837
Grand Total	2785	1250	0	4035	1097	244	0	1341	152	2740	0	2892	8268
Approach %	69.0	31.0	0.0		81.8	18.2	0.0		5.3	94.7	0.0		
Total %	33.7	15.1	0.0	48.8	13.3	3.0	0.0	16.2	1.8	33.1	0.0	35.0	
Exiting Leg Total				3837				1402				3029	8268

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:45 PM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
12:45 PM	246	115	0	361	84	22	0	106	10	248	0	258	725
1:00 PM	217	88	0	305	96	20	0	116	15	276	0	291	712
1:15 PM	231	117	0	348	82	15	0	97	7	270	0	277	722
1:30 PM	236	94	0	330	82	17	0	99	15	252	0	267	696
Total Volume	930	414	0	1344	344	74	0	418	47	1046	0	1093	2855
% Approach Total	69.2	30.8	0.0		82.3	17.7	0.0		4.3	95.7	0.0		
PHF	0.945	0.885	0.000	0.931	0.896	0.841	0.000	0.901	0.783	0.947	0.000	0.939	0.984
Entering Leg	930	414	0	1344	344	74	0	418	47	1046	0	1093	2855
Exiting Leg				1390				461				1004	2855
Total				2734				879				2097	5710

PDI File #: **228607 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	3	2	0	5	0	0	0	0	0	1	0	1	6
11:15 AM	5	1	0	6	0	1	0	1	0	4	0	4	11
11:30 AM	7	1	0	8	0	0	0	0	0	6	0	6	14
11:45 AM	5	1	0	6	0	0	0	0	0	3	0	3	9
Total	20	5	0	25	0	1	0	1	0	14	0	14	40
12:00 PM	5	1	0	6	1	0	0	1	0	1	0	1	8
12:15 PM	2	0	0	2	0	0	0	0	0	6	0	6	8
12:30 PM	2	1	0	3	1	1	0	2	0	4	0	4	9
12:45 PM	5	0	0	5	0	0	0	0	0	8	0	8	13
Total	14	2	0	16	2	1	0	3	0	19	0	19	38
1:00 PM	2	0	0	2	0	0	0	0	0	2	0	2	4
1:15 PM	5	0	0	5	0	0	0	0	1	6	0	7	12
1:30 PM	4	1	0	5	0	0	0	0	0	1	0	1	6
1:45 PM	2	1	0	3	1	0	0	1	0	2	0	2	6
Total	13	2	0	15	1	0	0	1	1	11	0	12	28
Grand Total	47	9	0	56	3	2	0	5	1	44	0	45	106
Approach %	83.9	16.1	0.0		60.0	40.0	0.0		2.2	97.8	0.0		
Total %	44.3	8.5	0.0	52.8	2.8	1.9	0.0	4.7	0.9	41.5	0.0	42.5	
Exiting Leg Total				47				10				49	106
Buses	3	2	0	5	1	0	0	1	0	3	0	3	9
% Buses	6.4	22.2	0.0	8.9	33.3	0.0	0.0	20.0	0.0	6.8	0.0	6.7	8.5
Exiting Leg Total				4				2				3	9
Single-Unit Trucks	27	2	0	29	1	1	0	2	1	26	0	27	58
% Single-Unit	57.4	22.2	0.0	51.8	33.3	50.0	0.0	40.0	100.0	59.1	0.0	60.0	54.7
Exiting Leg Total				27				3				28	58
Articulated Trucks	17	5	0	22	1	1	0	2	0	15	0	15	39
% Articulated	36.2	55.6	0.0	39.3	33.3	50.0	0.0	40.0	0.0	34.1	0.0	33.3	36.8
Exiting Leg Total				16				5				18	39

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:15 AM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:15 AM	5	1	0	6	0	1	0	1	0	4	0	4	11
11:30 AM	7	1	0	8	0	0	0	0	0	6	0	6	14
11:45 AM	5	1	0	6	0	0	0	0	0	3	0	3	9
12:00 PM	5	1	0	6	1	0	0	1	0	1	0	1	8
Total Volume	22	4	0	26	1	1	0	2	0	14	0	14	42
% Approach Total	84.6	15.4	0.0		50.0	50.0	0.0		0.0	100.0	0.0		
PHF	0.786	1.000	0.000	0.813	0.250	0.250	0.000	0.500	0.000	0.583	0.000	0.583	0.750
Buses	0	1	0	1	0	0	0	0	0	1	0	1	2
Buses %	0.0	25.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	7.1	0.0	7.1	4.8
Single-Unit Trucks	14	1	0	15	0	0	0	0	0	9	0	9	24
Single-Unit %	63.6	25.0	0.0	57.7	0.0	0.0	0.0	0.0	0.0	64.3	0.0	64.3	57.1
Articulated Trucks	8	2	0	10	1	1	0	2	0	4	0	4	16
Articulated %	36.4	50.0	0.0	38.5	100.0	100.0	0.0	100.0	0.0	28.6	0.0	28.6	38.1
Buses	0	1	0	1	0	0	0	0	0	1	0	1	2
Single-Unit Trucks	14	1	0	15	0	0	0	0	0	9	0	9	24
Articulated Trucks	8	2	0	10	1	1	0	2	0	4	0	4	16
Total Entering Leg	22	4	0	26	1	1	0	2	0	14	0	14	42
Buses				1				1				0	2
Single-Unit Trucks				9				1				14	24
Articulated Trucks				5				2				9	16
Total Exiting Leg				15				4				23	42

PDI File #: **228607 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class: **Buses**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
11:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	1	0	1	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
12:30 PM	1	0	0	1	1	0	0	1	0	0	0	0	2
12:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	3	0	0	3	1	0	0	1	0	0	0	0	4
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
1:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	2	0	2	3
Grand Total	3	2	0	5	1	0	0	1	0	3	0	3	9
Approach %	60.0	40.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
Total %	33.3	22.2	0.0	55.6	11.1	0.0	0.0	11.1	0.0	33.3	0.0	33.3	
Exiting Leg Total				4				2				3	9

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
12:30 PM	1	0	0	1	1	0	0	1	0	0	0	0	2
12:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
Total Volume	2	0	0	2	1	0	0	1	0	2	0	2	5
% Approach Total	100.0	0.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.500	0.000	0.000	0.500	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.625
Entering Leg	2	0	0	2	1	0	0	1	0	2	0	2	5
Exiting Leg				3				0				2	5
Total				5				1				4	10

PDI File #: **228607 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	3	0	0	3	0	0	0	0	0	0	0	0	3
11:15 AM	5	0	0	5	0	0	0	0	0	2	0	2	7
11:30 AM	6	0	0	6	0	0	0	0	0	5	0	5	11
11:45 AM	2	0	0	2	0	0	0	0	0	2	0	2	4
Total	16	0	0	16	0	0	0	0	0	9	0	9	25
12:00 PM	1	1	0	2	0	0	0	0	0	0	0	0	2
12:15 PM	0	0	0	0	0	0	0	0	0	5	0	5	5
12:30 PM	0	1	0	1	0	1	0	1	0	3	0	3	5
12:45 PM	3	0	0	3	0	0	0	0	0	5	0	5	8
Total	4	2	0	6	0	1	0	1	0	13	0	13	20
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	1	0	0	1	0	0	0	0	1	2	0	3	4
1:30 PM	4	0	0	4	0	0	0	0	0	0	0	0	4
1:45 PM	2	0	0	2	1	0	0	1	0	2	0	2	5
Total	7	0	0	7	1	0	0	1	1	4	0	5	13
Grand Total	27	2	0	29	1	1	0	2	1	26	0	27	58
Approach %	93.1	6.9	0.0		50.0	50.0	0.0		3.7	96.3	0.0		
Total %	46.6	3.4	0.0	50.0	1.7	1.7	0.0	3.4	1.7	44.8	0.0	46.6	
Exiting Leg Total				27				3				28	58

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	3	0	0	3	0	0	0	0	0	0	0	0	3
11:15 AM	5	0	0	5	0	0	0	0	0	2	0	2	7
11:30 AM	6	0	0	6	0	0	0	0	0	5	0	5	11
11:45 AM	2	0	0	2	0	0	0	0	0	2	0	2	4
Total Volume	16	0	0	16	0	0	0	0	0	9	0	9	25
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.667	0.000	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.450	0.000	0.450	0.568
Entering Leg	16	0	0	16	0	0	0	0	0	9	0	9	25
Exiting Leg				9				0				16	25
Total				25				0				25	50

PDI File #: **228607 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	2	0	2	0	0	0	0	0	1	0	1	3
11:15 AM	0	1	0	1	0	1	0	1	0	1	0	1	3
11:30 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
11:45 AM	3	1	0	4	0	0	0	0	0	1	0	1	5
Total	4	4	0	8	0	1	0	1	0	4	0	4	13
12:00 PM	4	0	0	4	1	0	0	1	0	1	0	1	6
12:15 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
12:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
12:45 PM	1	0	0	1	0	0	0	0	0	3	0	3	4
Total	7	0	0	7	1	0	0	1	0	6	0	6	14
1:00 PM	2	0	0	2	0	0	0	0	0	2	0	2	4
1:15 PM	4	0	0	4	0	0	0	0	0	2	0	2	6
1:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
1:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	6	1	0	7	0	0	0	0	0	5	0	5	12
Grand Total	17	5	0	22	1	1	0	2	0	15	0	15	39
Approach %	77.3	22.7	0.0		50.0	50.0	0.0		0.0	100.0	0.0		
Total %	43.6	12.8	0.0	56.4	2.6	2.6	0.0	5.1	0.0	38.5	0.0	38.5	
Exiting Leg Total				16				5				18	39

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:15 AM	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:15 AM	0	1	0	1	0	1	0	1	0	1	0	1	3
11:30 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
11:45 AM	3	1	0	4	0	0	0	0	0	1	0	1	5
12:00 PM	4	0	0	4	1	0	0	1	0	1	0	1	6
Total Volume	8	2	0	10	1	1	0	2	0	4	0	4	16
% Approach Total	80.0	20.0	0.0		50.0	50.0	0.0		0.0	100.0	0.0		
PHF	0.500	0.500	0.000	0.625	0.250	0.250	0.000	0.500	0.000	1.000	0.000	1.000	0.667
Entering Leg	8	2	0	10	1	1	0	2	0	4	0	4	16
Exiting Leg				5				2				9	16
Total				15				4				13	32

PDI File #: **228607 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Bicycles (on Roadway and Crosswalks)

	Southbridge Road (Route 20)						Main Street (Route 12)						Southbridge Road (Route 20)						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						1						0						0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Southbridge Road (Route 20)						Main Street (Route 12)						Southbridge Road (Route 20)						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
Exiting Leg						1						0						0	1
Total						1						1						0	2

PDI File #: **228607 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Southbridge Road (Route 20)						Main Street (Route 12)						Southbridge Road (Route 20)						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	1	0	1	3
Approach %	0	0	0	0	0		0	0	0	50	50		0	0	0	100	0		
Total %	0	0	0	0	0	0	0	0	0	33.333	33.333	66.667	0	0	0	33.333	0	33.333	
Exiting Leg Total						0						2						1	3

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:15 AM	Southbridge Road (Route 20)						Main Street (Route 12)						Southbridge Road (Route 20)						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
Exiting Leg						0						2						0	2
Total						0						4						0	4

PDI File #: **228607 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	2	0	2	0	4	2	294	1	0	297	2	0	6	0	8	6	276	4	18	304	613
11:15 AM	2	0	4	0	6	2	361	7	0	370	3	0	6	0	9	3	283	1	18	305	690
11:30 AM	1	0	3	0	4	3	351	0	1	355	1	0	2	0	3	2	299	3	9	313	675
11:45 AM	4	1	5	0	10	2	342	5	0	349	3	0	4	0	7	2	275	5	8	290	656
Total	9	1	14	0	24	9	1348	13	1	1371	9	0	18	0	27	13	1133	13	53	1212	2634
12:00 PM	1	0	2	0	3	3	365	4	0	372	3	1	2	1	7	3	328	2	7	340	722
12:15 PM	0	0	3	0	3	0	374	5	0	379	9	1	3	0	13	5	324	5	8	342	737
12:30 PM	1	0	8	0	9	3	351	2	0	356	2	0	3	0	5	3	332	2	10	347	717
12:45 PM	1	1	7	0	9	1	381	9	0	391	10	0	1	0	11	1	350	4	5	360	771
Total	3	1	20	0	24	7	1471	20	0	1498	24	2	9	1	36	12	1334	13	30	1389	2947
1:00 PM	0	0	7	0	7	6	348	5	0	359	3	0	2	0	5	5	359	3	3	370	741
1:15 PM	4	0	7	0	11	1	339	2	0	342	2	0	5	0	7	4	374	2	2	382	742
1:30 PM	6	0	4	0	10	1	339	6	0	346	5	0	6	0	11	0	319	2	4	325	692
1:45 PM	3	1	2	0	6	0	323	4	0	327	6	2	1	0	9	0	352	2	8	362	704
Total	13	1	20	0	34	8	1349	17	0	1374	16	2	14	0	32	9	1404	9	17	1439	2879
Grand Total	25	3	54	0	82	24	4168	50	1	4243	49	4	41	1	95	34	3871	35	100	4040	8460
Approach %	30.5	3.7	65.9	0.0		0.6	98.2	1.2	0.0		51.6	4.2	43.2	1.1		0.8	95.8	0.9	2.5		
Total %	0.3	0.0	0.6	0.0	1.0	0.3	49.3	0.6	0.0	50.2	0.6	0.0	0.5	0.0	1.1	0.4	45.8	0.4	1.2	47.8	
Exiting Leg Total					63					3975					88					4334	8460
Cars	25	2	53	0	80	22	4113	49	1	4185	48	4	41	1	94	34	3816	34	100	3984	8343
% Cars	100.0	66.7	98.1	0.0	97.6	91.7	98.7	98.0	100.0	98.6	98.0	100.0	100.0	100.0	98.9	100.0	98.6	97.1	100.0	98.6	98.6
Exiting Leg Total					60					3918					86					4279	8343
Heavy Vehicles	0	1	1	0	2	2	55	1	0	58	1	0	0	0	1	0	55	1	0	56	117
% Heavy Vehicles	0.0	33.3	1.9	0.0	2.4	8.3	1.3	2.0	0.0	1.4	2.0	0.0	0.0	0.0	1.1	0.0	1.4	2.9	0.0	1.4	1.4
Exiting Leg Total					3					57					2					55	117

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:30 PM	1	0	8	0	9	3	351	2	0	356	2	0	3	0	5	3	332	2	10	347	717
12:45 PM	1	1	7	0	9	1	381	9	0	391	10	0	1	0	11	1	350	4	5	360	771
1:00 PM	0	0	7	0	7	6	348	5	0	359	3	0	2	0	5	5	359	3	3	370	741
1:15 PM	4	0	7	0	11	1	339	2	0	342	2	0	5	0	7	4	374	2	2	382	742
Total Volume	6	1	29	0	36	11	1419	18	0	1448	17	0	11	0	28	13	1415	11	20	1459	2971
% Approach Total	16.7	2.8	80.6	0.0		0.8	98.0	1.2	0.0		60.7	0.0	39.3	0.0		0.9	97.0	0.8	1.4		
PHF	0.375	0.250	0.906	0.000	0.818	0.458	0.931	0.500	0.000	0.926	0.425	0.000	0.550	0.000	0.636	0.650	0.946	0.688	0.500	0.955	0.963
Cars	6	1	28	0	35	10	1403	18	0	1431	16	0	11	0	27	13	1393	11	20	1437	2930
Cars %	100.0	100.0	96.6	0.0	97.2	90.9	98.9	100.0	0.0	98.8	94.1	0.0	100.0	0.0	96.4	100.0	98.4	100.0	100.0	98.5	98.6
Heavy Vehicles	0	0	1	0	1	1	16	0	0	17	1	0	0	0	1	0	22	0	0	22	41
Heavy Vehicles %	0.0	0.0	3.4	0.0	2.8	9.1	1.1	0.0	0.0	1.2	5.9	0.0	0.0	0.0	3.6	0.0	1.6	0.0	0.0	1.5	1.4
Cars Enter Leg	6	1	28	0	35	10	1403	18	0	1431	16	0	11	0	27	13	1393	11	20	1437	2930
Heavy Enter Leg	0	0	1	0	1	1	16	0	0	17	1	0	0	0	1	0	22	0	0	22	41
Total Entering Leg	6	1	29	0	36	11	1419	18	0	1448	17	0	11	0	28	13	1415	11	20	1459	2971
Cars Exiting Leg					21					1437					32					1440	2930
Heavy Exiting Leg					1					24					0					16	41
Total Exiting Leg					22					1461					32					1456	2971

PDI File #: **228607 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Cars

	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	2	0	2	0	4	1	289	1	0	291	2	0	6	0	8	6	271	4	18	299	602
11:15 AM	2	0	4	0	6	2	355	7	0	364	3	0	6	0	9	3	278	1	18	300	679
11:30 AM	1	0	3	0	4	3	343	0	1	347	1	0	2	0	3	2	293	3	9	307	661
11:45 AM	4	0	5	0	9	2	338	5	0	345	3	0	4	0	7	2	272	5	8	287	648
Total	9	0	14	0	23	8	1325	13	1	1347	9	0	18	0	27	13	1114	13	53	1193	2590
12:00 PM	1	0	2	0	3	3	358	4	0	365	3	1	2	1	7	3	325	2	7	337	712
12:15 PM	0	0	3	0	3	0	372	5	0	377	9	1	3	0	13	5	318	4	8	335	728
12:30 PM	1	0	8	0	9	2	348	2	0	352	2	0	3	0	5	3	326	2	10	341	707
12:45 PM	1	1	6	0	8	1	375	9	0	385	9	0	1	0	10	1	342	4	5	352	755
Total	3	1	19	0	23	6	1453	20	0	1479	23	2	9	1	35	12	1311	12	30	1365	2902
1:00 PM	0	0	7	0	7	6	345	5	0	356	3	0	2	0	5	5	356	3	3	367	735
1:15 PM	4	0	7	0	11	1	335	2	0	338	2	0	5	0	7	4	369	2	2	377	733
1:30 PM	6	0	4	0	10	1	335	5	0	341	5	0	6	0	11	0	317	2	4	323	685
1:45 PM	3	1	2	0	6	0	320	4	0	324	6	2	1	0	9	0	349	2	8	359	698
Total	13	1	20	0	34	8	1335	16	0	1359	16	2	14	0	32	9	1391	9	17	1426	2851
Grand Total	25	2	53	0	80	22	4113	49	1	4185	48	4	41	1	94	34	3816	34	100	3984	8343
Approach %	31.3	2.5	66.3	0.0		0.5	98.3	1.2	0.0		51.1	4.3	43.6	1.1		0.9	95.8	0.9	2.5		
Total %	0.3	0.0	0.6	0.0	1.0	0.3	49.3	0.6	0.0	50.2	0.6	0.0	0.5	0.0	1.1	0.4	45.7	0.4	1.2	47.8	
Exiting Leg Total					60					3918					86					4279	8343

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:30 PM	1	0	8	0	9	2	348	2	0	352	2	0	3	0	5	3	326	2	10	341	707
12:45 PM	1	1	6	0	8	1	375	9	0	385	9	0	1	0	10	1	342	4	5	352	755
1:00 PM	0	0	7	0	7	6	345	5	0	356	3	0	2	0	5	5	356	3	3	367	735
1:15 PM	4	0	7	0	11	1	335	2	0	338	2	0	5	0	7	4	369	2	2	377	733
Total Volume	6	1	28	0	35	10	1403	18	0	1431	16	0	11	0	27	13	1393	11	20	1437	2930
% Approach Total	17.1	2.9	80.0	0.0		0.7	98.0	1.3	0.0		59.3	0.0	40.7	0.0		0.9	96.9	0.8	1.4		
PHF	0.375	0.250	0.875	0.000	0.795	0.417	0.935	0.500	0.000	0.929	0.444	0.000	0.550	0.000	0.675	0.650	0.944	0.688	0.500	0.953	0.970
Entering Leg	6	1	28	0	35	10	1403	18	0	1431	16	0	11	0	27	13	1393	11	20	1437	2930
Exiting Leg					21					1437					32					1440	2930
Total					56					2868					59					2877	5860

PDI File #: **228607 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	5	0	0	5	11
11:15 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	11
11:30 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	6	0	0	6	14
11:45 AM	0	1	0	0	1	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	8
Total	0	1	0	0	1	1	23	0	0	24	0	0	0	0	0	0	19	0	0	19	44
12:00 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	3	0	0	3	10
12:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	1	0	7	9
12:30 PM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	6	0	0	6	10
12:45 PM	0	0	1	0	1	0	6	0	0	6	1	0	0	0	1	0	8	0	0	8	16
Total	0	0	1	0	1	1	18	0	0	19	1	0	0	0	1	0	23	1	0	24	45
1:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
1:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	9
1:30 PM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	7
1:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
Total	0	0	0	0	0	0	14	1	0	15	0	0	0	0	0	0	13	0	0	13	28
Grand Total	0	1	1	0	2	2	55	1	0	58	1	0	0	0	1	0	55	1	0	56	117
Approach %	0.0	50.0	50.0	0.0		3.4	94.8	1.7	0.0		100.0	0.0	0.0	0.0		0.0	98.2	1.8	0.0		
Total %	0.0	0.9	0.9	0.0	1.7	1.7	47.0	0.9	0.0	49.6	0.9	0.0	0.0	0.0	0.9	0.0	47.0	0.9	0.0	47.9	
Exiting Leg Total					3					57					2					55	117
Buses	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	9
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	7.3	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	8.9	7.7
Exiting Leg Total					0					5					0					4	9
Single-Unit Trucks	0	1	1	0	2	2	34	1	0	37	0	0	0	0	0	0	34	1	0	35	74
% Single-Unit	0.0	100.0	100.0	0.0	100.0	100.0	61.8	100.0	0.0	63.8	0.0	0.0	0.0	0.0	0.0	0.0	61.8	100.0	0.0	62.5	63.2
Exiting Leg Total					3					35					2					34	74
Articulated Trucks	0	0	0	0	0	0	17	0	0	17	1	0	0	0	1	0	16	0	0	16	34
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	30.9	0.0	0.0	29.3	100.0	0.0	0.0	0.0	100.0	0.0	29.1	0.0	0.0	28.6	29.1
Exiting Leg Total					0					17					0					17	34

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:00 PM	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:00 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	3	0	0	3	10
12:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	1	0	7	9
12:30 PM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	6	0	0	6	10
12:45 PM	0	0	1	0	1	0	6	0	0	6	1	0	0	0	1	0	8	0	0	8	16
Total Volume	0	0	1	0	1	1	18	0	0	19	1	0	0	0	1	0	23	1	0	24	45
% Approach Total	0.0	0.0	100.0	0.0		5.3	94.7	0.0	0.0		100.0	0.0	0.0	0.0		0.0	95.8	4.2	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.250	0.643	0.000	0.000	0.679	0.250	0.000	0.000	0.000	0.250	0.000	0.719	0.250	0.000	0.750	0.703
Buses	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	4.2	8.9
Single-Unit Trucks	0	0	1	0	1	1	10	0	0	11	0	0	0	0	0	0	18	1	0	19	31
Single-Unit %	0.0	0.0	100.0	0.0	100.0	100.0	55.6	0.0	0.0	57.9	0.0	0.0	0.0	0.0	0.0	0.0	78.3	100.0	0.0	79.2	68.9
Articulated Trucks	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	0	4	0	0	4	10
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	27.8	0.0	0.0	26.3	100.0	0.0	0.0	0.0	100.0	0.0	17.4	0.0	0.0	16.7	22.2
Buses	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
Single-Unit Trucks	0	0	1	0	1	1	10	0	0	11	0	0	0	0	0	0	18	1	0	19	31
Articulated Trucks	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	0	4	0	0	4	10
Total Entering Leg	0	0	1	0	1	1	18	0	0	19	1	0	0	0	1	0	23	1	0	24	45
Buses					0					1					0					3	4
Single-Unit Trucks					2					19					0					10	31
Articulated Trucks					0					5					0					5	10
Total Exiting Leg					2					25					0					18	45

PDI File #: **228607 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
12:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Grand Total	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	9
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	44.4	0.0	0.0	44.4	0.0	0.0	0.0	0.0	0.0	0.0	55.6	0.0	0.0	55.6	
Exiting Leg Total					0					5					0					4	9

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
12:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.375	0.625
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
Exiting Leg					0					3					0					2	5
Total					0					5					0					5	10

PDI File #: **228607 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	2	0	0	2	6
11:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	7
11:30 AM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	5	0	0	5	12
11:45 AM	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5
Total	0	1	0	0	1	1	17	0	0	18	0	0	0	0	0	0	11	0	0	11	30
12:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
12:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	1	0	6	7
12:30 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	4	0	0	4	6
12:45 PM	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	7	0	0	7	12
Total	0	0	1	0	1	1	10	0	0	11	0	0	0	0	0	0	18	1	0	19	31
1:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
1:30 PM	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	1	0	0	1	5
1:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
Total	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	0	5	0	0	5	13
Grand Total	0	1	1	0	2	2	34	1	0	37	0	0	0	0	0	0	34	1	0	35	74
Approach %	0.0	50.0	50.0	0.0		5.4	91.9	2.7	0.0		0.0	0.0	0.0	0.0		0.0	97.1	2.9	0.0		
Total %	0.0	1.4	1.4	0.0	2.7	2.7	45.9	1.4	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	45.9	1.4	0.0	47.3	
Exiting Leg Total					3					35					2					34	74

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:00 PM	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
12:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	1	0	6	7
12:30 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	4	0	0	4	6
12:45 PM	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	7	0	0	7	12
Total Volume	0	0	1	0	1	1	10	0	0	11	0	0	0	0	0	0	18	1	0	19	31
% Approach Total	0.0	0.0	100.0	0.0		9.1	90.9	0.0	0.0		0.0	0.0	0.0	0.0		0.0	94.7	5.3	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.250	0.625	0.000	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.000	0.643	0.250	0.000	0.679	0.646
Entering Leg	0	0	1	0	1	1	10	0	0	11	0	0	0	0	0	0	18	1	0	19	31
Exiting Leg					2					19					0					10	31
Total					3					30					0					29	62

PDI File #: **228607 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Articulated Trucks

	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
11:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
11:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
11:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	12
12:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
12:45 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	3
Total	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	0	4	0	0	4	10
1:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
1:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	12
Grand Total	0	0	0	0	0	0	17	0	0	17	1	0	0	0	1	0	16	0	0	16	34
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	2.9	0.0	0.0	0.0	2.9	0.0	47.1	0.0	0.0	47.1	
Exiting Leg Total					0					17					0					17	34

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Albert Street					Southbridge Road (Route 20)					Hill Street					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
12:45 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	3
1:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
1:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
Total Volume	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	0	7	0	0	7	15
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.000	0.583	0.250	0.000	0.000	0.000	0.250	0.000	0.583	0.000	0.000	0.583	0.750
Entering Leg	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	0	7	0	0	7	15
Exiting Leg					0					8					0					7	15
Total					0					15					1					14	30

PDI File #: **228607 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Albert Street							Southbridge Road (Route 20)							Hill Street							Southbridge Road (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0	
Exiting Leg Total							0							1							0							0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Albert Street							Southbridge Road (Route 20)							Hill Street							Southbridge Road (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Exiting Leg							0							1							0							0	1
Total							0							1							0							1	2

PDI File #: **228607 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Albert Street							Southbridge Road (Route 20)							Hill Street							Southbridge Road (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Albert Street							Southbridge Road (Route 20)							Hill Street							Southbridge Road (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **228607 E**
Location: **N: Southbridge Road (Route 12) S: driveway**
Location: **E: Washington Street (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Cars and Heavy Vehicles (Combined)

	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	118	0	0	0	118	6	189	0	0	195	0	0	0	0	0	0	187	98	7	292	605
11:15 AM	147	0	0	0	147	5	231	0	0	236	0	0	0	0	0	0	190	91	4	285	668
11:30 AM	145	0	0	0	145	1	216	0	0	217	0	0	0	0	0	0	203	99	4	306	668
11:45 AM	135	0	0	0	135	5	222	0	0	227	0	0	0	0	0	0	186	119	8	313	675
Total	545	0	0	0	545	17	858	0	0	875	0	0	0	0	0	0	766	407	23	1196	2616
12:00 PM	155	0	0	0	155	2	214	0	0	216	0	0	0	0	0	0	213	110	9	332	703
12:15 PM	121	0	0	0	121	1	238	0	0	239	0	0	0	0	0	0	229	119	15	363	723
12:30 PM	125	0	0	0	125	2	233	0	0	235	0	0	0	0	0	0	219	106	9	334	694
12:45 PM	147	0	0	0	147	4	238	0	0	242	0	0	0	0	0	0	239	126	12	377	766
Total	548	0	0	0	548	9	923	0	0	932	0	0	0	0	0	0	900	461	45	1406	2886
1:00 PM	107	0	0	0	107	7	220	0	0	227	0	0	0	0	0	0	253	134	13	400	734
1:15 PM	110	0	0	0	110	3	221	0	0	224	0	0	0	0	0	0	264	118	8	390	724
1:30 PM	116	0	0	0	116	5	215	0	0	220	0	0	0	0	0	0	242	112	12	366	702
1:45 PM	96	0	0	0	96	2	215	0	0	217	0	0	0	0	0	0	226	122	17	365	678
Total	429	0	0	0	429	17	871	0	0	888	0	0	0	0	0	0	985	486	50	1521	2838
Grand Total	1522	0	0	0	1522	43	2652	0	0	2695	0	0	0	0	0	0	2651	1354	118	4123	8340
Approach %	100.0	0.0	0.0	0.0		1.6	98.4	0.0	0.0		0.0	0.0	0.0	0.0		0.0	64.3	32.8	2.9		
Total %	18.2	0.0	0.0	0.0	18.2	0.5	31.8	0.0	0.0	32.3	0.0	0.0	0.0	0.0	0.0	0.0	31.8	16.2	1.4	49.4	
Exiting Leg Total					1397					2651					0					4292	8340
Cars	1504	0	0	0	1504	42	2611	0	0	2653	0	0	0	0	0	0	2615	1333	118	4066	8223
% Cars	98.8	0.0	0.0	0.0	98.8	97.7	98.5	0.0	0.0	98.4	0.0	0.0	0.0	0.0	0.0	0.0	98.6	98.4	100.0	98.6	98.6
Exiting Leg Total					1375					2615					0					4233	8223
Heavy Vehicles	18	0	0	0	18	1	41	0	0	42	0	0	0	0	0	0	36	21	0	57	117
% Heavy Vehicles	1.2	0.0	0.0	0.0	1.2	2.3	1.5	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.6	0.0	1.4	1.4
Exiting Leg Total					22					36					0					59	117

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:45 PM	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:45 PM	147	0	0	0	147	4	238	0	0	242	0	0	0	0	0	0	239	126	12	377	766
1:00 PM	107	0	0	0	107	7	220	0	0	227	0	0	0	0	0	0	253	134	13	400	734
1:15 PM	110	0	0	0	110	3	221	0	0	224	0	0	0	0	0	0	264	118	8	390	724
1:30 PM	116	0	0	0	116	5	215	0	0	220	0	0	0	0	0	0	242	112	12	366	702
Total Volume	480	0	0	0	480	19	894	0	0	913	0	0	0	0	0	0	998	490	45	1533	2926
% Approach Total	100.0	0.0	0.0	0.0		2.1	97.9	0.0	0.0		0.0	0.0	0.0	0.0		0.0	65.1	32.0	2.9		
PHF	0.816	0.000	0.000	0.000	0.816	0.679	0.939	0.000	0.000	0.943	0.000	0.000	0.000	0.000	0.000	0.000	0.945	0.914	0.865	0.958	0.955
Cars	473	0	0	0	473	18	884	0	0	902	0	0	0	0	0	0	984	484	45	1513	2888
Cars %	98.5	0.0	0.0	0.0	98.5	94.7	98.9	0.0	0.0	98.8	0.0	0.0	0.0	0.0	0.0	0.0	98.6	98.8	100.0	98.7	98.7
Heavy Vehicles	7	0	0	0	7	1	10	0	0	11	0	0	0	0	0	0	14	6	0	20	38
Heavy Vehicles %	1.5	0.0	0.0	0.0	1.5	5.3	1.1	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.2	0.0	1.3	1.3
Cars Enter Leg	473	0	0	0	473	18	884	0	0	902	0	0	0	0	0	0	984	484	45	1513	2888
Heavy Enter Leg	7	0	0	0	7	1	10	0	0	11	0	0	0	0	0	0	14	6	0	20	38
Total Entering Leg	480	0	0	0	480	19	894	0	0	913	0	0	0	0	0	0	998	490	45	1533	2926
Cars Exiting Leg					502					984					0					1402	2888
Heavy Exiting Leg					7					14					0					17	38
Total Exiting Leg					509					998					0					1419	2926

PDI File #: **228607 E**
Location: **N: Southbridge Road (Route 12) S: driveway**
Location: **E: Washington Street (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	117	0	0	0	117	6	185	0	0	191	0	0	0	0	0	0	183	97	7	287	595
11:15 AM	146	0	0	0	146	5	225	0	0	230	0	0	0	0	0	0	189	87	4	280	656
11:30 AM	142	0	0	0	142	1	211	0	0	212	0	0	0	0	0	0	198	98	4	300	654
11:45 AM	132	0	0	0	132	5	218	0	0	223	0	0	0	0	0	0	184	117	8	309	664
Total	537	0	0	0	537	17	839	0	0	856	0	0	0	0	0	0	754	399	23	1176	2569
12:00 PM	153	0	0	0	153	2	209	0	0	211	0	0	0	0	0	0	212	108	9	329	693
12:15 PM	120	0	0	0	120	1	237	0	0	238	0	0	0	0	0	0	223	118	15	356	714
12:30 PM	125	0	0	0	125	2	230	0	0	232	0	0	0	0	0	0	217	103	9	329	686
12:45 PM	146	0	0	0	146	4	236	0	0	240	0	0	0	0	0	0	232	123	12	367	753
Total	544	0	0	0	544	9	912	0	0	921	0	0	0	0	0	0	884	452	45	1381	2846
1:00 PM	106	0	0	0	106	7	217	0	0	224	0	0	0	0	0	0	251	134	13	398	728
1:15 PM	108	0	0	0	108	3	219	0	0	222	0	0	0	0	0	0	261	115	8	384	714
1:30 PM	113	0	0	0	113	4	212	0	0	216	0	0	0	0	0	0	240	112	12	364	693
1:45 PM	96	0	0	0	96	2	212	0	0	214	0	0	0	0	0	0	225	121	17	363	673
Total	423	0	0	0	423	16	860	0	0	876	0	0	0	0	0	0	977	482	50	1509	2808
Grand Total	1504	0	0	0	1504	42	2611	0	0	2653	0	0	0	0	0	0	2615	1333	118	4066	8223
Approach %	100.0	0.0	0.0	0.0		1.6	98.4	0.0	0.0		0.0	0.0	0.0	0.0		0.0	64.3	32.8	2.9		
Total %	18.3	0.0	0.0	0.0	18.3	0.5	31.8	0.0	0.0	32.3	0.0	0.0	0.0	0.0	0.0	0.0	31.8	16.2	1.4	49.4	
Exiting Leg Total					1375					2615					0					4233	8223

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:45 PM	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:45 PM	146	0	0	0	146	4	236	0	0	240	0	0	0	0	0	0	232	123	12	367	753
1:00 PM	106	0	0	0	106	7	217	0	0	224	0	0	0	0	0	0	251	134	13	398	728
1:15 PM	108	0	0	0	108	3	219	0	0	222	0	0	0	0	0	0	261	115	8	384	714
1:30 PM	113	0	0	0	113	4	212	0	0	216	0	0	0	0	0	0	240	112	12	364	693
Total Volume	473	0	0	0	473	18	884	0	0	902	0	0	0	0	0	0	984	484	45	1513	2888
% Approach Total	100.0	0.0	0.0	0.0		2.0	98.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	65.0	32.0	3.0		
PHF	0.810	0.000	0.000	0.000	0.810	0.643	0.936	0.000	0.000	0.940	0.000	0.000	0.000	0.000	0.000	0.000	0.943	0.903	0.865	0.950	0.959
Entering Leg	473	0	0	0	473	18	884	0	0	902	0	0	0	0	0	0	984	484	45	1513	2888
Exiting Leg					502					984					0					1402	2888
Total					975					1886					0					2915	5776

PDI File #: **228607 E**
Location: **N: Southbridge Road (Route 12) S: driveway**
Location: **E: Washington Street (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	4	1	0	5	10
11:15 AM	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	0	1	4	0	5	12
11:30 AM	3	0	0	0	3	0	5	0	0	5	0	0	0	0	0	0	5	1	0	6	14
11:45 AM	3	0	0	0	3	0	4	0	0	4	0	0	0	0	0	0	2	2	0	4	11
Total	8	0	0	0	8	0	19	0	0	19	0	0	0	0	0	0	12	8	0	20	47
12:00 PM	2	0	0	0	2	0	5	0	0	5	0	0	0	0	0	0	1	2	0	3	10
12:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	6	1	0	7	9
12:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	3	0	5	8
12:45 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	7	3	0	10	13
Total	4	0	0	0	4	0	11	0	0	11	0	0	0	0	0	0	16	9	0	25	40
1:00 PM	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	6
1:15 PM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	0	3	3	0	6	10
1:30 PM	3	0	0	0	3	1	3	0	0	4	0	0	0	0	0	0	2	0	0	2	9
1:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	1	0	2	5
Total	6	0	0	0	6	1	11	0	0	12	0	0	0	0	0	0	8	4	0	12	30
Grand Total	18	0	0	0	18	1	41	0	0	42	0	0	0	0	0	0	36	21	0	57	117
Approach %	100.0	0.0	0.0	0.0		2.4	97.6	0.0	0.0		0.0	0.0	0.0	0.0		0.0	63.2	36.8	0.0		
Total %	15.4	0.0	0.0	0.0	15.4	0.9	35.0	0.0	0.0	35.9	0.0	0.0	0.0	0.0	0.0	0.0	30.8	17.9	0.0	48.7	
Exiting Leg Total					22					36					0					59	117
Buses	4	0	0	0	4	0	2	0	0	2	0	0	0	0	0	0	3	3	0	6	12
% Buses	22.2	0.0	0.0	0.0	22.2	0.0	4.9	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	8.3	14.3	0.0	10.5	10.3
Exiting Leg Total					3					3					0					6	12
Single-Unit Trucks	10	0	0	0	10	0	25	0	0	25	0	0	0	0	0	0	26	8	0	34	69
% Single-Unit	55.6	0.0	0.0	0.0	55.6	0.0	61.0	0.0	0.0	59.5	0.0	0.0	0.0	0.0	0.0	0.0	72.2	38.1	0.0	59.6	59.0
Exiting Leg Total					8					26					0					35	69
Articulated Trucks	4	0	0	0	4	1	14	0	0	15	0	0	0	0	0	0	7	10	0	17	36
% Articulated	22.2	0.0	0.0	0.0	22.2	100.0	34.1	0.0	0.0	35.7	0.0	0.0	0.0	0.0	0.0	0.0	19.4	47.6	0.0	29.8	30.8
Exiting Leg Total					11					7					0					18	36

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	4	1	0	5	10
11:15 AM	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	0	1	4	0	5	12
11:30 AM	3	0	0	0	3	0	5	0	0	5	0	0	0	0	0	0	5	1	0	6	14
11:45 AM	3	0	0	0	3	0	4	0	0	4	0	0	0	0	0	0	2	2	0	4	11
Total Volume	8	0	0	0	8	0	19	0	0	19	0	0	0	0	0	0	12	8	0	20	47
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	60.0	40.0	0.0		
PHF	0.667	0.000	0.000	0.000	0.667	0.000	0.792	0.000	0.000	0.792	0.000	0.000	0.000	0.000	0.000	0.000	0.600	0.500	0.000	0.833	0.839
Buses	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	3
Buses %	12.5	0.0	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	12.5	0.0	10.0	6.4
Single-Unit Trucks	5	0	0	0	5	0	14	0	0	14	0	0	0	0	0	0	9	3	0	12	31
Single-Unit %	62.5	0.0	0.0	0.0	62.5	0.0	73.7	0.0	0.0	73.7	0.0	0.0	0.0	0.0	0.0	0.0	75.0	37.5	0.0	60.0	66.0
Articulated Trucks	2	0	0	0	2	0	5	0	0	5	0	0	0	0	0	0	2	4	0	6	13
Articulated %	25.0	0.0	0.0	0.0	25.0	0.0	26.3	0.0	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	16.7	50.0	0.0	30.0	27.7
Buses	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	3
Single-Unit Trucks	5	0	0	0	5	0	14	0	0	14	0	0	0	0	0	0	9	3	0	12	31
Articulated Trucks	2	0	0	0	2	0	5	0	0	5	0	0	0	0	0	0	2	4	0	6	13
Total Entering Leg	8	0	0	0	8	0	19	0	0	19	0	0	0	0	0	0	12	8	0	20	47
Buses					1					1					0					1	3
Single-Unit Trucks					3					9					0					19	31
Articulated Trucks					4					2					0					7	13
Total Exiting Leg					8					12					0					27	47

PDI File #: **228607 E**
Location: **N: Southbridge Road (Route 12) S: driveway**
Location: **E: Washington Street (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
11:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	3
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	5
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
1:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	4
Grand Total	4	0	0	0	4	0	2	0	0	2	0	0	0	0	0	0	3	3	0	6	12
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0		
Total %	33.3	0.0	0.0	0.0	33.3	0.0	16.7	0.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0	25.0	25.0	0.0	50.0	
Exiting Leg Total					3					3					0					6	12

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:00 PM	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total Volume	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	5
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.500	0.625
Entering Leg	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	5
Exiting Leg					1					1					0					3	5
Total					3					2					0					5	10

PDI File #: **228607 E**
Location: **N: Southbridge Road (Route 12) S: driveway**
Location: **E: Washington Street (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
11:15 AM	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	1	1	0	2	8
11:30 AM	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	4	1	0	5	10
11:45 AM	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	2	1	0	3	8
Total	5	0	0	0	5	0	14	0	0	14	0	0	0	0	0	0	9	3	0	12	31
12:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	1	0	2	6
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	6	6
12:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	5
12:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6	1	0	7	8
Total	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	14	4	0	18	25
1:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
1:30 PM	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	6
1:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	3
Total	5	0	0	0	5	0	4	0	0	4	0	0	0	0	0	0	3	1	0	4	13
Grand Total	10	0	0	0	10	0	25	0	0	25	0	0	0	0	0	0	26	8	0	34	69
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	76.5	23.5	0.0		
Total %	14.5	0.0	0.0	0.0	14.5	0.0	36.2	0.0	0.0	36.2	0.0	0.0	0.0	0.0	0.0	0.0	37.7	11.6	0.0	49.3	
Exiting Leg Total					8					26					0					35	69

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:15 AM	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:15 AM	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	1	1	0	2	8
11:30 AM	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	4	1	0	5	10
11:45 AM	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	2	1	0	3	8
12:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	1	0	2	6
Total Volume	5	0	0	0	5	0	15	0	0	15	0	0	0	0	0	0	8	4	0	12	32
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	66.7	33.3	0.0		
PHF	0.625	0.000	0.000	0.000	0.625	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.500	1.000	0.000	0.600	0.800
Entering Leg	5	0	0	0	5	0	15	0	0	15	0	0	0	0	0	0	8	4	0	12	32
Exiting Leg					4					8					0					20	32
Total					9					23					0					32	64

PDI File #: **228607 E**
Location: **N: Southbridge Road (Route 12) S: driveway**
Location: **E: Washington Street (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	4
11:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	3
11:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
11:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	3
Total	2	0	0	0	2	0	5	0	0	5	0	0	0	0	0	0	2	4	0	6	13
12:00 PM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	4
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	2
12:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	3
Total	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	1	4	0	5	10
1:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
1:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	2	0	3	5
1:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
1:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	4	2	0	6	13
Grand Total	4	0	0	0	4	1	14	0	0	15	0	0	0	0	0	0	7	10	0	17	36
Approach %	100.0	0.0	0.0	0.0		6.7	93.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	41.2	58.8	0.0		
Total %	11.1	0.0	0.0	0.0	11.1	2.8	38.9	0.0	0.0	41.7	0.0	0.0	0.0	0.0	0.0	0.0	19.4	27.8	0.0	47.2	
Exiting Leg Total					11					7					0					18	36

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Southbridge Road (Route 12)					Washington Street (Route 20)					driveway					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	2
12:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	3
1:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
1:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	2	0	3	5
Total Volume	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	3	5	0	8	15
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	37.5	62.5	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.625	0.000	0.667	0.750
Entering Leg	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	3	5	0	8	15
Exiting Leg					5					3					0					7	15
Total					5					10					0					15	30

PDI File #: **228607 E**
Location: **N: Southbridge Road (Route 12) S: driveway**
Location: **E: Washington Street (Route 20) W: Southbridge Road (Route 20**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Bicycles (on Roadway and Crosswalks)

	Southbridge Road (Route 12)							Washington Street (Route 20)							driveway							Southbridge Road (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	
Exiting Leg Total							1							0							0							0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Southbridge Road (Route 12)							Washington Street (Route 20)							driveway							Southbridge Road (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Exiting Leg							1							0							0							0	1
Total							1							0							0							1	2

PDI File #: **228607 E**
Location: **N: Southbridge Road (Route 12) S: driveway**
Location: **E: Washington Street (Route 20) W: Southbridge Road (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Southbridge Road (Route 12) from North							Washington Street (Route 20) from East							driveway from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Southbridge Road (Route 12) from North							Washington Street (Route 20) from East							driveway from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **228607 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	2	0	1	0	3	0	0	0	0	0	0	1	0	0	1	4
11:15 AM	0	0	1	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
11:30 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
11:45 AM	0	0	1	0	1	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	4
Total	0	0	4	0	4	5	0	1	0	6	0	1	0	0	1	0	2	0	1	3	14
12:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	1	0	1	3	0	0	0	3	1	0	0	0	1	0	1	0	0	1	6
Total	0	0	1	0	1	5	1	1	0	7	1	0	0	0	1	0	1	0	0	1	10
1:00 PM	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3
1:15 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
1:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	5	0	5	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	8
Grand Total	0	0	10	0	10	12	2	2	0	16	1	1	0	0	2	0	3	0	1	4	32
Approach %	0.0	0.0	100.0	0.0		75.0	12.5	12.5	0.0		50.0	50.0	0.0	0.0		0.0	75.0	0.0	25.0		
Total %	0.0	0.0	31.3	0.0	31.3	37.5	6.3	6.3	0.0	50.0	3.1	3.1	0.0	0.0	6.3	0.0	9.4	0.0	3.1	12.5	
Exiting Leg Total					13					14					2					3	32
Cars	0	0	9	0	9	11	2	1	0	14	1	0	0	0	1	0	3	0	1	4	28
% Cars	0.0	0.0	90.0	0.0	90.0	91.7	100.0	50.0	0.0	87.5	100.0	0.0	0.0	0.0	50.0	0.0	100.0	0.0	100.0	100.0	87.5
Exiting Leg Total					11					13					1					3	28
Heavy Vehicles	0	0	1	0	1	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	4
% Heavy Vehicles	0.0	0.0	10.0	0.0	10.0	8.3	0.0	50.0	0.0	12.5	0.0	100.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	12.5
Exiting Leg Total					2					1					1					0	4

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	2	0	1	0	3	0	0	0	0	0	0	1	0	0	1	4
11:15 AM	0	0	1	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
11:30 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
11:45 AM	0	0	1	0	1	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	4
Total Volume	0	0	4	0	4	5	0	1	0	6	0	1	0	0	1	0	2	0	1	3	14
% Approach Total	0.0	0.0	100.0	0.0		83.3	0.0	16.7	0.0		0.0	100.0	0.0	0.0		0.0	66.7	0.0	33.3		
PHF	0.000	0.000	0.500	0.000	0.500	0.625	0.000	0.250	0.000	0.500	0.000	0.250	0.000	0.000	0.250	0.000	0.500	0.000	0.250	0.750	0.875
Cars	0	0	3	0	3	5	0	0	0	5	0	0	0	0	0	0	2	0	1	3	11
Cars %	0.0	0.0	75.0	0.0	75.0	100.0	0.0	0.0	0.0	83.3	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	100.0	78.6
Heavy Vehicles	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3
Heavy Vehicles %	0.0	0.0	25.0	0.0	25.0	0.0	0.0	100.0	0.0	16.7	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	21.4
Cars Enter Leg	0	0	3	0	3	5	0	0	0	5	0	0	0	0	0	0	2	0	1	3	11
Heavy Enter Leg	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3
Total Entering Leg	0	0	4	0	4	5	0	1	0	6	0	1	0	0	1	0	2	0	1	3	14
Cars Exiting Leg					5					5					0					1	11
Heavy Exiting Leg					1					1					1					0	3
Total Exiting Leg					6					6					1					1	14

PDI File #: **228607 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars

	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	3
11:15 AM	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
11:30 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
11:45 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total	0	0	3	0	3	5	0	0	0	5	0	0	0	0	0	0	2	0	1	3	11
12:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	1	0	1	3	0	0	0	3	1	0	0	0	1	0	1	0	0	1	6
Total	0	0	1	0	1	4	1	1	0	6	1	0	0	0	1	0	1	0	0	1	9
1:00 PM	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3
1:15 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
1:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	5	0	5	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	8
Grand Total	0	0	9	0	9	11	2	1	0	14	1	0	0	0	1	0	3	0	1	4	28
Approach %	0.0	0.0	100.0	0.0		78.6	14.3	7.1	0.0		100.0	0.0	0.0	0.0		0.0	75.0	0.0	25.0		
Total %	0.0	0.0	32.1	0.0	32.1	39.3	7.1	3.6	0.0	50.0	3.6	0.0	0.0	0.0	3.6	0.0	10.7	0.0	3.6	14.3	
Exiting Leg Total					11					13					1					3	28

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	1	0	1	3	0	0	0	3	1	0	0	0	1	0	1	0	0	1	6
1:00 PM	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3
1:15 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	4	0	4	5	2	0	0	7	1	0	0	0	1	0	1	0	0	1	13
% Approach Total	0.0	0.0	100.0	0.0		71.4	28.6	0.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.500	0.000	0.500	0.417	0.500	0.000	0.000	0.583	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.542
Entering Leg	0	0	4	0	4	5	2	0	0	7	1	0	0	0	1	0	1	0	0	1	13
Exiting Leg					5					6					0					2	13
Total					9					13					1					3	26

PDI File #: **228607 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	1	0	1	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	4
Approach %	0.0	0.0	100.0	0.0		50.0	0.0	50.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	25.0	0.0	25.0	25.0	0.0	25.0	0.0	50.0	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2					1					1					0	4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0
Single-Unit Trucks	0	0	1	0	1	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	4
% Single-Unit	0.0	0.0	100.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Exiting Leg Total					2					1					1					0	4
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3
% Approach Total	0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.750
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3
Single-Unit %	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3
Buses					0					0					0					0	0
Single-Unit Trucks					1					1					1					0	3
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					1					1					1					0	3

PDI File #: **228607 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **228607 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	1	0	1	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	4
Approach %	0.0	0.0	100.0	0.0		50.0	0.0	50.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	25.0	0.0	25.0	25.0	0.0	25.0	0.0	50.0	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2					1					1					0	4

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3
% Approach Total	0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3
Exiting Leg					1					1					1					0	3
Total					2					2					2					0	6

PDI File #: **228607 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **228607 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **228607 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Cars and Heavy Vehicles (Combined)

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	48	0	0	0	48	0	76	0	0	76	15	0	0	0	15	63	160	0	0	223	362
7:15 AM	37	0	0	0	37	0	95	5	0	100	21	0	0	0	21	68	193	0	0	261	419
7:30 AM	48	0	0	0	48	0	95	15	0	110	29	0	0	0	29	60	194	0	0	254	441
7:45 AM	90	0	0	0	90	0	62	7	0	69	22	0	0	0	22	48	211	0	0	259	440
Total	223	0	0	0	223	0	328	27	0	355	87	0	0	0	87	239	758	0	0	997	1662
8:00 AM	55	1	0	0	56	0	88	13	0	101	23	0	0	0	23	55	191	0	0	246	426
8:15 AM	67	0	0	0	67	0	101	2	0	103	26	0	0	0	26	49	196	0	0	245	441
8:30 AM	60	0	0	0	60	0	106	10	0	116	20	0	0	0	20	38	161	0	0	199	395
8:45 AM	48	0	0	0	48	0	110	14	0	124	18	0	0	0	18	40	170	0	0	210	400
Total	230	1	0	0	231	0	405	39	0	444	87	0	0	0	87	182	718	0	0	900	1662
Grand Total	453	1	0	0	454	0	733	66	0	799	174	0	0	0	174	421	1476	0	0	1897	3324
Approach %	99.8	0.2	0.0	0.0		0.0	91.7	8.3	0.0		100.0	0.0	0.0	0.0		22.2	77.8	0.0	0.0		
Total %	13.6	0.0	0.0	0.0	13.7	0.0	22.1	2.0	0.0	24.0	5.2	0.0	0.0	0.0	5.2	12.7	44.4	0.0	0.0	57.1	
Exiting Leg Total					0					1650					488					1186	3324
Cars	397	1	0	0	398	0	698	62	0	760	153	0	0	0	153	406	1391	0	0	1797	3108
% Cars	87.6	100.0	0.0	0.0	87.7	0.0	95.2	93.9	0.0	95.1	87.9	0.0	0.0	0.0	87.9	96.4	94.2	0.0	0.0	94.7	93.5
Exiting Leg Total					0					1544					469					1095	3108
Heavy Vehicles	56	0	0	0	56	0	35	4	0	39	21	0	0	0	21	15	85	0	0	100	216
% Heavy Vehicles	12.4	0.0	0.0	0.0	12.3	0.0	4.8	6.1	0.0	4.9	12.1	0.0	0.0	0.0	12.1	3.6	5.8	0.0	0.0	5.3	6.5
Exiting Leg Total					0					106					19					91	216

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	48	0	0	0	48	0	95	15	0	110	29	0	0	0	29	60	194	0	0	254	441
7:45 AM	90	0	0	0	90	0	62	7	0	69	22	0	0	0	22	48	211	0	0	259	440
8:00 AM	55	1	0	0	56	0	88	13	0	101	23	0	0	0	23	55	191	0	0	246	426
8:15 AM	67	0	0	0	67	0	101	2	0	103	26	0	0	0	26	49	196	0	0	245	441
Total Volume	260	1	0	0	261	0	346	37	0	383	100	0	0	0	100	212	792	0	0	1004	1748
% Approach Total	99.6	0.4	0.0	0.0		0.0	90.3	9.7	0.0		100.0	0.0	0.0	0.0		21.1	78.9	0.0	0.0		
PHF	0.722	0.250	0.000	0.000	0.725	0.000	0.856	0.617	0.000	0.870	0.862	0.000	0.000	0.000	0.862	0.883	0.938	0.000	0.000	0.969	0.991
Cars	228	1	0	0	229	0	328	35	0	363	88	0	0	0	88	203	742	0	0	945	1625
Cars %	87.7	100.0	0.0	0.0	87.7	0.0	94.8	94.6	0.0	94.8	88.0	0.0	0.0	0.0	88.0	95.8	93.7	0.0	0.0	94.1	93.0
Heavy Vehicles	32	0	0	0	32	0	18	2	0	20	12	0	0	0	12	9	50	0	0	59	123
Heavy Vehicles %	12.3	0.0	0.0	0.0	12.3	0.0	5.2	5.4	0.0	5.2	12.0	0.0	0.0	0.0	12.0	4.2	6.3	0.0	0.0	5.9	7.0
Cars Enter Leg	228	1	0	0	229	0	328	35	0	363	88	0	0	0	88	203	742	0	0	945	1625
Heavy Enter Leg	32	0	0	0	32	0	18	2	0	20	12	0	0	0	12	9	50	0	0	59	123
Total Entering Leg	260	1	0	0	261	0	346	37	0	383	100	0	0	0	100	212	792	0	0	1004	1748
Cars Exiting Leg					0					830					239					556	1625
Heavy Exiting Leg					0					62					11					50	123
Total Exiting Leg					0					892					250					606	1748

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	44	0	0	0	44	0	74	0	0	74	13	0	0	0	13	62	151	0	0	213	344
7:15 AM	31	0	0	0	31	0	87	5	0	92	19	0	0	0	19	67	184	0	0	251	393
7:30 AM	43	0	0	0	43	0	90	13	0	103	25	0	0	0	25	57	182	0	0	239	410
7:45 AM	80	0	0	0	80	0	58	7	0	65	20	0	0	0	20	46	199	0	0	245	410
Total	198	0	0	0	198	0	309	25	0	334	77	0	0	0	77	232	716	0	0	948	1557
8:00 AM	46	1	0	0	47	0	84	13	0	97	20	0	0	0	20	54	179	0	0	233	397
8:15 AM	59	0	0	0	59	0	96	2	0	98	23	0	0	0	23	46	182	0	0	228	408
8:30 AM	49	0	0	0	49	0	103	10	0	113	16	0	0	0	16	36	155	0	0	191	369
8:45 AM	45	0	0	0	45	0	106	12	0	118	17	0	0	0	17	38	159	0	0	197	377
Total	199	1	0	0	200	0	389	37	0	426	76	0	0	0	76	174	675	0	0	849	1551
Grand Total	397	1	0	0	398	0	698	62	0	760	153	0	0	0	153	406	1391	0	0	1797	3108
Approach %	99.7	0.3	0.0	0.0		0.0	91.8	8.2	0.0		100.0	0.0	0.0	0.0		22.6	77.4	0.0	0.0		
Total %	12.8	0.0	0.0	0.0	12.8	0.0	22.5	2.0	0.0	24.5	4.9	0.0	0.0	0.0	4.9	13.1	44.8	0.0	0.0	57.8	
Exiting Leg Total					0					1544					469					1095	3108

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	43	0	0	0	43	0	90	13	0	103	25	0	0	0	25	57	182	0	0	239	410
7:45 AM	80	0	0	0	80	0	58	7	0	65	20	0	0	0	20	46	199	0	0	245	410
8:00 AM	46	1	0	0	47	0	84	13	0	97	20	0	0	0	20	54	179	0	0	233	397
8:15 AM	59	0	0	0	59	0	96	2	0	98	23	0	0	0	23	46	182	0	0	228	408
Total Volume	228	1	0	0	229	0	328	35	0	363	88	0	0	0	88	203	742	0	0	945	1625
% Approach Total	99.6	0.4	0.0	0.0		0.0	90.4	9.6	0.0		100.0	0.0	0.0	0.0		21.5	78.5	0.0	0.0		
PHF	0.713	0.250	0.000	0.000	0.716	0.000	0.854	0.673	0.000	0.881	0.880	0.000	0.000	0.000	0.880	0.890	0.932	0.000	0.000	0.964	0.991
Entering Leg	228	1	0	0	229	0	328	35	0	363	88	0	0	0	88	203	742	0	0	945	1625
Exiting Leg					0					830					239					556	1625
Total					229					1193					327					1501	3250

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	4	0	0	0	4	0	2	0	0	2	2	0	0	0	2	1	9	0	0	10	18
7:15 AM	6	0	0	0	6	0	8	0	0	8	2	0	0	0	2	1	9	0	0	10	26
7:30 AM	5	0	0	0	5	0	5	2	0	7	4	0	0	0	4	3	12	0	0	15	31
7:45 AM	10	0	0	0	10	0	4	0	0	4	2	0	0	0	2	2	12	0	0	14	30
Total	25	0	0	0	25	0	19	2	0	21	10	0	0	0	10	7	42	0	0	49	105
8:00 AM	9	0	0	0	9	0	4	0	0	4	3	0	0	0	3	1	12	0	0	13	29
8:15 AM	8	0	0	0	8	0	5	0	0	5	3	0	0	0	3	3	14	0	0	17	33
8:30 AM	11	0	0	0	11	0	3	0	0	3	4	0	0	0	4	2	6	0	0	8	26
8:45 AM	3	0	0	0	3	0	4	2	0	6	1	0	0	0	1	2	11	0	0	13	23
Total	31	0	0	0	31	0	16	2	0	18	11	0	0	0	11	8	43	0	0	51	111
Grand Total	56	0	0	0	56	0	35	4	0	39	21	0	0	0	21	15	85	0	0	100	216
Approach %	100.0	0.0	0.0	0.0		0.0	89.7	10.3	0.0		100.0	0.0	0.0	0.0		15.0	85.0	0.0	0.0		
Total %	25.9	0.0	0.0	0.0	25.9	0.0	16.2	1.9	0.0	18.1	9.7	0.0	0.0	0.0	9.7	6.9	39.4	0.0	0.0	46.3	
Exiting Leg Total					0					106					19					91	216
Buses	2	0	0	0	2	0	8	1	0	9	0	0	0	0	0	0	14	0	0	14	25
% Buses	3.6	0.0	0.0	0.0	3.6	0.0	22.9	25.0	0.0	23.1	0.0	0.0	0.0	0.0	0.0	0.0	16.5	0.0	0.0	14.0	11.6
Exiting Leg Total					0					14					1					10	25
Single-Unit Trucks	31	0	0	0	31	0	24	3	0	27	12	0	0	0	12	10	48	0	0	58	128
% Single-Unit	55.4	0.0	0.0	0.0	55.4	0.0	68.6	75.0	0.0	69.2	57.1	0.0	0.0	0.0	57.1	66.7	56.5	0.0	0.0	58.0	59.3
Exiting Leg Total					0					60					13					55	128
Articulated Trucks	23	0	0	0	23	0	3	0	0	3	9	0	0	0	9	5	23	0	0	28	63
% Articulated	41.1	0.0	0.0	0.0	41.1	0.0	8.6	0.0	0.0	7.7	42.9	0.0	0.0	0.0	42.9	33.3	27.1	0.0	0.0	28.0	29.2
Exiting Leg Total					0					32					5					26	63

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	5	0	0	0	5	0	5	2	0	7	4	0	0	0	4	3	12	0	0	15	31
7:45 AM	10	0	0	0	10	0	4	0	0	4	2	0	0	0	2	2	12	0	0	14	30
8:00 AM	9	0	0	0	9	0	4	0	0	4	3	0	0	0	3	1	12	0	0	13	29
8:15 AM	8	0	0	0	8	0	5	0	0	5	3	0	0	0	3	3	14	0	0	17	33
Total Volume	32	0	0	0	32	0	18	2	0	20	12	0	0	0	12	9	50	0	0	59	123
% Approach Total	100.0	0.0	0.0	0.0		0.0	90.0	10.0	0.0		100.0	0.0	0.0	0.0		15.3	84.7	0.0	0.0		
PHF	0.800	0.000	0.000	0.000	0.800	0.000	0.900	0.250	0.000	0.714	0.750	0.000	0.000	0.000	0.750	0.750	0.893	0.000	0.000	0.868	0.932
Buses	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	11	0	0	11	14
Buses %	3.1	0.0	0.0	0.0	3.1	0.0	5.6	50.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	22.0	0.0	0.0	18.6	11.4
Single-Unit Trucks	17	0	0	0	17	0	16	1	0	17	7	0	0	0	7	6	26	0	0	32	73
Single-Unit %	53.1	0.0	0.0	0.0	53.1	0.0	88.9	50.0	0.0	85.0	58.3	0.0	0.0	0.0	58.3	66.7	52.0	0.0	0.0	54.2	59.3
Articulated Trucks	14	0	0	0	14	0	1	0	0	1	5	0	0	0	5	3	13	0	0	16	36
Articulated %	43.8	0.0	0.0	0.0	43.8	0.0	5.6	0.0	0.0	5.0	41.7	0.0	0.0	0.0	41.7	33.3	26.0	0.0	0.0	27.1	29.3
Buses	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	11	0	0	11	14
Single-Unit Trucks	17	0	0	0	17	0	16	1	0	17	7	0	0	0	7	6	26	0	0	32	73
Articulated Trucks	14	0	0	0	14	0	1	0	0	1	5	0	0	0	5	3	13	0	0	16	36
Total Entering Leg	32	0	0	0	32	0	18	2	0	20	12	0	0	0	12	9	50	0	0	59	123
Buses					0					11					1					2	14
Single-Unit Trucks					0					33					7					33	73
Articulated Trucks					0					18					3					15	36
Total Exiting Leg					0					62					11					50	123

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Buses**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
7:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	5	0	0	5	6
7:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	5
Total	1	0	0	0	1	0	7	1	0	8	0	0	0	0	0	0	9	0	0	9	18
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
8:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
8:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	7
Grand Total	2	0	0	0	2	0	8	1	0	9	0	0	0	0	0	0	14	0	0	14	25
Approach %	100.0	0.0	0.0	0.0		0.0	88.9	11.1	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	8.0	0.0	0.0	0.0	8.0	0.0	32.0	4.0	0.0	36.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	0.0	0.0	56.0	
Exiting Leg Total					0					14					1					10	25

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
7:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	5	0	0	5	6
7:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	5
Total Volume	1	0	0	0	1	0	7	1	0	8	0	0	0	0	0	0	9	0	0	9	18
% Approach Total	100.0	0.0	0.0	0.0		0.0	87.5	12.5	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.350	0.250	0.000	0.400	0.000	0.000	0.000	0.000	0.000	0.000	0.450	0.000	0.000	0.450	0.750
Entering Leg	1	0	0	0	1	0	7	1	0	8	0	0	0	0	0	0	9	0	0	9	18
Exiting Leg					0					9					1					8	18
Total					1					17					1					17	36

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	3	0	0	0	3	0	1	0	0	1	1	0	0	0	1	1	5	0	0	6	11
7:15 AM	5	0	0	0	5	0	2	0	0	2	1	0	0	0	1	0	6	0	0	6	14
7:30 AM	2	0	0	0	2	0	5	1	0	6	2	0	0	0	2	3	4	0	0	7	17
7:45 AM	5	0	0	0	5	0	2	0	0	2	1	0	0	0	1	1	8	0	0	9	17
Total	15	0	0	0	15	0	10	1	0	11	5	0	0	0	5	5	23	0	0	28	59
8:00 AM	4	0	0	0	4	0	4	0	0	4	3	0	0	0	3	0	7	0	0	7	18
8:15 AM	6	0	0	0	6	0	5	0	0	5	1	0	0	0	1	2	7	0	0	9	21
8:30 AM	4	0	0	0	4	0	3	0	0	3	3	0	0	0	3	2	5	0	0	7	17
8:45 AM	2	0	0	0	2	0	2	2	0	4	0	0	0	0	0	1	6	0	0	7	13
Total	16	0	0	0	16	0	14	2	0	16	7	0	0	0	7	5	25	0	0	30	69
Grand Total	31	0	0	0	31	0	24	3	0	27	12	0	0	0	12	10	48	0	0	58	128
Approach %	100.0	0.0	0.0	0.0		0.0	88.9	11.1	0.0		100.0	0.0	0.0	0.0		17.2	82.8	0.0	0.0		
Total %	24.2	0.0	0.0	0.0	24.2	0.0	18.8	2.3	0.0	21.1	9.4	0.0	0.0	0.0	9.4	7.8	37.5	0.0	0.0	45.3	
Exiting Leg Total					0					60					13					55	128

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	2	0	0	0	2	0	5	1	0	6	2	0	0	0	2	3	4	0	0	7	17
7:45 AM	5	0	0	0	5	0	2	0	0	2	1	0	0	0	1	1	8	0	0	9	17
8:00 AM	4	0	0	0	4	0	4	0	0	4	3	0	0	0	3	0	7	0	0	7	18
8:15 AM	6	0	0	0	6	0	5	0	0	5	1	0	0	0	1	2	7	0	0	9	21
Total Volume	17	0	0	0	17	0	16	1	0	17	7	0	0	0	7	6	26	0	0	32	73
% Approach Total	100.0	0.0	0.0	0.0		0.0	94.1	5.9	0.0		100.0	0.0	0.0	0.0		18.8	81.3	0.0	0.0		
PHF	0.708	0.000	0.000	0.000	0.708	0.000	0.800	0.250	0.000	0.708	0.583	0.000	0.000	0.000	0.583	0.500	0.813	0.000	0.000	0.889	0.869
Entering Leg	17	0	0	0	17	0	16	1	0	17	7	0	0	0	7	6	26	0	0	32	73
Exiting Leg					0					33					7					33	73
Total					17					50					14					65	146

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	5
7:15 AM	1	0	0	0	1	0	1	0	0	1	1	0	0	0	1	1	3	0	0	4	7
7:30 AM	3	0	0	0	3	0	0	0	0	0	2	0	0	0	2	0	3	0	0	3	8
7:45 AM	4	0	0	0	4	0	1	0	0	1	1	0	0	0	1	1	1	0	0	2	8
Total	9	0	0	0	9	0	2	0	0	2	5	0	0	0	5	2	10	0	0	12	28
8:00 AM	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	1	4	0	0	5	10
8:15 AM	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	1	5	0	0	6	10
8:30 AM	6	0	0	0	6	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	7
8:45 AM	1	0	0	0	1	0	1	0	0	1	1	0	0	0	1	1	4	0	0	5	8
Total	14	0	0	0	14	0	1	0	0	1	4	0	0	0	4	3	13	0	0	16	35
Grand Total	23	0	0	0	23	0	3	0	0	3	9	0	0	0	9	5	23	0	0	28	63
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		17.9	82.1	0.0	0.0		
Total %	36.5	0.0	0.0	0.0	36.5	0.0	4.8	0.0	0.0	4.8	14.3	0.0	0.0	0.0	14.3	7.9	36.5	0.0	0.0	44.4	
Exiting Leg Total					0					32					5					26	63

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	3	0	0	0	3	0	0	0	0	0	2	0	0	0	2	0	3	0	0	3	8
7:45 AM	4	0	0	0	4	0	1	0	0	1	1	0	0	0	1	1	1	0	0	2	8
8:00 AM	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	1	4	0	0	5	10
8:15 AM	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	1	5	0	0	6	10
Total Volume	14	0	0	0	14	0	1	0	0	1	5	0	0	0	5	3	13	0	0	16	36
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		18.8	81.3	0.0	0.0		
PHF	0.700	0.000	0.000	0.000	0.700	0.000	0.250	0.000	0.000	0.250	0.625	0.000	0.000	0.000	0.625	0.750	0.650	0.000	0.000	0.667	0.900
Entering Leg	14	0	0	0	14	0	1	0	0	1	5	0	0	0	5	3	13	0	0	16	36
Exiting Leg					0					18					3					15	36
Total					14					19					8					31	72

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	I-90 Offramp from North							Southbridge Street (Route 12) from East							I-290/ I-395 Onramp from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							1	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	I-90 Offramp from North							Southbridge Street (Route 12) from East							I-290/ I-395 Onramp from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg							0							0							0							1	1
Total							0							1							0							1	2

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	I-90 Offramp							Southbridge Street (Route 12)							I-290/ I-395 Onramp							Southbridge Street (Route 12)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	I-90 Offramp							Southbridge Street (Route 12)							I-290/ I-395 Onramp							Southbridge Street (Route 12)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	114	0	0	0	114	0	182	13	0	195	36	0	0	0	36	74	196	0	0	270	615
4:15 PM	123	0	0	0	123	0	181	17	0	198	41	0	0	0	41	55	189	0	0	244	606
4:30 PM	99	0	0	0	99	0	141	10	0	151	50	0	0	0	50	64	186	0	0	250	550
4:45 PM	125	0	0	0	125	0	191	9	0	200	42	0	0	0	42	75	170	0	0	245	612
Total	461	0	0	0	461	0	695	49	0	744	169	0	0	0	169	268	741	0	0	1009	2383
5:00 PM	118	0	0	0	118	0	171	17	0	188	44	0	0	0	44	91	181	0	0	272	622
5:15 PM	131	0	0	0	131	0	178	15	0	193	46	0	0	0	46	76	161	0	0	237	607
5:30 PM	127	0	0	0	127	0	185	6	0	191	47	0	0	0	47	59	180	0	0	239	604
5:45 PM	122	0	0	0	122	0	159	15	0	174	55	0	0	0	55	51	168	0	0	219	570
Total	498	0	0	0	498	0	693	53	0	746	192	0	0	0	192	277	690	0	0	967	2403
Grand Total	959	0	0	0	959	0	1388	102	0	1490	361	0	0	0	361	545	1431	0	0	1976	4786
Approach %	100.0	0.0	0.0	0.0		0.0	93.2	6.8	0.0		100.0	0.0	0.0	0.0		27.6	72.4	0.0	0.0		
Total %	20.0	0.0	0.0	0.0	20.0	0.0	29.0	2.1	0.0	31.1	7.5	0.0	0.0	0.0	7.5	11.4	29.9	0.0	0.0	41.3	
Exiting Leg Total					0					1792					647					2347	4786
Cars	926	0	0	0	926	0	1362	101	0	1463	352	0	0	0	352	538	1401	0	0	1939	4680
% Cars	96.6	0.0	0.0	0.0	96.6	0.0	98.1	99.0	0.0	98.2	97.5	0.0	0.0	0.0	97.5	98.7	97.9	0.0	0.0	98.1	97.8
Exiting Leg Total					0					1753					639					2288	4680
Heavy Vehicles	33	0	0	0	33	0	26	1	0	27	9	0	0	0	9	7	30	0	0	37	106
% Heavy Vehicles	3.4	0.0	0.0	0.0	3.4	0.0	1.9	1.0	0.0	1.8	2.5	0.0	0.0	0.0	2.5	1.3	2.1	0.0	0.0	1.9	2.2
Exiting Leg Total					0					39					8					59	106

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	125	0	0	0	125	0	191	9	0	200	42	0	0	0	42	75	170	0	0	245	612
5:00 PM	118	0	0	0	118	0	171	17	0	188	44	0	0	0	44	91	181	0	0	272	622
5:15 PM	131	0	0	0	131	0	178	15	0	193	46	0	0	0	46	76	161	0	0	237	607
5:30 PM	127	0	0	0	127	0	185	6	0	191	47	0	0	0	47	59	180	0	0	239	604
Total Volume	501	0	0	0	501	0	725	47	0	772	179	0	0	0	179	301	692	0	0	993	2445
% Approach Total	100.0	0.0	0.0	0.0		0.0	93.9	6.1	0.0		100.0	0.0	0.0	0.0		30.3	69.7	0.0	0.0		
PHF	0.956	0.000	0.000	0.000	0.956	0.000	0.949	0.691	0.000	0.965	0.952	0.000	0.000	0.000	0.952	0.827	0.956	0.000	0.000	0.913	0.983
Cars	483	0	0	0	483	0	713	47	0	760	174	0	0	0	174	299	678	0	0	977	2394
Cars %	96.4	0.0	0.0	0.0	96.4	0.0	98.3	100.0	0.0	98.4	97.2	0.0	0.0	0.0	97.2	99.3	98.0	0.0	0.0	98.4	97.9
Heavy Vehicles	18	0	0	0	18	0	12	0	0	12	5	0	0	0	5	2	14	0	0	16	51
Heavy Vehicles %	3.6	0.0	0.0	0.0	3.6	0.0	1.7	0.0	0.0	1.6	2.8	0.0	0.0	0.0	2.8	0.7	2.0	0.0	0.0	1.6	2.1
Cars Enter Leg	483	0	0	0	483	0	713	47	0	760	174	0	0	0	174	299	678	0	0	977	2394
Heavy Enter Leg	18	0	0	0	18	0	12	0	0	12	5	0	0	0	5	2	14	0	0	16	51
Total Entering Leg	501	0	0	0	501	0	725	47	0	772	179	0	0	0	179	301	692	0	0	993	2445
Cars Exiting Leg					0					852					346					1196	2394
Heavy Exiting Leg					0					19					2					30	51
Total Exiting Leg					0					871					348					1226	2445

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	112	0	0	0	112	0	177	13	0	190	35	0	0	0	35	73	190	0	0	263	600
4:15 PM	118	0	0	0	118	0	175	16	0	191	39	0	0	0	39	53	184	0	0	237	585
4:30 PM	96	0	0	0	96	0	140	10	0	150	50	0	0	0	50	62	183	0	0	245	541
4:45 PM	114	0	0	0	114	0	189	9	0	198	40	0	0	0	40	75	163	0	0	238	590
Total	440	0	0	0	440	0	681	48	0	729	164	0	0	0	164	263	720	0	0	983	2316
5:00 PM	115	0	0	0	115	0	165	17	0	182	43	0	0	0	43	91	178	0	0	269	609
5:15 PM	129	0	0	0	129	0	176	15	0	191	45	0	0	0	45	75	160	0	0	235	600
5:30 PM	125	0	0	0	125	0	183	6	0	189	46	0	0	0	46	58	177	0	0	235	595
5:45 PM	117	0	0	0	117	0	157	15	0	172	54	0	0	0	54	51	166	0	0	217	560
Total	486	0	0	0	486	0	681	53	0	734	188	0	0	0	188	275	681	0	0	956	2364
Grand Total	926	0	0	0	926	0	1362	101	0	1463	352	0	0	0	352	538	1401	0	0	1939	4680
Approach %	100.0	0.0	0.0	0.0		0.0	93.1	6.9	0.0		100.0	0.0	0.0	0.0		27.7	72.3	0.0	0.0		
Total %	19.8	0.0	0.0	0.0	19.8	0.0	29.1	2.2	0.0	31.3	7.5	0.0	0.0	0.0	7.5	11.5	29.9	0.0	0.0	41.4	
Exiting Leg Total					0					1753					639					2288	4680

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	114	0	0	0	114	0	189	9	0	198	40	0	0	0	40	75	163	0	0	238	590
5:00 PM	115	0	0	0	115	0	165	17	0	182	43	0	0	0	43	91	178	0	0	269	609
5:15 PM	129	0	0	0	129	0	176	15	0	191	45	0	0	0	45	75	160	0	0	235	600
5:30 PM	125	0	0	0	125	0	183	6	0	189	46	0	0	0	46	58	177	0	0	235	595
Total Volume	483	0	0	0	483	0	713	47	0	760	174	0	0	0	174	299	678	0	0	977	2394
% Approach Total	100.0	0.0	0.0	0.0		0.0	93.8	6.2	0.0		100.0	0.0	0.0	0.0		30.6	69.4	0.0	0.0		
PHF	0.936	0.000	0.000	0.000	0.936	0.000	0.943	0.691	0.000	0.960	0.946	0.000	0.000	0.000	0.946	0.821	0.952	0.000	0.000	0.908	0.983
Entering Leg	483	0	0	0	483	0	713	47	0	760	174	0	0	0	174	299	678	0	0	977	2394
Exiting Leg					0					852					346					1196	2394
Total					483					1612					520					2173	4788

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	2	0	0	0	2	0	5	0	0	5	1	0	0	0	1	1	6	0	0	7	15
4:15 PM	5	0	0	0	5	0	6	1	0	7	2	0	0	0	2	2	5	0	0	7	21
4:30 PM	3	0	0	0	3	0	1	0	0	1	0	0	0	0	0	2	3	0	0	5	9
4:45 PM	11	0	0	0	11	0	2	0	0	2	2	0	0	0	2	0	7	0	0	7	22
Total	21	0	0	0	21	0	14	1	0	15	5	0	0	0	5	5	21	0	0	26	67
5:00 PM	3	0	0	0	3	0	6	0	0	6	1	0	0	0	1	0	3	0	0	3	13
5:15 PM	2	0	0	0	2	0	2	0	0	2	1	0	0	0	1	1	1	0	0	2	7
5:30 PM	2	0	0	0	2	0	2	0	0	2	1	0	0	0	1	1	3	0	0	4	9
5:45 PM	5	0	0	0	5	0	2	0	0	2	1	0	0	0	1	0	2	0	0	2	10
Total	12	0	0	0	12	0	12	0	0	12	4	0	0	0	4	2	9	0	0	11	39
Grand Total	33	0	0	0	33	0	26	1	0	27	9	0	0	0	9	7	30	0	0	37	106
Approach %	100.0	0.0	0.0	0.0		0.0	96.3	3.7	0.0		100.0	0.0	0.0	0.0		18.9	81.1	0.0	0.0		
Total %	31.1	0.0	0.0	0.0	31.1	0.0	24.5	0.9	0.0	25.5	8.5	0.0	0.0	0.0	8.5	6.6	28.3	0.0	0.0	34.9	
Exiting Leg Total					0					39					8					59	106
Buses	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	1	0	0	1	6
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	15.4	100.0	0.0	18.5	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	2.7	5.7
Exiting Leg Total					0					1					1					4	6
Single-Unit Trucks	18	0	0	0	18	0	21	0	0	21	4	0	0	0	4	6	26	0	0	32	75
% Single-Unit	54.5	0.0	0.0	0.0	54.5	0.0	80.8	0.0	0.0	77.8	44.4	0.0	0.0	0.0	44.4	85.7	86.7	0.0	0.0	86.5	70.8
Exiting Leg Total					0					30					6					39	75
Articulated Trucks	15	0	0	0	15	0	1	0	0	1	5	0	0	0	5	1	3	0	0	4	25
% Articulated	45.5	0.0	0.0	0.0	45.5	0.0	3.8	0.0	0.0	3.7	55.6	0.0	0.0	0.0	55.6	14.3	10.0	0.0	0.0	10.8	23.6
Exiting Leg Total					0					8					1					16	25

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	2	0	0	0	2	0	5	0	0	5	1	0	0	0	1	1	6	0	0	7	15
4:15 PM	5	0	0	0	5	0	6	1	0	7	2	0	0	0	2	2	5	0	0	7	21
4:30 PM	3	0	0	0	3	0	1	0	0	1	0	0	0	0	0	2	3	0	0	5	9
4:45 PM	11	0	0	0	11	0	2	0	0	2	2	0	0	0	2	0	7	0	0	7	22
Total Volume	21	0	0	0	21	0	14	1	0	15	5	0	0	0	5	5	21	0	0	26	67
% Approach Total	100.0	0.0	0.0	0.0		0.0	93.3	6.7	0.0		100.0	0.0	0.0	0.0		19.2	80.8	0.0	0.0		
PHF	0.477	0.000	0.000	0.000	0.477	0.000	0.583	0.250	0.000	0.536	0.625	0.000	0.000	0.000	0.625	0.625	0.750	0.000	0.000	0.929	0.761
Buses	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	5
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	28.6	100.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5
Single-Unit Trucks	10	0	0	0	10	0	10	0	0	10	2	0	0	0	2	4	18	0	0	22	44
Single-Unit %	47.6	0.0	0.0	0.0	47.6	0.0	71.4	0.0	0.0	66.7	40.0	0.0	0.0	0.0	40.0	80.0	85.7	0.0	0.0	84.6	65.7
Articulated Trucks	11	0	0	0	11	0	0	0	0	0	3	0	0	0	3	1	3	0	0	4	18
Articulated %	52.4	0.0	0.0	0.0	52.4	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	60.0	20.0	14.3	0.0	0.0	15.4	26.9
Buses	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	5
Single-Unit Trucks	10	0	0	0	10	0	10	0	0	10	2	0	0	0	2	4	18	0	0	22	44
Articulated Trucks	11	0	0	0	11	0	0	0	0	0	3	0	0	0	3	1	3	0	0	4	18
Total Entering Leg	21	0	0	0	21	0	14	1	0	15	5	0	0	0	5	5	21	0	0	26	67
Buses					0					0					1					4	5
Single-Unit Trucks					0					20					4					20	44
Articulated Trucks					0					6					1					11	18
Total Exiting Leg					0					26					6					35	67

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	1	0	0	1	6
Approach %	0.0	0.0	0.0	0.0		0.0	80.0	20.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	66.7	16.7	0.0	83.3	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	16.7	
Exiting Leg Total					0					1					1					4	6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	5
% Approach Total	0.0	0.0	0.0	0.0		0.0	80.0	20.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.333	0.250	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417
Entering Leg	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	5
Exiting Leg					0					0					1					4	5
Total					0					5					1					4	10

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	1	5	0	0	6	9
4:15 PM	2	0	0	0	2	0	6	0	0	6	1	0	0	0	1	1	4	0	0	5	14
4:30 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2	3	0	0	5	7
4:45 PM	6	0	0	0	6	0	1	0	0	1	1	0	0	0	1	0	6	0	0	6	14
Total	10	0	0	0	10	0	10	0	0	10	2	0	0	0	2	4	18	0	0	22	44
5:00 PM	3	0	0	0	3	0	6	0	0	6	1	0	0	0	1	0	3	0	0	3	13
5:15 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	4
5:30 PM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	1	3	0	0	4	8
5:45 PM	2	0	0	0	2	0	1	0	0	1	1	0	0	0	1	0	2	0	0	2	6
Total	8	0	0	0	8	0	11	0	0	11	2	0	0	0	2	2	8	0	0	10	31
Grand Total	18	0	0	0	18	0	21	0	0	21	4	0	0	0	4	6	26	0	0	32	75
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		18.8	81.3	0.0	0.0		
Total %	24.0	0.0	0.0	0.0	24.0	0.0	28.0	0.0	0.0	28.0	5.3	0.0	0.0	0.0	5.3	8.0	34.7	0.0	0.0	42.7	
Exiting Leg Total					0					30					6					39	75

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	2	0	0	0	2	0	6	0	0	6	1	0	0	0	1	1	4	0	0	5	14
4:30 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2	3	0	0	5	7
4:45 PM	6	0	0	0	6	0	1	0	0	1	1	0	0	0	1	0	6	0	0	6	14
5:00 PM	3	0	0	0	3	0	6	0	0	6	1	0	0	0	1	0	3	0	0	3	13
Total Volume	12	0	0	0	12	0	14	0	0	14	3	0	0	0	3	3	16	0	0	19	48
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		15.8	84.2	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.583	0.000	0.000	0.583	0.750	0.000	0.000	0.000	0.750	0.375	0.667	0.000	0.000	0.792	0.857
Entering Leg	12	0	0	0	12	0	14	0	0	14	3	0	0	0	3	3	16	0	0	19	48
Exiting Leg					0					19					3					26	48
Total					12					33					6					45	96

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Articulated Trucks

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	3
4:15 PM	3	0	0	0	3	0	0	0	0	0	1	0	0	0	1	1	1	0	0	2	6
4:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	5	0	0	0	5	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	7
Total	11	0	0	0	11	0	0	0	0	0	3	0	0	0	3	1	3	0	0	4	18
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
5:45 PM	3	0	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
Total	4	0	0	0	4	0	1	0	0	1	2	0	0	0	2	0	0	0	0	0	7
Grand Total	15	0	0	0	15	0	1	0	0	1	5	0	0	0	5	1	3	0	0	4	25
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		25.0	75.0	0.0	0.0		
Total %	60.0	0.0	0.0	0.0	60.0	0.0	4.0	0.0	0.0	4.0	20.0	0.0	0.0	0.0	20.0	4.0	12.0	0.0	0.0	16.0	
Exiting Leg Total					0					8					1					16	25

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	3
4:15 PM	3	0	0	0	3	0	0	0	0	0	1	0	0	0	1	1	1	0	0	2	6
4:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	5	0	0	0	5	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	7
Total Volume	11	0	0	0	11	0	0	0	0	0	3	0	0	0	3	1	3	0	0	4	18
% Approach Total	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		25.0	75.0	0.0	0.0		
PHF	0.550	0.000	0.000	0.000	0.550	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.750	0.250	0.750	0.000	0.000	0.500	0.643
Entering Leg	11	0	0	0	11	0	0	0	0	0	3	0	0	0	3	1	3	0	0	4	18
Exiting Leg					0					6					1					11	18
Total					11					6					4					15	36

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	I-90 Offramp							Southbridge Street (Route 12)							I-290/ I-395 Onramp							Southbridge Street (Route 12)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							2	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	I-90 Offramp							Southbridge Street (Route 12)							I-290/ I-395 Onramp							Southbridge Street (Route 12)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Exiting Leg							0							0							0							2	2
Total							0							2							0							2	4

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	I-90 Offramp from North							Southbridge Street (Route 12) from East							I-290/ I-395 Onramp from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	I-90 Offramp from North							Southbridge Street (Route 12) from East							I-290/ I-395 Onramp from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	60	0	0	0	60	0	165	13	0	178	24	0	0	0	24	52	216	0	0	268	530
11:15 AM	77	0	0	0	77	0	171	15	0	186	30	0	0	0	30	42	201	0	0	243	536
11:30 AM	63	0	0	0	63	0	186	16	0	202	27	0	0	0	27	57	196	0	0	253	545
11:45 AM	69	0	0	0	69	0	188	11	0	199	20	0	0	0	20	48	193	0	0	241	529
Total	269	0	0	0	269	0	710	55	0	765	101	0	0	0	101	199	806	0	0	1005	2140
12:00 PM	79	0	0	0	79	0	194	12	0	206	17	0	0	0	17	40	206	0	0	246	548
12:15 PM	62	0	0	0	62	0	175	18	0	193	26	0	0	0	26	52	226	0	0	278	559
12:30 PM	70	1	0	0	71	0	163	17	0	180	16	0	0	0	16	61	180	0	0	241	508
12:45 PM	71	0	0	0	71	0	173	19	0	192	19	0	0	0	19	51	214	0	0	265	547
Total	282	1	0	0	283	0	705	66	0	771	78	0	0	0	78	204	826	0	0	1030	2162
1:00 PM	42	1	0	0	43	0	168	9	0	177	25	0	0	0	25	64	223	0	0	287	532
1:15 PM	86	0	0	0	86	0	165	17	0	182	16	0	0	0	16	47	207	0	0	254	538
1:30 PM	66	0	0	0	66	0	155	16	0	171	23	0	0	0	23	57	191	0	0	248	508
1:45 PM	63	0	0	0	63	0	166	9	0	175	23	0	0	0	23	76	195	0	0	271	532
Total	257	1	0	0	258	0	654	51	0	705	87	0	0	0	87	244	816	0	0	1060	2110
Grand Total	808	2	0	0	810	0	2069	172	0	2241	266	0	0	0	266	647	2448	0	0	3095	6412
Approach %	99.8	0.2	0.0	0.0		0.0	92.3	7.7	0.0		100.0	0.0	0.0	0.0		20.9	79.1	0.0	0.0		
Total %	12.6	0.0	0.0	0.0	12.6	0.0	32.3	2.7	0.0	35.0	4.1	0.0	0.0	0.0	4.1	10.1	38.2	0.0	0.0	48.3	
Exiting Leg Total					0					2714					821					2877	6412
Cars	792	2	0	0	794	0	2050	170	0	2220	258	0	0	0	258	642	2418	0	0	3060	6332
% Cars	98.0	100.0	0.0	0.0	98.0	0.0	99.1	98.8	0.0	99.1	97.0	0.0	0.0	0.0	97.0	99.2	98.8	0.0	0.0	98.9	98.8
Exiting Leg Total					0					2676					814					2842	6332
Heavy Vehicles	16	0	0	0	16	0	19	2	0	21	8	0	0	0	8	5	30	0	0	35	80
% Heavy Vehicles	2.0	0.0	0.0	0.0	2.0	0.0	0.9	1.2	0.0	0.9	3.0	0.0	0.0	0.0	3.0	0.8	1.2	0.0	0.0	1.1	1.2
Exiting Leg Total					0					38					7					35	80

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:30 AM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:30 AM	63	0	0	0	63	0	186	16	0	202	27	0	0	0	27	57	196	0	0	253	545
11:45 AM	69	0	0	0	69	0	188	11	0	199	20	0	0	0	20	48	193	0	0	241	529
12:00 PM	79	0	0	0	79	0	194	12	0	206	17	0	0	0	17	40	206	0	0	246	548
12:15 PM	62	0	0	0	62	0	175	18	0	193	26	0	0	0	26	52	226	0	0	278	559
Total Volume	273	0	0	0	273	0	743	57	0	800	90	0	0	0	90	197	821	0	0	1018	2181
% Approach Total	100.0	0.0	0.0	0.0		0.0	92.9	7.1	0.0		100.0	0.0	0.0	0.0		19.4	80.6	0.0	0.0		
PHF	0.864	0.000	0.000	0.000	0.864	0.000	0.957	0.792	0.000	0.971	0.833	0.000	0.000	0.000	0.833	0.864	0.908	0.000	0.000	0.915	0.975
Cars	269	0	0	0	269	0	738	56	0	794	86	0	0	0	86	194	809	0	0	1003	2152
Cars %	98.5	0.0	0.0	0.0	98.5	0.0	99.3	98.2	0.0	99.3	95.6	0.0	0.0	0.0	95.6	98.5	98.5	0.0	0.0	98.5	98.7
Heavy Vehicles	4	0	0	0	4	0	5	1	0	6	4	0	0	0	4	3	12	0	0	15	29
Heavy Vehicles %	1.5	0.0	0.0	0.0	1.5	0.0	0.7	1.8	0.0	0.8	4.4	0.0	0.0	0.0	4.4	1.5	1.5	0.0	0.0	1.5	1.3
Cars Enter Leg	269	0	0	0	269	0	738	56	0	794	86	0	0	0	86	194	809	0	0	1003	2152
Heavy Enter Leg	4	0	0	0	4	0	5	1	0	6	4	0	0	0	4	3	12	0	0	15	29
Total Entering Leg	273	0	0	0	273	0	743	57	0	800	90	0	0	0	90	197	821	0	0	1018	2181
Cars Exiting Leg					0					895					250					1007	2152
Heavy Exiting Leg					0					16					4					9	29
Total Exiting Leg					0					911					254					1016	2181

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	60	0	0	0	60	0	163	13	0	176	23	0	0	0	23	51	212	0	0	263	522
11:15 AM	75	0	0	0	75	0	169	15	0	184	29	0	0	0	29	41	198	0	0	239	527
11:30 AM	61	0	0	0	61	0	184	16	0	200	26	0	0	0	26	55	191	0	0	246	533
11:45 AM	68	0	0	0	68	0	188	11	0	199	20	0	0	0	20	48	190	0	0	238	525
Total	264	0	0	0	264	0	704	55	0	759	98	0	0	0	98	195	791	0	0	986	2107
12:00 PM	78	0	0	0	78	0	194	12	0	206	15	0	0	0	15	40	205	0	0	245	544
12:15 PM	62	0	0	0	62	0	172	17	0	189	25	0	0	0	25	51	223	0	0	274	550
12:30 PM	68	1	0	0	69	0	162	17	0	179	15	0	0	0	15	61	178	0	0	239	502
12:45 PM	71	0	0	0	71	0	173	19	0	192	19	0	0	0	19	51	212	0	0	263	545
Total	279	1	0	0	280	0	701	65	0	766	74	0	0	0	74	203	818	0	0	1021	2141
1:00 PM	40	1	0	0	41	0	167	9	0	176	24	0	0	0	24	64	222	0	0	286	527
1:15 PM	82	0	0	0	82	0	163	17	0	180	16	0	0	0	16	47	203	0	0	250	528
1:30 PM	65	0	0	0	65	0	153	16	0	169	23	0	0	0	23	57	190	0	0	247	504
1:45 PM	62	0	0	0	62	0	162	8	0	170	23	0	0	0	23	76	194	0	0	270	525
Total	249	1	0	0	250	0	645	50	0	695	86	0	0	0	86	244	809	0	0	1053	2084
Grand Total	792	2	0	0	794	0	2050	170	0	2220	258	0	0	0	258	642	2418	0	0	3060	6332
Approach %	99.7	0.3	0.0	0.0		0.0	92.3	7.7	0.0		100.0	0.0	0.0	0.0		21.0	79.0	0.0	0.0		
Total %	12.5	0.0	0.0	0.0	12.5	0.0	32.4	2.7	0.0	35.1	4.1	0.0	0.0	0.0	4.1	10.1	38.2	0.0	0.0	48.3	
Exiting Leg Total					0					2676					814					2842	6332

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:30 AM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:30 AM	61	0	0	0	61	0	184	16	0	200	26	0	0	0	26	55	191	0	0	246	533
11:45 AM	68	0	0	0	68	0	188	11	0	199	20	0	0	0	20	48	190	0	0	238	525
12:00 PM	78	0	0	0	78	0	194	12	0	206	15	0	0	0	15	40	205	0	0	245	544
12:15 PM	62	0	0	0	62	0	172	17	0	189	25	0	0	0	25	51	223	0	0	274	550
Total Volume	269	0	0	0	269	0	738	56	0	794	86	0	0	0	86	194	809	0	0	1003	2152
% Approach Total	100.0	0.0	0.0	0.0		0.0	92.9	7.1	0.0		100.0	0.0	0.0	0.0		19.3	80.7	0.0	0.0		
PHF	0.862	0.000	0.000	0.000	0.862	0.000	0.951	0.824	0.000	0.964	0.827	0.000	0.000	0.000	0.827	0.882	0.907	0.000	0.000	0.915	0.978
Entering Leg	269	0	0	0	269	0	738	56	0	794	86	0	0	0	86	194	809	0	0	1003	2152
Exiting Leg					0					895					250					1007	2152
Total					269					1689					336					2010	4304

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	1	4	0	0	5	8
11:15 AM	2	0	0	0	2	0	2	0	0	2	1	0	0	0	1	1	3	0	0	4	9
11:30 AM	2	0	0	0	2	0	2	0	0	2	1	0	0	0	1	2	5	0	0	7	12
11:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
Total	5	0	0	0	5	0	6	0	0	6	3	0	0	0	3	4	15	0	0	19	33
12:00 PM	1	0	0	0	1	0	0	0	0	0	2	0	0	0	2	0	1	0	0	1	4
12:15 PM	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	1	3	0	0	4	9
12:30 PM	2	0	0	0	2	0	1	0	0	1	1	0	0	0	1	0	2	0	0	2	6
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	3	0	0	0	3	0	4	1	0	5	4	0	0	0	4	1	8	0	0	9	21
1:00 PM	2	0	0	0	2	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	5
1:15 PM	4	0	0	0	4	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	10
1:30 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	4
1:45 PM	1	0	0	0	1	0	4	1	0	5	0	0	0	0	0	0	1	0	0	1	7
Total	8	0	0	0	8	0	9	1	0	10	1	0	0	0	1	0	7	0	0	7	26
Grand Total	16	0	0	0	16	0	19	2	0	21	8	0	0	0	8	5	30	0	0	35	80
Approach %	100.0	0.0	0.0	0.0		0.0	90.5	9.5	0.0		100.0	0.0	0.0	0.0		14.3	85.7	0.0	0.0		
Total %	20.0	0.0	0.0	0.0	20.0	0.0	23.8	2.5	0.0	26.3	10.0	0.0	0.0	0.0	10.0	6.3	37.5	0.0	0.0	43.8	
Exiting Leg Total					0					38					7					35	80
Buses	3	0	0	0	3	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	11
% Buses	18.8	0.0	0.0	0.0	18.8	0.0	15.8	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	14.3	13.8
Exiting Leg Total					0					5					0					6	11
Single-Unit Trucks	9	0	0	0	9	0	16	2	0	18	4	0	0	0	4	4	15	0	0	19	50
% Single-Unit	56.3	0.0	0.0	0.0	56.3	0.0	84.2	100.0	0.0	85.7	50.0	0.0	0.0	0.0	50.0	80.0	50.0	0.0	0.0	54.3	62.5
Exiting Leg Total					0					19					6					25	50
Articulated Trucks	4	0	0	0	4	0	0	0	0	0	4	0	0	0	4	1	10	0	0	11	19
% Articulated	25.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	20.0	33.3	0.0	0.0	31.4	23.8
Exiting Leg Total					0					14					1					4	19

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	1	4	0	0	5	8
11:15 AM	2	0	0	0	2	0	2	0	0	2	1	0	0	0	1	1	3	0	0	4	9
11:30 AM	2	0	0	0	2	0	2	0	0	2	1	0	0	0	1	2	5	0	0	7	12
11:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
Total Volume	5	0	0	0	5	0	6	0	0	6	3	0	0	0	3	4	15	0	0	19	33
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		21.1	78.9	0.0	0.0		
PHF	0.625	0.000	0.000	0.000	0.625	0.000	0.750	0.000	0.000	0.750	0.750	0.000	0.000	0.000	0.750	0.500	0.750	0.000	0.000	0.679	0.688
Buses	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4
Buses %	20.0	0.0	0.0	0.0	20.0	0.0	16.7	0.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0	13.3	0.0	0.0	10.5	12.1
Single-Unit Trucks	2	0	0	0	2	0	5	0	0	5	1	0	0	0	1	3	8	0	0	11	19
Single-Unit %	40.0	0.0	0.0	0.0	40.0	0.0	83.3	0.0	0.0	83.3	33.3	0.0	0.0	0.0	33.3	75.0	53.3	0.0	0.0	57.9	57.6
Articulated Trucks	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	1	5	0	0	6	10
Articulated %	40.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	0.0	66.7	25.0	33.3	0.0	0.0	31.6	30.3
Buses	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4
Single-Unit Trucks	2	0	0	0	2	0	5	0	0	5	1	0	0	0	1	3	8	0	0	11	19
Articulated Trucks	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	1	5	0	0	6	10
Total Entering Leg	5	0	0	0	5	0	6	0	0	6	3	0	0	0	3	4	15	0	0	19	33
Buses					0					2					0					2	4
Single-Unit Trucks					0					9					3					7	19
Articulated Trucks					0					7					1					2	10
Total Exiting Leg					0					18					4					11	33

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:15 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
1:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4
Grand Total	3	0	0	0	3	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	11
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	27.3	0.0	0.0	0.0	27.3	0.0	27.3	0.0	0.0	27.3	0.0	0.0	0.0	0.0	0.0	0.0	45.5	0.0	0.0	45.5	
Exiting Leg Total					0					5					0					6	11

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
Total Volume	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5
% Approach Total	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.375	0.417
Entering Leg	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5
Exiting Leg					0					3					0					2	5
Total					2					3					0					5	10

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Single-Unit Trucks

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
11:15 AM	1	0	0	0	1	0	1	0	0	1	1	0	0	0	1	1	1	0	0	2	5
11:30 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	2	3	0	0	5	8
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	2	0	0	0	2	0	5	0	0	5	1	0	0	0	1	3	8	0	0	11	19
12:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	1	3	0	0	4	8
12:30 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	1	0	0	0	1	0	3	1	0	4	2	0	0	0	2	1	5	0	0	6	13
1:00 PM	2	0	0	0	2	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	4
1:15 PM	3	0	0	0	3	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	5
1:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
1:45 PM	1	0	0	0	1	0	4	1	0	5	0	0	0	0	0	0	1	0	0	1	7
Total	6	0	0	0	6	0	8	1	0	9	1	0	0	0	1	0	2	0	0	2	18
Grand Total	9	0	0	0	9	0	16	2	0	18	4	0	0	0	4	4	15	0	0	19	50
Approach %	100.0	0.0	0.0	0.0		0.0	88.9	11.1	0.0		100.0	0.0	0.0	0.0		21.1	78.9	0.0	0.0		
Total %	18.0	0.0	0.0	0.0	18.0	0.0	32.0	4.0	0.0	36.0	8.0	0.0	0.0	0.0	8.0	8.0	30.0	0.0	0.0	38.0	
Exiting Leg Total					0					19					6					25	50

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
11:15 AM	1	0	0	0	1	0	1	0	0	1	1	0	0	0	1	1	1	0	0	2	5
11:30 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	2	3	0	0	5	8
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Volume	2	0	0	0	2	0	5	0	0	5	1	0	0	0	1	3	8	0	0	11	19
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		27.3	72.7	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.625	0.000	0.000	0.625	0.250	0.000	0.000	0.000	0.250	0.375	0.667	0.000	0.000	0.550	0.594
Entering Leg	2	0	0	0	2	0	5	0	0	5	1	0	0	0	1	3	8	0	0	11	19
Exiting Leg					0					9					3					7	19
Total					2					14					4					18	38

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Articulated Trucks

	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	2	3
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:30 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	4
11:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	1	5	0	0	6	10
12:00 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	3
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	1	0	0	0	1	0	0	0	0	0	2	0	0	0	2	0	2	0	0	2	5
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
Grand Total	4	0	0	0	4	0	0	0	0	0	4	0	0	0	4	1	10	0	0	11	19
Approach %	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		9.1	90.9	0.0	0.0		
Total %	21.1	0.0	0.0	0.0	21.1	0.0	0.0	0.0	0.0	0.0	21.1	0.0	0.0	0.0	21.1	5.3	52.6	0.0	0.0	57.9	
Exiting Leg Total					0					14					1					4	19

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	I-90 Offramp					Southbridge Street (Route 12)					I-290/ I-395 Onramp					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	2	3
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:30 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	4
11:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total Volume	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	1	5	0	0	6	10
% Approach Total	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		16.7	83.3	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.250	0.625	0.000	0.000	0.750	0.625
Entering Leg	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	1	5	0	0	6	10
Exiting Leg					0					7					1					2	10
Total					2					7					3					8	20

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	I-90 Offramp from North							Southbridge Street (Route 12) from East							I-290/ I-395 Onramp from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	I-90 Offramp from North							Southbridge Street (Route 12) from East							I-290/ I-395 Onramp from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **228607 G**
Location: **N: I-90 Offramp S: I-290/ I-395 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	I-90 Offramp from North							Southbridge Street (Route 12) from East							I-290/ I-395 Onramp from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Approach %	0	0	0	0	50	50		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	50	50	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							2							0							0							0	2

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	I-90 Offramp from North							Southbridge Street (Route 12) from East							I-290/ I-395 Onramp from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Exiting Leg							2							0							0							0	2
Total							4							0							0							0	4

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Cars and Heavy Vehicles (Combined)

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	82	0	0	82	0	0	0	0	104	73	0	177	259
7:15 AM	100	0	0	100	0	0	0	0	113	104	0	217	317
7:30 AM	108	0	0	108	0	0	0	0	97	129	0	226	334
7:45 AM	71	0	0	71	0	0	0	0	99	138	0	237	308
Total	361	0	0	361	0	0	0	0	413	444	0	857	1218
8:00 AM	99	0	0	99	0	0	0	0	97	118	0	215	314
8:15 AM	105	0	0	105	0	0	0	0	99	122	0	221	326
8:30 AM	129	0	0	129	0	0	0	0	76	104	0	180	309
8:45 AM	130	0	0	130	0	0	0	0	75	109	0	184	314
Total	463	0	0	463	0	0	0	0	347	453	0	800	1263
Grand Total	824	0	0	824	0	0	0	0	760	897	0	1657	2481
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		45.9	54.1	0.0		
Total %	33.2	0.0	0.0	33.2	0.0	0.0	0.0	0.0	30.6	36.2	0.0	66.8	
Exiting Leg Total				897				760				824	2481
Cars	783	0	0	783	0	0	0	0	698	848	0	1546	2329
% Cars	95.0	0.0	0.0	95.0	0.0	0.0	0.0	0.0	91.8	94.5	0.0	93.3	93.9
Exiting Leg Total				848				698				783	2329
Heavy Vehicles	41	0	0	41	0	0	0	0	62	49	0	111	152
% Heavy Vehicles	5.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	8.2	5.5	0.0	6.7	6.1
Exiting Leg Total				49				62				41	152

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	108	0	0	108	0	0	0	0	97	129	0	226	334
7:45 AM	71	0	0	71	0	0	0	0	99	138	0	237	308
8:00 AM	99	0	0	99	0	0	0	0	97	118	0	215	314
8:15 AM	105	0	0	105	0	0	0	0	99	122	0	221	326
Total Volume	383	0	0	383	0	0	0	0	392	507	0	899	1282
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		43.6	56.4	0.0		
PHF	0.887	0.000	0.000	0.887	0.000	0.000	0.000	0.000	0.990	0.918	0.000	0.948	0.960
Cars	363	0	0	363	0	0	0	0	355	478	0	833	1196
Cars %	94.8	0.0	0.0	94.8	0.0	0.0	0.0	0.0	90.6	94.3	0.0	92.7	93.3
Heavy Vehicles	20	0	0	20	0	0	0	0	37	29	0	66	86
Heavy Vehicles %	5.2	0.0	0.0	5.2	0.0	0.0	0.0	0.0	9.4	5.7	0.0	7.3	6.7
Cars Enter Leg	363	0	0	363	0	0	0	0	355	478	0	833	1196
Heavy Enter Leg	20	0	0	20	0	0	0	0	37	29	0	66	86
Total Entering Leg	383	0	0	383	0	0	0	0	392	507	0	899	1282
Cars Exiting Leg				478				355				363	1196
Heavy Exiting Leg				29				37				20	86
Total Exiting Leg				507				392				383	1282

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Cars

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	80	0	0	80	0	0	0	0	98	67	0	165	245
7:15 AM	91	0	0	91	0	0	0	0	106	100	0	206	297
7:30 AM	103	0	0	103	0	0	0	0	89	120	0	209	312
7:45 AM	65	0	0	65	0	0	0	0	90	131	0	221	286
Total	339	0	0	339	0	0	0	0	383	418	0	801	1140
8:00 AM	94	0	0	94	0	0	0	0	89	111	0	200	294
8:15 AM	101	0	0	101	0	0	0	0	87	116	0	203	304
8:30 AM	126	0	0	126	0	0	0	0	74	96	0	170	296
8:45 AM	123	0	0	123	0	0	0	0	65	107	0	172	295
Total	444	0	0	444	0	0	0	0	315	430	0	745	1189
Grand Total	783	0	0	783	0	0	0	0	698	848	0	1546	2329
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		45.1	54.9	0.0		
Total %	33.6	0.0	0.0	33.6	0.0	0.0	0.0	0.0	30.0	36.4	0.0	66.4	
Exiting Leg Total				848				698				783	2329

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	103	0	0	103	0	0	0	0	89	120	0	209	312
7:45 AM	65	0	0	65	0	0	0	0	90	131	0	221	286
8:00 AM	94	0	0	94	0	0	0	0	89	111	0	200	294
8:15 AM	101	0	0	101	0	0	0	0	87	116	0	203	304
Total Volume	363	0	0	363	0	0	0	0	355	478	0	833	1196
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		42.6	57.4	0.0		
PHF	0.881	0.000	0.000	0.881	0.000	0.000	0.000	0.000	0.986	0.912	0.000	0.942	0.958
Entering Leg	363	0	0	363	0	0	0	0	355	478	0	833	1196
Exiting Leg				478				355				363	1196
Total				841				355				1196	2392

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	2	0	0	2	0	0	0	0	6	6	0	12	14
7:15 AM	9	0	0	9	0	0	0	0	7	4	0	11	20
7:30 AM	5	0	0	5	0	0	0	0	8	9	0	17	22
7:45 AM	6	0	0	6	0	0	0	0	9	7	0	16	22
Total	22	0	0	22	0	0	0	0	30	26	0	56	78
8:00 AM	5	0	0	5	0	0	0	0	8	7	0	15	20
8:15 AM	4	0	0	4	0	0	0	0	12	6	0	18	22
8:30 AM	3	0	0	3	0	0	0	0	2	8	0	10	13
8:45 AM	7	0	0	7	0	0	0	0	10	2	0	12	19
Total	19	0	0	19	0	0	0	0	32	23	0	55	74
Grand Total	41	0	0	41	0	0	0	0	62	49	0	111	152
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		55.9	44.1	0.0		
Total %	27.0	0.0	0.0	27.0	0.0	0.0	0.0	0.0	40.8	32.2	0.0	73.0	
Exiting Leg Total				49				62				41	152
Buses	8	0	0	8	0	0	0	0	1	13	0	14	22
% Buses	19.5	0.0	0.0	19.5	0.0	0.0	0.0	0.0	1.6	26.5	0.0	12.6	14.5
Exiting Leg Total				13				1				8	22
Single-Unit Trucks	29	0	0	29	0	0	0	0	37	21	0	58	87
% Single-Unit	70.7	0.0	0.0	70.7	0.0	0.0	0.0	0.0	59.7	42.9	0.0	52.3	57.2
Exiting Leg Total				21				37				29	87
Articulated Trucks	4	0	0	4	0	0	0	0	24	15	0	39	43
% Articulated	9.8	0.0	0.0	9.8	0.0	0.0	0.0	0.0	38.7	30.6	0.0	35.1	28.3
Exiting Leg Total				15				24				4	43

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	5	0	0	5	0	0	0	0	8	9	0	17	22
7:45 AM	6	0	0	6	0	0	0	0	9	7	0	16	22
8:00 AM	5	0	0	5	0	0	0	0	8	7	0	15	20
8:15 AM	4	0	0	4	0	0	0	0	12	6	0	18	22
Total Volume	20	0	0	20	0	0	0	0	37	29	0	66	86
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		56.1	43.9	0.0		
PHF	0.833	0.000	0.000	0.833	0.000	0.000	0.000	0.000	0.771	0.806	0.000	0.917	0.977
Buses	1	0	0	1	0	0	0	0	1	10	0	11	12
Buses %	5.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	2.7	34.5	0.0	16.7	14.0
Single-Unit Trucks	17	0	0	17	0	0	0	0	23	8	0	31	48
Single-Unit %	85.0	0.0	0.0	85.0	0.0	0.0	0.0	0.0	62.2	27.6	0.0	47.0	55.8
Articulated Trucks	2	0	0	2	0	0	0	0	13	11	0	24	26
Articulated %	10.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	35.1	37.9	0.0	36.4	30.2
Buses	1	0	0	1	0	0	0	0	1	10	0	11	12
Single-Unit Trucks	17	0	0	17	0	0	0	0	23	8	0	31	48
Articulated Trucks	2	0	0	2	0	0	0	0	13	11	0	24	26
Total Entering Leg	20	0	0	20	0	0	0	0	37	29	0	66	86
Buses				10				1				1	12
Single-Unit Trucks				8				23				17	48
Articulated Trucks				11				13				2	26
Total Exiting Leg				29				37				20	86

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
7:15 AM	5	0	0	5	0	0	0	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	0	0	0	5	0	5	5
7:45 AM	1	0	0	1	0	0	0	0	0	3	0	3	4
Total	7	0	0	7	0	0	0	0	0	9	0	9	16
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	1	1	0	2	2
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:45 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
Total	1	0	0	1	0	0	0	0	1	4	0	5	6
Grand Total	8	0	0	8	0	0	0	0	1	13	0	14	22
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		7.1	92.9	0.0		
Total %	36.4	0.0	0.0	36.4	0.0	0.0	0.0	0.0	4.5	59.1	0.0	63.6	
Exiting Leg Total				13				1				8	22

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
7:15 AM	5	0	0	5	0	0	0	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	0	0	0	5	0	5	5
7:45 AM	1	0	0	1	0	0	0	0	0	3	0	3	4
Total Volume	7	0	0	7	0	0	0	0	0	9	0	9	16
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.350	0.000	0.000	0.350	0.000	0.000	0.000	0.000	0.000	0.450	0.000	0.450	0.800
Entering Leg	7	0	0	7	0	0	0	0	0	9	0	9	16
Exiting Leg				9				0				7	16
Total				16				0				16	32

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	1	0	0	1	0	0	0	0	3	4	0	7	8
7:15 AM	3	0	0	3	0	0	0	0	2	3	0	5	8
7:30 AM	5	0	0	5	0	0	0	0	4	1	0	5	10
7:45 AM	3	0	0	3	0	0	0	0	7	2	0	9	12
Total	12	0	0	12	0	0	0	0	16	10	0	26	38
8:00 AM	5	0	0	5	0	0	0	0	6	4	0	10	15
8:15 AM	4	0	0	4	0	0	0	0	6	1	0	7	11
8:30 AM	3	0	0	3	0	0	0	0	2	6	0	8	11
8:45 AM	5	0	0	5	0	0	0	0	7	0	0	7	12
Total	17	0	0	17	0	0	0	0	21	11	0	32	49
Grand Total	29	0	0	29	0	0	0	0	37	21	0	58	87
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		63.8	36.2	0.0		
Total %	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	42.5	24.1	0.0	66.7	
Exiting Leg Total				21				37				29	87

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:45 AM	3	0	0	3	0	0	0	0	7	2	0	9	12
8:00 AM	5	0	0	5	0	0	0	0	6	4	0	10	15
8:15 AM	4	0	0	4	0	0	0	0	6	1	0	7	11
8:30 AM	3	0	0	3	0	0	0	0	2	6	0	8	11
Total Volume	15	0	0	15	0	0	0	0	21	13	0	34	49
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		61.8	38.2	0.0		
PHF	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.750	0.542	0.000	0.850	0.817
Entering Leg	15	0	0	15	0	0	0	0	21	13	0	34	49
Exiting Leg				13				21				15	49
Total				28				21				49	98

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	3	1	0	4	4
7:15 AM	1	0	0	1	0	0	0	0	5	1	0	6	7
7:30 AM	0	0	0	0	0	0	0	0	4	3	0	7	7
7:45 AM	2	0	0	2	0	0	0	0	2	2	0	4	6
Total	3	0	0	3	0	0	0	0	14	7	0	21	24
8:00 AM	0	0	0	0	0	0	0	0	2	2	0	4	4
8:15 AM	0	0	0	0	0	0	0	0	5	4	0	9	9
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:45 AM	1	0	0	1	0	0	0	0	3	1	0	4	5
Total	1	0	0	1	0	0	0	0	10	8	0	18	19
Grand Total	4	0	0	4	0	0	0	0	24	15	0	39	43
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		61.5	38.5	0.0		
Total %	9.3	0.0	0.0	9.3	0.0	0.0	0.0	0.0	55.8	34.9	0.0	90.7	
Exiting Leg Total				15				24				4	43

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	0	0	0	0	0	0	0	0	4	3	0	7	7
7:45 AM	2	0	0	2	0	0	0	0	2	2	0	4	6
8:00 AM	0	0	0	0	0	0	0	0	2	2	0	4	4
8:15 AM	0	0	0	0	0	0	0	0	5	4	0	9	9
Total Volume	2	0	0	2	0	0	0	0	13	11	0	24	26
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		54.2	45.8	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.650	0.688	0.000	0.667	0.722
Entering Leg	2	0	0	2	0	0	0	0	13	11	0	24	26
Exiting Leg				11				13				2	26
Total				13				13				26	52

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Bicycles (on Roadway and Crosswalks)

	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Pedestrians

	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Cars and Heavy Vehicles (Combined)

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	212	0	1	213	0	0	0	0	82	150	0	232	445
4:15 PM	202	0	0	202	0	0	0	0	61	170	0	231	433
4:30 PM	160	0	0	160	0	0	0	0	63	174	0	237	397
4:45 PM	209	0	0	209	0	0	0	0	48	165	0	213	422
Total	783	0	1	784	0	0	0	0	254	659	0	913	1697
5:00 PM	200	0	0	200	0	0	0	0	63	162	0	225	425
5:15 PM	194	0	0	194	0	0	0	0	54	150	0	204	398
5:30 PM	198	0	0	198	0	0	0	0	52	176	0	228	426
5:45 PM	175	0	0	175	0	0	0	0	56	166	0	222	397
Total	767	0	0	767	0	0	0	0	225	654	0	879	1646
Grand Total	1550	0	1	1551	0	0	0	0	479	1313	0	1792	3343
Approach %	99.9	0.0	0.1		0.0	0.0	0.0		26.7	73.3	0.0		
Total %	46.4	0.0	0.0	46.4	0.0	0.0	0.0	0.0	14.3	39.3	0.0	53.6	
Exiting Leg Total				1314				479				1550	3343
Cars	1522	0	1	1523	0	0	0	0	466	1281	0	1747	3270
% Cars	98.2	0.0	100.0	98.2	0.0	0.0	0.0	0.0	97.3	97.6	0.0	97.5	97.8
Exiting Leg Total				1282				466				1522	3270
Heavy Vehicles	28	0	0	28	0	0	0	0	13	32	0	45	73
% Heavy Vehicles	1.8	0.0	0.0	1.8	0.0	0.0	0.0	0.0	2.7	2.4	0.0	2.5	2.2
Exiting Leg Total				32				13				28	73

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	212	0	1	213	0	0	0	0	82	150	0	232	445
4:15 PM	202	0	0	202	0	0	0	0	61	170	0	231	433
4:30 PM	160	0	0	160	0	0	0	0	63	174	0	237	397
4:45 PM	209	0	0	209	0	0	0	0	48	165	0	213	422
Total Volume	783	0	1	784	0	0	0	0	254	659	0	913	1697
% Approach Total	99.9	0.0	0.1		0.0	0.0	0.0		27.8	72.2	0.0		
PHF	0.923	0.000	0.250	0.920	0.000	0.000	0.000	0.000	0.774	0.947	0.000	0.963	0.953
Cars	767	0	1	768	0	0	0	0	247	637	0	884	1652
Cars %	98.0	0.0	100.0	98.0	0.0	0.0	0.0	0.0	97.2	96.7	0.0	96.8	97.3
Heavy Vehicles	16	0	0	16	0	0	0	0	7	22	0	29	45
Heavy Vehicles %	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.8	3.3	0.0	3.2	2.7
Cars Enter Leg	767	0	1	768	0	0	0	0	247	637	0	884	1652
Heavy Enter Leg	16	0	0	16	0	0	0	0	7	22	0	29	45
Total Entering Leg	783	0	1	784	0	0	0	0	254	659	0	913	1697
Cars Exiting Leg				638				247				767	1652
Heavy Exiting Leg				22				7				16	45
Total Exiting Leg				660				254				783	1697

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	205	0	1	206	0	0	0	0	81	143	0	224	430
4:15 PM	197	0	0	197	0	0	0	0	59	166	0	225	422
4:30 PM	157	0	0	157	0	0	0	0	61	170	0	231	388
4:45 PM	208	0	0	208	0	0	0	0	46	158	0	204	412
Total	767	0	1	768	0	0	0	0	247	637	0	884	1652
5:00 PM	194	0	0	194	0	0	0	0	62	158	0	220	414
5:15 PM	191	0	0	191	0	0	0	0	54	148	0	202	393
5:30 PM	196	0	0	196	0	0	0	0	49	174	0	223	419
5:45 PM	174	0	0	174	0	0	0	0	54	164	0	218	392
Total	755	0	0	755	0	0	0	0	219	644	0	863	1618
Grand Total	1522	0	1	1523	0	0	0	0	466	1281	0	1747	3270
Approach %	99.9	0.0	0.1		0.0	0.0	0.0		26.7	73.3	0.0		
Total %	46.5	0.0	0.0	46.6	0.0	0.0	0.0	0.0	14.3	39.2	0.0	53.4	
Exiting Leg Total				1282				466				1522	3270

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	205	0	1	206	0	0	0	0	81	143	0	224	430
4:15 PM	197	0	0	197	0	0	0	0	59	166	0	225	422
4:30 PM	157	0	0	157	0	0	0	0	61	170	0	231	388
4:45 PM	208	0	0	208	0	0	0	0	46	158	0	204	412
Total Volume	767	0	1	768	0	0	0	0	247	637	0	884	1652
% Approach Total	99.9	0.0	0.1		0.0	0.0	0.0		27.9	72.1	0.0		
PHF	0.922	0.000	0.250	0.923	0.000	0.000	0.000	0.000	0.762	0.937	0.000	0.957	0.960
Entering Leg	767	0	1	768	0	0	0	0	247	637	0	884	1652
Exiting Leg				638				247				767	1652
Total				1406				247				1651	3304

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	7	0	0	7	0	0	0	0	1	7	0	8	15
4:15 PM	5	0	0	5	0	0	0	0	2	4	0	6	11
4:30 PM	3	0	0	3	0	0	0	0	2	4	0	6	9
4:45 PM	1	0	0	1	0	0	0	0	2	7	0	9	10
Total	16	0	0	16	0	0	0	0	7	22	0	29	45
5:00 PM	6	0	0	6	0	0	0	0	1	4	0	5	11
5:15 PM	3	0	0	3	0	0	0	0	0	2	0	2	5
5:30 PM	2	0	0	2	0	0	0	0	3	2	0	5	7
5:45 PM	1	0	0	1	0	0	0	0	2	2	0	4	5
Total	12	0	0	12	0	0	0	0	6	10	0	16	28
Grand Total	28	0	0	28	0	0	0	0	13	32	0	45	73
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		28.9	71.1	0.0		
Total %	38.4	0.0	0.0	38.4	0.0	0.0	0.0	0.0	17.8	43.8	0.0	61.6	
Exiting Leg Total				32				13				28	73
Buses	5	0	0	5	0	0	0	0	0	1	0	1	6
% Buses	17.9	0.0	0.0	17.9	0.0	0.0	0.0	0.0	0.0	3.1	0.0	2.2	8.2
Exiting Leg Total				1				0				5	6
Single-Unit Trucks	21	0	0	21	0	0	0	0	10	26	0	36	57
% Single-Unit	75.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	76.9	81.3	0.0	80.0	78.1
Exiting Leg Total				26				10				21	57
Articulated Trucks	2	0	0	2	0	0	0	0	3	5	0	8	10
% Articulated	7.1	0.0	0.0	7.1	0.0	0.0	0.0	0.0	23.1	15.6	0.0	17.8	13.7
Exiting Leg Total				5				3				2	10

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	7	0	0	7	0	0	0	0	1	7	0	8	15
4:15 PM	5	0	0	5	0	0	0	0	2	4	0	6	11
4:30 PM	3	0	0	3	0	0	0	0	2	4	0	6	9
4:45 PM	1	0	0	1	0	0	0	0	2	7	0	9	10
Total Volume	16	0	0	16	0	0	0	0	7	22	0	29	45
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		24.1	75.9	0.0		
PHF	0.571	0.000	0.000	0.571	0.000	0.000	0.000	0.000	0.875	0.786	0.000	0.806	0.750
Buses	5	0	0	5	0	0	0	0	0	0	0	0	5
Buses %	31.3	0.0	0.0	31.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1
Single-Unit Trucks	10	0	0	10	0	0	0	0	4	19	0	23	33
Single-Unit %	62.5	0.0	0.0	62.5	0.0	0.0	0.0	0.0	57.1	86.4	0.0	79.3	73.3
Articulated Trucks	1	0	0	1	0	0	0	0	3	3	0	6	7
Articulated %	6.3	0.0	0.0	6.3	0.0	0.0	0.0	0.0	42.9	13.6	0.0	20.7	15.6
Buses	5	0	0	5	0	0	0	0	0	0	0	0	5
Single-Unit Trucks	10	0	0	10	0	0	0	0	4	19	0	23	33
Articulated Trucks	1	0	0	1	0	0	0	0	3	3	0	6	7
Total Entering Leg	16	0	0	16	0	0	0	0	7	22	0	29	45
Buses				0				0				5	5
Single-Unit Trucks				19				4				10	33
Articulated Trucks				3				3				1	7
Total Exiting Leg				22				7				16	45

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	4	0	0	4	0	0	0	0	0	0	0	0	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	5	0	0	5	0	0	0	0	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	5	0	0	5	0	0	0	0	0	1	0	1	6
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
Total %	83.3	0.0	0.0	83.3	0.0	0.0	0.0	0.0	0.0	16.7	0.0	16.7	
Exiting Leg Total				1				0				5	6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	4	0	0	4	0	0	0	0	0	0	0	0	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total Volume	5	0	0	5	0	0	0	0	0	0	0	0	5
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.313	0.000	0.000	0.313	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.313
Entering Leg	5	0	0	5	0	0	0	0	0	0	0	0	5
Exiting Leg				0				0				5	5
Total				5				0				5	10

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	3	0	0	3	0	0	0	0	0	6	0	6	9
4:15 PM	4	0	0	4	0	0	0	0	2	2	0	4	8
4:30 PM	3	0	0	3	0	0	0	0	2	4	0	6	9
4:45 PM	0	0	0	0	0	0	0	0	0	7	0	7	7
Total	10	0	0	10	0	0	0	0	4	19	0	23	33
5:00 PM	6	0	0	6	0	0	0	0	1	4	0	5	11
5:15 PM	3	0	0	3	0	0	0	0	0	0	0	0	3
5:30 PM	2	0	0	2	0	0	0	0	3	1	0	4	6
5:45 PM	0	0	0	0	0	0	0	0	2	2	0	4	4
Total	11	0	0	11	0	0	0	0	6	7	0	13	24
Grand Total	21	0	0	21	0	0	0	0	10	26	0	36	57
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		27.8	72.2	0.0		
Total %	36.8	0.0	0.0	36.8	0.0	0.0	0.0	0.0	17.5	45.6	0.0	63.2	
Exiting Leg Total				26				10				21	57

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:15 PM	4	0	0	4	0	0	0	0	2	2	0	4	8
4:30 PM	3	0	0	3	0	0	0	0	2	4	0	6	9
4:45 PM	0	0	0	0	0	0	0	0	0	7	0	7	7
5:00 PM	6	0	0	6	0	0	0	0	1	4	0	5	11
Total Volume	13	0	0	13	0	0	0	0	5	17	0	22	35
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		22.7	77.3	0.0		
PHF	0.542	0.000	0.000	0.542	0.000	0.000	0.000	0.000	0.625	0.607	0.000	0.786	0.795
Entering Leg	13	0	0	13	0	0	0	0	5	17	0	22	35
Exiting Leg				17				5				13	35
Total				30				5				35	70

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Articulated Trucks

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
4:15 PM	1	0	0	1	0	0	0	0	0	2	0	2	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	1	0	0	1	0	0	0	0	3	3	0	6	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	1	0	0	1	0	0	0	0	0	2	0	2	3
Grand Total	2	0	0	2	0	0	0	0	3	5	0	8	10
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		37.5	62.5	0.0		
Total %	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	30.0	50.0	0.0	80.0	
Exiting Leg Total				5				3				2	10

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
4:15 PM	1	0	0	1	0	0	0	0	0	2	0	2	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Volume	1	0	0	1	0	0	0	0	3	3	0	6	7
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		50.0	50.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.375	0.375	0.000	0.750	0.583
Entering Leg	1	0	0	1	0	0	0	0	3	3	0	6	7
Exiting Leg				3				3				1	7
Total				4				3				7	14

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Bicycles (on Roadway and Crosswalks)

	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, May 12, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	184	0	0	184	0	0	0	0	51	182	0	233	417
11:15 AM	188	0	0	188	0	0	0	0	60	170	0	230	418
11:30 AM	208	0	0	208	0	0	0	0	57	164	0	221	429
11:45 AM	206	0	0	206	0	0	0	0	42	171	0	213	419
Total	786	0	0	786	0	0	0	0	210	687	0	897	1683
12:00 PM	214	0	0	214	0	0	0	0	52	173	0	225	439
12:15 PM	188	0	0	188	0	0	0	0	64	184	0	248	436
12:30 PM	186	0	0	186	0	0	0	0	56	137	0	193	379
12:45 PM	195	0	0	195	0	0	0	0	74	157	0	231	426
Total	783	0	0	783	0	0	0	0	246	651	0	897	1680
1:00 PM	184	0	0	184	0	0	0	0	99	146	0	245	429
1:15 PM	189	0	0	189	0	0	0	0	65	156	0	221	410
1:30 PM	176	0	0	176	0	0	0	0	58	153	0	211	387
1:45 PM	175	0	0	175	0	0	0	0	73	143	0	216	391
Total	724	0	0	724	0	0	0	0	295	598	0	893	1617
Grand Total	2293	0	0	2293	0	0	0	0	751	1936	0	2687	4980
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		27.9	72.1	0.0		
Total %	46.0	0.0	0.0	46.0	0.0	0.0	0.0	0.0	15.1	38.9	0.0	54.0	
Exiting Leg Total				1936				751				2293	4980
Cars	2277	0	0	2277	0	0	0	0	735	1915	0	2650	4927
% Cars	99.3	0.0	0.0	99.3	0.0	0.0	0.0	0.0	97.9	98.9	0.0	98.6	98.9
Exiting Leg Total				1915				735				2277	4927
Heavy Vehicles	16	0	0	16	0	0	0	0	16	21	0	37	53
% Heavy Vehicles	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	2.1	1.1	0.0	1.4	1.1
Exiting Leg Total				21				16				16	53

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:30 AM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:30 AM	208	0	0	208	0	0	0	0	57	164	0	221	429
11:45 AM	206	0	0	206	0	0	0	0	42	171	0	213	419
12:00 PM	214	0	0	214	0	0	0	0	52	173	0	225	439
12:15 PM	188	0	0	188	0	0	0	0	64	184	0	248	436
Total Volume	816	0	0	816	0	0	0	0	215	692	0	907	1723
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		23.7	76.3	0.0		
PHF	0.953	0.000	0.000	0.953	0.000	0.000	0.000	0.000	0.840	0.940	0.000	0.914	0.981
Cars	813	0	0	813	0	0	0	0	208	684	0	892	1705
Cars %	99.6	0.0	0.0	99.6	0.0	0.0	0.0	0.0	96.7	98.8	0.0	98.3	99.0
Heavy Vehicles	3	0	0	3	0	0	0	0	7	8	0	15	18
Heavy Vehicles %	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	3.3	1.2	0.0	1.7	1.0
Cars Enter Leg	813	0	0	813	0	0	0	0	208	684	0	892	1705
Heavy Enter Leg	3	0	0	3	0	0	0	0	7	8	0	15	18
Total Entering Leg	816	0	0	816	0	0	0	0	215	692	0	907	1723
Cars Exiting Leg				684				208				813	1705
Heavy Exiting Leg				8				7				3	18
Total Exiting Leg				692				215				816	1723

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	182	0	0	182	0	0	0	0	50	180	0	230	412
11:15 AM	187	0	0	187	0	0	0	0	59	167	0	226	413
11:30 AM	207	0	0	207	0	0	0	0	53	162	0	215	422
11:45 AM	206	0	0	206	0	0	0	0	41	169	0	210	416
Total	782	0	0	782	0	0	0	0	203	678	0	881	1663
12:00 PM	214	0	0	214	0	0	0	0	51	171	0	222	436
12:15 PM	186	0	0	186	0	0	0	0	63	182	0	245	431
12:30 PM	185	0	0	185	0	0	0	0	56	133	0	189	374
12:45 PM	195	0	0	195	0	0	0	0	73	156	0	229	424
Total	780	0	0	780	0	0	0	0	243	642	0	885	1665
1:00 PM	183	0	0	183	0	0	0	0	98	145	0	243	426
1:15 PM	187	0	0	187	0	0	0	0	62	155	0	217	404
1:30 PM	174	0	0	174	0	0	0	0	58	152	0	210	384
1:45 PM	171	0	0	171	0	0	0	0	71	143	0	214	385
Total	715	0	0	715	0	0	0	0	289	595	0	884	1599
Grand Total	2277	0	0	2277	0	0	0	0	735	1915	0	2650	4927
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		27.7	72.3	0.0		
Total %	46.2	0.0	0.0	46.2	0.0	0.0	0.0	0.0	14.9	38.9	0.0	53.8	
Exiting Leg Total				1915				735				2277	4927

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:30 AM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:30 AM	207	0	0	207	0	0	0	0	53	162	0	215	422
11:45 AM	206	0	0	206	0	0	0	0	41	169	0	210	416
12:00 PM	214	0	0	214	0	0	0	0	51	171	0	222	436
12:15 PM	186	0	0	186	0	0	0	0	63	182	0	245	431
Total Volume	813	0	0	813	0	0	0	0	208	684	0	892	1705
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		23.3	76.7	0.0		
PHF	0.950	0.000	0.000	0.950	0.000	0.000	0.000	0.000	0.825	0.940	0.000	0.910	0.978
Entering Leg	813	0	0	813	0	0	0	0	208	684	0	892	1705
Exiting Leg				684				208				813	1705
Total				1497				208				1705	3410

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	2	0	0	2	0	0	0	0	1	2	0	3	5
11:15 AM	1	0	0	1	0	0	0	0	1	3	0	4	5
11:30 AM	1	0	0	1	0	0	0	0	4	2	0	6	7
11:45 AM	0	0	0	0	0	0	0	0	1	2	0	3	3
Total	4	0	0	4	0	0	0	0	7	9	0	16	20
12:00 PM	0	0	0	0	0	0	0	0	1	2	0	3	3
12:15 PM	2	0	0	2	0	0	0	0	1	2	0	3	5
12:30 PM	1	0	0	1	0	0	0	0	0	4	0	4	5
12:45 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
Total	3	0	0	3	0	0	0	0	3	9	0	12	15
1:00 PM	1	0	0	1	0	0	0	0	1	1	0	2	3
1:15 PM	2	0	0	2	0	0	0	0	3	1	0	4	6
1:30 PM	2	0	0	2	0	0	0	0	0	1	0	1	3
1:45 PM	4	0	0	4	0	0	0	0	2	0	0	2	6
Total	9	0	0	9	0	0	0	0	6	3	0	9	18
Grand Total	16	0	0	16	0	0	0	0	16	21	0	37	53
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		43.2	56.8	0.0		
Total %	30.2	0.0	0.0	30.2	0.0	0.0	0.0	0.0	30.2	39.6	0.0	69.8	
Exiting Leg Total				21				16				16	53
Buses	3	0	0	3	0	0	0	0	2	3	0	5	8
% Buses	18.8	0.0	0.0	18.8	0.0	0.0	0.0	0.0	12.5	14.3	0.0	13.5	15.1
Exiting Leg Total				3				2				3	8
Single-Unit Trucks	13	0	0	13	0	0	0	0	5	14	0	19	32
% Single-Unit	81.3	0.0	0.0	81.3	0.0	0.0	0.0	0.0	31.3	66.7	0.0	51.4	60.4
Exiting Leg Total				14				5				13	32
Articulated Trucks	0	0	0	0	0	0	0	0	9	4	0	13	13
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.3	19.0	0.0	35.1	24.5
Exiting Leg Total				4				9				0	13

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	2	0	0	2	0	0	0	0	1	2	0	3	5
11:15 AM	1	0	0	1	0	0	0	0	1	3	0	4	5
11:30 AM	1	0	0	1	0	0	0	0	4	2	0	6	7
11:45 AM	0	0	0	0	0	0	0	0	1	2	0	3	3
Total Volume	4	0	0	4	0	0	0	0	7	9	0	16	20
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		43.8	56.3	0.0		
PHF	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.438	0.750	0.000	0.667	0.714
Buses	1	0	0	1	0	0	0	0	1	1	0	2	3
Buses %	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	14.3	11.1	0.0	12.5	15.0
Single-Unit Trucks	3	0	0	3	0	0	0	0	2	6	0	8	11
Single-Unit %	75.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	28.6	66.7	0.0	50.0	55.0
Articulated Trucks	0	0	0	0	0	0	0	0	4	2	0	6	6
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	22.2	0.0	37.5	30.0
Buses	1	0	0	1	0	0	0	0	1	1	0	2	3
Single-Unit Trucks	3	0	0	3	0	0	0	0	2	6	0	8	11
Articulated Trucks	0	0	0	0	0	0	0	0	4	2	0	6	6
Total Entering Leg	4	0	0	4	0	0	0	0	7	9	0	16	20
Buses				1				1				1	3
Single-Unit Trucks				6				2				3	11
Articulated Trucks				2				4				0	6
Total Exiting Leg				9				7				4	20

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
11:15 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	1	1	0	2	3
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	1	0	1	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
1:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	1	1	0	2	3
Grand Total	3	0	0	3	0	0	0	0	2	3	0	5	8
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		40.0	60.0	0.0		
Total %	37.5	0.0	0.0	37.5	0.0	0.0	0.0	0.0	25.0	37.5	0.0	62.5	
Exiting Leg Total				3				2				3	8

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
11:15 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	1	0	0	0	0	1	1	0	2	3
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		50.0	50.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.500	0.375
Entering Leg	1	0	0	1	0	0	0	0	1	1	0	2	3
Exiting Leg				1				1				1	3
Total				2				1				3	6

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	2	0	0	2	0	0	0	0	0	1	0	1	3
11:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	2
11:30 AM	1	0	0	1	0	0	0	0	2	1	0	3	4
11:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	3	0	0	3	0	0	0	0	2	6	0	8	11
12:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
12:15 PM	1	0	0	1	0	0	0	0	1	2	0	3	4
12:30 PM	1	0	0	1	0	0	0	0	0	2	0	2	3
12:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	2	0	0	2	0	0	0	0	1	6	0	7	9
1:00 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
1:15 PM	2	0	0	2	0	0	0	0	0	0	0	0	2
1:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
1:45 PM	4	0	0	4	0	0	0	0	2	0	0	2	6
Total	8	0	0	8	0	0	0	0	2	2	0	4	12
Grand Total	13	0	0	13	0	0	0	0	5	14	0	19	32
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		26.3	73.7	0.0		
Total %	40.6	0.0	0.0	40.6	0.0	0.0	0.0	0.0	15.6	43.8	0.0	59.4	
Exiting Leg Total				14				5				13	32

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
1:00 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
1:15 PM	2	0	0	2	0	0	0	0	0	0	0	0	2
1:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
1:45 PM	4	0	0	4	0	0	0	0	2	0	0	2	6
Total Volume	8	0	0	8	0	0	0	0	2	2	0	4	12
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		50.0	50.0	0.0		
PHF	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.500	0.500
Entering Leg	8	0	0	8	0	0	0	0	2	2	0	4	12
Exiting Leg				2				2				8	12
Total				10				2				12	24

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
11:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	2	1	0	3	3
11:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	4	2	0	6	6
12:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
12:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	2	2	0	4	4
1:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
1:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	3	0	0	3	3
Grand Total	0	0	0	0	0	0	0	0	9	4	0	13	13
Approach %	0.0	0.0	0.0		0.0	0.0	0.0		69.2	30.8	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	69.2	30.8	0.0	100.0	
Exiting Leg Total				4				9				0	13

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:15 AM	Southbridge Street (Route 12) from East				I-90 Onramp from South				Southbridge Street (Route 12) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	2	1	0	3	3
11:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
Total Volume	0	0	0	0	0	0	0	0	5	2	0	7	7
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		71.4	28.6	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.500	0.000	0.583	0.583
Entering Leg	0	0	0	0	0	0	0	0	5	2	0	7	7
Exiting Leg				2				5				0	7
Total				2				5				7	14

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Bicycles (on Roadway and Crosswalks)**

	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **228607 H**
Location: **S: I-90 Onramp**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, May 14, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

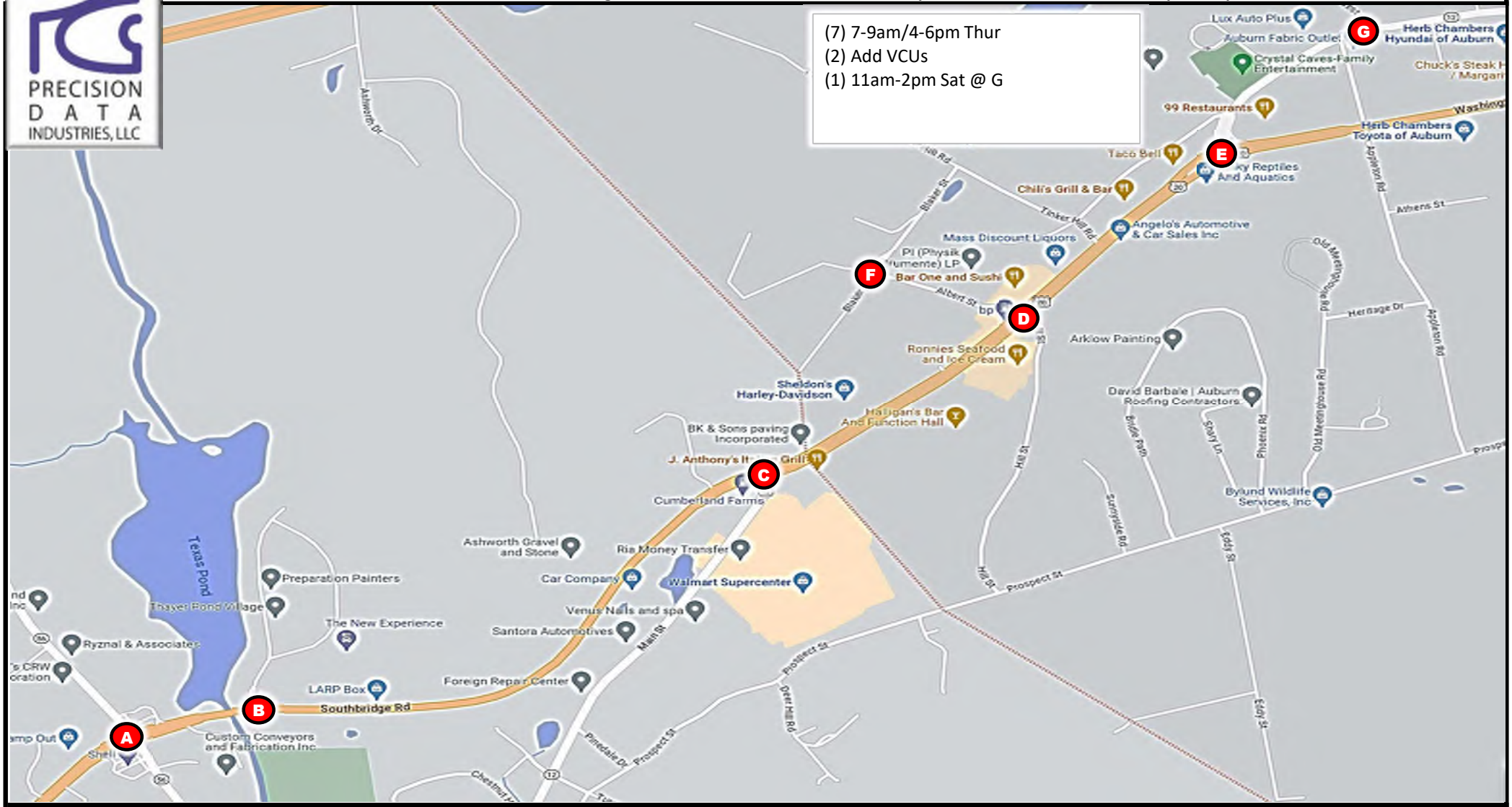
Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Southbridge Street (Route 12) from East						I-90 Onramp from South						Southbridge Street (Route 12) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

Location Map: 239637 Oxford, MA

Precision Data Industries, LLC 157 Washington Street, Suite 2, Hudson, MA 01749 ph: 508-875-0100 email: datarequests@pdillc.com

(7) 7-9am/4-6pm Thur
(2) Add VCUs
(1) 11am-2pm Sat @ G



Client:	Engineer:	Site Code:	Date:	PDI Job #	City, State:
GPI	S. Theriault	NEX-2020145.00	Thur 10/26 and Sat 10/28/2023	239637	Oxford, MA

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars and Heavy Vehicles (Combined)**

	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	21	55	40	0	116	9	105	12	0	126	8	31	14	0	53	15	208	11	0	234	529
7:15 AM	14	60	33	0	107	23	126	2	0	151	10	43	22	0	75	14	232	9	0	255	588
7:30 AM	13	33	32	0	78	15	135	1	0	151	9	49	16	0	74	18	274	12	0	304	607
7:45 AM	11	48	26	0	85	12	149	0	0	161	7	48	19	0	74	17	215	5	0	237	557
Total	59	196	131	0	386	59	515	15	0	589	34	171	71	0	276	64	929	37	0	1030	2281
8:00 AM	10	50	32	0	92	10	102	8	0	120	10	36	21	0	67	16	156	9	0	181	460
8:15 AM	8	36	23	0	67	20	113	7	0	140	6	27	18	0	51	18	194	7	0	219	477
8:30 AM	7	41	21	0	69	17	129	4	1	151	10	32	19	0	61	17	193	10	0	220	501
8:45 AM	8	37	22	0	67	16	103	8	0	127	8	23	13	0	44	19	191	10	0	220	458
Total	33	164	98	0	295	63	447	27	1	538	34	118	71	0	223	70	734	36	0	840	1896
Grand Total	92	360	229	0	681	122	962	42	1	1127	68	289	142	0	499	134	1663	73	0	1870	4177
Approach %	13.5	52.9	33.6	0.0		10.8	85.4	3.7	0.1		13.6	57.9	28.5	0.0		7.2	88.9	3.9	0.0		
Total %	2.2	8.6	5.5	0.0	16.3	2.9	23.0	1.0	0.0	27.0	1.6	6.9	3.4	0.0	11.9	3.2	39.8	1.7	0.0	44.8	
Exiting Leg Total					484					1961					536					1196	4177
Cars	73	340	193	0	606	96	853	38	1	988	66	275	125	0	466	121	1592	57	0	1770	3830
% Cars	79.3	94.4	84.3	0.0	89.0	78.7	88.7	90.5	100.0	87.7	97.1	95.2	88.0	0.0	93.4	90.3	95.7	78.1	0.0	94.7	91.7
Exiting Leg Total					428					1852					499					1051	3830
Heavy Vehicles	19	20	36	0	75	26	109	4	0	139	2	14	17	0	33	13	71	16	0	100	347
% Heavy Vehicles	20.7	5.6	15.7	0.0	11.0	21.3	11.3	9.5	0.0	12.3	2.9	4.8	12.0	0.0	6.6	9.7	4.3	21.9	0.0	5.3	8.3
Exiting Leg Total					56					109					37					145	347

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	21	55	40	0	116	9	105	12	0	126	8	31	14	0	53	15	208	11	0	234	529
7:15 AM	14	60	33	0	107	23	126	2	0	151	10	43	22	0	75	14	232	9	0	255	588
7:30 AM	13	33	32	0	78	15	135	1	0	151	9	49	16	0	74	18	274	12	0	304	607
7:45 AM	11	48	26	0	85	12	149	0	0	161	7	48	19	0	74	17	215	5	0	237	557
Total Volume	59	196	131	0	386	59	515	15	0	589	34	171	71	0	276	64	929	37	0	1030	2281
% Approach Total	15.3	50.8	33.9	0.0		10.0	87.4	2.5	0.0		12.3	62.0	25.7	0.0		6.2	90.2	3.6	0.0		
PHF	0.702	0.817	0.819	0.000	0.832	0.641	0.864	0.313	0.000	0.915	0.850	0.872	0.807	0.000	0.920	0.889	0.848	0.771	0.000	0.847	0.939
Cars	50	181	114	0	345	46	456	14	0	516	33	163	68	0	264	55	899	31	0	985	2110
Cars %	84.7	92.3	87.0	0.0	89.4	78.0	88.5	93.3	0.0	87.6	97.1	95.3	95.8	0.0	95.7	85.9	96.8	83.8	0.0	95.6	92.5
Heavy Vehicles	9	15	17	0	41	13	59	1	0	73	1	8	3	0	12	9	30	6	0	45	171
Heavy Vehicles %	15.3	7.7	13.0	0.0	10.6	22.0	11.5	6.7	0.0	12.4	2.9	4.7	4.2	0.0	4.3	14.1	3.2	16.2	0.0	4.4	7.5
Cars Enter Leg	50	181	114	0	345	46	456	14	0	516	33	163	68	0	264	55	899	31	0	985	2110
Heavy Enter Leg	9	15	17	0	41	13	59	1	0	73	1	8	3	0	12	9	30	6	0	45	171
Total Entering Leg	59	196	131	0	386	59	515	15	0	589	34	171	71	0	276	64	929	37	0	1030	2281
Cars Exiting Leg					240					1046					250					574	2110
Heavy Exiting Leg					27					48					25					71	171
Total Exiting Leg					267					1094					275					645	2281

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	18	51	33	0	102	7	98	11	0	116	8	30	13	0	51	13	201	9	0	223	492
7:15 AM	12	58	28	0	98	16	112	2	0	130	10	39	20	0	69	13	221	7	0	241	538
7:30 AM	11	32	27	0	70	11	121	1	0	133	9	47	16	0	72	16	268	11	0	295	570
7:45 AM	9	40	26	0	75	12	125	0	0	137	6	47	19	0	72	13	209	4	0	226	510
Total	50	181	114	0	345	46	456	14	0	516	33	163	68	0	264	55	899	31	0	985	2110
8:00 AM	8	50	23	0	81	8	91	8	0	107	10	35	17	0	62	14	143	7	0	164	414
8:15 AM	4	36	21	0	61	18	98	6	0	122	6	23	13	0	42	16	183	3	0	202	427
8:30 AM	7	39	17	0	63	11	115	3	1	130	9	31	16	0	56	17	185	8	0	210	459
8:45 AM	4	34	18	0	56	13	93	7	0	113	8	23	11	0	42	19	182	8	0	209	420
Total	23	159	79	0	261	50	397	24	1	472	33	112	57	0	202	66	693	26	0	785	1720
Grand Total	73	340	193	0	606	96	853	38	1	988	66	275	125	0	466	121	1592	57	0	1770	3830
Approach %	12.0	56.1	31.8	0.0		9.7	86.3	3.8	0.1		14.2	59.0	26.8	0.0		6.8	89.9	3.2	0.0		
Total %	1.9	8.9	5.0	0.0	15.8	2.5	22.3	1.0	0.0	25.8	1.7	7.2	3.3	0.0	12.2	3.2	41.6	1.5	0.0	46.2	
Exiting Leg Total					428					1852					499					1051	3830

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	18	51	33	0	102	7	98	11	0	116	8	30	13	0	51	13	201	9	0	223	492
7:15 AM	12	58	28	0	98	16	112	2	0	130	10	39	20	0	69	13	221	7	0	241	538
7:30 AM	11	32	27	0	70	11	121	1	0	133	9	47	16	0	72	16	268	11	0	295	570
7:45 AM	9	40	26	0	75	12	125	0	0	137	6	47	19	0	72	13	209	4	0	226	510
Total Volume	50	181	114	0	345	46	456	14	0	516	33	163	68	0	264	55	899	31	0	985	2110
% Approach Total	14.5	52.5	33.0	0.0		8.9	88.4	2.7	0.0		12.5	61.7	25.8	0.0		5.6	91.3	3.1	0.0		
PHF	0.694	0.780	0.864	0.000	0.846	0.719	0.912	0.318	0.000	0.942	0.825	0.867	0.850	0.000	0.917	0.859	0.839	0.705	0.000	0.835	0.925
Entering Leg	50	181	114	0	345	46	456	14	0	516	33	163	68	0	264	55	899	31	0	985	2110
Exiting Leg					240					1046					250					574	2110
Total					585					1562					514					1559	4220

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	3	4	7	0	14	2	7	1	0	10	0	1	1	0	2	2	7	2	0	11	37
7:15 AM	2	2	5	0	9	7	14	0	0	21	0	4	2	0	6	1	11	2	0	14	50
7:30 AM	2	1	5	0	8	4	14	0	0	18	0	2	0	0	2	2	6	1	0	9	37
7:45 AM	2	8	0	0	10	0	24	0	0	24	1	1	0	0	2	4	6	1	0	11	47
Total	9	15	17	0	41	13	59	1	0	73	1	8	3	0	12	9	30	6	0	45	171
8:00 AM	2	0	9	0	11	2	11	0	0	13	0	1	4	0	5	2	13	2	0	17	46
8:15 AM	4	0	2	0	6	2	15	1	0	18	0	4	5	0	9	2	11	4	0	17	50
8:30 AM	0	2	4	0	6	6	14	1	0	21	1	1	3	0	5	0	8	2	0	10	42
8:45 AM	4	3	4	0	11	3	10	1	0	14	0	0	2	0	2	0	9	2	0	11	38
Total	10	5	19	0	34	13	50	3	0	66	1	6	14	0	21	4	41	10	0	55	176
Grand Total	19	20	36	0	75	26	109	4	0	139	2	14	17	0	33	13	71	16	0	100	347
Approach %	25.3	26.7	48.0	0.0		18.7	78.4	2.9	0.0		6.1	42.4	51.5	0.0		13.0	71.0	16.0	0.0		
Total %	5.5	5.8	10.4	0.0	21.6	7.5	31.4	1.2	0.0	40.1	0.6	4.0	4.9	0.0	9.5	3.7	20.5	4.6	0.0	28.8	
Exiting Leg Total					56					109					37					145	347
Buses	3	0	1	0	4	0	2	2	0	4	1	1	2	0	4	1	2	1	0	4	16
% Buses	15.8	0.0	2.8	0.0	5.3	0.0	1.8	50.0	0.0	2.9	50.0	7.1	11.8	0.0	12.1	7.7	2.8	6.3	0.0	4.0	4.6
Exiting Leg Total					2					4					3					7	16
Single-Unit Trucks	13	14	32	0	59	18	78	2	0	98	1	12	7	0	20	7	48	12	0	67	244
% Single-Unit	68.4	70.0	88.9	0.0	78.7	69.2	71.6	50.0	0.0	70.5	50.0	85.7	41.2	0.0	60.6	53.8	67.6	75.0	0.0	67.0	70.3
Exiting Leg Total					42					81					23					98	244
Articulated Trucks	3	6	3	0	12	8	29	0	0	37	0	1	8	0	9	5	21	3	0	29	87
% Articulated	15.8	30.0	8.3	0.0	16.0	30.8	26.6	0.0	0.0	26.6	0.0	7.1	47.1	0.0	27.3	38.5	29.6	18.8	0.0	29.0	25.1
Exiting Leg Total					12					24					11					40	87

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	2	8	0	0	10	0	24	0	0	24	1	1	0	0	2	4	6	1	0	11	47
8:00 AM	2	0	9	0	11	2	11	0	0	13	0	1	4	0	5	2	13	2	0	17	46
8:15 AM	4	0	2	0	6	2	15	1	0	18	0	4	5	0	9	2	11	4	0	17	50
8:30 AM	0	2	4	0	6	6	14	1	0	21	1	1	3	0	5	0	8	2	0	10	42
Total Volume	8	10	15	0	33	10	64	2	0	76	2	7	12	0	21	8	38	9	0	55	185
% Approach Total	24.2	30.3	45.5	0.0		13.2	84.2	2.6	0.0		9.5	33.3	57.1	0.0		14.5	69.1	16.4	0.0		
PHF	0.500	0.313	0.417	0.000	0.750	0.417	0.667	0.500	0.000	0.792	0.500	0.438	0.600	0.000	0.583	0.500	0.731	0.563	0.000	0.809	0.925
Buses	1	0	0	0	1	0	2	1	0	3	1	0	2	0	3	1	0	1	0	2	9
Buses %	12.5	0.0	0.0	0.0	3.0	0.0	3.1	50.0	0.0	3.9	50.0	0.0	16.7	0.0	14.3	12.5	0.0	11.1	0.0	3.6	4.9
Single-Unit Trucks	5	8	13	0	26	8	48	1	0	57	1	7	4	0	12	2	24	6	0	32	127
Single-Unit %	62.5	80.0	86.7	0.0	78.8	80.0	75.0	50.0	0.0	75.0	50.0	100.0	33.3	0.0	57.1	25.0	63.2	66.7	0.0	58.2	68.6
Articulated Trucks	2	2	2	0	6	2	14	0	0	16	0	0	6	0	6	5	14	2	0	21	49
Articulated %	25.0	20.0	13.3	0.0	18.2	20.0	21.9	0.0	0.0	21.1	0.0	0.0	50.0	0.0	28.6	62.5	36.8	22.2	0.0	38.2	26.5
Buses	1	0	0	0	1	0	2	1	0	3	1	0	2	0	3	1	0	1	0	2	9
Single-Unit Trucks	5	8	13	0	26	8	48	1	0	57	1	7	4	0	12	2	24	6	0	32	127
Articulated Trucks	2	2	2	0	6	2	14	0	0	16	0	0	6	0	6	5	14	2	0	21	49
Total Entering Leg	8	10	15	0	33	10	64	2	0	76	2	7	12	0	21	8	38	9	0	55	185
Buses					1					1					2					5	9
Single-Unit Trucks					21					38					11					57	127
Articulated Trucks					4					16					7					22	49
Total Exiting Leg					26					55					20					84	185

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	3
Total	3	0	0	0	3	0	0	1	0	1	1	1	0	0	2	1	2	0	0	3	9
8:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	0	1	3
8:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	0	2	1	0	3	0	0	2	0	2	0	0	1	0	1	7
Grand Total	3	0	1	0	4	0	2	2	0	4	1	1	2	0	4	1	2	1	0	4	16
Approach %	75.0	0.0	25.0	0.0		0.0	50.0	50.0	0.0		25.0	25.0	50.0	0.0		25.0	50.0	25.0	0.0		
Total %	18.8	0.0	6.3	0.0	25.0	0.0	12.5	12.5	0.0	25.0	6.3	6.3	12.5	0.0	25.0	6.3	12.5	6.3	0.0	25.0	
Exiting Leg Total					2					4					3					7	16

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	3
Total Volume	3	0	0	0	3	0	0	1	0	1	1	1	0	0	2	1	2	0	0	3	9
% Approach Total	100.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		50.0	50.0	0.0	0.0		33.3	66.7	0.0	0.0		
PHF	0.750	0.000	0.000	0.000	0.750	0.000	0.000	0.250	0.000	0.250	0.250	0.250	0.000	0.000	0.500	0.250	0.250	0.000	0.000	0.375	0.563
Entering Leg	3	0	0	0	3	0	0	1	0	1	1	1	0	0	2	1	2	0	0	3	9
Exiting Leg					1					3					2					3	9
Total					4					4					4					6	18

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	2	3	7	0	12	1	5	0	0	6	0	1	1	0	2	2	4	2	0	8	28
7:15 AM	1	2	4	0	7	2	9	0	0	11	0	2	1	0	3	1	8	2	0	11	32
7:30 AM	2	0	5	0	7	4	8	0	0	12	0	2	0	0	2	2	5	0	0	7	28
7:45 AM	1	7	0	0	8	0	18	0	0	18	0	1	0	0	1	0	4	1	0	5	32
Total	6	12	16	0	34	7	40	0	0	47	0	6	2	0	8	5	21	5	0	31	120
8:00 AM	0	0	7	0	7	1	8	0	0	9	0	1	0	0	1	1	5	2	0	8	25
8:15 AM	4	0	2	0	6	2	12	1	0	15	0	4	3	0	7	1	8	2	0	11	39
8:30 AM	0	1	4	0	5	5	10	0	0	15	1	1	1	0	3	0	7	1	0	8	31
8:45 AM	3	1	3	0	7	3	8	1	0	12	0	0	1	0	1	0	7	2	0	9	29
Total	7	2	16	0	25	11	38	2	0	51	1	6	5	0	12	2	27	7	0	36	124
Grand Total	13	14	32	0	59	18	78	2	0	98	1	12	7	0	20	7	48	12	0	67	244
Approach %	22.0	23.7	54.2	0.0		18.4	79.6	2.0	0.0		5.0	60.0	35.0	0.0		10.4	71.6	17.9	0.0		
Total %	5.3	5.7	13.1	0.0	24.2	7.4	32.0	0.8	0.0	40.2	0.4	4.9	2.9	0.0	8.2	2.9	19.7	4.9	0.0	27.5	
Exiting Leg Total					42					81					23					98	244

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	1	7	0	0	8	0	18	0	0	18	0	1	0	0	1	0	4	1	0	5	32
8:00 AM	0	0	7	0	7	1	8	0	0	9	0	1	0	0	1	1	5	2	0	8	25
8:15 AM	4	0	2	0	6	2	12	1	0	15	0	4	3	0	7	1	8	2	0	11	39
8:30 AM	0	1	4	0	5	5	10	0	0	15	1	1	1	0	3	0	7	1	0	8	31
Total Volume	5	8	13	0	26	8	48	1	0	57	1	7	4	0	12	2	24	6	0	32	127
% Approach Total	19.2	30.8	50.0	0.0		14.0	84.2	1.8	0.0		8.3	58.3	33.3	0.0		6.3	75.0	18.8	0.0		
PHF	0.313	0.286	0.464	0.000	0.813	0.400	0.667	0.250	0.000	0.792	0.250	0.438	0.333	0.000	0.429	0.500	0.750	0.750	0.000	0.727	0.814
Entering Leg	5	8	13	0	26	8	48	1	0	57	1	7	4	0	12	2	24	6	0	32	127
Exiting Leg					21					38					11					57	127
Total					47					95					23					89	254

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	1	0	0	1	1	2	0	0	3	0	0	0	0	0	0	3	0	0	3	7
7:15 AM	0	0	1	0	1	5	5	0	0	10	0	1	1	0	2	0	1	0	0	1	14
7:30 AM	0	1	0	0	1	0	6	0	0	6	0	0	0	0	0	0	1	1	0	2	9
7:45 AM	0	1	0	0	1	0	6	0	0	6	0	0	0	0	0	3	2	0	0	5	12
Total	0	3	1	0	4	6	19	0	0	25	0	1	1	0	2	3	7	1	0	11	42
8:00 AM	2	0	2	0	4	1	1	0	0	2	0	0	4	0	4	1	8	0	0	9	19
8:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	3	1	0	5	8
8:30 AM	0	1	0	0	1	1	4	0	0	5	0	0	2	0	2	0	1	1	0	2	10
8:45 AM	1	2	0	0	3	0	2	0	0	2	0	0	1	0	1	0	2	0	0	2	8
Total	3	3	2	0	8	2	10	0	0	12	0	0	7	0	7	2	14	2	0	18	45
Grand Total	3	6	3	0	12	8	29	0	0	37	0	1	8	0	9	5	21	3	0	29	87
Approach %	25.0	50.0	25.0	0.0		21.6	78.4	0.0	0.0		0.0	11.1	88.9	0.0		17.2	72.4	10.3	0.0		
Total %	3.4	6.9	3.4	0.0	13.8	9.2	33.3	0.0	0.0	42.5	0.0	1.1	9.2	0.0	10.3	5.7	24.1	3.4	0.0	33.3	
Exiting Leg Total					12					24					11					40	87

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	1	0	1	5	5	0	0	10	0	1	1	0	2	0	1	0	0	1	14
7:30 AM	0	1	0	0	1	0	6	0	0	6	0	0	0	0	0	0	1	1	0	2	9
7:45 AM	0	1	0	0	1	0	6	0	0	6	0	0	0	0	0	3	2	0	0	5	12
8:00 AM	2	0	2	0	4	1	1	0	0	2	0	0	4	0	4	1	8	0	0	9	19
Total Volume	2	2	3	0	7	6	18	0	0	24	0	1	5	0	6	4	12	1	0	17	54
% Approach Total	28.6	28.6	42.9	0.0		25.0	75.0	0.0	0.0		0.0	16.7	83.3	0.0		23.5	70.6	5.9	0.0		
PHF	0.250	0.500	0.375	0.000	0.438	0.300	0.750	0.000	0.000	0.600	0.000	0.250	0.313	0.000	0.375	0.333	0.375	0.250	0.000	0.472	0.711
Entering Leg	2	2	3	0	7	6	18	0	0	24	0	1	5	0	6	4	12	1	0	17	54
Exiting Leg					8					15					6					25	54
Total					15					39					12					42	108

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars and Heavy Vehicles (Combined)**

	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	11	67	24	0	102	32	258	5	0	295	6	67	23	0	96	25	170	11	0	206	699
4:15 PM	16	51	28	0	95	32	234	12	0	278	7	56	23	0	86	25	179	7	0	211	670
4:30 PM	14	73	20	0	107	28	264	7	0	299	7	57	20	0	84	18	192	12	0	222	712
4:45 PM	18	65	23	0	106	39	280	4	0	323	2	43	29	0	74	21	179	21	0	221	724
Total	59	256	95	0	410	131	1036	28	0	1195	22	223	95	0	340	89	720	51	0	860	2805
5:00 PM	28	60	22	0	110	33	268	8	0	309	2	65	27	0	94	22	164	19	0	205	718
5:15 PM	10	75	25	0	110	44	332	9	1	386	7	49	34	0	90	33	160	15	0	208	794
5:30 PM	10	63	18	0	91	27	307	6	0	340	7	65	24	0	96	16	155	15	0	186	713
5:45 PM	12	39	23	0	74	29	211	9	0	249	7	45	28	0	80	13	184	14	0	211	614
Total	60	237	88	0	385	133	1118	32	1	1284	23	224	113	0	360	84	663	63	0	810	2839
Grand Total	119	493	183	0	795	264	2154	60	1	2479	45	447	208	0	700	173	1383	114	0	1670	5644
Approach %	15.0	62.0	23.0	0.0		10.6	86.9	2.4	0.0		6.4	63.9	29.7	0.0		10.4	82.8	6.8	0.0		
Total %	2.1	8.7	3.2	0.0	14.1	4.7	38.2	1.1	0.0	43.9	0.8	7.9	3.7	0.0	12.4	3.1	24.5	2.0	0.0	29.6	
Exiting Leg Total					825					1612					726					2481	5644
Cars	114	489	170	0	773	248	2092	60	1	2401	44	438	196	0	678	170	1339	110	0	1619	5471
% Cars	95.8	99.2	92.9	0.0	97.2	93.9	97.1	100.0	100.0	96.9	97.8	98.0	94.2	0.0	96.9	98.3	96.8	96.5	0.0	96.9	96.9
Exiting Leg Total					796					1554					719					2402	5471
Heavy Vehicles	5	4	13	0	22	16	62	0	0	78	1	9	12	0	22	3	44	4	0	51	173
% Heavy Vehicles	4.2	0.8	7.1	0.0	2.8	6.1	2.9	0.0	0.0	3.1	2.2	2.0	5.8	0.0	3.1	1.7	3.2	3.5	0.0	3.1	3.1
Exiting Leg Total					29					58					7					79	173

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	18	65	23	0	106	39	280	4	0	323	2	43	29	0	74	21	179	21	0	221	724
5:00 PM	28	60	22	0	110	33	268	8	0	309	2	65	27	0	94	22	164	19	0	205	718
5:15 PM	10	75	25	0	110	44	332	9	1	386	7	49	34	0	90	33	160	15	0	208	794
5:30 PM	10	63	18	0	91	27	307	6	0	340	7	65	24	0	96	16	155	15	0	186	713
Total Volume	66	263	88	0	417	143	1187	27	1	1358	18	222	114	0	354	92	658	70	0	820	2949
% Approach Total	15.8	63.1	21.1	0.0		10.5	87.4	2.0	0.1		5.1	62.7	32.2	0.0		11.2	80.2	8.5	0.0		
PHF	0.589	0.877	0.880	0.000	0.948	0.813	0.894	0.750	0.250	0.880	0.643	0.854	0.838	0.000	0.922	0.697	0.919	0.833	0.000	0.928	0.929
Cars	63	262	84	0	409	135	1157	27	1	1320	17	217	107	0	341	90	640	66	0	796	2866
Cars %	95.5	99.6	95.5	0.0	98.1	94.4	97.5	100.0	100.0	97.2	94.4	97.7	93.9	0.0	96.3	97.8	97.3	94.3	0.0	97.1	97.2
Heavy Vehicles	3	1	4	0	8	8	30	0	0	38	1	5	7	0	13	2	18	4	0	24	83
Heavy Vehicles %	4.5	0.4	4.5	0.0	1.9	5.6	2.5	0.0	0.0	2.8	5.6	2.3	6.1	0.0	3.7	2.2	2.7	5.7	0.0	2.9	2.8
Cars Enter Leg	63	262	84	0	409	135	1157	27	1	1320	17	217	107	0	341	90	640	66	0	796	2866
Heavy Enter Leg	3	1	4	0	8	8	30	0	0	38	1	5	7	0	13	2	18	4	0	24	83
Total Entering Leg	66	263	88	0	417	143	1187	27	1	1358	18	222	114	0	354	92	658	70	0	820	2949
Cars Exiting Leg					418					742					379					1327	2866
Heavy Exiting Leg					17					23					3					40	83
Total Exiting Leg					435					765					382					1367	2949

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	11	66	18	0	95	31	249	5	0	285	6	66	18	0	90	25	165	11	0	201	671
4:15 PM	14	49	27	0	90	31	226	12	0	269	7	56	23	0	86	25	173	7	0	205	650
4:30 PM	14	73	19	0	106	24	252	7	0	283	7	55	20	0	82	17	182	12	0	211	682
4:45 PM	15	65	21	0	101	38	269	4	0	311	2	42	27	0	71	20	172	21	0	213	696
Total	54	253	85	0	392	124	996	28	0	1148	22	219	88	0	329	87	692	51	0	830	2699
5:00 PM	28	60	21	0	109	31	261	8	0	300	2	64	25	0	91	22	160	17	0	199	699
5:15 PM	10	74	24	0	108	41	328	9	1	379	7	47	33	0	87	32	156	14	0	202	776
5:30 PM	10	63	18	0	91	25	299	6	0	330	6	64	22	0	92	16	152	14	0	182	695
5:45 PM	12	39	22	0	73	27	208	9	0	244	7	44	28	0	79	13	179	14	0	206	602
Total	60	236	85	0	381	124	1096	32	1	1253	22	219	108	0	349	83	647	59	0	789	2772
Grand Total	114	489	170	0	773	248	2092	60	1	2401	44	438	196	0	678	170	1339	110	0	1619	5471
Approach %	14.7	63.3	22.0	0.0		10.3	87.1	2.5	0.0		6.5	64.6	28.9	0.0		10.5	82.7	6.8	0.0		
Total %	2.1	8.9	3.1	0.0	14.1	4.5	38.2	1.1	0.0	43.9	0.8	8.0	3.6	0.0	12.4	3.1	24.5	2.0	0.0	29.6	
Exiting Leg Total					796					1554					719					2402	5471

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	15	65	21	0	101	38	269	4	0	311	2	42	27	0	71	20	172	21	0	213	696
5:00 PM	28	60	21	0	109	31	261	8	0	300	2	64	25	0	91	22	160	17	0	199	699
5:15 PM	10	74	24	0	108	41	328	9	1	379	7	47	33	0	87	32	156	14	0	202	776
5:30 PM	10	63	18	0	91	25	299	6	0	330	6	64	22	0	92	16	152	14	0	182	695
Total Volume	63	262	84	0	409	135	1157	27	1	1320	17	217	107	0	341	90	640	66	0	796	2866
% Approach Total	15.4	64.1	20.5	0.0		10.2	87.7	2.0	0.1		5.0	63.6	31.4	0.0		11.3	80.4	8.3	0.0		
PHF	0.563	0.885	0.875	0.000	0.938	0.823	0.882	0.750	0.250	0.871	0.607	0.848	0.811	0.000	0.927	0.703	0.930	0.786	0.000	0.934	0.923
Entering Leg	63	262	84	0	409	135	1157	27	1	1320	17	217	107	0	341	90	640	66	0	796	2866
Exiting Leg					418					742					379					1327	2866
Total					827					2062					720					2123	5732

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	6	0	7	1	9	0	0	10	0	1	5	0	6	0	5	0	0	5	28
4:15 PM	2	2	1	0	5	1	8	0	0	9	0	0	0	0	0	0	6	0	0	6	20
4:30 PM	0	0	1	0	1	4	12	0	0	16	0	2	0	0	2	1	10	0	0	11	30
4:45 PM	3	0	2	0	5	1	11	0	0	12	0	1	2	0	3	1	7	0	0	8	28
Total	5	3	10	0	18	7	40	0	0	47	0	4	7	0	11	2	28	0	0	30	106
5:00 PM	0	0	1	0	1	2	7	0	0	9	0	1	2	0	3	0	4	2	0	6	19
5:15 PM	0	1	1	0	2	3	4	0	0	7	0	2	1	0	3	1	4	1	0	6	18
5:30 PM	0	0	0	0	0	2	8	0	0	10	1	1	2	0	4	0	3	1	0	4	18
5:45 PM	0	0	1	0	1	2	3	0	0	5	0	1	0	0	1	0	5	0	0	5	12
Total	0	1	3	0	4	9	22	0	0	31	1	5	5	0	11	1	16	4	0	21	67
Grand Total	5	4	13	0	22	16	62	0	0	78	1	9	12	0	22	3	44	4	0	51	173
Approach %	22.7	18.2	59.1	0.0		20.5	79.5	0.0	0.0		4.5	40.9	54.5	0.0		5.9	86.3	7.8	0.0		
Total %	2.9	2.3	7.5	0.0	12.7	9.2	35.8	0.0	0.0	45.1	0.6	5.2	6.9	0.0	12.7	1.7	25.4	2.3	0.0	29.5	
Exiting Leg Total					29					58					7					79	173
Buses	0	1	2	0	3	0	2	0	0	2	0	3	0	0	3	0	2	0	0	2	10
% Buses	0.0	25.0	15.4	0.0	13.6	0.0	3.2	0.0	0.0	2.6	0.0	33.3	0.0	0.0	13.6	0.0	4.5	0.0	0.0	3.9	5.8
Exiting Leg Total					3					4					1					2	10
Single-Unit Trucks	3	3	4	0	10	14	25	0	0	39	1	4	5	0	10	2	28	3	0	33	92
% Single-Unit	60.0	75.0	30.8	0.0	45.5	87.5	40.3	0.0	0.0	50.0	100.0	44.4	41.7	0.0	45.5	66.7	63.6	75.0	0.0	64.7	53.2
Exiting Leg Total					21					33					5					33	92
Articulated Trucks	2	0	7	0	9	2	35	0	0	37	0	2	7	0	9	1	14	1	0	16	71
% Articulated	40.0	0.0	53.8	0.0	40.9	12.5	56.5	0.0	0.0	47.4	0.0	22.2	58.3	0.0	40.9	33.3	31.8	25.0	0.0	31.4	41.0
Exiting Leg Total					5					21					1					44	71

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Leicester Street (Route 56)					Southbridge Road (Route 20)					Leicester Street (Route 56)					Southbridge Road (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	6	0	7	1	9	0	0	10	0	1	5	0	6	0	5	0	0	5	28
4:15 PM	2	2	1	0	5	1	8	0	0	9	0	0	0	0	0	0	6	0	0	6	20
4:30 PM	0	0	1	0	1	4	12	0	0	16	0	2	0	0	2	1	10	0	0	11	30
4:45 PM	3	0	2	0	5	1	11	0	0	12	0	1	2	0	3	1	7	0	0	8	28
Total Volume	5	3	10	0	18	7	40	0	0	47	0	4	7	0	11	2	28	0	0	30	106
% Approach Total	27.8	16.7	55.6	0.0		14.9	85.1	0.0	0.0		0.0	36.4	63.6	0.0		6.7	93.3	0.0	0.0		
PHF	0.417	0.375	0.417	0.000	0.643	0.438	0.833	0.000	0.000	0.734	0.000	0.500	0.350	0.000	0.458	0.500	0.700	0.000	0.000	0.682	0.883
Buses	0	1	2	0	3	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	5
Buses %	0.0	33.3	20.0	0.0	16.7	0.0	2.5	0.0	0.0	2.1	0.0	25.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	4.7
Single-Unit Trucks	3	2	4	0	9	5	17	0	0	22	0	2	4	0	6	1	19	0	0	20	57
Single-Unit %	60.0	66.7	40.0	0.0	50.0	71.4	42.5	0.0	0.0	46.8	0.0	50.0	57.1	0.0	54.5	50.0	67.9	0.0	0.0	66.7	53.8
Articulated Trucks	2	0	4	0	6	2	22	0	0	24	0	1	3	0	4	1	9	0	0	10	44
Articulated %	40.0	0.0	40.0	0.0	33.3	28.6	55.0	0.0	0.0	51.1	0.0	25.0	42.9	0.0	36.4	50.0	32.1	0.0	0.0	33.3	41.5
Buses	0	1	2	0	3	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	5
Single-Unit Trucks	3	2	4	0	9	5	17	0	0	22	0	2	4	0	6	1	19	0	0	20	57
Articulated Trucks	2	0	4	0	6	2	22	0	0	24	0	1	3	0	4	1	9	0	0	10	44
Total Entering Leg	5	3	10	0	18	7	40	0	0	47	0	4	7	0	11	2	28	0	0	30	106
Buses					1					2					1					1	5
Single-Unit Trucks					7					23					3					24	57
Articulated Trucks					3					13					1					27	44
Total Exiting Leg					11					38					5					52	106

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
4:15 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	2	0	3	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	0	2	0	0	2	5
Grand Total	0	1	2	0	3	0	2	0	0	2	0	3	0	0	3	0	2	0	0	2	10
Approach %	0.0	33.3	66.7	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	10.0	20.0	0.0	30.0	0.0	20.0	0.0	0.0	20.0	0.0	30.0	0.0	0.0	30.0	0.0	20.0	0.0	0.0	20.0	
Exiting Leg Total					3					4					1					2	10

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
Total Volume	0	0	1	0	1	0	1	0	0	1	0	2	0	0	2	0	2	0	0	2	6
% Approach Total	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.500	0.500
Entering Leg	0	0	1	0	1	0	1	0	0	1	0	2	0	0	2	0	2	0	0	2	6
Exiting Leg					2					3					0					1	6
Total					3					4					2					3	12

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	2	0	3	0	3	0	0	3	0	0	3	0	3	0	4	0	0	4	13
4:15 PM	2	1	1	0	4	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	8
4:30 PM	0	0	1	0	1	3	5	0	0	8	0	2	0	0	2	1	6	0	0	7	18
4:45 PM	1	0	0	0	1	1	8	0	0	9	0	0	1	0	1	0	7	0	0	7	18
Total	3	2	4	0	9	5	17	0	0	22	0	2	4	0	6	1	19	0	0	20	57
5:00 PM	0	0	0	0	0	2	2	0	0	4	0	1	0	0	1	0	3	2	0	5	10
5:15 PM	0	1	0	0	1	3	1	0	0	4	0	1	0	0	1	1	2	0	0	3	9
5:30 PM	0	0	0	0	0	2	2	0	0	4	1	0	1	0	2	0	2	1	0	3	9
5:45 PM	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	0	2	0	0	2	7
Total	0	1	0	0	1	9	8	0	0	17	1	2	1	0	4	1	9	3	0	13	35
Grand Total	3	3	4	0	10	14	25	0	0	39	1	4	5	0	10	2	28	3	0	33	92
Approach %	30.0	30.0	40.0	0.0		35.9	64.1	0.0	0.0		10.0	40.0	50.0	0.0		6.1	84.8	9.1	0.0		
Total %	3.3	3.3	4.3	0.0	10.9	15.2	27.2	0.0	0.0	42.4	1.1	4.3	5.4	0.0	10.9	2.2	30.4	3.3	0.0	35.9	
Exiting Leg Total					21					33					5					33	92

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	2	0	3	0	3	0	0	3	0	0	3	0	3	0	4	0	0	4	13
4:15 PM	2	1	1	0	4	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	8
4:30 PM	0	0	1	0	1	3	5	0	0	8	0	2	0	0	2	1	6	0	0	7	18
4:45 PM	1	0	0	0	1	1	8	0	0	9	0	0	1	0	1	0	7	0	0	7	18
Total Volume	3	2	4	0	9	5	17	0	0	22	0	2	4	0	6	1	19	0	0	20	57
% Approach Total	33.3	22.2	44.4	0.0		22.7	77.3	0.0	0.0		0.0	33.3	66.7	0.0		5.0	95.0	0.0	0.0		
PHF	0.375	0.500	0.500	0.000	0.563	0.417	0.531	0.000	0.000	0.611	0.000	0.250	0.333	0.000	0.500	0.250	0.679	0.000	0.000	0.714	0.792
Entering Leg	3	2	4	0	9	5	17	0	0	22	0	2	4	0	6	1	19	0	0	20	57
Exiting Leg					7					23					3					24	57
Total					16					45					9					44	114

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	3	0	3	1	6	0	0	7	0	0	2	0	2	0	1	0	0	1	13
4:15 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
4:30 PM	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	0	4	0	0	4	12
4:45 PM	2	0	1	0	3	0	3	0	0	3	0	1	1	0	2	1	0	0	0	1	9
Total	2	0	4	0	6	2	22	0	0	24	0	1	3	0	4	1	9	0	0	10	44
5:00 PM	0	0	1	0	1	0	5	0	0	5	0	0	2	0	2	0	1	0	0	1	9
5:15 PM	0	0	1	0	1	0	3	0	0	3	0	0	1	0	1	0	1	1	0	2	7
5:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	1	0	1	0	0	0	0	0	6
5:45 PM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	5
Total	0	0	3	0	3	0	13	0	0	13	0	1	4	0	5	0	5	1	0	6	27
Grand Total	2	0	7	0	9	2	35	0	0	37	0	2	7	0	9	1	14	1	0	16	71
Approach %	22.2	0.0	77.8	0.0		5.4	94.6	0.0	0.0		0.0	22.2	77.8	0.0		6.3	87.5	6.3	0.0		
Total %	2.8	0.0	9.9	0.0	12.7	2.8	49.3	0.0	0.0	52.1	0.0	2.8	9.9	0.0	12.7	1.4	19.7	1.4	0.0	22.5	
Exiting Leg Total					5					21					1					44	71

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Leicester Street (Route 56) from North					Southbridge Road (Route 20) from East					Leicester Street (Route 56) from South					Southbridge Road (Route 20) from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	3	0	3	1	6	0	0	7	0	0	2	0	2	0	1	0	0	1	13
4:15 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
4:30 PM	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	0	4	0	0	4	12
4:45 PM	2	0	1	0	3	0	3	0	0	3	0	1	1	0	2	1	0	0	0	1	9
Total Volume	2	0	4	0	6	2	22	0	0	24	0	1	3	0	4	1	9	0	0	10	44
% Approach Total	33.3	0.0	66.7	0.0		8.3	91.7	0.0	0.0		0.0	25.0	75.0	0.0		10.0	90.0	0.0	0.0		
PHF	0.250	0.000	0.333	0.000	0.500	0.500	0.786	0.000	0.000	0.750	0.000	0.250	0.375	0.000	0.500	0.250	0.563	0.000	0.000	0.625	0.846
Entering Leg	2	0	4	0	6	2	22	0	0	24	0	1	3	0	4	1	9	0	0	10	44
Exiting Leg					3					13					1					27	44
Total					9					37					5					37	88

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 A**
Location: **N: Leicester Street (Route 56) S: Leicester Street (Route 56)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Leicester Street (Route 56) from North							Southbridge Road (Route 20) from East							Leicester Street (Route 56) from South							Southbridge Road (Route 20) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars and Heavy Vehicles (Combined)**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	9	5	0	14	1	133	0	134	247	1	0	248	396
7:15 AM	4	8	1	13	2	137	0	139	253	0	0	253	405
7:30 AM	5	10	0	15	2	140	0	142	283	2	0	285	442
7:45 AM	5	5	0	10	3	154	0	157	227	3	0	230	397
Total	23	28	1	52	8	564	0	572	1010	6	0	1016	1640
8:00 AM	9	1	0	10	2	124	0	126	210	1	0	211	347
8:15 AM	3	9	0	12	2	137	0	139	224	3	0	227	378
8:30 AM	5	4	0	9	2	147	0	149	217	0	0	217	375
8:45 AM	5	1	0	6	0	134	0	134	225	1	0	226	366
Total	22	15	0	37	6	542	0	548	876	5	0	881	1466
Grand Total	45	43	1	89	14	1106	0	1120	1886	11	0	1897	3106
Approach %	50.6	48.3	1.1		1.3	98.8	0.0		99.4	0.6	0.0		
Total %	1.4	1.4	0.0	2.9	0.5	35.6	0.0	36.1	60.7	0.4	0.0	61.1	
Exiting Leg Total				26				1929				1151	3106
Cars	45	43	1	89	13	967	0	980	1774	11	0	1785	2854
% Cars	100.0	100.0	100.0	100.0	92.9	87.4	0.0	87.5	94.1	100.0	0.0	94.1	91.9
Exiting Leg Total				25				1817				1012	2854
Heavy Vehicles	0	0	0	0	1	139	0	140	112	0	0	112	252
% Heavy Vehicles	0.0	0.0	0.0	0.0	7.1	12.6	0.0	12.5	5.9	0.0	0.0	5.9	8.1
Exiting Leg Total				1				112				139	252

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	9	5	0	14	1	133	0	134	247	1	0	248	396
7:15 AM	4	8	1	13	2	137	0	139	253	0	0	253	405
7:30 AM	5	10	0	15	2	140	0	142	283	2	0	285	442
7:45 AM	5	5	0	10	3	154	0	157	227	3	0	230	397
Total Volume	23	28	1	52	8	564	0	572	1010	6	0	1016	1640
% Approach Total	44.2	53.8	1.9		1.4	98.6	0.0		99.4	0.6	0.0		
PHF	0.639	0.700	0.250	0.867	0.667	0.916	0.000	0.911	0.892	0.500	0.000	0.891	0.928
Cars	23	28	1	52	7	492	0	499	963	6	0	969	1520
Cars %	100.0	100.0	100.0	100.0	87.5	87.2	0.0	87.2	95.3	100.0	0.0	95.4	92.7
Heavy Vehicles	0	0	0	0	1	72	0	73	47	0	0	47	120
Heavy Vehicles %	0.0	0.0	0.0	0.0	12.5	12.8	0.0	12.8	4.7	0.0	0.0	4.6	7.3
Cars Enter Leg	23	28	1	52	7	492	0	499	963	6	0	969	1520
Heavy Enter Leg	0	0	0	0	1	72	0	73	47	0	0	47	120
Total Entering Leg	23	28	1	52	8	564	0	572	1010	6	0	1016	1640
Cars Exiting Leg				14				991				515	1520
Heavy Exiting Leg				1				47				72	120
Total Exiting Leg				15				1038				587	1640

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	9	5	0	14	1	122	0	123	234	1	0	235	372
7:15 AM	4	8	1	13	2	118	0	120	238	0	0	238	371
7:30 AM	5	10	0	15	2	121	0	123	271	2	0	273	411
7:45 AM	5	5	0	10	2	131	0	133	220	3	0	223	366
Total	23	28	1	52	7	492	0	499	963	6	0	969	1520
8:00 AM	9	1	0	10	2	112	0	114	188	1	0	189	313
8:15 AM	3	9	0	12	2	117	0	119	211	3	0	214	345
8:30 AM	5	4	0	9	2	128	0	130	202	0	0	202	341
8:45 AM	5	1	0	6	0	118	0	118	210	1	0	211	335
Total	22	15	0	37	6	475	0	481	811	5	0	816	1334
Grand Total	45	43	1	89	13	967	0	980	1774	11	0	1785	2854
Approach %	50.6	48.3	1.1		1.3	98.7	0.0		99.4	0.6	0.0		
Total %	1.6	1.5	0.0	3.1	0.5	33.9	0.0	34.3	62.2	0.4	0.0	62.5	
Exiting Leg Total				25				1817				1012	2854

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	9	5	0	14	1	122	0	123	234	1	0	235	372
7:15 AM	4	8	1	13	2	118	0	120	238	0	0	238	371
7:30 AM	5	10	0	15	2	121	0	123	271	2	0	273	411
7:45 AM	5	5	0	10	2	131	0	133	220	3	0	223	366
Total Volume	23	28	1	52	7	492	0	499	963	6	0	969	1520
% Approach Total	44.2	53.8	1.9		1.4	98.6	0.0		99.4	0.6	0.0		
PHF	0.639	0.700	0.250	0.867	0.875	0.939	0.000	0.938	0.888	0.500	0.000	0.887	0.925
Entering Leg	23	28	1	52	7	492	0	499	963	6	0	969	1520
Exiting Leg				14				991				515	1520
Total				66				1490				1484	3040

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	11	0	11	13	0	0	13	24
7:15 AM	0	0	0	0	0	19	0	19	15	0	0	15	34
7:30 AM	0	0	0	0	0	19	0	19	12	0	0	12	31
7:45 AM	0	0	0	0	1	23	0	24	7	0	0	7	31
Total	0	0	0	0	1	72	0	73	47	0	0	47	120
8:00 AM	0	0	0	0	0	12	0	12	22	0	0	22	34
8:15 AM	0	0	0	0	0	20	0	20	13	0	0	13	33
8:30 AM	0	0	0	0	0	19	0	19	15	0	0	15	34
8:45 AM	0	0	0	0	0	16	0	16	15	0	0	15	31
Total	0	0	0	0	0	67	0	67	65	0	0	65	132
Grand Total	0	0	0	0	1	139	0	140	112	0	0	112	252
Approach %	0.0	0.0	0.0		0.7	99.3	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.4	55.2	0.0	55.6	44.4	0.0	0.0	44.4	
Exiting Leg Total				1				112				139	252
Buses	0	0	0	0	0	6	0	6	2	0	0	2	8
% Buses	0.0	0.0	0.0	0.0	0.0	4.3	0.0	4.3	1.8	0.0	0.0	1.8	3.2
Exiting Leg Total				0				2				6	8
Single-Unit Trucks	0	0	0	0	1	98	0	99	79	0	0	79	178
% Single-Unit	0.0	0.0	0.0	0.0	100.0	70.5	0.0	70.7	70.5	0.0	0.0	70.5	70.6
Exiting Leg Total				1				79				98	178
Articulated Trucks	0	0	0	0	0	35	0	35	31	0	0	31	66
% Articulated	0.0	0.0	0.0	0.0	0.0	25.2	0.0	25.0	27.7	0.0	0.0	27.7	26.2
Exiting Leg Total				0				31				35	66

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	1	23	0	24	7	0	0	7	31
8:00 AM	0	0	0	0	0	12	0	12	22	0	0	22	34
8:15 AM	0	0	0	0	0	20	0	20	13	0	0	13	33
8:30 AM	0	0	0	0	0	19	0	19	15	0	0	15	34
Total Volume	0	0	0	0	1	74	0	75	57	0	0	57	132
% Approach Total	0.0	0.0	0.0		1.3	98.7	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.804	0.000	0.781	0.648	0.000	0.000	0.648	0.971
Buses	0	0	0	0	0	4	0	4	1	0	0	1	5
Buses %	0.0	0.0	0.0	0.0	0.0	5.4	0.0	5.3	1.8	0.0	0.0	1.8	3.8
Single-Unit Trucks	0	0	0	0	1	55	0	56	38	0	0	38	94
Single-Unit %	0.0	0.0	0.0	0.0	100.0	74.3	0.0	74.7	66.7	0.0	0.0	66.7	71.2
Articulated Trucks	0	0	0	0	0	15	0	15	18	0	0	18	33
Articulated %	0.0	0.0	0.0	0.0	0.0	20.3	0.0	20.0	31.6	0.0	0.0	31.6	25.0
Buses	0	0	0	0	0	4	0	4	1	0	0	1	5
Single-Unit Trucks	0	0	0	0	1	55	0	56	38	0	0	38	94
Articulated Trucks	0	0	0	0	0	15	0	15	18	0	0	18	33
Total Entering Leg	0	0	0	0	1	74	0	75	57	0	0	57	132
Buses				0				1				4	5
Single-Unit Trucks				1				38				55	94
Articulated Trucks				0				18				15	33
Total Exiting Leg				1				57				74	132

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Buses**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	0	0	0	0	3	0	3	1	0	0	1	4
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	3	0	3	1	0	0	1	4
Grand Total	0	0	0	0	0	6	0	6	2	0	0	2	8
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	75.0	0.0	75.0	25.0	0.0	0.0	25.0	
Exiting Leg Total				0				2				6	8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	4	0	4	1	0	0	1	5
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	1.000	0.000	1.000	0.250	0.000	0.000	0.250	0.625
Entering Leg	0	0	0	0	0	4	0	4	1	0	0	1	5
Exiting Leg				0				1				4	5
Total				0				5				5	10

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	6	0	6	9	0	0	9	15
7:15 AM	0	0	0	0	0	11	0	11	13	0	0	13	24
7:30 AM	0	0	0	0	0	12	0	12	7	0	0	7	19
7:45 AM	0	0	0	0	1	17	0	18	4	0	0	4	22
Total	0	0	0	0	1	46	0	47	33	0	0	33	80
8:00 AM	0	0	0	0	0	10	0	10	12	0	0	12	22
8:15 AM	0	0	0	0	0	16	0	16	9	0	0	9	25
8:30 AM	0	0	0	0	0	12	0	12	13	0	0	13	25
8:45 AM	0	0	0	0	0	14	0	14	12	0	0	12	26
Total	0	0	0	0	0	52	0	52	46	0	0	46	98
Grand Total	0	0	0	0	1	98	0	99	79	0	0	79	178
Approach %	0.0	0.0	0.0		1.0	99.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.6	55.1	0.0	55.6	44.4	0.0	0.0	44.4	
Exiting Leg Total				1				79				98	178

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	10	0	10	12	0	0	12	22
8:15 AM	0	0	0	0	0	16	0	16	9	0	0	9	25
8:30 AM	0	0	0	0	0	12	0	12	13	0	0	13	25
8:45 AM	0	0	0	0	0	14	0	14	12	0	0	12	26
Total Volume	0	0	0	0	0	52	0	52	46	0	0	46	98
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.813	0.000	0.813	0.885	0.000	0.000	0.885	0.942
Entering Leg	0	0	0	0	0	52	0	52	46	0	0	46	98
Exiting Leg				0				46				52	98
Total				0				98				98	196

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	4	0	4	4	0	0	4	8
7:15 AM	0	0	0	0	0	7	0	7	2	0	0	2	9
7:30 AM	0	0	0	0	0	7	0	7	5	0	0	5	12
7:45 AM	0	0	0	0	0	5	0	5	2	0	0	2	7
Total	0	0	0	0	0	23	0	23	13	0	0	13	36
8:00 AM	0	0	0	0	0	1	0	1	10	0	0	10	11
8:15 AM	0	0	0	0	0	3	0	3	4	0	0	4	7
8:30 AM	0	0	0	0	0	6	0	6	2	0	0	2	8
8:45 AM	0	0	0	0	0	2	0	2	2	0	0	2	4
Total	0	0	0	0	0	12	0	12	18	0	0	18	30
Grand Total	0	0	0	0	0	35	0	35	31	0	0	31	66
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	53.0	0.0	53.0	47.0	0.0	0.0	47.0	
Exiting Leg Total				0				31				35	66

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	7	0	7	2	0	0	2	9
7:30 AM	0	0	0	0	0	7	0	7	5	0	0	5	12
7:45 AM	0	0	0	0	0	5	0	5	2	0	0	2	7
8:00 AM	0	0	0	0	0	1	0	1	10	0	0	10	11
Total Volume	0	0	0	0	0	20	0	20	19	0	0	19	39
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.714	0.000	0.714	0.475	0.000	0.000	0.475	0.813
Entering Leg	0	0	0	0	0	20	0	20	19	0	0	19	39
Exiting Leg				0				19				20	39
Total				0				39				39	78

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Bicycles (on Roadway and Crosswalks)**

	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Cars and Heavy Vehicles (Combined)

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	5	2	0	7	7	293	0	300	195	4	0	199	506
4:15 PM	3	2	0	5	8	275	0	283	209	3	0	212	500
4:30 PM	4	3	0	7	14	301	0	315	213	6	0	219	541
4:45 PM	6	6	0	12	8	301	0	309	199	4	0	203	524
Total	18	13	0	31	37	1170	0	1207	816	17	0	833	2071
5:00 PM	7	5	0	12	10	314	0	324	183	2	0	185	521
5:15 PM	1	5	0	6	3	405	0	408	180	5	0	185	599
5:30 PM	1	7	0	8	13	312	0	325	174	4	0	178	511
5:45 PM	4	5	0	9	9	243	0	252	205	4	0	209	470
Total	13	22	0	35	35	1274	0	1309	742	15	0	757	2101
Grand Total	31	35	0	66	72	2444	0	2516	1558	32	0	1590	4172
Approach %	47.0	53.0	0.0		2.9	97.1	0.0		98.0	2.0	0.0		
Total %	0.7	0.8	0.0	1.6	1.7	58.6	0.0	60.3	37.3	0.8	0.0	38.1	
Exiting Leg Total				104				1593				2475	4172
Cars	30	35	0	65	72	2369	0	2441	1503	31	0	1534	4040
% Cars	96.8	100.0	0.0	98.5	100.0	96.9	0.0	97.0	96.5	96.9	0.0	96.5	96.8
Exiting Leg Total				103				1538				2399	4040
Heavy Vehicles	1	0	0	1	0	75	0	75	55	1	0	56	132
% Heavy Vehicles	3.2	0.0	0.0	1.5	0.0	3.1	0.0	3.0	3.5	3.1	0.0	3.5	3.2
Exiting Leg Total				1				55				76	132

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:30 PM	4	3	0	7	14	301	0	315	213	6	0	219	541
4:45 PM	6	6	0	12	8	301	0	309	199	4	0	203	524
5:00 PM	7	5	0	12	10	314	0	324	183	2	0	185	521
5:15 PM	1	5	0	6	3	405	0	408	180	5	0	185	599
Total Volume	18	19	0	37	35	1321	0	1356	775	17	0	792	2185
% Approach Total	48.6	51.4	0.0		2.6	97.4	0.0		97.9	2.1	0.0		
PHF	0.643	0.792	0.000	0.771	0.625	0.815	0.000	0.831	0.910	0.708	0.000	0.904	0.912
Cars	18	19	0	37	35	1276	0	1311	747	17	0	764	2112
Cars %	100.0	100.0	0.0	100.0	100.0	96.6	0.0	96.7	96.4	100.0	0.0	96.5	96.7
Heavy Vehicles	0	0	0	0	0	45	0	45	28	0	0	28	73
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	3.4	0.0	3.3	3.6	0.0	0.0	3.5	3.3
Cars Enter Leg	18	19	0	37	35	1276	0	1311	747	17	0	764	2112
Heavy Enter Leg	0	0	0	0	0	45	0	45	28	0	0	28	73
Total Entering Leg	18	19	0	37	35	1321	0	1356	775	17	0	792	2185
Cars Exiting Leg				52				766				1294	2112
Heavy Exiting Leg				0				28				45	73
Total Exiting Leg				52				794				1339	2185

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	5	2	0	7	7	283	0	290	185	4	0	189	486
4:15 PM	3	2	0	5	8	265	0	273	202	3	0	205	483
4:30 PM	4	3	0	7	14	284	0	298	202	6	0	208	513
4:45 PM	6	6	0	12	8	290	0	298	190	4	0	194	504
Total	18	13	0	31	37	1122	0	1159	779	17	0	796	1986
5:00 PM	7	5	0	12	10	306	0	316	179	2	0	181	509
5:15 PM	1	5	0	6	3	396	0	399	176	5	0	181	586
5:30 PM	1	7	0	8	13	304	0	317	171	3	0	174	499
5:45 PM	3	5	0	8	9	241	0	250	198	4	0	202	460
Total	12	22	0	34	35	1247	0	1282	724	14	0	738	2054
Grand Total	30	35	0	65	72	2369	0	2441	1503	31	0	1534	4040
Approach %	46.2	53.8	0.0		2.9	97.1	0.0		98.0	2.0	0.0		
Total %	0.7	0.9	0.0	1.6	1.8	58.6	0.0	60.4	37.2	0.8	0.0	38.0	
Exiting Leg Total				103				1538				2399	4040

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:30 PM	4	3	0	7	14	284	0	298	202	6	0	208	513
4:45 PM	6	6	0	12	8	290	0	298	190	4	0	194	504
5:00 PM	7	5	0	12	10	306	0	316	179	2	0	181	509
5:15 PM	1	5	0	6	3	396	0	399	176	5	0	181	586
Total Volume	18	19	0	37	35	1276	0	1311	747	17	0	764	2112
% Approach Total	48.6	51.4	0.0		2.7	97.3	0.0		97.8	2.2	0.0		
PHF	0.643	0.792	0.000	0.771	0.625	0.806	0.000	0.821	0.925	0.708	0.000	0.918	0.901
Entering Leg	18	19	0	37	35	1276	0	1311	747	17	0	764	2112
Exiting Leg				52				766				1294	2112
Total				89				2077				2058	4224

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	10	0	10	10	0	0	10	20
4:15 PM	0	0	0	0	0	10	0	10	7	0	0	7	17
4:30 PM	0	0	0	0	0	17	0	17	11	0	0	11	28
4:45 PM	0	0	0	0	0	11	0	11	9	0	0	9	20
Total	0	0	0	0	0	48	0	48	37	0	0	37	85
5:00 PM	0	0	0	0	0	8	0	8	4	0	0	4	12
5:15 PM	0	0	0	0	0	9	0	9	4	0	0	4	13
5:30 PM	0	0	0	0	0	8	0	8	3	1	0	4	12
5:45 PM	1	0	0	1	0	2	0	2	7	0	0	7	10
Total	1	0	0	1	0	27	0	27	18	1	0	19	47
Grand Total	1	0	0	1	0	75	0	75	55	1	0	56	132
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		98.2	1.8	0.0		
Total %	0.8	0.0	0.0	0.8	0.0	56.8	0.0	56.8	41.7	0.8	0.0	42.4	
Exiting Leg Total				1				55				76	132
Buses	0	0	0	0	0	2	0	2	4	0	0	4	6
% Buses	0.0	0.0	0.0	0.0	0.0	2.7	0.0	2.7	7.3	0.0	0.0	7.1	4.5
Exiting Leg Total				0				4				2	6
Single-Unit Trucks	1	0	0	1	0	38	0	38	32	1	0	33	72
% Single-Unit	100.0	0.0	0.0	100.0	0.0	50.7	0.0	50.7	58.2	100.0	0.0	58.9	54.5
Exiting Leg Total				1				32				39	72
Articulated Trucks	0	0	0	0	0	35	0	35	19	0	0	19	54
% Articulated	0.0	0.0	0.0	0.0	0.0	46.7	0.0	46.7	34.5	0.0	0.0	33.9	40.9
Exiting Leg Total				0				19				35	54

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	10	0	10	10	0	0	10	20
4:15 PM	0	0	0	0	0	10	0	10	7	0	0	7	17
4:30 PM	0	0	0	0	0	17	0	17	11	0	0	11	28
4:45 PM	0	0	0	0	0	11	0	11	9	0	0	9	20
Total Volume	0	0	0	0	0	48	0	48	37	0	0	37	85
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.706	0.000	0.706	0.841	0.000	0.000	0.841	0.759
Buses	0	0	0	0	0	1	0	1	2	0	0	2	3
Buses %	0.0	0.0	0.0	0.0	0.0	2.1	0.0	2.1	5.4	0.0	0.0	5.4	3.5
Single-Unit Trucks	0	0	0	0	0	22	0	22	22	0	0	22	44
Single-Unit %	0.0	0.0	0.0	0.0	0.0	45.8	0.0	45.8	59.5	0.0	0.0	59.5	51.8
Articulated Trucks	0	0	0	0	0	25	0	25	13	0	0	13	38
Articulated %	0.0	0.0	0.0	0.0	0.0	52.1	0.0	52.1	35.1	0.0	0.0	35.1	44.7
Buses	0	0	0	0	0	1	0	1	2	0	0	2	3
Single-Unit Trucks	0	0	0	0	0	22	0	22	22	0	0	22	44
Articulated Trucks	0	0	0	0	0	25	0	25	13	0	0	13	38
Total Entering Leg	0	0	0	0	0	48	0	48	37	0	0	37	85
Buses				0				2				1	3
Single-Unit Trucks				0				22				22	44
Articulated Trucks				0				13				25	38
Total Exiting Leg				0				37				48	85

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	1	0	1	2	0	0	2	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	2	0	0	2	3
Grand Total	0	0	0	0	0	2	0	2	4	0	0	4	6
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	33.3	0.0	33.3	66.7	0.0	0.0	66.7	
Exiting Leg Total				0				4				2	6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	1	0	1	3	0	0	3	4
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.750	0.000	0.000	0.750	0.500
Entering Leg	0	0	0	0	0	1	0	1	3	0	0	3	4
Exiting Leg				0				3				1	4
Total				0				4				4	8

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	3	0	3	5	0	0	5	8
4:15 PM	0	0	0	0	0	3	0	3	3	0	0	3	6
4:30 PM	0	0	0	0	0	9	0	9	7	0	0	7	16
4:45 PM	0	0	0	0	0	7	0	7	7	0	0	7	14
Total	0	0	0	0	0	22	0	22	22	0	0	22	44
5:00 PM	0	0	0	0	0	5	0	5	3	0	0	3	8
5:15 PM	0	0	0	0	0	5	0	5	2	0	0	2	7
5:30 PM	0	0	0	0	0	4	0	4	2	1	0	3	7
5:45 PM	1	0	0	1	0	2	0	2	3	0	0	3	6
Total	1	0	0	1	0	16	0	16	10	1	0	11	28
Grand Total	1	0	0	1	0	38	0	38	32	1	0	33	72
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		97.0	3.0	0.0		
Total %	1.4	0.0	0.0	1.4	0.0	52.8	0.0	52.8	44.4	1.4	0.0	45.8	
Exiting Leg Total				1				32				39	72

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	9	0	9	7	0	0	7	16
4:45 PM	0	0	0	0	0	7	0	7	7	0	0	7	14
5:00 PM	0	0	0	0	0	5	0	5	3	0	0	3	8
5:15 PM	0	0	0	0	0	5	0	5	2	0	0	2	7
Total Volume	0	0	0	0	0	26	0	26	19	0	0	19	45
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.722	0.000	0.722	0.679	0.000	0.000	0.679	0.703
Entering Leg	0	0	0	0	0	26	0	26	19	0	0	19	45
Exiting Leg				0				19				26	45
Total				0				45				45	90

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Articulated Trucks

	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	7	0	7	4	0	0	4	11
4:15 PM	0	0	0	0	0	6	0	6	4	0	0	4	10
4:30 PM	0	0	0	0	0	8	0	8	4	0	0	4	12
4:45 PM	0	0	0	0	0	4	0	4	1	0	0	1	5
Total	0	0	0	0	0	25	0	25	13	0	0	13	38
5:00 PM	0	0	0	0	0	3	0	3	1	0	0	1	4
5:15 PM	0	0	0	0	0	3	0	3	1	0	0	1	4
5:30 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	4	0	0	4	4
Total	0	0	0	0	0	10	0	10	6	0	0	6	16
Grand Total	0	0	0	0	0	35	0	35	19	0	0	19	54
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	64.8	0.0	64.8	35.2	0.0	0.0	35.2	
Exiting Leg Total				0				19				35	54

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Thayer Pond Drive				Southbridge Road (Route 20)				Southbridge Road (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	7	0	7	4	0	0	4	11
4:15 PM	0	0	0	0	0	6	0	6	4	0	0	4	10
4:30 PM	0	0	0	0	0	8	0	8	4	0	0	4	12
4:45 PM	0	0	0	0	0	4	0	4	1	0	0	1	5
Total Volume	0	0	0	0	0	25	0	25	13	0	0	13	38
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.781	0.000	0.781	0.813	0.000	0.000	0.813	0.792
Entering Leg	0	0	0	0	0	25	0	25	13	0	0	13	38
Exiting Leg				0				13				25	38
Total				0				38				38	76

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239637 B**
Location: **N: Thayer Pond Drive**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Thayer Pond Drive						Southbridge Road (Route 20)						Southbridge Road (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Cars and Heavy Vehicles (Combined)

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	128	18	4	150	55	4	0	59	2	234	0	236	445
7:15 AM	133	21	7	161	78	6	0	84	3	277	0	280	525
7:30 AM	143	32	6	181	68	7	0	75	6	297	0	303	559
7:45 AM	148	22	4	174	70	5	0	75	7	225	0	232	481
Total	552	93	21	666	271	22	0	293	18	1033	0	1051	2010
8:00 AM	131	29	12	172	58	6	0	64	1	198	0	199	435
8:15 AM	120	43	4	167	69	6	0	75	2	232	0	234	476
8:30 AM	145	38	10	193	70	8	0	78	6	220	0	226	497
8:45 AM	124	57	7	188	76	7	0	83	4	207	0	211	482
Total	520	167	33	720	273	27	0	300	13	857	0	870	1890
Grand Total	1072	260	54	1386	544	49	0	593	31	1890	0	1921	3900
Approach %	77.3	18.8	3.9		91.7	8.3	0.0		1.6	98.4	0.0		
Total %	27.5	6.7	1.4	35.5	13.9	1.3	0.0	15.2	0.8	48.5	0.0	49.3	
Exiting Leg Total				2488				291				1121	3900
Cars	953	241	50	1244	524	43	0	567	26	1794	0	1820	3631
% Cars	88.9	92.7	92.6	89.8	96.3	87.8	0.0	95.6	83.9	94.9	0.0	94.7	93.1
Exiting Leg Total				2368				267				996	3631
Heavy Vehicles	119	19	4	142	20	6	0	26	5	96	0	101	269
% Heavy Vehicles	11.1	7.3	7.4	10.2	3.7	12.2	0.0	4.4	16.1	5.1	0.0	5.3	6.9
Exiting Leg Total				120				24				125	269

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	128	18	4	150	55	4	0	59	2	234	0	236	445
7:15 AM	133	21	7	161	78	6	0	84	3	277	0	280	525
7:30 AM	143	32	6	181	68	7	0	75	6	297	0	303	559
7:45 AM	148	22	4	174	70	5	0	75	7	225	0	232	481
Total Volume	552	93	21	666	271	22	0	293	18	1033	0	1051	2010
% Approach Total	82.9	14.0	3.2		92.5	7.5	0.0		1.7	98.3	0.0		
PHF	0.932	0.727	0.750	0.920	0.869	0.786	0.000	0.872	0.643	0.870	0.000	0.867	0.899
Cars	492	86	21	599	258	19	0	277	15	991	0	1006	1882
Cars %	89.1	92.5	100.0	89.9	95.2	86.4	0.0	94.5	83.3	95.9	0.0	95.7	93.6
Heavy Vehicles	60	7	0	67	13	3	0	16	3	42	0	45	128
Heavy Vehicles %	10.9	7.5	0.0	10.1	4.8	13.6	0.0	5.5	16.7	4.1	0.0	4.3	6.4
Cars Enter Leg	492	86	21	599	258	19	0	277	15	991	0	1006	1882
Heavy Enter Leg	60	7	0	67	13	3	0	16	3	42	0	45	128
Total Entering Leg	552	93	21	666	271	22	0	293	18	1033	0	1051	2010
Cars Exiting Leg				1270				101				511	1882
Heavy Exiting Leg				55				10				63	128
Total Exiting Leg				1325				111				574	2010

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	117	15	4	136	51	4	0	55	1	224	0	225	416
7:15 AM	119	19	7	145	73	5	0	78	3	263	0	266	489
7:30 AM	128	30	6	164	66	6	0	72	6	287	0	293	529
7:45 AM	128	22	4	154	68	4	0	72	5	217	0	222	448
Total	492	86	21	599	258	19	0	277	15	991	0	1006	1882
8:00 AM	115	29	11	155	58	6	0	64	1	185	0	186	405
8:15 AM	106	38	4	148	66	5	0	71	1	217	0	218	437
8:30 AM	126	33	7	166	69	7	0	76	6	209	0	215	457
8:45 AM	114	55	7	176	73	6	0	79	3	192	0	195	450
Total	461	155	29	645	266	24	0	290	11	803	0	814	1749
Grand Total	953	241	50	1244	524	43	0	567	26	1794	0	1820	3631
Approach %	76.6	19.4	4.0		92.4	7.6	0.0		1.4	98.6	0.0		
Total %	26.2	6.6	1.4	34.3	14.4	1.2	0.0	15.6	0.7	49.4	0.0	50.1	
Exiting Leg Total				2368				267				996	3631

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	117	15	4	136	51	4	0	55	1	224	0	225	416
7:15 AM	119	19	7	145	73	5	0	78	3	263	0	266	489
7:30 AM	128	30	6	164	66	6	0	72	6	287	0	293	529
7:45 AM	128	22	4	154	68	4	0	72	5	217	0	222	448
Total Volume	492	86	21	599	258	19	0	277	15	991	0	1006	1882
% Approach Total	82.1	14.4	3.5		93.1	6.9	0.0		1.5	98.5	0.0		
PHF	0.961	0.717	0.750	0.913	0.884	0.792	0.000	0.888	0.625	0.863	0.000	0.858	0.889
Entering Leg	492	86	21	599	258	19	0	277	15	991	0	1006	1882
Exiting Leg				1270				101				511	1882
Total				1869				378				1517	3764

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	11	3	0	14	4	0	0	4	1	10	0	11	29
7:15 AM	14	2	0	16	5	1	0	6	0	14	0	14	36
7:30 AM	15	2	0	17	2	1	0	3	0	10	0	10	30
7:45 AM	20	0	0	20	2	1	0	3	2	8	0	10	33
Total	60	7	0	67	13	3	0	16	3	42	0	45	128
8:00 AM	16	0	1	17	0	0	0	0	0	13	0	13	30
8:15 AM	14	5	0	19	3	1	0	4	1	15	0	16	39
8:30 AM	19	5	3	27	1	1	0	2	0	11	0	11	40
8:45 AM	10	2	0	12	3	1	0	4	1	15	0	16	32
Total	59	12	4	75	7	3	0	10	2	54	0	56	141
Grand Total	119	19	4	142	20	6	0	26	5	96	0	101	269
Approach %	83.8	13.4	2.8		76.9	23.1	0.0		5.0	95.0	0.0		
Total %	44.2	7.1	1.5	52.8	7.4	2.2	0.0	9.7	1.9	35.7	0.0	37.5	
Exiting Leg Total				120				24				125	269
Buses	3	1	2	6	4	2	0	6	3	3	0	6	18
% Buses	2.5	5.3	50.0	4.2	20.0	33.3	0.0	23.1	60.0	3.1	0.0	5.9	6.7
Exiting Leg Total				9				4				5	18
Single-Unit Trucks	76	15	2	93	14	3	0	17	2	62	0	64	174
% Single-Unit	63.9	78.9	50.0	65.5	70.0	50.0	0.0	65.4	40.0	64.6	0.0	63.4	64.7
Exiting Leg Total				78				17				79	174
Articulated Trucks	40	3	0	43	2	1	0	3	0	31	0	31	77
% Articulated	33.6	15.8	0.0	30.3	10.0	16.7	0.0	11.5	0.0	32.3	0.0	30.7	28.6
Exiting Leg Total				33				3				41	77

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:45 AM	20	0	0	20	2	1	0	3	2	8	0	10	33
8:00 AM	16	0	1	17	0	0	0	0	0	13	0	13	30
8:15 AM	14	5	0	19	3	1	0	4	1	15	0	16	39
8:30 AM	19	5	3	27	1	1	0	2	0	11	0	11	40
Total Volume	69	10	4	83	6	3	0	9	3	47	0	50	142
% Approach Total	83.1	12.0	4.8		66.7	33.3	0.0		6.0	94.0	0.0		
PHF	0.863	0.500	0.333	0.769	0.500	0.750	0.000	0.563	0.375	0.783	0.000	0.781	0.888
Buses	2	0	2	4	1	1	0	2	1	0	0	1	7
Buses %	2.9	0.0	50.0	4.8	16.7	33.3	0.0	22.2	33.3	0.0	0.0	2.0	4.9
Single-Unit Trucks	47	8	2	57	4	2	0	6	2	29	0	31	94
Single-Unit %	68.1	80.0	50.0	68.7	66.7	66.7	0.0	66.7	66.7	61.7	0.0	62.0	66.2
Articulated Trucks	20	2	0	22	1	0	0	1	0	18	0	18	41
Articulated %	29.0	20.0	0.0	26.5	16.7	0.0	0.0	11.1	0.0	38.3	0.0	36.0	28.9
Buses	2	0	2	4	1	1	0	2	1	0	0	1	7
Single-Unit Trucks	47	8	2	57	4	2	0	6	2	29	0	31	94
Articulated Trucks	20	2	0	22	1	0	0	1	0	18	0	18	41
Total Entering Leg	69	10	4	83	6	3	0	9	3	47	0	50	142
Buses				3				1				3	7
Single-Unit Trucks				35				10				49	94
Articulated Trucks				19				2				20	41
Total Exiting Leg				57				13				72	142

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	1	0	0	1	1	0	0	1	1	2	0	3	5
7:15 AM	0	1	0	1	1	1	0	2	0	1	0	1	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	0	1	0	0	0	0	1	0	0	1	2
Total	2	1	0	3	2	1	0	3	2	3	0	5	11
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	0	1	1	0	0	1	0	0	0	0	2
8:30 AM	0	0	2	2	0	1	0	1	0	0	0	0	3
8:45 AM	0	0	0	0	1	0	0	1	1	0	0	1	2
Total	1	0	2	3	2	1	0	3	1	0	0	1	7
Grand Total	3	1	2	6	4	2	0	6	3	3	0	6	18
Approach %	50.0	16.7	33.3		66.7	33.3	0.0		50.0	50.0	0.0		
Total %	16.7	5.6	11.1	33.3	22.2	11.1	0.0	33.3	16.7	16.7	0.0	33.3	
Exiting Leg Total				9				4				5	18

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	1	0	0	1	1	0	0	1	1	2	0	3	5
7:15 AM	0	1	0	1	1	1	0	2	0	1	0	1	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	0	1	0	0	0	0	1	0	0	1	2
Total Volume	2	1	0	3	2	1	0	3	2	3	0	5	11
% Approach Total	66.7	33.3	0.0		66.7	33.3	0.0		40.0	60.0	0.0		
PHF	0.500	0.250	0.000	0.750	0.500	0.250	0.000	0.375	0.500	0.375	0.000	0.417	0.550
Entering Leg	2	1	0	3	2	1	0	3	2	3	0	5	11
Exiting Leg				5				3				3	11
Total				8				6				8	22

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	5	2	0	7	3	0	0	3	0	4	0	4	14
7:15 AM	7	1	0	8	3	0	0	3	0	11	0	11	22
7:30 AM	9	2	0	11	2	0	0	2	0	7	0	7	20
7:45 AM	12	0	0	12	2	1	0	3	1	6	0	7	22
Total	33	5	0	38	10	1	0	11	1	28	0	29	78
8:00 AM	12	0	1	13	0	0	0	0	0	5	0	5	18
8:15 AM	10	4	0	14	1	1	0	2	1	7	0	8	24
8:30 AM	13	4	1	18	1	0	0	1	0	11	0	11	30
8:45 AM	8	2	0	10	2	1	0	3	0	11	0	11	24
Total	43	10	2	55	4	2	0	6	1	34	0	35	96
Grand Total	76	15	2	93	14	3	0	17	2	62	0	64	174
Approach %	81.7	16.1	2.2		82.4	17.6	0.0		3.1	96.9	0.0		
Total %	43.7	8.6	1.1	53.4	8.0	1.7	0.0	9.8	1.1	35.6	0.0	36.8	
Exiting Leg Total				78				17				79	174

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	12	0	1	13	0	0	0	0	0	5	0	5	18
8:15 AM	10	4	0	14	1	1	0	2	1	7	0	8	24
8:30 AM	13	4	1	18	1	0	0	1	0	11	0	11	30
8:45 AM	8	2	0	10	2	1	0	3	0	11	0	11	24
Total Volume	43	10	2	55	4	2	0	6	1	34	0	35	96
% Approach Total	78.2	18.2	3.6		66.7	33.3	0.0		2.9	97.1	0.0		
PHF	0.827	0.625	0.500	0.764	0.500	0.500	0.000	0.500	0.250	0.773	0.000	0.795	0.800
Entering Leg	43	10	2	55	4	2	0	6	1	34	0	35	96
Exiting Leg				40				11				45	96
Total				95				17				80	192

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	5	1	0	6	0	0	0	0	0	4	0	4	10
7:15 AM	7	0	0	7	1	0	0	1	0	2	0	2	10
7:30 AM	6	0	0	6	0	1	0	1	0	3	0	3	10
7:45 AM	7	0	0	7	0	0	0	0	0	2	0	2	9
Total	25	1	0	26	1	1	0	2	0	11	0	11	39
8:00 AM	4	0	0	4	0	0	0	0	0	8	0	8	12
8:15 AM	3	1	0	4	1	0	0	1	0	8	0	8	13
8:30 AM	6	1	0	7	0	0	0	0	0	0	0	0	7
8:45 AM	2	0	0	2	0	0	0	0	0	4	0	4	6
Total	15	2	0	17	1	0	0	1	0	20	0	20	38
Grand Total	40	3	0	43	2	1	0	3	0	31	0	31	77
Approach %	93.0	7.0	0.0		66.7	33.3	0.0		0.0	100.0	0.0		
Total %	51.9	3.9	0.0	55.8	2.6	1.3	0.0	3.9	0.0	40.3	0.0	40.3	
Exiting Leg Total				33				3				41	77

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	6	0	0	6	0	1	0	1	0	3	0	3	10
7:45 AM	7	0	0	7	0	0	0	0	0	2	0	2	9
8:00 AM	4	0	0	4	0	0	0	0	0	8	0	8	12
8:15 AM	3	1	0	4	1	0	0	1	0	8	0	8	13
Total Volume	20	1	0	21	1	1	0	2	0	21	0	21	44
% Approach Total	95.2	4.8	0.0		50.0	50.0	0.0		0.0	100.0	0.0		
PHF	0.714	0.250	0.000	0.750	0.250	0.250	0.000	0.500	0.000	0.656	0.000	0.656	0.846
Entering Leg	20	1	0	21	1	1	0	2	0	21	0	21	44
Exiting Leg				22				1				21	44
Total				43				3				42	88

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Bicycles (on Roadway and Crosswalks)

	Southbridge Road (Route 20) from East						Main Street (Route 12) from South						Southbridge Road (Route 20) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Southbridge Road (Route 20) from East						Main Street (Route 12) from South						Southbridge Road (Route 20) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Southbridge Road (Route 20)						Main Street (Route 12)						Southbridge Road (Route 20)						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Southbridge Road (Route 20)						Main Street (Route 12)						Southbridge Road (Route 20)						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Cars and Heavy Vehicles (Combined)

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	281	136	11	428	63	23	0	86	11	174	0	185	699
4:15 PM	267	136	9	412	81	19	0	100	14	205	0	219	731
4:30 PM	287	118	7	412	73	17	0	90	15	224	0	239	741
4:45 PM	283	145	6	434	73	24	0	97	2	197	0	199	730
Total	1118	535	33	1686	290	83	0	373	42	800	0	842	2901
5:00 PM	316	148	9	473	71	15	0	86	3	198	0	201	760
5:15 PM	381	159	12	552	58	24	0	82	8	170	0	178	812
5:30 PM	317	104	5	426	70	17	0	87	6	193	0	199	712
5:45 PM	245	116	15	376	78	12	0	90	8	196	0	204	670
Total	1259	527	41	1827	277	68	0	345	25	757	0	782	2954
Grand Total	2377	1062	74	3513	567	151	0	718	67	1557	0	1624	5855
Approach %	67.7	30.2	2.1		79.0	21.0	0.0		4.1	95.9	0.0		
Total %	40.6	18.1	1.3	60.0	9.7	2.6	0.0	12.3	1.1	26.6	0.0	27.7	
Exiting Leg Total				2198				1129				2528	5855
Cars	2303	1050	73	3426	558	150	0	708	65	1503	0	1568	5702
% Cars	96.9	98.9	98.6	97.5	98.4	99.3	0.0	98.6	97.0	96.5	0.0	96.6	97.4
Exiting Leg Total				2134				1115				2453	5702
Heavy Vehicles	74	12	1	87	9	1	0	10	2	54	0	56	153
% Heavy Vehicles	3.1	1.1	1.4	2.5	1.6	0.7	0.0	1.4	3.0	3.5	0.0	3.4	2.6
Exiting Leg Total				64				14				75	153

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:30 PM	287	118	7	412	73	17	0	90	15	224	0	239	741
4:45 PM	283	145	6	434	73	24	0	97	2	197	0	199	730
5:00 PM	316	148	9	473	71	15	0	86	3	198	0	201	760
5:15 PM	381	159	12	552	58	24	0	82	8	170	0	178	812
Total Volume	1267	570	34	1871	275	80	0	355	28	789	0	817	3043
% Approach Total	67.7	30.5	1.8		77.5	22.5	0.0		3.4	96.6	0.0		
PHF	0.831	0.896	0.708	0.847	0.942	0.833	0.000	0.915	0.467	0.881	0.000	0.855	0.937
Cars	1225	563	34	1822	272	79	0	351	28	762	0	790	2963
Cars %	96.7	98.8	100.0	97.4	98.9	98.8	0.0	98.9	100.0	96.6	0.0	96.7	97.4
Heavy Vehicles	42	7	0	49	3	1	0	4	0	27	0	27	80
Heavy Vehicles %	3.3	1.2	0.0	2.6	1.1	1.3	0.0	1.1	0.0	3.4	0.0	3.3	2.6
Cars Enter Leg	1225	563	34	1822	272	79	0	351	28	762	0	790	2963
Heavy Enter Leg	42	7	0	49	3	1	0	4	0	27	0	27	80
Total Entering Leg	1267	570	34	1871	275	80	0	355	28	789	0	817	3043
Cars Exiting Leg				1068				591				1304	2963
Heavy Exiting Leg				30				7				43	80
Total Exiting Leg				1098				598				1347	3043

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	271	134	10	415	62	23	0	85	10	167	0	177	677
4:15 PM	257	135	9	401	77	19	0	96	13	196	0	209	706
4:30 PM	272	115	7	394	73	16	0	89	15	214	0	229	712
4:45 PM	273	144	6	423	70	24	0	94	2	190	0	192	709
Total	1073	528	32	1633	282	82	0	364	40	767	0	807	2804
5:00 PM	308	147	9	464	71	15	0	86	3	192	0	195	745
5:15 PM	372	157	12	541	58	24	0	82	8	166	0	174	797
5:30 PM	306	104	5	415	70	17	0	87	6	189	0	195	697
5:45 PM	244	114	15	373	77	12	0	89	8	189	0	197	659
Total	1230	522	41	1793	276	68	0	344	25	736	0	761	2898
Grand Total	2303	1050	73	3426	558	150	0	708	65	1503	0	1568	5702
Approach %	67.2	30.6	2.1		78.8	21.2	0.0		4.1	95.9	0.0		
Total %	40.4	18.4	1.3	60.1	9.8	2.6	0.0	12.4	1.1	26.4	0.0	27.5	
Exiting Leg Total				2134				1115				2453	5702

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:30 PM	272	115	7	394	73	16	0	89	15	214	0	229	712
4:45 PM	273	144	6	423	70	24	0	94	2	190	0	192	709
5:00 PM	308	147	9	464	71	15	0	86	3	192	0	195	745
5:15 PM	372	157	12	541	58	24	0	82	8	166	0	174	797
Total Volume	1225	563	34	1822	272	79	0	351	28	762	0	790	2963
% Approach Total	67.2	30.9	1.9		77.5	22.5	0.0		3.5	96.5	0.0		
PHF	0.823	0.896	0.708	0.842	0.932	0.823	0.000	0.934	0.467	0.890	0.000	0.862	0.929
Entering Leg	1225	563	34	1822	272	79	0	351	28	762	0	790	2963
Exiting Leg				1068				591				1304	2963
Total				2890				942				2094	5926

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	10	2	1	13	1	0	0	1	1	7	0	8	22
4:15 PM	10	1	0	11	4	0	0	4	1	9	0	10	25
4:30 PM	15	3	0	18	0	1	0	1	0	10	0	10	29
4:45 PM	10	1	0	11	3	0	0	3	0	7	0	7	21
Total	45	7	1	53	8	1	0	9	2	33	0	35	97
5:00 PM	8	1	0	9	0	0	0	0	0	6	0	6	15
5:15 PM	9	2	0	11	0	0	0	0	0	4	0	4	15
5:30 PM	11	0	0	11	0	0	0	0	0	4	0	4	15
5:45 PM	1	2	0	3	1	0	0	1	0	7	0	7	11
Total	29	5	0	34	1	0	0	1	0	21	0	21	56
Grand Total	74	12	1	87	9	1	0	10	2	54	0	56	153
Approach %	85.1	13.8	1.1		90.0	10.0	0.0		3.6	96.4	0.0		
Total %	48.4	7.8	0.7	56.9	5.9	0.7	0.0	6.5	1.3	35.3	0.0	36.6	
Exiting Leg Total				64				14				75	153
Buses	3	3	0	6	2	0	0	2	1	3	0	4	12
% Buses	4.1	25.0	0.0	6.9	22.2	0.0	0.0	20.0	50.0	5.6	0.0	7.1	7.8
Exiting Leg Total				5				4				3	12
Single-Unit Trucks	35	7	1	43	7	1	0	8	1	31	0	32	83
% Single-Unit	47.3	58.3	100.0	49.4	77.8	100.0	0.0	80.0	50.0	57.4	0.0	57.1	54.2
Exiting Leg Total				39				8				36	83
Articulated Trucks	36	2	0	38	0	0	0	0	0	20	0	20	58
% Articulated	48.6	16.7	0.0	43.7	0.0	0.0	0.0	0.0	0.0	37.0	0.0	35.7	37.9
Exiting Leg Total				20				2				36	58

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	10	2	1	13	1	0	0	1	1	7	0	8	22
4:15 PM	10	1	0	11	4	0	0	4	1	9	0	10	25
4:30 PM	15	3	0	18	0	1	0	1	0	10	0	10	29
4:45 PM	10	1	0	11	3	0	0	3	0	7	0	7	21
Total Volume	45	7	1	53	8	1	0	9	2	33	0	35	97
% Approach Total	84.9	13.2	1.9		88.9	11.1	0.0		5.7	94.3	0.0		
PHF	0.750	0.583	0.250	0.736	0.500	0.250	0.000	0.563	0.500	0.825	0.000	0.875	0.836
Buses	2	2	0	4	1	0	0	1	1	0	0	1	6
Buses %	4.4	28.6	0.0	7.5	12.5	0.0	0.0	11.1	50.0	0.0	0.0	2.9	6.2
Single-Unit Trucks	18	5	1	24	7	1	0	8	1	20	0	21	53
Single-Unit %	40.0	71.4	100.0	45.3	87.5	100.0	0.0	88.9	50.0	60.6	0.0	60.0	54.6
Articulated Trucks	25	0	0	25	0	0	0	0	0	13	0	13	38
Articulated %	55.6	0.0	0.0	47.2	0.0	0.0	0.0	0.0	0.0	39.4	0.0	37.1	39.2
Buses	2	2	0	4	1	0	0	1	1	0	0	1	6
Single-Unit Trucks	18	5	1	24	7	1	0	8	1	20	0	21	53
Articulated Trucks	25	0	0	25	0	0	0	0	0	13	0	13	38
Total Entering Leg	45	7	1	53	8	1	0	9	2	33	0	35	97
Buses				1				3				2	6
Single-Unit Trucks				28				6				19	53
Articulated Trucks				13				0				25	38
Total Exiting Leg				42				9				46	97

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	1	0	1	0	0	0	0	1	0	0	1	2
4:15 PM	2	0	0	2	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total	2	2	0	4	1	0	0	1	1	0	0	1	6
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:45 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total	1	1	0	2	1	0	0	1	0	3	0	3	6
Grand Total	3	3	0	6	2	0	0	2	1	3	0	4	12
Approach %	50.0	50.0	0.0		100.0	0.0	0.0		25.0	75.0	0.0		
Total %	25.0	25.0	0.0	50.0	16.7	0.0	0.0	16.7	8.3	25.0	0.0	33.3	
Exiting Leg Total				5				4				3	12

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	1	0	1	0	0	0	0	1	0	0	1	2
4:15 PM	2	0	0	2	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total Volume	2	2	0	4	1	0	0	1	1	0	0	1	6
% Approach Total	50.0	50.0	0.0		100.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.250	0.500	0.000	0.500	0.250	0.000	0.000	0.250	0.250	0.000	0.000	0.250	0.750
Entering Leg	2	2	0	4	1	0	0	1	1	0	0	1	6
Exiting Leg				1				3				2	6
Total				5				4				3	12

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	3	1	1	5	1	0	0	1	0	3	0	3	9
4:15 PM	1	1	0	2	4	0	0	4	1	5	0	6	12
4:30 PM	8	3	0	11	0	1	0	1	0	6	0	6	18
4:45 PM	6	0	0	6	2	0	0	2	0	6	0	6	14
Total	18	5	1	24	7	1	0	8	1	20	0	21	53
5:00 PM	5	0	0	5	0	0	0	0	0	3	0	3	8
5:15 PM	5	1	0	6	0	0	0	0	0	2	0	2	8
5:30 PM	7	0	0	7	0	0	0	0	0	3	0	3	10
5:45 PM	0	1	0	1	0	0	0	0	0	3	0	3	4
Total	17	2	0	19	0	0	0	0	0	11	0	11	30
Grand Total	35	7	1	43	7	1	0	8	1	31	0	32	83
Approach %	81.4	16.3	2.3		87.5	12.5	0.0		3.1	96.9	0.0		
Total %	42.2	8.4	1.2	51.8	8.4	1.2	0.0	9.6	1.2	37.3	0.0	38.6	
Exiting Leg Total				39				8				36	83

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Road (Route 20) from East				Main Street (Route 12) from South				Southbridge Road (Route 20) from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	3	1	1	5	1	0	0	1	0	3	0	3	9
4:15 PM	1	1	0	2	4	0	0	4	1	5	0	6	12
4:30 PM	8	3	0	11	0	1	0	1	0	6	0	6	18
4:45 PM	6	0	0	6	2	0	0	2	0	6	0	6	14
Total Volume	18	5	1	24	7	1	0	8	1	20	0	21	53
% Approach Total	75.0	20.8	4.2		87.5	12.5	0.0		4.8	95.2	0.0		
PHF	0.563	0.417	0.250	0.545	0.438	0.250	0.000	0.500	0.250	0.833	0.000	0.875	0.736
Entering Leg	18	5	1	24	7	1	0	8	1	20	0	21	53
Exiting Leg				28				6				19	53
Total				52				14				40	106

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Articulated Trucks

	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	7	0	0	7	0	0	0	0	0	4	0	4	11
4:15 PM	7	0	0	7	0	0	0	0	0	4	0	4	11
4:30 PM	7	0	0	7	0	0	0	0	0	4	0	4	11
4:45 PM	4	0	0	4	0	0	0	0	0	1	0	1	5
Total	25	0	0	25	0	0	0	0	0	13	0	13	38
5:00 PM	3	1	0	4	0	0	0	0	0	2	0	2	6
5:15 PM	3	1	0	4	0	0	0	0	0	1	0	1	5
5:30 PM	4	0	0	4	0	0	0	0	0	0	0	0	4
5:45 PM	1	0	0	1	0	0	0	0	0	4	0	4	5
Total	11	2	0	13	0	0	0	0	0	7	0	7	20
Grand Total	36	2	0	38	0	0	0	0	0	20	0	20	58
Approach %	94.7	5.3	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
Total %	62.1	3.4	0.0	65.5	0.0	0.0	0.0	0.0	0.0	34.5	0.0	34.5	
Exiting Leg Total				20				2				36	58

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Road (Route 20)				Main Street (Route 12)				Southbridge Road (Route 20)				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	7	0	0	7	0	0	0	0	0	4	0	4	11
4:15 PM	7	0	0	7	0	0	0	0	0	4	0	4	11
4:30 PM	7	0	0	7	0	0	0	0	0	4	0	4	11
4:45 PM	4	0	0	4	0	0	0	0	0	1	0	1	5
Total Volume	25	0	0	25	0	0	0	0	0	13	0	13	38
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.893	0.000	0.000	0.893	0.000	0.000	0.000	0.000	0.000	0.813	0.000	0.813	0.864
Entering Leg	25	0	0	25	0	0	0	0	0	13	0	13	38
Exiting Leg				13				0				25	38
Total				38				0				38	76

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Southbridge Road (Route 20) from East						Main Street (Route 12) from South						Southbridge Road (Route 20) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Road (Route 20) from East						Main Street (Route 12) from South						Southbridge Road (Route 20) from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239637 C**
Location: **S: Main Street (Route 12)**
Location: **E: Southbridge Road (Route 20) W: Southbridge Road (Route 20)**
City, State: **Oxford, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Southbridge Road (Route 20)						Main Street (Route 12)						Southbridge Road (Route 20)						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Road (Route 20)						Main Street (Route 12)						Southbridge Road (Route 20)						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	4	0	4	3	134	1	1	139	1	0	0	0	1	2	276	4	1	283	427
7:15 AM	3	0	1	0	4	5	148	0	4	157	2	1	2	0	5	1	323	4	3	331	497
7:30 AM	3	0	3	0	6	7	175	2	2	186	4	0	4	0	8	0	385	5	3	393	593
7:45 AM	3	0	1	0	4	8	158	1	7	174	6	0	0	0	6	3	314	4	3	324	508
Total	9	0	9	0	18	23	615	4	14	656	13	1	6	0	20	6	1298	17	10	1331	2025
8:00 AM	1	0	0	0	1	8	165	1	8	182	2	0	1	0	3	3	257	1	3	264	450
8:15 AM	1	0	4	0	5	4	163	0	5	172	2	0	1	0	3	0	298	5	3	306	486
8:30 AM	4	0	4	0	8	4	185	6	5	200	1	0	1	0	2	5	274	6	7	292	502
8:45 AM	1	0	2	0	3	4	183	4	9	200	1	0	2	0	3	2	281	4	11	298	504
Total	7	0	10	0	17	20	696	11	27	754	6	0	5	0	11	10	1110	16	24	1160	1942
Grand Total	16	0	19	0	35	43	1311	15	41	1410	19	1	11	0	31	16	2408	33	34	2491	3967
Approach %	45.7	0.0	54.3	0.0		3.0	93.0	1.1	2.9		61.3	3.2	35.5	0.0		0.6	96.7	1.3	1.4		
Total %	0.4	0.0	0.5	0.0	0.9	1.1	33.0	0.4	1.0	35.5	0.5	0.0	0.3	0.0	0.8	0.4	60.7	0.8	0.9	62.8	
Exiting Leg Total					77					2487					31					1372	3967
Cars	14	0	15	0	29	39	1168	5	41	1253	19	0	10	0	29	15	2287	33	34	2369	3680
% Cars	87.5	0.0	78.9	0.0	82.9	90.7	89.1	33.3	100.0	88.9	100.0	0.0	90.9	0.0	93.5	93.8	95.0	100.0	100.0	95.1	92.8
Exiting Leg Total					72					2362					20					1226	3680
Heavy Vehicles	2	0	4	0	6	4	143	10	0	157	0	1	1	0	2	1	121	0	0	122	287
% Heavy Vehicles	12.5	0.0	21.1	0.0	17.1	9.3	10.9	66.7	0.0	11.1	0.0	100.0	9.1	0.0	6.5	6.3	5.0	0.0	0.0	4.9	7.2
Exiting Leg Total					5					125					11					146	287

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	3	0	1	0	4	5	148	0	4	157	2	1	2	0	5	1	323	4	3	331	497
7:30 AM	3	0	3	0	6	7	175	2	2	186	4	0	4	0	8	0	385	5	3	393	593
7:45 AM	3	0	1	0	4	8	158	1	7	174	6	0	0	0	6	3	314	4	3	324	508
8:00 AM	1	0	0	0	1	8	165	1	8	182	2	0	1	0	3	3	257	1	3	264	450
Total Volume	10	0	5	0	15	28	646	4	21	699	14	1	7	0	22	7	1279	14	12	1312	2048
% Approach Total	66.7	0.0	33.3	0.0		4.0	92.4	0.6	3.0		63.6	4.5	31.8	0.0		0.5	97.5	1.1	0.9		
PHF	0.833	0.000	0.417	0.000	0.625	0.875	0.923	0.500	0.656	0.940	0.583	0.250	0.438	0.000	0.688	0.583	0.831	0.700	1.000	0.835	0.863
Cars	8	0	4	0	12	27	572	2	21	622	14	0	7	0	21	7	1222	14	12	1255	1910
Cars %	80.0	0.0	80.0	0.0	80.0	96.4	88.5	50.0	100.0	89.0	100.0	0.0	100.0	0.0	95.5	100.0	95.5	100.0	100.0	95.7	93.3
Heavy Vehicles	2	0	1	0	3	1	74	2	0	77	0	1	0	0	1	0	57	0	0	57	138
Heavy Vehicles %	20.0	0.0	20.0	0.0	20.0	3.6	11.5	50.0	0.0	11.0	0.0	100.0	0.0	0.0	4.5	0.0	4.5	0.0	0.0	4.3	6.7
Cars Enter Leg	8	0	4	0	12	27	572	2	21	622	14	0	7	0	21	7	1222	14	12	1255	1910
Heavy Enter Leg	2	0	1	0	3	1	74	2	0	77	0	1	0	0	1	0	57	0	0	57	138
Total Entering Leg	10	0	5	0	15	28	646	4	21	699	14	1	7	0	22	7	1279	14	12	1312	2048
Cars Exiting Leg					41					1261					9					599	1910
Heavy Exiting Leg					2					58					2					76	138
Total Exiting Leg					43					1319					11					675	2048

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	2	0	2	2	121	0	1	124	1	0	0	0	1	2	260	4	1	267	394
7:15 AM	3	0	1	0	4	5	129	0	4	138	2	0	2	0	4	1	307	4	3	315	461
7:30 AM	2	0	3	0	5	6	158	0	2	166	4	0	4	0	8	0	372	5	3	380	559
7:45 AM	2	0	0	0	2	8	137	1	7	153	6	0	0	0	6	3	301	4	3	311	472
Total	7	0	6	0	13	21	545	1	14	581	13	0	6	0	19	6	1240	17	10	1273	1886
8:00 AM	1	0	0	0	1	8	148	1	8	165	2	0	1	0	3	3	242	1	3	249	418
8:15 AM	1	0	4	0	5	3	145	0	5	153	2	0	1	0	3	0	278	5	3	286	447
8:30 AM	4	0	3	0	7	3	162	1	5	171	1	0	0	0	1	4	263	6	7	280	459
8:45 AM	1	0	2	0	3	4	168	2	9	183	1	0	2	0	3	2	264	4	11	281	470
Total	7	0	9	0	16	18	623	4	27	672	6	0	4	0	10	9	1047	16	24	1096	1794
Grand Total	14	0	15	0	29	39	1168	5	41	1253	19	0	10	0	29	15	2287	33	34	2369	3680
Approach %	48.3	0.0	51.7	0.0		3.1	93.2	0.4	3.3		65.5	0.0	34.5	0.0		0.6	96.5	1.4	1.4		
Total %	0.4	0.0	0.4	0.0	0.8	1.1	31.7	0.1	1.1	34.0	0.5	0.0	0.3	0.0	0.8	0.4	62.1	0.9	0.9	64.4	
Exiting Leg Total					72					2362					20					1226	3680

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	3	0	1	0	4	5	129	0	4	138	2	0	2	0	4	1	307	4	3	315	461
7:30 AM	2	0	3	0	5	6	158	0	2	166	4	0	4	0	8	0	372	5	3	380	559
7:45 AM	2	0	0	0	2	8	137	1	7	153	6	0	0	0	6	3	301	4	3	311	472
8:00 AM	1	0	0	0	1	8	148	1	8	165	2	0	1	0	3	3	242	1	3	249	418
Total Volume	8	0	4	0	12	27	572	2	21	622	14	0	7	0	21	7	1222	14	12	1255	1910
% Approach Total	66.7	0.0	33.3	0.0		4.3	92.0	0.3	3.4		66.7	0.0	33.3	0.0		0.6	97.4	1.1	1.0		
PHF	0.667	0.000	0.333	0.000	0.600	0.844	0.905	0.500	0.656	0.937	0.583	0.000	0.438	0.000	0.656	0.583	0.821	0.700	1.000	0.826	0.854
Entering Leg	8	0	4	0	12	27	572	2	21	622	14	0	7	0	21	7	1222	14	12	1255	1910
Exiting Leg					41					1261					9					599	1910
Total					53					1883					30					1854	3820

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	2	0	2	1	13	1	0	15	0	0	0	0	0	0	16	0	0	16	33
7:15 AM	0	0	0	0	0	0	19	0	0	19	0	1	0	0	1	0	16	0	0	16	36
7:30 AM	1	0	0	0	1	1	17	2	0	20	0	0	0	0	0	0	13	0	0	13	34
7:45 AM	1	0	1	0	2	0	21	0	0	21	0	0	0	0	0	0	13	0	0	13	36
Total	2	0	3	0	5	2	70	3	0	75	0	1	0	0	1	0	58	0	0	58	139
8:00 AM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	15	0	0	15	32
8:15 AM	0	0	0	0	0	1	18	0	0	19	0	0	0	0	0	0	20	0	0	20	39
8:30 AM	0	0	1	0	1	1	23	5	0	29	0	0	1	0	1	1	11	0	0	12	43
8:45 AM	0	0	0	0	0	0	15	2	0	17	0	0	0	0	0	0	17	0	0	17	34
Total	0	0	1	0	1	2	73	7	0	82	0	0	1	0	1	1	63	0	0	64	148
Grand Total	2	0	4	0	6	4	143	10	0	157	0	1	1	0	2	1	121	0	0	122	287
Approach %	33.3	0.0	66.7	0.0		2.5	91.1	6.4	0.0		0.0	50.0	50.0	0.0		0.8	99.2	0.0	0.0		
Total %	0.7	0.0	1.4	0.0	2.1	1.4	49.8	3.5	0.0	54.7	0.0	0.3	0.3	0.0	0.7	0.3	42.2	0.0	0.0	42.5	
Exiting Leg Total					5					125					11					146	287
Buses	0	0	1	0	1	0	6	9	0	15	0	1	0	0	1	0	5	0	0	5	22
% Buses	0.0	0.0	25.0	0.0	16.7	0.0	4.2	90.0	0.0	9.6	0.0	100.0	0.0	0.0	50.0	0.0	4.1	0.0	0.0	4.1	7.7
Exiting Leg Total					1					6					9					6	22
Single-Unit Trucks	2	0	2	0	4	4	110	1	0	115	0	0	1	0	1	1	87	0	0	88	208
% Single-Unit	100.0	0.0	50.0	0.0	66.7	100.0	76.9	10.0	0.0	73.2	0.0	0.0	100.0	0.0	50.0	100.0	71.9	0.0	0.0	72.1	72.5
Exiting Leg Total					4					89					2					113	208
Articulated Trucks	0	0	1	0	1	0	27	0	0	27	0	0	0	0	0	0	29	0	0	29	57
% Articulated	0.0	0.0	25.0	0.0	16.7	0.0	18.9	0.0	0.0	17.2	0.0	0.0	0.0	0.0	0.0	0.0	24.0	0.0	0.0	23.8	19.9
Exiting Leg Total					0					30					0					27	57

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	1	0	1	0	2	0	21	0	0	21	0	0	0	0	0	0	13	0	0	13	36
8:00 AM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	15	0	0	15	32
8:15 AM	0	0	0	0	0	1	18	0	0	19	0	0	0	0	0	0	20	0	0	20	39
8:30 AM	0	0	1	0	1	1	23	5	0	29	0	0	1	0	1	1	11	0	0	12	43
Total Volume	1	0	2	0	3	2	79	5	0	86	0	0	1	0	1	1	59	0	0	60	150
% Approach Total	33.3	0.0	66.7	0.0		2.3	91.9	5.8	0.0		0.0	0.0	100.0	0.0		1.7	98.3	0.0	0.0		
PHF	0.250	0.000	0.500	0.000	0.375	0.500	0.859	0.250	0.000	0.741	0.000	0.000	0.250	0.000	0.250	0.250	0.738	0.000	0.000	0.750	0.872
Buses	0	0	1	0	1	0	4	5	0	9	0	0	0	0	0	0	1	0	0	1	11
Buses %	0.0	0.0	50.0	0.0	33.3	0.0	5.1	100.0	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.7	7.3
Single-Unit Trucks	1	0	0	0	1	2	66	0	0	68	0	0	1	0	1	1	39	0	0	40	110
Single-Unit %	100.0	0.0	0.0	0.0	33.3	100.0	83.5	0.0	0.0	79.1	0.0	0.0	100.0	0.0	100.0	100.0	66.1	0.0	0.0	66.7	73.3
Articulated Trucks	0	0	1	0	1	0	9	0	0	9	0	0	0	0	0	0	19	0	0	19	29
Articulated %	0.0	0.0	50.0	0.0	33.3	0.0	11.4	0.0	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	32.2	0.0	0.0	31.7	19.3
Buses	0	0	1	0	1	0	4	5	0	9	0	0	0	0	0	0	1	0	0	1	11
Single-Unit Trucks	1	0	0	0	1	2	66	0	0	68	0	0	1	0	1	1	39	0	0	40	110
Articulated Trucks	0	0	1	0	1	0	9	0	0	9	0	0	0	0	0	0	19	0	0	19	29
Total Entering Leg	1	0	2	0	3	2	79	5	0	86	0	0	1	0	1	1	59	0	0	60	150
Buses					0					2					5					4	11
Single-Unit Trucks					2					39					1					68	110
Articulated Trucks					0					20					0					9	29
Total Exiting Leg					2					61					6					81	150

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	4	0	0	4	6
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	0	2	2	0	4	0	1	0	0	1	0	4	0	0	4	10
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
8:30 AM	0	0	0	0	0	0	2	5	0	7	0	0	0	0	0	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	4	7	0	11	0	0	0	0	0	0	1	0	0	1	12
Grand Total	0	0	1	0	1	0	6	9	0	15	0	1	0	0	1	0	5	0	0	5	22
Approach %	0.0	0.0	100.0	0.0		0.0	40.0	60.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	4.5	0.0	4.5	0.0	27.3	40.9	0.0	68.2	0.0	4.5	0.0	0.0	4.5	0.0	22.7	0.0	0.0	22.7	
Exiting Leg Total					1					6					9					6	22

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
8:30 AM	0	0	0	0	0	0	2	5	0	7	0	0	0	0	0	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	4	7	0	11	0	0	0	0	0	0	1	0	0	1	12
% Approach Total	0.0	0.0	0.0	0.0		0.0	36.4	63.6	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.350	0.000	0.393	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.429
Entering Leg	0	0	0	0	0	0	4	7	0	11	0	0	0	0	0	0	1	0	0	1	12
Exiting Leg					0					1					7					4	12
Total					0					12					7					5	24

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Single-Unit Trucks

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	2	0	2	1	9	0	0	10	0	0	0	0	0	0	8	0	0	8	20
7:15 AM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	13	0	0	13	23
7:30 AM	1	0	0	0	1	1	13	1	0	15	0	0	0	0	0	0	12	0	0	12	28
7:45 AM	1	0	0	0	1	0	20	0	0	20	0	0	0	0	0	0	10	0	0	10	31
Total	2	0	2	0	4	2	52	1	0	55	0	0	0	0	0	0	43	0	0	43	102
8:00 AM	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	7	0	0	7	22
8:15 AM	0	0	0	0	0	1	16	0	0	17	0	0	0	0	0	0	11	0	0	11	28
8:30 AM	0	0	0	0	0	1	15	0	0	16	0	0	1	0	1	1	11	0	0	12	29
8:45 AM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	15	0	0	15	27
Total	0	0	0	0	0	2	58	0	0	60	0	0	1	0	1	1	44	0	0	45	106
Grand Total	2	0	2	0	4	4	110	1	0	115	0	0	1	0	1	1	87	0	0	88	208
Approach %	50.0	0.0	50.0	0.0		3.5	95.7	0.9	0.0		0.0	0.0	100.0	0.0		1.1	98.9	0.0	0.0		
Total %	1.0	0.0	1.0	0.0	1.9	1.9	52.9	0.5	0.0	55.3	0.0	0.0	0.5	0.0	0.5	0.5	41.8	0.0	0.0	42.3	
Exiting Leg Total					4					89					2					113	208

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	1	0	0	0	1	0	20	0	0	20	0	0	0	0	0	0	10	0	0	10	31
8:00 AM	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	7	0	0	7	22
8:15 AM	0	0	0	0	0	1	16	0	0	17	0	0	0	0	0	0	11	0	0	11	28
8:30 AM	0	0	0	0	0	1	15	0	0	16	0	0	1	0	1	1	11	0	0	12	29
Total Volume	1	0	0	0	1	2	66	0	0	68	0	0	1	0	1	1	39	0	0	40	110
% Approach Total	100.0	0.0	0.0	0.0		2.9	97.1	0.0	0.0		0.0	0.0	100.0	0.0		2.5	97.5	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.500	0.825	0.000	0.000	0.850	0.000	0.000	0.250	0.000	0.250	0.250	0.886	0.000	0.000	0.833	0.887
Entering Leg	1	0	0	0	1	2	66	0	0	68	0	0	1	0	1	1	39	0	0	40	110
Exiting Leg					2					39					1					68	110
Total					3					107					2					108	220

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Articulated Trucks

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	7
7:15 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	3	0	0	3	11
7:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	5
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
Total	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	11	0	0	11	27
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	8	0	0	8	9
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	8	0	0	8	9
8:30 AM	0	0	1	0	1	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
Total	0	0	1	0	1	0	11	0	0	11	0	0	0	0	0	0	18	0	0	18	30
Grand Total	0	0	1	0	1	0	27	0	0	27	0	0	0	0	0	0	29	0	0	29	57
Approach %	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	1.8	0.0	1.8	0.0	47.4	0.0	0.0	47.4	0.0	0.0	0.0	0.0	0.0	0.0	50.9	0.0	0.0	50.9	
Exiting Leg Total					0					30					0					27	57

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	8	0	0	8	9
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	8	0	0	8	9
8:30 AM	0	0	1	0	1	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
Total Volume	0	0	1	0	1	0	11	0	0	11	0	0	0	0	0	0	18	0	0	18	30
% Approach Total	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.458	0.000	0.000	0.458	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.000	0.563	0.833
Entering Leg	0	0	1	0	1	0	11	0	0	11	0	0	0	0	0	0	18	0	0	18	30
Exiting Leg					0					19					0					11	30
Total					1					30					0					29	60

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Albert Street							Southbridge Street (Route 20)							Hill Street							Southbridge Street (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Albert Street							Southbridge Street (Route 20)							Hill Street							Southbridge Street (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Albert Street							Southbridge Street (Route 20)							Hill Street							Southbridge Street (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	2
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	100	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	100	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							2							0	2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Albert Street							Southbridge Street (Route 20)							Hill Street							Southbridge Street (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	2
Exiting Leg							0							0							2							0	2
Total							0							0							4							0	4

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	0	6	0	10	5	433	4	8	450	4	0	3	0	7	1	235	5	3	244	711
4:15 PM	2	0	5	0	7	0	380	3	15	398	4	0	3	0	7	0	299	4	4	307	719
4:30 PM	4	1	11	0	16	2	406	1	9	418	7	1	3	0	11	0	269	2	2	273	718
4:45 PM	7	0	3	0	10	4	442	1	11	458	0	0	0	0	0	2	276	2	4	284	752
Total	17	1	25	0	43	11	1661	9	43	1724	15	1	9	0	25	3	1079	13	13	1108	2900
5:00 PM	9	0	12	0	21	2	452	5	10	469	3	0	2	0	5	1	258	3	3	265	760
5:15 PM	6	0	4	0	10	2	528	2	12	544	0	1	2	0	3	0	236	3	3	242	799
5:30 PM	7	1	10	0	18	3	408	0	8	419	1	0	1	0	2	3	236	6	2	247	686
5:45 PM	7	0	14	0	21	2	359	3	17	381	3	1	0	0	4	2	266	5	4	277	683
Total	29	1	40	0	70	9	1747	10	47	1813	7	2	5	0	14	6	996	17	12	1031	2928
Grand Total	46	2	65	0	113	20	3408	19	90	3537	22	3	14	0	39	9	2075	30	25	2139	5828
Approach %	40.7	1.8	57.5	0.0		0.6	96.4	0.5	2.5		56.4	7.7	35.9	0.0		0.4	97.0	1.4	1.2		
Total %	0.8	0.0	1.1	0.0	1.9	0.3	58.5	0.3	1.5	60.7	0.4	0.1	0.2	0.0	0.7	0.2	35.6	0.5	0.4	36.7	
Exiting Leg Total					53					2252					30					3493	5828
Cars	45	2	64	0	111	20	3323	17	90	3450	20	2	14	0	36	9	2019	29	25	2082	5679
% Cars	97.8	100.0	98.5	0.0	98.2	100.0	97.5	89.5	100.0	97.5	90.9	66.7	100.0	0.0	92.3	100.0	97.3	96.7	100.0	97.3	97.4
Exiting Leg Total					51					2193					28					3407	5679
Heavy Vehicles	1	0	1	0	2	0	85	2	0	87	2	1	0	0	3	0	56	1	0	57	149
% Heavy Vehicles	2.2	0.0	1.5	0.0	1.8	0.0	2.5	10.5	0.0	2.5	9.1	33.3	0.0	0.0	7.7	0.0	2.7	3.3	0.0	2.7	2.6
Exiting Leg Total					2					59					2					86	149

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	4	1	11	0	16	2	406	1	9	418	7	1	3	0	11	0	269	2	2	273	718
4:45 PM	7	0	3	0	10	4	442	1	11	458	0	0	0	0	0	2	276	2	4	284	752
5:00 PM	9	0	12	0	21	2	452	5	10	469	3	0	2	0	5	1	258	3	3	265	760
5:15 PM	6	0	4	0	10	2	528	2	12	544	0	1	2	0	3	0	236	3	3	242	799
Total Volume	26	1	30	0	57	10	1828	9	42	1889	10	2	7	0	19	3	1039	10	12	1064	3029
% Approach Total	45.6	1.8	52.6	0.0		0.5	96.8	0.5	2.2		52.6	10.5	36.8	0.0		0.3	97.7	0.9	1.1		
PHF	0.722	0.250	0.625	0.000	0.679	0.625	0.866	0.450	0.875	0.868	0.357	0.500	0.583	0.000	0.432	0.375	0.941	0.833	0.750	0.937	0.948
Cars	25	1	30	0	56	10	1785	9	42	1846	10	2	7	0	19	3	1012	9	12	1036	2957
Cars %	96.2	100.0	100.0	0.0	98.2	100.0	97.6	100.0	100.0	97.7	100.0	100.0	100.0	0.0	100.0	100.0	97.4	90.0	100.0	97.4	97.6
Heavy Vehicles	1	0	0	0	1	0	43	0	0	43	0	0	0	0	0	0	27	1	0	28	72
Heavy Vehicles %	3.8	0.0	0.0	0.0	1.8	0.0	2.4	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	2.6	10.0	0.0	2.6	2.4
Cars Enter Leg	25	1	30	0	56	10	1785	9	42	1846	10	2	7	0	19	3	1012	9	12	1036	2957
Heavy Enter Leg	1	0	0	0	1	0	43	0	0	43	0	0	0	0	0	0	27	1	0	28	72
Total Entering Leg	26	1	30	0	57	10	1828	9	42	1889	10	2	7	0	19	3	1039	10	12	1064	3029
Cars Exiting Leg					21					1094					13					1829	2957
Heavy Exiting Leg					1					27					0					44	72
Total Exiting Leg					22					1121					13					1873	3029

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	0	6	0	10	5	422	3	8	438	3	0	3	0	6	1	227	5	3	236	690
4:15 PM	2	0	5	0	7	0	366	2	15	383	3	0	3	0	6	0	288	4	4	296	692
4:30 PM	3	1	11	0	15	2	393	1	9	405	7	1	3	0	11	0	259	1	2	262	693
4:45 PM	7	0	3	0	10	4	431	1	11	447	0	0	0	0	0	2	267	2	4	275	732
Total	16	1	25	0	42	11	1612	7	43	1673	13	1	9	0	23	3	1041	12	13	1069	2807
5:00 PM	9	0	12	0	21	2	444	5	10	461	3	0	2	0	5	1	254	3	3	261	748
5:15 PM	6	0	4	0	10	2	517	2	12	533	0	1	2	0	3	0	232	3	3	238	784
5:30 PM	7	1	10	0	18	3	397	0	8	408	1	0	1	0	2	3	234	6	2	245	673
5:45 PM	7	0	13	0	20	2	353	3	17	375	3	0	0	0	3	2	258	5	4	269	667
Total	29	1	39	0	69	9	1711	10	47	1777	7	1	5	0	13	6	978	17	12	1013	2872
Grand Total	45	2	64	0	111	20	3323	17	90	3450	20	2	14	0	36	9	2019	29	25	2082	5679
Approach %	40.5	1.8	57.7	0.0		0.6	96.3	0.5	2.6		55.6	5.6	38.9	0.0		0.4	97.0	1.4	1.2		
Total %	0.8	0.0	1.1	0.0	2.0	0.4	58.5	0.3	1.6	60.8	0.4	0.0	0.2	0.0	0.6	0.2	35.6	0.5	0.4	36.7	
Exiting Leg Total					51					2193					28					3407	5679

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	3	1	11	0	15	2	393	1	9	405	7	1	3	0	11	0	259	1	2	262	693
4:45 PM	7	0	3	0	10	4	431	1	11	447	0	0	0	0	0	2	267	2	4	275	732
5:00 PM	9	0	12	0	21	2	444	5	10	461	3	0	2	0	5	1	254	3	3	261	748
5:15 PM	6	0	4	0	10	2	517	2	12	533	0	1	2	0	3	0	232	3	3	238	784
Total Volume	25	1	30	0	56	10	1785	9	42	1846	10	2	7	0	19	3	1012	9	12	1036	2957
% Approach Total	44.6	1.8	53.6	0.0		0.5	96.7	0.5	2.3		52.6	10.5	36.8	0.0		0.3	97.7	0.9	1.2		
PHF	0.694	0.250	0.625	0.000	0.667	0.625	0.863	0.450	0.875	0.866	0.357	0.500	0.583	0.000	0.432	0.375	0.948	0.750	0.750	0.942	0.943
Entering Leg	25	1	30	0	56	10	1785	9	42	1846	10	2	7	0	19	3	1012	9	12	1036	2957
Exiting Leg					21					1094					13					1829	2957
Total					77					2940					32					2865	5914

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	11	1	0	12	1	0	0	0	1	0	8	0	0	8	21
4:15 PM	0	0	0	0	0	0	14	1	0	15	1	0	0	0	1	0	11	0	0	11	27
4:30 PM	1	0	0	0	1	0	13	0	0	13	0	0	0	0	0	0	10	1	0	11	25
4:45 PM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	9	0	0	9	20
Total	1	0	0	0	1	0	49	2	0	51	2	0	0	0	2	0	38	1	0	39	93
5:00 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	4	0	0	4	12
5:15 PM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	4	0	0	4	15
5:30 PM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	2	0	0	2	13
5:45 PM	0	0	1	0	1	0	6	0	0	6	0	1	0	0	1	0	8	0	0	8	16
Total	0	0	1	0	1	0	36	0	0	36	0	1	0	0	1	0	18	0	0	18	56
Grand Total	1	0	1	0	2	0	85	2	0	87	2	1	0	0	3	0	56	1	0	57	149
Approach %	50.0	0.0	50.0	0.0		0.0	97.7	2.3	0.0		66.7	33.3	0.0	0.0		0.0	98.2	1.8	0.0		
Total %	0.7	0.0	0.7	0.0	1.3	0.0	57.0	1.3	0.0	58.4	1.3	0.7	0.0	0.0	2.0	0.0	37.6	0.7	0.0	38.3	
Exiting Leg Total					2					59					2					86	149
Buses	0	0	0	0	0	0	5	2	0	7	1	0	0	0	1	0	4	0	0	4	12
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	5.9	100.0	0.0	8.0	50.0	0.0	0.0	0.0	33.3	0.0	7.1	0.0	0.0	7.0	8.1
Exiting Leg Total					0					5					2					5	12
Single-Unit Trucks	1	0	1	0	2	0	55	0	0	55	1	1	0	0	2	0	34	1	0	35	94
% Single-Unit	100.0	0.0	100.0	0.0	100.0	0.0	64.7	0.0	0.0	63.2	50.0	100.0	0.0	0.0	66.7	0.0	60.7	100.0	0.0	61.4	63.1
Exiting Leg Total					2					36					0					56	94
Articulated Trucks	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	0	18	0	0	18	43
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	29.4	0.0	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	32.1	0.0	0.0	31.6	28.9
Exiting Leg Total					0					18					0					25	43

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	11	1	0	12	1	0	0	0	1	0	8	0	0	8	21
4:15 PM	0	0	0	0	0	0	14	1	0	15	1	0	0	0	1	0	11	0	0	11	27
4:30 PM	1	0	0	0	1	0	13	0	0	13	0	0	0	0	0	0	10	1	0	11	25
4:45 PM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	9	0	0	9	20
Total Volume	1	0	0	0	1	0	49	2	0	51	2	0	0	0	2	0	38	1	0	39	93
% Approach Total	100.0	0.0	0.0	0.0		0.0	96.1	3.9	0.0		100.0	0.0	0.0	0.0		0.0	97.4	2.6	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.875	0.500	0.000	0.850	0.500	0.000	0.000	0.000	0.500	0.000	0.864	0.250	0.000	0.886	0.861
Buses	0	0	0	0	0	0	3	2	0	5	1	0	0	0	1	0	0	0	0	0	6
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	6.1	100.0	0.0	9.8	50.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	6.5
Single-Unit Trucks	1	0	0	0	1	0	27	0	0	27	1	0	0	0	1	0	25	1	0	26	55
Single-Unit %	100.0	0.0	0.0	0.0	100.0	0.0	55.1	0.0	0.0	52.9	50.0	0.0	0.0	0.0	50.0	0.0	65.8	100.0	0.0	66.7	59.1
Articulated Trucks	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	13	0	0	13	32
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	38.8	0.0	0.0	37.3	0.0	0.0	0.0	0.0	0.0	0.0	34.2	0.0	0.0	33.3	34.4
Buses	0	0	0	0	0	0	3	2	0	5	1	0	0	0	1	0	0	0	0	0	6
Single-Unit Trucks	1	0	0	0	1	0	27	0	0	27	1	0	0	0	1	0	25	1	0	26	55
Articulated Trucks	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	13	0	0	13	32
Total Entering Leg	1	0	0	0	1	0	49	2	0	51	2	0	0	0	2	0	38	1	0	39	93
Buses					0					1					2					3	6
Single-Unit Trucks					1					26					0					28	55
Articulated Trucks					0					13					0					19	32
Total Exiting Leg					1					40					2					50	93

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	3	2	0	5	1	0	0	0	1	0	0	0	0	0	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
Grand Total	0	0	0	0	0	0	5	2	0	7	1	0	0	0	1	0	4	0	0	4	12
Approach %	0.0	0.0	0.0	0.0		0.0	71.4	28.6	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	41.7	16.7	0.0	58.3	8.3	0.0	0.0	0.0	8.3	0.0	33.3	0.0	0.0	33.3	
Exiting Leg Total					0					5					2					5	12

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	3	2	0	5	1	0	0	0	1	0	0	0	0	0	6
% Approach Total	0.0	0.0	0.0	0.0		0.0	60.0	40.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.500	0.000	0.625	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	3	2	0	5	1	0	0	0	1	0	0	0	0	0	6
Exiting Leg					0					1					2					3	6
Total					0					6					3					3	12

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Single-Unit Trucks

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	0	4	0	0	4	10
4:15 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	7	0	0	7	15
4:30 PM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	6	1	0	7	17
4:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	8	0	0	8	13
Total	1	0	0	0	1	0	27	0	0	27	1	0	0	0	1	0	25	1	0	26	55
5:00 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	9
5:15 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	2	0	0	2	10
5:30 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	2	0	0	2	10
5:45 PM	0	0	1	0	1	0	5	0	0	5	0	1	0	0	1	0	3	0	0	3	10
Total	0	0	1	0	1	0	28	0	0	28	0	1	0	0	1	0	9	0	0	9	39
Grand Total	1	0	1	0	2	0	55	0	0	55	1	1	0	0	2	0	34	1	0	35	94
Approach %	50.0	0.0	50.0	0.0		0.0	100.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	97.1	2.9	0.0		
Total %	1.1	0.0	1.1	0.0	2.1	0.0	58.5	0.0	0.0	58.5	1.1	1.1	0.0	0.0	2.1	0.0	36.2	1.1	0.0	37.2	
Exiting Leg Total					2					36					0					56	94

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	0	4	0	0	4	10
4:15 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	7	0	0	7	15
4:30 PM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	6	1	0	7	17
4:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	8	0	0	8	13
Total Volume	1	0	0	0	1	0	27	0	0	27	1	0	0	0	1	0	25	1	0	26	55
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	96.2	3.8	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.750	0.000	0.000	0.750	0.250	0.000	0.000	0.000	0.250	0.000	0.781	0.250	0.000	0.813	0.809
Entering Leg	1	0	0	0	1	0	27	0	0	27	1	0	0	0	1	0	25	1	0	26	55
Exiting Leg					1					26					0					28	55
Total					2					53					1					54	110

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Articulated Trucks

	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	9
4:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	9
4:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
4:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
Total	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	13	0	0	13	32
5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
5:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
5:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
Total	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	11
Grand Total	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	0	18	0	0	18	43
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	58.1	0.0	0.0	58.1	0.0	0.0	0.0	0.0	0.0	0.0	41.9	0.0	0.0	41.9	
Exiting Leg Total					0					18					0					25	43

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Albert Street					Southbridge Street (Route 20)					Hill Street					Southbridge Street (Route 20)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	9
4:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	9
4:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
4:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
Total Volume	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	13	0	0	13	32
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.950	0.000	0.000	0.950	0.000	0.000	0.000	0.000	0.000	0.000	0.813	0.000	0.000	0.813	0.889
Entering Leg	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	13	0	0	13	32
Exiting Leg					0					13					0					19	32
Total					0					32					0					32	64

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Albert Street							Southbridge Street (Route 20)							Hill Street							Southbridge Street (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Albert Street							Southbridge Street (Route 20)							Hill Street							Southbridge Street (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 D**
Location: **N: Albert Street S: Hill Street**
Location: **E: Southbridge Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Albert Street							Southbridge Street (Route 20)							Hill Street							Southbridge Street (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	3
Approach %	0	0	0	0	0	100		0	0	0	0	0	0		0	0	0	0	0	100		0	0	0	0	0	100		
Total %	0	0	0	0	0	33.3	33.3	0	0	0	0	0	0	0	0	0	0	0	0	33.3	33.3	0	0	0	0	0	33.3	33.3	
Exiting Leg Total							1							0							1							1	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Albert Street							Southbridge Street (Route 20)							Hill Street							Southbridge Street (Route 20)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	3
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.375
Entering Leg	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	3
Exiting Leg							1							0							1							1	3
Total							2							0							2							2	6

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Cars and Heavy Vehicles (Combined)

	Southbridge Street (Route 12) from North				Washington Street (Route 20) from East				Southbridge Street (Route 20) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	46	0	0	46	5	94	0	99	185	92	1	278	423
7:15 AM	52	0	0	52	5	112	0	117	217	110	5	332	501
7:30 AM	60	0	0	60	5	121	0	126	262	119	6	387	573
7:45 AM	57	0	0	57	2	132	0	134	210	106	2	318	509
Total	215	0	0	215	17	459	0	476	874	427	14	1315	2006
8:00 AM	55	0	0	55	2	119	0	121	170	87	4	261	437
8:15 AM	55	0	0	55	1	130	0	131	181	104	4	289	475
8:30 AM	52	0	0	52	1	135	0	136	182	93	4	279	467
8:45 AM	72	0	0	72	3	137	0	140	189	93	0	282	494
Total	234	0	0	234	7	521	0	528	722	377	12	1111	1873
Grand Total	449	0	0	449	24	980	0	1004	1596	804	26	2426	3879
Approach %	100.0	0.0	0.0		2.4	97.6	0.0		65.8	33.1	1.1		
Total %	11.6	0.0	0.0	11.6	0.6	25.3	0.0	25.9	41.1	20.7	0.7	62.5	
Exiting Leg Total				828				1596				1455	3879
Cars	398	0	0	398	21	881	0	902	1533	747	23	2303	3603
% Cars	88.6	0.0	0.0	88.6	87.5	89.9	0.0	89.8	96.1	92.9	88.5	94.9	92.9
Exiting Leg Total				768				1533				1302	3603
Heavy Vehicles	51	0	0	51	3	99	0	102	63	57	3	123	276
% Heavy Vehicles	11.4	0.0	0.0	11.4	12.5	10.1	0.0	10.2	3.9	7.1	11.5	5.1	7.1
Exiting Leg Total				60				63				153	276

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Southbridge Street (Route 12) from North				Washington Street (Route 20) from East				Southbridge Street (Route 20) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:15 AM	52	0	0	52	5	112	0	117	217	110	5	332	501
7:30 AM	60	0	0	60	5	121	0	126	262	119	6	387	573
7:45 AM	57	0	0	57	2	132	0	134	210	106	2	318	509
8:00 AM	55	0	0	55	2	119	0	121	170	87	4	261	437
Total Volume	224	0	0	224	14	484	0	498	859	422	17	1298	2020
% Approach Total	100.0	0.0	0.0		2.8	97.2	0.0		66.2	32.5	1.3		
PHF	0.933	0.000	0.000	0.933	0.700	0.917	0.000	0.929	0.820	0.887	0.708	0.839	0.881
Cars	197	0	0	197	13	439	0	452	824	396	15	1235	1884
Cars %	87.9	0.0	0.0	87.9	92.9	90.7	0.0	90.8	95.9	93.8	88.2	95.1	93.3
Heavy Vehicles	27	0	0	27	1	45	0	46	35	26	2	63	136
Heavy Vehicles %	12.1	0.0	0.0	12.1	7.1	9.3	0.0	9.2	4.1	6.2	11.8	4.9	6.7
Cars Enter Leg	197	0	0	197	13	439	0	452	824	396	15	1235	1884
Heavy Enter Leg	27	0	0	27	1	45	0	46	35	26	2	63	136
Total Entering Leg	224	0	0	224	14	484	0	498	859	422	17	1298	2020
Cars Exiting Leg				409				824				651	1884
Heavy Exiting Leg				27				35				74	136
Total Exiting Leg				436				859				725	2020

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	40	0	0	40	4	86	0	90	175	88	1	264	394
7:15 AM	47	0	0	47	4	103	0	107	209	99	5	313	467
7:30 AM	55	0	0	55	5	110	0	115	254	116	4	374	544
7:45 AM	49	0	0	49	2	122	0	124	201	102	2	305	478
Total	191	0	0	191	15	421	0	436	839	405	12	1256	1883
8:00 AM	46	0	0	46	2	104	0	106	160	79	4	243	395
8:15 AM	49	0	0	49	1	117	0	118	174	92	4	270	437
8:30 AM	46	0	0	46	0	115	0	115	177	87	3	267	428
8:45 AM	66	0	0	66	3	124	0	127	183	84	0	267	460
Total	207	0	0	207	6	460	0	466	694	342	11	1047	1720
Grand Total	398	0	0	398	21	881	0	902	1533	747	23	2303	3603
Approach %	100.0	0.0	0.0		2.3	97.7	0.0		66.6	32.4	1.0		
Total %	11.0	0.0	0.0	11.0	0.6	24.5	0.0	25.0	42.5	20.7	0.6	63.9	
Exiting Leg Total				768				1533				1302	3603

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:15 AM	47	0	0	47	4	103	0	107	209	99	5	313	467
7:30 AM	55	0	0	55	5	110	0	115	254	116	4	374	544
7:45 AM	49	0	0	49	2	122	0	124	201	102	2	305	478
8:00 AM	46	0	0	46	2	104	0	106	160	79	4	243	395
Total Volume	197	0	0	197	13	439	0	452	824	396	15	1235	1884
% Approach Total	100.0	0.0	0.0		2.9	97.1	0.0		66.7	32.1	1.2		
PHF	0.895	0.000	0.000	0.895	0.650	0.900	0.000	0.911	0.811	0.853	0.750	0.826	0.866
Entering Leg	197	0	0	197	13	439	0	452	824	396	15	1235	1884
Exiting Leg				409				824				651	1884
Total				606				1276				1886	3768

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	6	0	0	6	1	8	0	9	10	4	0	14	29
7:15 AM	5	0	0	5	1	9	0	10	8	11	0	19	34
7:30 AM	5	0	0	5	0	11	0	11	8	3	2	13	29
7:45 AM	8	0	0	8	0	10	0	10	9	4	0	13	31
Total	24	0	0	24	2	38	0	40	35	22	2	59	123
8:00 AM	9	0	0	9	0	15	0	15	10	8	0	18	42
8:15 AM	6	0	0	6	0	13	0	13	7	12	0	19	38
8:30 AM	6	0	0	6	1	20	0	21	5	6	1	12	39
8:45 AM	6	0	0	6	0	13	0	13	6	9	0	15	34
Total	27	0	0	27	1	61	0	62	28	35	1	64	153
Grand Total	51	0	0	51	3	99	0	102	63	57	3	123	276
Approach %	100.0	0.0	0.0		2.9	97.1	0.0		51.2	46.3	2.4		
Total %	18.5	0.0	0.0	18.5	1.1	35.9	0.0	37.0	22.8	20.7	1.1	44.6	
Exiting Leg Total				60				63				153	276
Buses	7	0	0	7	0	12	0	12	2	3	0	5	24
% Buses	13.7	0.0	0.0	13.7	0.0	12.1	0.0	11.8	3.2	5.3	0.0	4.1	8.7
Exiting Leg Total				3				2				19	24
Single-Unit Trucks	34	0	0	34	2	66	0	68	42	40	1	83	185
% Single-Unit	66.7	0.0	0.0	66.7	66.7	66.7	0.0	66.7	66.7	70.2	33.3	67.5	67.0
Exiting Leg Total				42				42				101	185
Articulated Trucks	10	0	0	10	1	21	0	22	19	14	2	35	67
% Articulated	19.6	0.0	0.0	19.6	33.3	21.2	0.0	21.6	30.2	24.6	66.7	28.5	24.3
Exiting Leg Total				15				19				33	67

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
8:00 AM	9	0	0	9	0	15	0	15	10	8	0	18	42
8:15 AM	6	0	0	6	0	13	0	13	7	12	0	19	38
8:30 AM	6	0	0	6	1	20	0	21	5	6	1	12	39
8:45 AM	6	0	0	6	0	13	0	13	6	9	0	15	34
Total Volume	27	0	0	27	1	61	0	62	28	35	1	64	153
% Approach Total	100.0	0.0	0.0		1.6	98.4	0.0		43.8	54.7	1.6		
PHF	0.750	0.000	0.000	0.750	0.250	0.763	0.000	0.738	0.700	0.729	0.250	0.842	0.911
Buses	4	0	0	4	0	9	0	9	0	1	0	1	14
Buses %	14.8	0.0	0.0	14.8	0.0	14.8	0.0	14.5	0.0	2.9	0.0	1.6	9.2
Single-Unit Trucks	18	0	0	18	1	42	0	43	16	25	0	41	102
Single-Unit %	66.7	0.0	0.0	66.7	100.0	68.9	0.0	69.4	57.1	71.4	0.0	64.1	66.7
Articulated Trucks	5	0	0	5	0	10	0	10	12	9	1	22	37
Articulated %	18.5	0.0	0.0	18.5	0.0	16.4	0.0	16.1	42.9	25.7	100.0	34.4	24.2
Buses	4	0	0	4	0	9	0	9	0	1	0	1	14
Single-Unit Trucks	18	0	0	18	1	42	0	43	16	25	0	41	102
Articulated Trucks	5	0	0	5	0	10	0	10	12	9	1	22	37
Total Entering Leg	27	0	0	27	1	61	0	62	28	35	1	64	153
Buses				1				0				13	14
Single-Unit Trucks				26				16				60	102
Articulated Trucks				9				12				16	37
Total Exiting Leg				36				28				89	153

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	2	0	0	2	0	0	0	0	1	1	0	2	4
7:15 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
7:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	3	0	0	3	0	3	0	3	2	2	0	4	10
8:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
8:15 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
8:30 AM	1	0	0	1	0	7	0	7	0	0	0	0	8
8:45 AM	1	0	0	1	0	2	0	2	0	0	0	0	3
Total	4	0	0	4	0	9	0	9	0	1	0	1	14
Grand Total	7	0	0	7	0	12	0	12	2	3	0	5	24
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		40.0	60.0	0.0		
Total %	29.2	0.0	0.0	29.2	0.0	50.0	0.0	50.0	8.3	12.5	0.0	20.8	
Exiting Leg Total				3				2				19	24

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
8:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
8:15 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
8:30 AM	1	0	0	1	0	7	0	7	0	0	0	0	8
8:45 AM	1	0	0	1	0	2	0	2	0	0	0	0	3
Total Volume	4	0	0	4	0	9	0	9	0	1	0	1	14
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	100.0	0.0		
PHF	1.000	0.000	0.000	1.000	0.000	0.321	0.000	0.321	0.000	0.250	0.000	0.250	0.438
Entering Leg	4	0	0	4	0	9	0	9	0	1	0	1	14
Exiting Leg				1				0				13	14
Total				5				9				14	28

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	4	0	0	4	1	5	0	6	7	1	0	8	18
7:15 AM	1	0	0	1	0	6	0	6	7	8	0	15	22
7:30 AM	5	0	0	5	0	4	0	4	8	2	1	11	20
7:45 AM	6	0	0	6	0	9	0	9	4	4	0	8	23
Total	16	0	0	16	1	24	0	25	26	15	1	42	83
8:00 AM	7	0	0	7	0	12	0	12	5	5	0	10	29
8:15 AM	4	0	0	4	0	11	0	11	4	6	0	10	25
8:30 AM	3	0	0	3	1	10	0	11	4	6	0	10	24
8:45 AM	4	0	0	4	0	9	0	9	3	8	0	11	24
Total	18	0	0	18	1	42	0	43	16	25	0	41	102
Grand Total	34	0	0	34	2	66	0	68	42	40	1	83	185
Approach %	100.0	0.0	0.0		2.9	97.1	0.0		50.6	48.2	1.2		
Total %	18.4	0.0	0.0	18.4	1.1	35.7	0.0	36.8	22.7	21.6	0.5	44.9	
Exiting Leg Total				42				42				101	185

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
8:00 AM	7	0	0	7	0	12	0	12	5	5	0	10	29
8:15 AM	4	0	0	4	0	11	0	11	4	6	0	10	25
8:30 AM	3	0	0	3	1	10	0	11	4	6	0	10	24
8:45 AM	4	0	0	4	0	9	0	9	3	8	0	11	24
Total Volume	18	0	0	18	1	42	0	43	16	25	0	41	102
% Approach Total	100.0	0.0	0.0		2.3	97.7	0.0		39.0	61.0	0.0		
PHF	0.643	0.000	0.000	0.643	0.250	0.875	0.000	0.896	0.800	0.781	0.000	0.932	0.879
Entering Leg	18	0	0	18	1	42	0	43	16	25	0	41	102
Exiting Leg				26				16				60	102
Total				44				59				101	204

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Articulated Trucks

	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	3	0	3	2	2	0	4	7
7:15 AM	3	0	0	3	1	3	0	4	1	2	0	3	10
7:30 AM	0	0	0	0	0	4	0	4	0	1	1	2	6
7:45 AM	2	0	0	2	0	1	0	1	4	0	0	4	7
Total	5	0	0	5	1	11	0	12	7	5	1	13	30
8:00 AM	1	0	0	1	0	3	0	3	5	3	0	8	12
8:15 AM	1	0	0	1	0	2	0	2	3	5	0	8	11
8:30 AM	2	0	0	2	0	3	0	3	1	0	1	2	7
8:45 AM	1	0	0	1	0	2	0	2	3	1	0	4	7
Total	5	0	0	5	0	10	0	10	12	9	1	22	37
Grand Total	10	0	0	10	1	21	0	22	19	14	2	35	67
Approach %	100.0	0.0	0.0		4.5	95.5	0.0		54.3	40.0	5.7		
Total %	14.9	0.0	0.0	14.9	1.5	31.3	0.0	32.8	28.4	20.9	3.0	52.2	
Exiting Leg Total				15				19				33	67

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:45 AM	2	0	0	2	0	1	0	1	4	0	0	4	7
8:00 AM	1	0	0	1	0	3	0	3	5	3	0	8	12
8:15 AM	1	0	0	1	0	2	0	2	3	5	0	8	11
8:30 AM	2	0	0	2	0	3	0	3	1	0	1	2	7
Total Volume	6	0	0	6	0	9	0	9	13	8	1	22	37
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		59.1	36.4	4.5		
PHF	0.750	0.000	0.000	0.750	0.000	0.750	0.000	0.750	0.650	0.400	0.250	0.688	0.771
Entering Leg	6	0	0	6	0	9	0	9	13	8	1	22	37
Exiting Leg				8				13				16	37
Total				14				22				38	74

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Bicycles (on Roadway and Crosswalks)

	Southbridge Street (Route 12)						Washington Street (Route 20)						Southbridge Street (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						1						0	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Southbridge Street (Route 12)						Washington Street (Route 20)						Southbridge Street (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
Exiting Leg						0						1						0	1
Total						0						2						0	2

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Southbridge Street (Route 12)						Washington Street (Route 20)						Southbridge Street (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Southbridge Street (Route 12)						Washington Street (Route 20)						Southbridge Street (Route 20)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Cars and Heavy Vehicles (Combined)

	Southbridge Street (Route 12) from North				Washington Street (Route 20) from East				Southbridge Street (Route 20) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	171	0	0	171	2	247	0	249	176	83	8	267	687
4:15 PM	181	0	0	181	2	181	0	183	189	101	6	296	660
4:30 PM	204	0	0	204	5	228	0	233	207	107	8	322	759
4:45 PM	192	0	0	192	6	208	0	214	180	82	11	273	679
Total	748	0	0	748	15	864	0	879	752	373	33	1158	2785
5:00 PM	198	0	0	198	4	252	0	256	186	87	15	288	742
5:15 PM	207	0	0	207	0	285	0	285	160	79	10	249	741
5:30 PM	155	0	0	155	1	250	0	251	161	82	9	252	658
5:45 PM	132	0	0	132	2	198	0	200	175	95	9	279	611
Total	692	0	0	692	7	985	0	992	682	343	43	1068	2752
Grand Total	1440	0	0	1440	22	1849	0	1871	1434	716	76	2226	5537
Approach %	100.0	0.0	0.0		1.2	98.8	0.0		64.4	32.2	3.4		
Total %	26.0	0.0	0.0	26.0	0.4	33.4	0.0	33.8	25.9	12.9	1.4	40.2	
Exiting Leg Total				738				1434				3365	5537
Cars	1414	0	0	1414	18	1791	0	1809	1389	705	75	2169	5392
% Cars	98.2	0.0	0.0	98.2	81.8	96.9	0.0	96.7	96.9	98.5	98.7	97.4	97.4
Exiting Leg Total				723				1389				3280	5392
Heavy Vehicles	26	0	0	26	4	58	0	62	45	11	1	57	145
% Heavy Vehicles	1.8	0.0	0.0	1.8	18.2	3.1	0.0	3.3	3.1	1.5	1.3	2.6	2.6
Exiting Leg Total				15				45				85	145

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Southbridge Street (Route 12) from North				Washington Street (Route 20) from East				Southbridge Street (Route 20) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:30 PM	204	0	0	204	5	228	0	233	207	107	8	322	759
4:45 PM	192	0	0	192	6	208	0	214	180	82	11	273	679
5:00 PM	198	0	0	198	4	252	0	256	186	87	15	288	742
5:15 PM	207	0	0	207	0	285	0	285	160	79	10	249	741
Total Volume	801	0	0	801	15	973	0	988	733	355	44	1132	2921
% Approach Total	100.0	0.0	0.0		1.5	98.5	0.0		64.8	31.4	3.9		
PHF	0.967	0.000	0.000	0.967	0.625	0.854	0.000	0.867	0.885	0.829	0.733	0.879	0.962
Cars	784	0	0	784	12	944	0	956	708	351	44	1103	2843
Cars %	97.9	0.0	0.0	97.9	80.0	97.0	0.0	96.8	96.6	98.9	100.0	97.4	97.3
Heavy Vehicles	17	0	0	17	3	29	0	32	25	4	0	29	78
Heavy Vehicles %	2.1	0.0	0.0	2.1	20.0	3.0	0.0	3.2	3.4	1.1	0.0	2.6	2.7
Cars Enter Leg	784	0	0	784	12	944	0	956	708	351	44	1103	2843
Heavy Enter Leg	17	0	0	17	3	29	0	32	25	4	0	29	78
Total Entering Leg	801	0	0	801	15	973	0	988	733	355	44	1132	2921
Cars Exiting Leg				363				708				1772	2843
Heavy Exiting Leg				7				25				46	78
Total Exiting Leg				370				733				1818	2921

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	168	0	0	168	2	238	0	240	169	79	8	256	664
4:15 PM	179	0	0	179	1	171	0	172	183	100	6	289	640
4:30 PM	198	0	0	198	4	221	0	225	198	105	8	311	734
4:45 PM	187	0	0	187	5	198	0	203	172	82	11	265	655
Total	732	0	0	732	12	828	0	840	722	366	33	1121	2693
5:00 PM	194	0	0	194	3	245	0	248	181	86	15	282	724
5:15 PM	205	0	0	205	0	280	0	280	157	78	10	245	730
5:30 PM	155	0	0	155	1	241	0	242	159	82	9	250	647
5:45 PM	128	0	0	128	2	197	0	199	170	93	8	271	598
Total	682	0	0	682	6	963	0	969	667	339	42	1048	2699
Grand Total	1414	0	0	1414	18	1791	0	1809	1389	705	75	2169	5392
Approach %	100.0	0.0	0.0		1.0	99.0	0.0		64.0	32.5	3.5		
Total %	26.2	0.0	0.0	26.2	0.3	33.2	0.0	33.5	25.8	13.1	1.4	40.2	
Exiting Leg Total				723				1389				3280	5392

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:30 PM	198	0	0	198	4	221	0	225	198	105	8	311	734
4:45 PM	187	0	0	187	5	198	0	203	172	82	11	265	655
5:00 PM	194	0	0	194	3	245	0	248	181	86	15	282	724
5:15 PM	205	0	0	205	0	280	0	280	157	78	10	245	730
Total Volume	784	0	0	784	12	944	0	956	708	351	44	1103	2843
% Approach Total	100.0	0.0	0.0		1.3	98.7	0.0		64.2	31.8	4.0		
PHF	0.956	0.000	0.000	0.956	0.600	0.843	0.000	0.854	0.894	0.836	0.733	0.887	0.968
Entering Leg	784	0	0	784	12	944	0	956	708	351	44	1103	2843
Exiting Leg				363				708				1772	2843
Total				1147				1664				2875	5686

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Southbridge Street (Route 12) from North				Washington Street (Route 20) from East				Southbridge Street (Route 20) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	3	0	0	3	0	9	0	9	7	4	0	11	23
4:15 PM	2	0	0	2	1	10	0	11	6	1	0	7	20
4:30 PM	6	0	0	6	1	7	0	8	9	2	0	11	25
4:45 PM	5	0	0	5	1	10	0	11	8	0	0	8	24
Total	16	0	0	16	3	36	0	39	30	7	0	37	92
5:00 PM	4	0	0	4	1	7	0	8	5	1	0	6	18
5:15 PM	2	0	0	2	0	5	0	5	3	1	0	4	11
5:30 PM	0	0	0	0	0	9	0	9	2	0	0	2	11
5:45 PM	4	0	0	4	0	1	0	1	5	2	1	8	13
Total	10	0	0	10	1	22	0	23	15	4	1	20	53
Grand Total	26	0	0	26	4	58	0	62	45	11	1	57	145
Approach %	100.0	0.0	0.0		6.5	93.5	0.0		78.9	19.3	1.8		
Total %	17.9	0.0	0.0	17.9	2.8	40.0	0.0	42.8	31.0	7.6	0.7	39.3	
Exiting Leg Total				15				45				85	145
Buses	5	0	0	5	0	1	0	1	0	3	0	3	9
% Buses	19.2	0.0	0.0	19.2	0.0	1.7	0.0	1.6	0.0	27.3	0.0	5.3	6.2
Exiting Leg Total				3				0				6	9
Single-Unit Trucks	15	0	0	15	1	26	0	27	29	6	1	36	78
% Single-Unit	57.7	0.0	0.0	57.7	25.0	44.8	0.0	43.5	64.4	54.5	100.0	63.2	53.8
Exiting Leg Total				7				29				42	78
Articulated Trucks	6	0	0	6	3	31	0	34	16	2	0	18	58
% Articulated	23.1	0.0	0.0	23.1	75.0	53.4	0.0	54.8	35.6	18.2	0.0	31.6	40.0
Exiting Leg Total				5				16				37	58

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Street (Route 12) from North				Washington Street (Route 20) from East				Southbridge Street (Route 20) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	3	0	0	3	0	9	0	9	7	4	0	11	23
4:15 PM	2	0	0	2	1	10	0	11	6	1	0	7	20
4:30 PM	6	0	0	6	1	7	0	8	9	2	0	11	25
4:45 PM	5	0	0	5	1	10	0	11	8	0	0	8	24
Total Volume	16	0	0	16	3	36	0	39	30	7	0	37	92
% Approach Total	100.0	0.0	0.0		7.7	92.3	0.0		81.1	18.9	0.0		
PHF	0.667	0.000	0.000	0.667	0.750	0.900	0.000	0.886	0.833	0.438	0.000	0.841	0.920
Buses	4	0	0	4	0	0	0	0	0	0	0	0	4
Buses %	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
Single-Unit Trucks	10	0	0	10	1	14	0	15	19	5	0	24	49
Single-Unit %	62.5	0.0	0.0	62.5	33.3	38.9	0.0	38.5	63.3	71.4	0.0	64.9	53.3
Articulated Trucks	2	0	0	2	2	22	0	24	11	2	0	13	39
Articulated %	12.5	0.0	0.0	12.5	66.7	61.1	0.0	61.5	36.7	28.6	0.0	35.1	42.4
Buses	4	0	0	4	0	0	0	0	0	0	0	0	4
Single-Unit Trucks	10	0	0	10	1	14	0	15	19	5	0	24	49
Articulated Trucks	2	0	0	2	2	22	0	24	11	2	0	13	39
Total Entering Leg	16	0	0	16	3	36	0	39	30	7	0	37	92
Buses				0				0				4	4
Single-Unit Trucks				6				19				24	49
Articulated Trucks				4				11				24	39
Total Exiting Leg				10				30				52	92

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	3	0	0	3	0	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	4	0	0	4	0	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
Total	1	0	0	1	0	1	0	1	0	3	0	3	5
Grand Total	5	0	0	5	0	1	0	1	0	3	0	3	9
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	100.0	0.0		
Total %	55.6	0.0	0.0	55.6	0.0	11.1	0.0	11.1	0.0	33.3	0.0	33.3	
Exiting Leg Total				3				0				6	9

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
Total Volume	1	0	0	1	0	1	0	1	0	3	0	3	5
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	100.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.750	0.000	0.750	0.625
Entering Leg	1	0	0	1	0	1	0	1	0	3	0	3	5
Exiting Leg				3				0				2	5
Total				4				1				5	10

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	4	0	4	4	2	0	6	10
4:15 PM	2	0	0	2	1	3	0	4	3	1	0	4	10
4:30 PM	4	0	0	4	0	2	0	2	5	2	0	7	13
4:45 PM	4	0	0	4	0	5	0	5	7	0	0	7	16
Total	10	0	0	10	1	14	0	15	19	5	0	24	49
5:00 PM	2	0	0	2	0	4	0	4	4	0	0	4	10
5:15 PM	1	0	0	1	0	2	0	2	2	0	0	2	5
5:30 PM	0	0	0	0	0	5	0	5	2	0	0	2	7
5:45 PM	2	0	0	2	0	1	0	1	2	1	1	4	7
Total	5	0	0	5	0	12	0	12	10	1	1	12	29
Grand Total	15	0	0	15	1	26	0	27	29	6	1	36	78
Approach %	100.0	0.0	0.0		3.7	96.3	0.0		80.6	16.7	2.8		
Total %	19.2	0.0	0.0	19.2	1.3	33.3	0.0	34.6	37.2	7.7	1.3	46.2	
Exiting Leg Total				7				29				42	78

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	4	0	4	4	2	0	6	10
4:15 PM	2	0	0	2	1	3	0	4	3	1	0	4	10
4:30 PM	4	0	0	4	0	2	0	2	5	2	0	7	13
4:45 PM	4	0	0	4	0	5	0	5	7	0	0	7	16
Total Volume	10	0	0	10	1	14	0	15	19	5	0	24	49
% Approach Total	100.0	0.0	0.0		6.7	93.3	0.0		79.2	20.8	0.0		
PHF	0.625	0.000	0.000	0.625	0.250	0.700	0.000	0.750	0.679	0.625	0.000	0.857	0.766
Entering Leg	10	0	0	10	1	14	0	15	19	5	0	24	49
Exiting Leg				6				19				24	49
Total				16				34				48	98

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	5	0	5	3	2	0	5	10
4:15 PM	0	0	0	0	0	7	0	7	3	0	0	3	10
4:30 PM	2	0	0	2	1	5	0	6	4	0	0	4	12
4:45 PM	0	0	0	0	1	5	0	6	1	0	0	1	7
Total	2	0	0	2	2	22	0	24	11	2	0	13	39
5:00 PM	2	0	0	2	1	3	0	4	1	0	0	1	7
5:15 PM	1	0	0	1	0	2	0	2	1	0	0	1	4
5:30 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
5:45 PM	1	0	0	1	0	0	0	0	3	0	0	3	4
Total	4	0	0	4	1	9	0	10	5	0	0	5	19
Grand Total	6	0	0	6	3	31	0	34	16	2	0	18	58
Approach %	100.0	0.0	0.0		8.8	91.2	0.0		88.9	11.1	0.0		
Total %	10.3	0.0	0.0	10.3	5.2	53.4	0.0	58.6	27.6	3.4	0.0	31.0	
Exiting Leg Total				5				16				37	58

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Street (Route 12)				Washington Street (Route 20)				Southbridge Street (Route 20)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	5	0	5	3	2	0	5	10
4:15 PM	0	0	0	0	0	7	0	7	3	0	0	3	10
4:30 PM	2	0	0	2	1	5	0	6	4	0	0	4	12
4:45 PM	0	0	0	0	1	5	0	6	1	0	0	1	7
Total Volume	2	0	0	2	2	22	0	24	11	2	0	13	39
% Approach Total	100.0	0.0	0.0		8.3	91.7	0.0		84.6	15.4	0.0		
PHF	0.250	0.000	0.000	0.250	0.500	0.786	0.000	0.857	0.688	0.250	0.000	0.650	0.813
Entering Leg	2	0	0	2	2	22	0	24	11	2	0	13	39
Exiting Leg				4				11				24	39
Total				6				35				37	78

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Southbridge Street (Route 12) from North						Washington Street (Route 20) from East						Southbridge Street (Route 20) from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						1	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Southbridge Street (Route 12) from North						Washington Street (Route 20) from East						Southbridge Street (Route 20) from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Exiting Leg						0						0						1	1
Total						0						1						1	2

PDI File #: **239637 E**
Location: **N: Southbridge Street (Route 12)**
Location: **E: Washington Street (Route 20) W: Southbridge Street (Route 20)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Southbridge Street (Route 12) from North						Washington Street (Route 20) from East						Southbridge Street (Route 20) from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	100		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
Exiting Leg Total						0						0						1	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Southbridge Street (Route 12) from North						Washington Street (Route 20) from East						Southbridge Street (Route 20) from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Exiting Leg						0						0						1	1
Total						0						0						2	2

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	7
7:15 AM	0	0	2	0	2	2	2	0	0	4	1	0	0	0	1	0	0	0	0	0	7
7:30 AM	0	0	1	0	1	1	6	0	0	7	0	1	0	0	1	0	2	0	0	2	11
7:45 AM	0	0	1	0	1	1	6	1	0	8	1	0	0	0	1	0	0	0	0	0	10
Total	0	0	5	0	5	4	18	1	0	23	2	1	0	0	3	0	4	0	0	4	35
8:00 AM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	0	2	0	2	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	7
8:30 AM	0	0	2	0	2	3	4	0	0	7	0	0	0	0	0	0	3	0	0	3	12
8:45 AM	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	1	0	0	1	4
Total	0	0	5	0	5	6	10	0	0	16	0	0	0	0	0	0	6	0	0	6	27
Grand Total	0	0	10	0	10	10	28	1	0	39	2	1	0	0	3	0	10	0	0	10	62
Approach %	0.0	0.0	100.0	0.0		25.6	71.8	2.6	0.0		66.7	33.3	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	16.1	0.0	16.1	16.1	45.2	1.6	0.0	62.9	3.2	1.6	0.0	0.0	4.8	0.0	16.1	0.0	0.0	16.1	
Exiting Leg Total					11					22					1					28	62
Cars	0	0	9	0	9	9	24	1	0	34	2	1	0	0	3	0	6	0	0	6	52
% Cars	0.0	0.0	90.0	0.0	90.0	90.0	85.7	100.0	0.0	87.2	100.0	100.0	0.0	0.0	100.0	0.0	60.0	0.0	0.0	60.0	83.9
Exiting Leg Total					10					17					1					24	52
Heavy Vehicles	0	0	1	0	1	1	4	0	0	5	0	0	0	0	0	0	4	0	0	4	10
% Heavy Vehicles	0.0	0.0	10.0	0.0	10.0	10.0	14.3	0.0	0.0	12.8	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	40.0	16.1
Exiting Leg Total					1					5					0					4	10

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	7
7:15 AM	0	0	2	0	2	2	2	0	0	4	1	0	0	0	1	0	0	0	0	0	7
7:30 AM	0	0	1	0	1	1	6	0	0	7	0	1	0	0	1	0	2	0	0	2	11
7:45 AM	0	0	1	0	1	1	6	1	0	8	1	0	0	0	1	0	0	0	0	0	10
Total Volume	0	0	5	0	5	4	18	1	0	23	2	1	0	0	3	0	4	0	0	4	35
% Approach Total	0.0	0.0	100.0	0.0		17.4	78.3	4.3	0.0		66.7	33.3	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.625	0.000	0.625	0.500	0.750	0.250	0.000	0.719	0.500	0.250	0.000	0.000	0.750	0.000	0.500	0.000	0.000	0.500	0.795
Cars	0	0	4	0	4	3	16	1	0	20	2	1	0	0	3	0	2	0	0	2	29
Cars %	0.0	0.0	80.0	0.0	80.0	75.0	88.9	100.0	0.0	87.0	100.0	100.0	0.0	0.0	100.0	0.0	50.0	0.0	0.0	50.0	82.9
Heavy Vehicles	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	6
Heavy Vehicles %	0.0	0.0	20.0	0.0	20.0	25.0	11.1	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	17.1
Cars Enter Leg	0	0	4	0	4	3	16	1	0	20	2	1	0	0	3	0	2	0	0	2	29
Heavy Enter Leg	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	6
Total Entering Leg	0	0	5	0	5	4	18	1	0	23	2	1	0	0	3	0	4	0	0	4	35
Cars Exiting Leg					4					8					1					16	29
Heavy Exiting Leg					1					3					0					2	6
Total Exiting Leg					5					11					1					18	35

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	4
7:15 AM	0	0	2	0	2	1	2	0	0	3	1	0	0	0	1	0	0	0	0	0	6
7:30 AM	0	0	1	0	1	1	6	0	0	7	0	1	0	0	1	0	1	0	0	1	10
7:45 AM	0	0	0	0	0	1	6	1	0	8	1	0	0	0	1	0	0	0	0	0	9
Total	0	0	4	0	4	3	16	1	0	20	2	1	0	0	3	0	2	0	0	2	29
8:00 AM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	0	2	0	2	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	5
8:30 AM	0	0	2	0	2	3	3	0	0	6	0	0	0	0	0	0	2	0	0	2	10
8:45 AM	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	1	0	0	1	4
Total	0	0	5	0	5	6	8	0	0	14	0	0	0	0	0	0	4	0	0	4	23
Grand Total	0	0	9	0	9	9	24	1	0	34	2	1	0	0	3	0	6	0	0	6	52
Approach %	0.0	0.0	100.0	0.0		26.5	70.6	2.9	0.0		66.7	33.3	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	17.3	0.0	17.3	17.3	46.2	1.9	0.0	65.4	3.8	1.9	0.0	0.0	5.8	0.0	11.5	0.0	0.0	11.5	
Exiting Leg Total					10					17					1					24	52

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	4
7:15 AM	0	0	2	0	2	1	2	0	0	3	1	0	0	0	1	0	0	0	0	0	6
7:30 AM	0	0	1	0	1	1	6	0	0	7	0	1	0	0	1	0	1	0	0	1	10
7:45 AM	0	0	0	0	0	1	6	1	0	8	1	0	0	0	1	0	0	0	0	0	9
Total Volume	0	0	4	0	4	3	16	1	0	20	2	1	0	0	3	0	2	0	0	2	29
% Approach Total	0.0	0.0	100.0	0.0		15.0	80.0	5.0	0.0		66.7	33.3	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.500	0.000	0.500	0.750	0.667	0.250	0.000	0.625	0.500	0.250	0.000	0.000	0.750	0.000	0.500	0.000	0.000	0.500	0.725
Entering Leg	0	0	4	0	4	3	16	1	0	20	2	1	0	0	3	0	2	0	0	2	29
Exiting Leg					4					8					1					16	29
Total					8					28					4					18	58

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
7:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	6
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Grand Total	0	0	1	0	1	1	4	0	0	5	0	0	0	0	0	0	4	0	0	4	10
Approach %	0.0	0.0	100.0	0.0		20.0	80.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	10.0	0.0	10.0	10.0	40.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	40.0	
Exiting Leg Total					1					5					0					4	10
Buses	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Buses	0.0	0.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0
Exiting Leg Total					1					1					0					0	2
Single-Unit Trucks	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	75.0	60.0
Exiting Leg Total					0					3					0					3	6
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0	20.0
Exiting Leg Total					0					1					0					1	2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
7:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	6
% Approach Total	0.0	0.0	100.0	0.0		33.3	66.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.250	0.250	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.500
Buses	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Buses %	0.0	0.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3
Single-Unit Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	66.7
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Single-Unit Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	6
Buses					1					1					0					0	2
Single-Unit Trucks					0					2					0					2	4
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					1					3					0					2	6

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Approach %	0.0	0.0	100.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	50.0	0.0	50.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					1					1					0					0	2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	100.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Exiting Leg					1					1					0					0	2
Total					2					2					0					0	4

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Grand Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	
Exiting Leg Total					0					3					0					3	6

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.333
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Exiting Leg					0					2					0					2	4
Total					0					4					0					4	8

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Grand Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	
Exiting Leg Total					0					1					0					1	2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.500
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Exiting Leg					0					1					0					1	2
Total					0					2					0					2	4

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Bicycles (on Roadway and Crosswalks)

	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	3	2	0	5	8
4:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	0	0	3	4
4:30 PM	0	0	1	0	1	1	0	0	0	1	1	0	0	0	1	0	1	0	0	1	4
4:45 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	3	0	3	6	0	0	0	6	1	0	0	0	1	0	7	2	0	9	19
5:00 PM	0	0	0	0	0	2	1	0	0	3	1	0	0	0	1	0	1	0	0	1	5
5:15 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	7
Total	0	0	2	0	2	3	1	0	0	4	1	0	0	0	1	0	11	0	0	11	18
Grand Total	0	0	5	0	5	9	1	0	0	10	2	0	0	0	2	0	18	2	0	20	37
Approach %	0.0	0.0	100.0	0.0		90.0	10.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	90.0	10.0	0.0		
Total %	0.0	0.0	13.5	0.0	13.5	24.3	2.7	0.0	0.0	27.0	5.4	0.0	0.0	0.0	5.4	0.0	48.6	5.4	0.0	54.1	
Exiting Leg Total					11					25					0					1	37
Cars	0	0	5	0	5	9	1	0	0	10	2	0	0	0	2	0	18	2	0	20	37
% Cars	0.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0
Exiting Leg Total					11					25					0					1	37
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	3	2	0	5	8
4:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	0	0	3	4
4:30 PM	0	0	1	0	1	1	0	0	0	1	1	0	0	0	1	0	1	0	0	1	4
4:45 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	3	0	3	6	0	0	0	6	1	0	0	0	1	0	7	2	0	9	19
% Approach Total	0.0	0.0	100.0	0.0		100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	77.8	22.2	0.0		
PHF	0.000	0.000	0.375	0.000	0.375	0.500	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.250	0.000	0.583	0.250	0.000	0.450	0.594
Cars	0	0	3	0	3	6	0	0	0	6	1	0	0	0	1	0	7	2	0	9	19
Cars %	0.0	0.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	0	0	3	0	3	6	0	0	0	6	1	0	0	0	1	0	7	2	0	9	19
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	3	0	3	6	0	0	0	6	1	0	0	0	1	0	7	2	0	9	19
Cars Exiting Leg					8					11					0					0	19
Heavy Exiting Leg					0					0					0					0	0
Total Exiting Leg					8					11					0					0	19

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	3	2	0	5	8
4:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	0	0	3	4
4:30 PM	0	0	1	0	1	1	0	0	0	1	1	0	0	0	1	0	1	0	0	1	4
4:45 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	3	0	3	6	0	0	0	6	1	0	0	0	1	0	7	2	0	9	19
5:00 PM	0	0	0	0	0	2	1	0	0	3	1	0	0	0	1	0	1	0	0	1	5
5:15 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	7
Total	0	0	2	0	2	3	1	0	0	4	1	0	0	0	1	0	11	0	0	11	18
Grand Total	0	0	5	0	5	9	1	0	0	10	2	0	0	0	2	0	18	2	0	20	37
Approach %	0.0	0.0	100.0	0.0		90.0	10.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	90.0	10.0	0.0		
Total %	0.0	0.0	13.5	0.0	13.5	24.3	2.7	0.0	0.0	27.0	5.4	0.0	0.0	0.0	5.4	0.0	48.6	5.4	0.0	54.1	
Exiting Leg Total					11					25					0					1	37

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	3	2	0	5	8
4:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	0	0	3	4
4:30 PM	0	0	1	0	1	1	0	0	0	1	1	0	0	0	1	0	1	0	0	1	4
4:45 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	3	0	3	6	0	0	0	6	1	0	0	0	1	0	7	2	0	9	19
% Approach Total	0.0	0.0	100.0	0.0		100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	77.8	22.2	0.0		
PHF	0.000	0.000	0.375	0.000	0.375	0.500	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.250	0.000	0.583	0.250	0.000	0.450	0.594
Entering Leg	0	0	3	0	3	6	0	0	0	6	1	0	0	0	1	0	7	2	0	9	19
Exiting Leg					8					11					0					0	19
Total					11					17					1					9	38

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses					0					0					0					0	0
Single-Unit Trucks					0					0					0					0	0
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					0					0					0	0

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Blaker Street from North					Albert Street from East					Blaker Street from South					Albert Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Blaker Street					Albert Street					Blaker Street					Albert Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 F**
Location: **N: Blaker Street S: Blaker Street**
Location: **E: Albert Street W: Albert Street**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-202014.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Blaker Street from North							Albert Street from East							Blaker Street from South							Albert Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	2	0	95	0	97	57	56	0	0	113	0	0	0	0	0	0	105	7	0	112	322
7:15 AM	4	0	129	0	133	100	60	0	0	160	0	1	0	0	1	0	115	8	0	123	417
7:30 AM	13	1	182	0	196	90	69	2	0	161	1	2	0	0	3	0	112	14	0	126	486
7:45 AM	6	1	151	0	158	51	66	1	0	118	2	0	0	0	2	0	117	5	0	122	400
Total	25	2	557	0	584	298	251	3	0	552	3	3	0	0	6	0	449	34	0	483	1625
8:00 AM	5	1	99	0	105	32	60	2	0	94	4	0	0	0	4	0	99	5	0	104	307
8:15 AM	5	3	115	0	123	42	46	2	0	90	1	0	0	0	1	1	111	5	0	117	331
8:30 AM	3	0	108	0	111	47	60	8	0	115	9	0	1	0	10	0	104	3	0	107	343
8:45 AM	3	0	95	0	98	45	75	5	0	125	3	0	0	0	3	0	95	5	0	100	326
Total	16	4	417	0	437	166	241	17	0	424	17	0	1	0	18	1	409	18	0	428	1307
Grand Total	41	6	974	0	1021	464	492	20	0	976	20	3	1	0	24	1	858	52	0	911	2932
Approach %	4.0	0.6	95.4	0.0		47.5	50.4	2.0	0.0		83.3	12.5	4.2	0.0		0.1	94.2	5.7	0.0		
Total %	1.4	0.2	33.2	0.0	34.8	15.8	16.8	0.7	0.0	33.3	0.7	0.1	0.0	0.0	0.8	0.0	29.3	1.8	0.0	31.1	
Exiting Leg Total					519					1852					27					534	2932
Cars	36	5	934	0	975	412	439	19	0	870	18	3	1	0	22	1	795	44	0	840	2707
% Cars	87.8	83.3	95.9	0.0	95.5	88.8	89.2	95.0	0.0	89.1	90.0	100.0	100.0	0.0	91.7	100.0	92.7	84.6	0.0	92.2	92.3
Exiting Leg Total					459					1747					25					476	2707
Heavy Vehicles	5	1	40	0	46	52	53	1	0	106	2	0	0	0	2	0	63	8	0	71	225
% Heavy Vehicles	12.2	16.7	4.1	0.0	4.5	11.2	10.8	5.0	0.0	10.9	10.0	0.0	0.0	0.0	8.3	0.0	7.3	15.4	0.0	7.8	7.7
Exiting Leg Total					60					105					2					58	225

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	2	0	95	0	97	57	56	0	0	113	0	0	0	0	0	0	105	7	0	112	322
7:15 AM	4	0	129	0	133	100	60	0	0	160	0	1	0	0	1	0	115	8	0	123	417
7:30 AM	13	1	182	0	196	90	69	2	0	161	1	2	0	0	3	0	112	14	0	126	486
7:45 AM	6	1	151	0	158	51	66	1	0	118	2	0	0	0	2	0	117	5	0	122	400
Total Volume	25	2	557	0	584	298	251	3	0	552	3	3	0	0	6	0	449	34	0	483	1625
% Approach Total	4.3	0.3	95.4	0.0		54.0	45.5	0.5	0.0		50.0	50.0	0.0	0.0		0.0	93.0	7.0	0.0		
PHF	0.481	0.500	0.765	0.000	0.745	0.745	0.909	0.375	0.000	0.857	0.375	0.375	0.000	0.000	0.500	0.000	0.959	0.607	0.000	0.958	0.836
Cars	23	1	529	0	553	266	222	3	0	491	2	3	0	0	5	0	423	30	0	453	1502
Cars %	92.0	50.0	95.0	0.0	94.7	89.3	88.4	100.0	0.0	88.9	66.7	100.0	0.0	0.0	83.3	0.0	94.2	88.2	0.0	93.8	92.4
Heavy Vehicles	2	1	28	0	31	32	29	0	0	61	1	0	0	0	1	0	26	4	0	30	123
Heavy Vehicles %	8.0	50.0	5.0	0.0	5.3	10.7	11.6	0.0	0.0	11.1	33.3	0.0	0.0	0.0	16.7	0.0	5.8	11.8	0.0	6.2	7.6
Cars Enter Leg	23	1	529	0	553	266	222	3	0	491	2	3	0	0	5	0	423	30	0	453	1502
Heavy Enter Leg	2	1	28	0	31	32	29	0	0	61	1	0	0	0	1	0	26	4	0	30	123
Total Entering Leg	25	2	557	0	584	298	251	3	0	552	3	3	0	0	6	0	449	34	0	483	1625
Cars Exiting Leg					299					954					4					245	1502
Heavy Exiting Leg					36					55					1					31	123
Total Exiting Leg					335					1009					5					276	1625

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	2	0	93	0	95	55	47	0	0	102	0	0	0	0	0	0	101	7	0	108	305
7:15 AM	4	0	126	0	130	84	55	0	0	139	0	1	0	0	1	0	100	8	0	108	378
7:30 AM	11	0	166	0	177	81	61	2	0	144	1	2	0	0	3	0	108	12	0	120	444
7:45 AM	6	1	144	0	151	46	59	1	0	106	1	0	0	0	1	0	114	3	0	117	375
Total	23	1	529	0	553	266	222	3	0	491	2	3	0	0	5	0	423	30	0	453	1502
8:00 AM	3	1	96	0	100	25	53	2	0	80	4	0	0	0	4	0	90	4	0	94	278
8:15 AM	5	3	114	0	122	40	41	2	0	83	1	0	0	0	1	1	99	2	0	102	308
8:30 AM	2	0	104	0	106	44	55	7	0	106	8	0	1	0	9	0	98	3	0	101	322
8:45 AM	3	0	91	0	94	37	68	5	0	110	3	0	0	0	3	0	85	5	0	90	297
Total	13	4	405	0	422	146	217	16	0	379	16	0	1	0	17	1	372	14	0	387	1205
Grand Total	36	5	934	0	975	412	439	19	0	870	18	3	1	0	22	1	795	44	0	840	2707
Approach %	3.7	0.5	95.8	0.0		47.4	50.5	2.2	0.0		81.8	13.6	4.5	0.0		0.1	94.6	5.2	0.0		
Total %	1.3	0.2	34.5	0.0	36.0	15.2	16.2	0.7	0.0	32.1	0.7	0.1	0.0	0.0	0.8	0.0	29.4	1.6	0.0	31.0	
Exiting Leg Total					459					1747					25					476	2707

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	2	0	93	0	95	55	47	0	0	102	0	0	0	0	0	0	101	7	0	108	305
7:15 AM	4	0	126	0	130	84	55	0	0	139	0	1	0	0	1	0	100	8	0	108	378
7:30 AM	11	0	166	0	177	81	61	2	0	144	1	2	0	0	3	0	108	12	0	120	444
7:45 AM	6	1	144	0	151	46	59	1	0	106	1	0	0	0	1	0	114	3	0	117	375
Total Volume	23	1	529	0	553	266	222	3	0	491	2	3	0	0	5	0	423	30	0	453	1502
% Approach Total	4.2	0.2	95.7	0.0		54.2	45.2	0.6	0.0		40.0	60.0	0.0	0.0		0.0	93.4	6.6	0.0		
PHF	0.523	0.250	0.797	0.000	0.781	0.792	0.910	0.375	0.000	0.852	0.500	0.375	0.000	0.000	0.417	0.000	0.928	0.625	0.000	0.944	0.846
Entering Leg	23	1	529	0	553	266	222	3	0	491	2	3	0	0	5	0	423	30	0	453	1502
Exiting Leg					299					954					4					245	1502
Total					852					1445					9					698	3004

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	2	0	2	2	9	0	0	11	0	0	0	0	0	0	4	0	0	4	17
7:15 AM	0	0	3	0	3	16	5	0	0	21	0	0	0	0	0	0	15	0	0	15	39
7:30 AM	2	1	16	0	19	9	8	0	0	17	0	0	0	0	0	0	4	2	0	6	42
7:45 AM	0	0	7	0	7	5	7	0	0	12	1	0	0	0	1	0	3	2	0	5	25
Total	2	1	28	0	31	32	29	0	0	61	1	0	0	0	1	0	26	4	0	30	123
8:00 AM	2	0	3	0	5	7	7	0	0	14	0	0	0	0	0	0	9	1	0	10	29
8:15 AM	0	0	1	0	1	2	5	0	0	7	0	0	0	0	0	0	12	3	0	15	23
8:30 AM	1	0	4	0	5	3	5	1	0	9	1	0	0	0	1	0	6	0	0	6	21
8:45 AM	0	0	4	0	4	8	7	0	0	15	0	0	0	0	0	0	10	0	0	10	29
Total	3	0	12	0	15	20	24	1	0	45	1	0	0	0	1	0	37	4	0	41	102
Grand Total	5	1	40	0	46	52	53	1	0	106	2	0	0	0	2	0	63	8	0	71	225
Approach %	10.9	2.2	87.0	0.0		49.1	50.0	0.9	0.0		100.0	0.0	0.0	0.0		0.0	88.7	11.3	0.0		
Total %	2.2	0.4	17.8	0.0	20.4	23.1	23.6	0.4	0.0	47.1	0.9	0.0	0.0	0.0	0.9	0.0	28.0	3.6	0.0	31.6	
Exiting Leg Total					60					105					2					58	225
Buses	2	1	12	0	15	14	8	0	0	22	1	0	0	0	1	0	5	2	0	7	45
% Buses	40.0	100.0	30.0	0.0	32.6	26.9	15.1	0.0	0.0	20.8	50.0	0.0	0.0	0.0	50.0	0.0	7.9	25.0	0.0	9.9	20.0
Exiting Leg Total					16					18					1					10	45
Single-Unit Trucks	3	0	18	0	21	27	32	1	0	60	1	0	0	0	1	0	43	5	0	48	130
% Single-Unit	60.0	0.0	45.0	0.0	45.7	51.9	60.4	100.0	0.0	56.6	50.0	0.0	0.0	0.0	50.0	0.0	68.3	62.5	0.0	67.6	57.8
Exiting Leg Total					32					62					1					35	130
Articulated Trucks	0	0	10	0	10	11	13	0	0	24	0	0	0	0	0	0	15	1	0	16	50
% Articulated	0.0	0.0	25.0	0.0	21.7	21.2	24.5	0.0	0.0	22.6	0.0	0.0	0.0	0.0	0.0	0.0	23.8	12.5	0.0	22.5	22.2
Exiting Leg Total					12					25					0					13	50

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	3	0	3	16	5	0	0	21	0	0	0	0	0	0	15	0	0	15	39
7:30 AM	2	1	16	0	19	9	8	0	0	17	0	0	0	0	0	0	4	2	0	6	42
7:45 AM	0	0	7	0	7	5	7	0	0	12	1	0	0	0	1	0	3	2	0	5	25
8:00 AM	2	0	3	0	5	7	7	0	0	14	0	0	0	0	0	0	9	1	0	10	29
Total Volume	4	1	29	0	34	37	27	0	0	64	1	0	0	0	1	0	31	5	0	36	135
% Approach Total	11.8	2.9	85.3	0.0		57.8	42.2	0.0	0.0		100.0	0.0	0.0	0.0		0.0	86.1	13.9	0.0		
PHF	0.500	0.250	0.453	0.000	0.447	0.578	0.844	0.000	0.000	0.762	0.250	0.000	0.000	0.000	0.250	0.000	0.517	0.625	0.000	0.600	0.804
Buses	2	1	12	0	15	14	3	0	0	17	1	0	0	0	1	0	2	2	0	4	37
Buses %	50.0	100.0	41.4	0.0	44.1	37.8	11.1	0.0	0.0	26.6	100.0	0.0	0.0	0.0	100.0	0.0	6.5	40.0	0.0	11.1	27.4
Single-Unit Trucks	2	0	10	0	12	17	16	0	0	33	0	0	0	0	0	0	21	2	0	23	68
Single-Unit %	50.0	0.0	34.5	0.0	35.3	45.9	59.3	0.0	0.0	51.6	0.0	0.0	0.0	0.0	0.0	0.0	67.7	40.0	0.0	63.9	50.4
Articulated Trucks	0	0	7	0	7	6	8	0	0	14	0	0	0	0	0	0	8	1	0	9	30
Articulated %	0.0	0.0	24.1	0.0	20.6	16.2	29.6	0.0	0.0	21.9	0.0	0.0	0.0	0.0	0.0	0.0	25.8	20.0	0.0	25.0	22.2
Buses	2	1	12	0	15	14	3	0	0	17	1	0	0	0	1	0	2	2	0	4	37
Single-Unit Trucks	2	0	10	0	12	17	16	0	0	33	0	0	0	0	0	0	21	2	0	23	68
Articulated Trucks	0	0	7	0	7	6	8	0	0	14	0	0	0	0	0	0	8	1	0	9	30
Total Entering Leg	4	1	29	0	34	37	27	0	0	64	1	0	0	0	1	0	31	5	0	36	135
Buses					16					15					1					5	37
Single-Unit Trucks					19					31					0					18	68
Articulated Trucks					7					15					0					8	30
Total Exiting Leg					42					61					1					31	135

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
7:15 AM	0	0	0	0	0	8	1	0	0	9	0	0	0	0	0	0	1	0	0	1	10
7:30 AM	2	1	8	0	11	4	1	0	0	5	0	0	0	0	0	0	0	1	0	1	17
7:45 AM	0	0	3	0	3	2	0	0	0	2	1	0	0	0	1	0	0	1	0	1	7
Total	2	1	11	0	14	14	4	0	0	18	1	0	0	0	1	0	3	2	0	5	38
8:00 AM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	7
Grand Total	2	1	12	0	15	14	8	0	0	22	1	0	0	0	1	0	5	2	0	7	45
Approach %	13.3	6.7	80.0	0.0		63.6	36.4	0.0	0.0		100.0	0.0	0.0	0.0		0.0	71.4	28.6	0.0		
Total %	4.4	2.2	26.7	0.0	33.3	31.1	17.8	0.0	0.0	48.9	2.2	0.0	0.0	0.0	2.2	0.0	11.1	4.4	0.0	15.6	
Exiting Leg Total					16					18					1					10	45

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
7:15 AM	0	0	0	0	0	8	1	0	0	9	0	0	0	0	0	0	1	0	0	1	10
7:30 AM	2	1	8	0	11	4	1	0	0	5	0	0	0	0	0	0	0	1	0	1	17
7:45 AM	0	0	3	0	3	2	0	0	0	2	1	0	0	0	1	0	0	1	0	1	7
Total Volume	2	1	11	0	14	14	4	0	0	18	1	0	0	0	1	0	3	2	0	5	38
% Approach Total	14.3	7.1	78.6	0.0		77.8	22.2	0.0	0.0		100.0	0.0	0.0	0.0		0.0	60.0	40.0	0.0		
PHF	0.250	0.250	0.344	0.000	0.318	0.438	0.500	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.250	0.000	0.375	0.500	0.000	0.625	0.559
Entering Leg	2	1	11	0	14	14	4	0	0	18	1	0	0	0	1	0	3	2	0	5	38
Exiting Leg					16					15					1					6	38
Total					30					33					2					11	76

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	1	0	1	2	7	0	0	9	0	0	0	0	0	0	1	0	0	1	11
7:15 AM	0	0	2	0	2	5	1	0	0	6	0	0	0	0	0	0	10	0	0	10	18
7:30 AM	0	0	5	0	5	4	7	0	0	11	0	0	0	0	0	0	3	0	0	3	19
7:45 AM	0	0	2	0	2	3	3	0	0	6	0	0	0	0	0	0	3	1	0	4	12
Total	0	0	10	0	10	14	18	0	0	32	0	0	0	0	0	0	17	1	0	18	60
8:00 AM	2	0	1	0	3	5	5	0	0	10	0	0	0	0	0	0	5	1	0	6	19
8:15 AM	0	0	1	0	1	2	2	0	0	4	0	0	0	0	0	0	6	3	0	9	14
8:30 AM	1	0	3	0	4	3	2	1	0	6	1	0	0	0	1	0	6	0	0	6	17
8:45 AM	0	0	3	0	3	3	5	0	0	8	0	0	0	0	0	0	9	0	0	9	20
Total	3	0	8	0	11	13	14	1	0	28	1	0	0	0	1	0	26	4	0	30	70
Grand Total	3	0	18	0	21	27	32	1	0	60	1	0	0	0	1	0	43	5	0	48	130
Approach %	14.3	0.0	85.7	0.0		45.0	53.3	1.7	0.0		100.0	0.0	0.0	0.0		0.0	89.6	10.4	0.0		
Total %	2.3	0.0	13.8	0.0	16.2	20.8	24.6	0.8	0.0	46.2	0.8	0.0	0.0	0.0	0.8	0.0	33.1	3.8	0.0	36.9	
Exiting Leg Total					32					62					1					35	130

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	2	0	1	0	3	5	5	0	0	10	0	0	0	0	0	0	5	1	0	6	19
8:15 AM	0	0	1	0	1	2	2	0	0	4	0	0	0	0	0	0	6	3	0	9	14
8:30 AM	1	0	3	0	4	3	2	1	0	6	1	0	0	0	1	0	6	0	0	6	17
8:45 AM	0	0	3	0	3	3	5	0	0	8	0	0	0	0	0	0	9	0	0	9	20
Total Volume	3	0	8	0	11	13	14	1	0	28	1	0	0	0	1	0	26	4	0	30	70
% Approach Total	27.3	0.0	72.7	0.0		46.4	50.0	3.6	0.0		100.0	0.0	0.0	0.0		0.0	86.7	13.3	0.0		
PHF	0.375	0.000	0.667	0.000	0.688	0.650	0.700	0.250	0.000	0.700	0.250	0.000	0.000	0.000	0.250	0.000	0.722	0.333	0.000	0.833	0.875
Entering Leg	3	0	8	0	11	13	14	1	0	28	1	0	0	0	1	0	26	4	0	30	70
Exiting Leg					17					35					1					17	70
Total					28					63					2					47	140

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Articulated Trucks**

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
7:15 AM	0	0	1	0	1	3	3	0	0	6	0	0	0	0	0	0	4	0	0	4	11
7:30 AM	0	0	3	0	3	1	0	0	0	1	0	0	0	0	0	0	1	1	0	2	6
7:45 AM	0	0	2	0	2	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	6
Total	0	0	7	0	7	4	7	0	0	11	0	0	0	0	0	0	6	1	0	7	25
8:00 AM	0	0	1	0	1	2	1	0	0	3	0	0	0	0	0	0	3	0	0	3	7
8:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	7
8:30 AM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	1	0	1	5	1	0	0	6	0	0	0	0	0	0	1	0	0	1	8
Total	0	0	3	0	3	7	6	0	0	13	0	0	0	0	0	0	9	0	0	9	25
Grand Total	0	0	10	0	10	11	13	0	0	24	0	0	0	0	0	0	15	1	0	16	50
Approach %	0.0	0.0	100.0	0.0		45.8	54.2	0.0	0.0		0.0	0.0	0.0	0.0		0.0	93.8	6.3	0.0		
Total %	0.0	0.0	20.0	0.0	20.0	22.0	26.0	0.0	0.0	48.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	2.0	0.0	32.0	
Exiting Leg Total					12					25					0					13	50

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	1	0	1	3	3	0	0	6	0	0	0	0	0	0	4	0	0	4	11
7:30 AM	0	0	3	0	3	1	0	0	0	1	0	0	0	0	0	0	1	1	0	2	6
7:45 AM	0	0	2	0	2	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	6
8:00 AM	0	0	1	0	1	2	1	0	0	3	0	0	0	0	0	0	3	0	0	3	7
Total Volume	0	0	7	0	7	6	8	0	0	14	0	0	0	0	0	0	8	1	0	9	30
% Approach Total	0.0	0.0	100.0	0.0		42.9	57.1	0.0	0.0		0.0	0.0	0.0	0.0		0.0	88.9	11.1	0.0		
PHF	0.000	0.000	0.583	0.000	0.583	0.500	0.500	0.000	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.563	0.682
Entering Leg	0	0	7	0	7	6	8	0	0	14	0	0	0	0	0	0	8	1	0	9	30
Exiting Leg					7					15					0					8	30
Total					14					29					0					17	60

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	West Street							Southbridge Street (Route 12)							Plaza Driveway							Southbridge Street (Route 12)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	West Street							Southbridge Street (Route 12)							Plaza Driveway							Southbridge Street (Route 12)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	West Street							Southbridge Street (Route 12)							Plaza Driveway							Southbridge Street (Route 12)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0	0	0	0	100	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							1							0							0							0	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	West Street							Southbridge Street (Route 12)							Plaza Driveway							Southbridge Street (Route 12)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg							1							0							0							0	1
Total							2							0							0							0	2

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	13	1	79	0	93	109	172	3	0	284	4	0	2	0	6	1	87	16	0	104	487
4:15 PM	7	0	75	0	82	108	183	4	0	295	6	1	1	0	8	2	110	9	0	121	506
4:30 PM	6	0	59	0	65	118	219	5	0	342	3	0	1	0	4	0	123	18	0	141	552
4:45 PM	5	0	82	0	87	119	206	5	0	330	4	3	0	0	7	0	97	6	0	103	527
Total	31	1	295	0	327	454	780	17	0	1251	17	4	4	0	25	3	417	49	0	469	2072
5:00 PM	5	1	92	0	98	157	198	3	0	358	4	0	1	0	5	0	94	12	0	106	567
5:15 PM	8	0	84	0	92	136	216	6	0	358	5	2	1	0	8	0	101	8	0	109	567
5:30 PM	8	0	67	0	75	98	176	2	0	276	4	0	0	0	4	0	102	11	0	113	468
5:45 PM	11	0	89	0	100	110	131	4	0	245	1	0	0	0	1	0	122	13	0	135	481
Total	32	1	332	0	365	501	721	15	0	1237	14	2	2	0	18	0	419	44	0	463	2083
Grand Total	63	2	627	0	692	955	1501	32	0	2488	31	6	6	0	43	3	836	93	0	932	4155
Approach %	9.1	0.3	90.6	0.0		38.4	60.3	1.3	0.0		72.1	14.0	14.0	0.0		0.3	89.7	10.0	0.0		
Total %	1.5	0.0	15.1	0.0	16.7	23.0	36.1	0.8	0.0	59.9	0.7	0.1	0.1	0.0	1.0	0.1	20.1	2.2	0.0	22.4	
Exiting Leg Total					1054					1494					37					1570	4155
Cars	62	2	604	0	668	938	1477	32	0	2447	31	6	6	0	43	3	818	88	0	909	4067
% Cars	98.4	100.0	96.3	0.0	96.5	98.2	98.4	100.0	0.0	98.4	100.0	100.0	100.0	0.0	100.0	100.0	97.8	94.6	0.0	97.5	97.9
Exiting Leg Total					1032					1453					37					1545	4067
Heavy Vehicles	1	0	23	0	24	17	24	0	0	41	0	0	0	0	0	0	18	5	0	23	88
% Heavy Vehicles	1.6	0.0	3.7	0.0	3.5	1.8	1.6	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	2.2	5.4	0.0	2.5	2.1
Exiting Leg Total					22					41					0					25	88

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	6	0	59	0	65	118	219	5	0	342	3	0	1	0	4	0	123	18	0	141	552
4:45 PM	5	0	82	0	87	119	206	5	0	330	4	3	0	0	7	0	97	6	0	103	527
5:00 PM	5	1	92	0	98	157	198	3	0	358	4	0	1	0	5	0	94	12	0	106	567
5:15 PM	8	0	84	0	92	136	216	6	0	358	5	2	1	0	8	0	101	8	0	109	567
Total Volume	24	1	317	0	342	530	839	19	0	1388	16	5	3	0	24	0	415	44	0	459	2213
% Approach Total	7.0	0.3	92.7	0.0		38.2	60.4	1.4	0.0		66.7	20.8	12.5	0.0		0.0	90.4	9.6	0.0		
PHF	0.750	0.250	0.861	0.000	0.872	0.844	0.958	0.792	0.000	0.969	0.800	0.417	0.750	0.000	0.750	0.000	0.843	0.611	0.000	0.814	0.976
Cars	24	1	306	0	331	518	825	19	0	1362	16	5	3	0	24	0	408	40	0	448	2165
Cars %	100.0	100.0	96.5	0.0	96.8	97.7	98.3	100.0	0.0	98.1	100.0	100.0	100.0	0.0	100.0	0.0	98.3	90.9	0.0	97.6	97.8
Heavy Vehicles	0	0	11	0	11	12	14	0	0	26	0	0	0	0	0	0	7	4	0	11	48
Heavy Vehicles %	0.0	0.0	3.5	0.0	3.2	2.3	1.7	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	1.7	9.1	0.0	2.4	2.2
Cars Enter Leg	24	1	306	0	331	518	825	19	0	1362	16	5	3	0	24	0	408	40	0	448	2165
Heavy Enter Leg	0	0	11	0	11	12	14	0	0	26	0	0	0	0	0	0	7	4	0	11	48
Total Entering Leg	24	1	317	0	342	530	839	19	0	1388	16	5	3	0	24	0	415	44	0	459	2213
Cars Exiting Leg					563					730					20					852	2165
Heavy Exiting Leg					16					18					0					14	48
Total Exiting Leg					579					748					20					866	2213

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Cars**

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	12	1	72	0	85	109	168	3	0	280	4	0	2	0	6	1	83	16	0	100	471
4:15 PM	7	0	72	0	79	104	181	4	0	289	6	1	1	0	8	2	106	8	0	116	492
4:30 PM	6	0	56	0	62	117	212	5	0	334	3	0	1	0	4	0	120	15	0	135	535
4:45 PM	5	0	80	0	85	117	204	5	0	326	4	3	0	0	7	0	96	6	0	102	520
Total	30	1	280	0	311	447	765	17	0	1229	17	4	4	0	25	3	405	45	0	453	2018
5:00 PM	5	1	90	0	96	150	194	3	0	347	4	0	1	0	5	0	92	12	0	104	552
5:15 PM	8	0	80	0	88	134	215	6	0	355	5	2	1	0	8	0	100	7	0	107	558
5:30 PM	8	0	66	0	74	98	175	2	0	275	4	0	0	0	4	0	102	11	0	113	466
5:45 PM	11	0	88	0	99	109	128	4	0	241	1	0	0	0	1	0	119	13	0	132	473
Total	32	1	324	0	357	491	712	15	0	1218	14	2	2	0	18	0	413	43	0	456	2049
Grand Total	62	2	604	0	668	938	1477	32	0	2447	31	6	6	0	43	3	818	88	0	909	4067
Approach %	9.3	0.3	90.4	0.0		38.3	60.4	1.3	0.0		72.1	14.0	14.0	0.0		0.3	90.0	9.7	0.0		
Total %	1.5	0.0	14.9	0.0	16.4	23.1	36.3	0.8	0.0	60.2	0.8	0.1	0.1	0.0	1.1	0.1	20.1	2.2	0.0	22.4	
Exiting Leg Total					1032					1453					37					1545	4067

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	6	0	56	0	62	117	212	5	0	334	3	0	1	0	4	0	120	15	0	135	535
4:45 PM	5	0	80	0	85	117	204	5	0	326	4	3	0	0	7	0	96	6	0	102	520
5:00 PM	5	1	90	0	96	150	194	3	0	347	4	0	1	0	5	0	92	12	0	104	552
5:15 PM	8	0	80	0	88	134	215	6	0	355	5	2	1	0	8	0	100	7	0	107	558
Total Volume	24	1	306	0	331	518	825	19	0	1362	16	5	3	0	24	0	408	40	0	448	2165
% Approach Total	7.3	0.3	92.4	0.0		38.0	60.6	1.4	0.0		66.7	20.8	12.5	0.0		0.0	91.1	8.9	0.0		
PHF	0.750	0.250	0.850	0.000	0.862	0.863	0.959	0.792	0.000	0.959	0.800	0.417	0.750	0.000	0.750	0.000	0.850	0.667	0.000	0.830	0.970
Entering Leg	24	1	306	0	331	518	825	19	0	1362	16	5	3	0	24	0	408	40	0	448	2165
Exiting Leg					563					730					20					852	2165
Total					894					2092					44					1300	4330

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	7	0	8	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	16
4:15 PM	0	0	3	0	3	4	2	0	0	6	0	0	0	0	0	0	4	1	0	5	14
4:30 PM	0	0	3	0	3	1	7	0	0	8	0	0	0	0	0	0	3	3	0	6	17
4:45 PM	0	0	2	0	2	2	2	0	0	4	0	0	0	0	0	0	1	0	0	1	7
Total	1	0	15	0	16	7	15	0	0	22	0	0	0	0	0	0	12	4	0	16	54
5:00 PM	0	0	2	0	2	7	4	0	0	11	0	0	0	0	0	0	2	0	0	2	15
5:15 PM	0	0	4	0	4	2	1	0	0	3	0	0	0	0	0	0	1	1	0	2	9
5:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	1	0	1	1	3	0	0	4	0	0	0	0	0	0	3	0	0	3	8
Total	0	0	8	0	8	10	9	0	0	19	0	0	0	0	0	0	6	1	0	7	34
Grand Total	1	0	23	0	24	17	24	0	0	41	0	0	0	0	0	0	18	5	0	23	88
Approach %	4.2	0.0	95.8	0.0		41.5	58.5	0.0	0.0		0.0	0.0	0.0	0.0		0.0	78.3	21.7	0.0		
Total %	1.1	0.0	26.1	0.0	27.3	19.3	27.3	0.0	0.0	46.6	0.0	0.0	0.0	0.0	0.0	0.0	20.5	5.7	0.0	26.1	
Exiting Leg Total					22					41					0					25	88
Buses	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	9
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	20.8	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0	0.0	22.2	0.0	0.0	17.4	10.2
Exiting Leg Total					0					4					0					5	9
Single-Unit Trucks	1	0	20	0	21	16	11	0	0	27	0	0	0	0	0	0	9	5	0	14	62
% Single-Unit	100.0	0.0	87.0	0.0	87.5	94.1	45.8	0.0	0.0	65.9	0.0	0.0	0.0	0.0	0.0	0.0	50.0	100.0	0.0	60.9	70.5
Exiting Leg Total					21					29					0					12	62
Articulated Trucks	0	0	3	0	3	1	8	0	0	9	0	0	0	0	0	0	5	0	0	5	17
% Articulated	0.0	0.0	13.0	0.0	12.5	5.9	33.3	0.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0	0.0	27.8	0.0	0.0	21.7	19.3
Exiting Leg Total					1					8					0					8	17

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	7	0	8	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	16
4:15 PM	0	0	3	0	3	4	2	0	0	6	0	0	0	0	0	0	4	1	0	5	14
4:30 PM	0	0	3	0	3	1	7	0	0	8	0	0	0	0	0	0	3	3	0	6	17
4:45 PM	0	0	2	0	2	2	2	0	0	4	0	0	0	0	0	0	1	0	0	1	7
Total Volume	1	0	15	0	16	7	15	0	0	22	0	0	0	0	0	0	12	4	0	16	54
% Approach Total	6.3	0.0	93.8	0.0		31.8	68.2	0.0	0.0		0.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0		
PHF	0.250	0.000	0.536	0.000	0.500	0.438	0.536	0.000	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.333	0.000	0.667	0.794
Buses	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	26.7	0.0	0.0	18.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4
Single-Unit Trucks	1	0	13	0	14	6	7	0	0	13	0	0	0	0	0	0	8	4	0	12	39
Single-Unit %	100.0	0.0	86.7	0.0	87.5	85.7	46.7	0.0	0.0	59.1	0.0	0.0	0.0	0.0	0.0	0.0	66.7	100.0	0.0	75.0	72.2
Articulated Trucks	0	0	2	0	2	1	4	0	0	5	0	0	0	0	0	0	4	0	0	4	11
Articulated %	0.0	0.0	13.3	0.0	12.5	14.3	26.7	0.0	0.0	22.7	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	25.0	20.4
Buses	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Single-Unit Trucks	1	0	13	0	14	6	7	0	0	13	0	0	0	0	0	0	8	4	0	12	39
Articulated Trucks	0	0	2	0	2	1	4	0	0	5	0	0	0	0	0	0	4	0	0	4	11
Total Entering Leg	1	0	15	0	16	7	15	0	0	22	0	0	0	0	0	0	12	4	0	16	54
Buses					0					0					0					4	4
Single-Unit Trucks					10					21					0					8	39
Articulated Trucks					1					6					0					4	11
Total Exiting Leg					11					27					0					16	54

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Buses**

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
Grand Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	9
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	55.6	0.0	0.0	55.6	0.0	0.0	0.0	0.0	0.0	0.0	44.4	0.0	0.0	44.4	
Exiting Leg Total					0					4					0					5	9

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.417
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
Exiting Leg					0					4					0					1	5
Total					0					5					0					5	10

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	6	0	7	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	10
4:15 PM	0	0	2	0	2	3	1	0	0	4	0	0	0	0	0	0	4	1	0	5	11
4:30 PM	0	0	3	0	3	1	5	0	0	6	0	0	0	0	0	0	2	3	0	5	14
4:45 PM	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
Total	1	0	13	0	14	6	7	0	0	13	0	0	0	0	0	0	8	4	0	12	39
5:00 PM	0	0	2	0	2	7	2	0	0	9	0	0	0	0	0	0	0	0	0	0	11
5:15 PM	0	0	3	0	3	2	0	0	0	2	0	0	0	0	0	0	0	1	0	1	6
5:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	4
Total	0	0	7	0	7	10	4	0	0	14	0	0	0	0	0	0	1	1	0	2	23
Grand Total	1	0	20	0	21	16	11	0	0	27	0	0	0	0	0	0	9	5	0	14	62
Approach %	4.8	0.0	95.2	0.0		59.3	40.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	64.3	35.7	0.0		
Total %	1.6	0.0	32.3	0.0	33.9	25.8	17.7	0.0	0.0	43.5	0.0	0.0	0.0	0.0	0.0	0.0	14.5	8.1	0.0	22.6	
Exiting Leg Total					21					29					0					12	62

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	0	0	2	0	2	3	1	0	0	4	0	0	0	0	0	0	4	1	0	5	11
4:30 PM	0	0	3	0	3	1	5	0	0	6	0	0	0	0	0	0	2	3	0	5	14
4:45 PM	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
5:00 PM	0	0	2	0	2	7	2	0	0	9	0	0	0	0	0	0	0	0	0	0	11
Total Volume	0	0	9	0	9	13	8	0	0	21	0	0	0	0	0	0	6	4	0	10	40
% Approach Total	0.0	0.0	100.0	0.0		61.9	38.1	0.0	0.0		0.0	0.0	0.0	0.0		0.0	60.0	40.0	0.0		
PHF	0.000	0.000	0.750	0.000	0.750	0.464	0.400	0.000	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.333	0.000	0.500	0.714
Entering Leg	0	0	9	0	9	13	8	0	0	21	0	0	0	0	0	0	6	4	0	10	40
Exiting Leg					17					15					0					8	40
Total					26					36					0					18	80

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Articulated Trucks

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
4:15 PM	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	2	0	2	1	4	0	0	5	0	0	0	0	0	0	4	0	0	4	11
5:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
5:15 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	6
Grand Total	0	0	3	0	3	1	8	0	0	9	0	0	0	0	0	0	5	0	0	5	17
Approach %	0.0	0.0	100.0	0.0		11.1	88.9	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	17.6	0.0	17.6	5.9	47.1	0.0	0.0	52.9	0.0	0.0	0.0	0.0	0.0	0.0	29.4	0.0	0.0	29.4	
Exiting Leg Total					1					8					0					8	17

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
4:15 PM	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total Volume	0	0	2	0	2	1	4	0	0	5	0	0	0	0	0	0	4	0	0	4	11
% Approach Total	0.0	0.0	100.0	0.0		20.0	80.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.500	0.000	0.500	0.250	0.500	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.917
Entering Leg	0	0	2	0	2	1	4	0	0	5	0	0	0	0	0	0	4	0	0	4	11
Exiting Leg					1					6					0					4	11
Total					3					11					0					8	22

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	West Street							Southbridge Street (Route 12)							Plaza Driveway							Southbridge Street (Route 12)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	West Street							Southbridge Street (Route 12)							Plaza Driveway							Southbridge Street (Route 12)							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Thursday, October 26, 2023**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	West Street from North							Southbridge Street (Route 12) from East							Plaza Driveway from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4	0	4	8
4:15 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4	0	4	10
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4	0	4	10
Approach %	0	0	0	0	50	50		0	0	0	0	0	0		0	0	0	0	100	0		0	0	0	0	100	0		
Total %	0	0	0	0	10	10	20	0	0	0	0	0	0	0	0	0	0	0	40	0	40	0	0	0	0	40	0	40	
Exiting Leg Total							2							0							4							4	10

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	West Street from North							Southbridge Street (Route 12) from East							Plaza Driveway from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4	0	4	8
4:15 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4	0	4	10
% Approach Total	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.313
Entering Leg	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4	0	4	10
Exiting Leg							2							0							4							4	10
Total							4							0							8							8	20

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, October 28, 2023**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	8	0	92	0	100	73	94	3	0	170	6	2	2	0	10	1	107	7	0	115	395
11:15 AM	7	0	96	0	103	63	110	4	0	177	4	1	1	0	6	0	103	7	0	110	396
11:30 AM	10	0	104	0	114	70	144	5	0	219	1	0	3	0	4	0	110	10	0	120	457
11:45 AM	9	1	66	0	76	85	117	4	0	206	14	0	1	0	15	4	109	11	0	124	421
Total	34	1	358	0	393	291	465	16	0	772	25	3	7	0	35	5	429	35	0	469	1669
12:00 PM	9	2	77	0	88	83	146	11	0	240	12	0	1	0	13	2	114	9	0	125	466
12:15 PM	7	0	78	0	85	80	124	3	0	207	6	0	1	0	7	1	132	8	0	141	440
12:30 PM	5	0	92	0	97	86	136	4	0	226	9	0	4	0	13	0	123	6	0	129	465
12:45 PM	5	1	49	0	55	65	124	5	0	194	6	0	1	0	7	2	94	7	0	103	359
Total	26	3	296	0	325	314	530	23	0	867	33	0	7	0	40	5	463	30	0	498	1730
1:00 PM	11	1	100	0	112	84	138	3	0	225	11	1	2	0	14	1	118	5	0	124	475
1:15 PM	8	0	76	0	84	86	149	6	0	241	11	0	1	0	12	2	112	9	0	123	460
1:30 PM	10	0	77	0	87	68	155	4	0	227	6	2	2	0	10	2	127	9	0	138	462
1:45 PM	7	1	66	0	74	81	161	8	0	250	6	1	4	0	11	2	115	13	0	130	465
Total	36	2	319	0	357	319	603	21	0	943	34	4	9	0	47	7	472	36	0	515	1862
Grand Total	96	6	973	0	1075	924	1598	60	0	2582	92	7	23	0	122	17	1364	101	0	1482	5261
Approach %	8.9	0.6	90.5	0.0		35.8	61.9	2.3	0.0		75.4	5.7	18.9	0.0		1.1	92.0	6.8	0.0		
Total %	1.8	0.1	18.5	0.0	20.4	17.6	30.4	1.1	0.0	49.1	1.7	0.1	0.4	0.0	2.3	0.3	25.9	1.9	0.0	28.2	
Exiting Leg Total					1032					2429					83					1717	5261
Cars	94	6	965	0	1065	917	1578	60	0	2555	91	6	23	0	120	17	1355	99	0	1471	5211
% Cars	97.9	100.0	99.2	0.0	99.1	99.2	98.7	100.0	0.0	99.0	98.9	85.7	100.0	0.0	98.4	100.0	99.3	98.0	0.0	99.3	99.0
Exiting Leg Total					1022					2411					83					1695	5211
Heavy Vehicles	2	0	8	0	10	7	20	0	0	27	1	1	0	0	2	0	9	2	0	11	50
% Heavy Vehicles	2.1	0.0	0.8	0.0	0.9	0.8	1.3	0.0	0.0	1.0	1.1	14.3	0.0	0.0	1.6	0.0	0.7	2.0	0.0	0.7	1.0
Exiting Leg Total					10					18					0					22	50

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	11	1	100	0	112	84	138	3	0	225	11	1	2	0	14	1	118	5	0	124	475
1:15 PM	8	0	76	0	84	86	149	6	0	241	11	0	1	0	12	2	112	9	0	123	460
1:30 PM	10	0	77	0	87	68	155	4	0	227	6	2	2	0	10	2	127	9	0	138	462
1:45 PM	7	1	66	0	74	81	161	8	0	250	6	1	4	0	11	2	115	13	0	130	465
Total Volume	36	2	319	0	357	319	603	21	0	943	34	4	9	0	47	7	472	36	0	515	1862
% Approach Total	10.1	0.6	89.4	0.0		33.8	63.9	2.2	0.0		72.3	8.5	19.1	0.0		1.4	91.7	7.0	0.0		
PHF	0.818	0.500	0.798	0.000	0.797	0.927	0.936	0.656	0.000	0.943	0.773	0.500	0.563	0.000	0.839	0.875	0.929	0.692	0.000	0.933	0.980
Cars	36	2	316	0	354	314	599	21	0	934	33	4	9	0	46	7	470	36	0	513	1847
Cars %	100.0	100.0	99.1	0.0	99.2	98.4	99.3	100.0	0.0	99.0	97.1	100.0	100.0	0.0	97.9	100.0	99.6	100.0	0.0	99.6	99.2
Heavy Vehicles	0	0	3	0	3	5	4	0	0	9	1	0	0	0	1	0	2	0	0	2	15
Heavy Vehicles %	0.0	0.0	0.9	0.0	0.8	1.6	0.7	0.0	0.0	1.0	2.9	0.0	0.0	0.0	2.1	0.0	0.4	0.0	0.0	0.4	0.8
Cars Enter Leg	36	2	316	0	354	314	599	21	0	934	33	4	9	0	46	7	470	36	0	513	1847
Heavy Enter Leg	0	0	3	0	3	5	4	0	0	9	1	0	0	0	1	0	2	0	0	2	15
Total Entering Leg	36	2	319	0	357	319	603	21	0	943	34	4	9	0	47	7	472	36	0	515	1862
Cars Exiting Leg					354					819					30					644	1847
Heavy Exiting Leg					5					6					0					4	15
Total Exiting Leg					359					825					30					648	1862

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, October 28, 2023**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	8	0	90	0	98	73	93	3	0	169	6	1	2	0	9	1	107	7	0	115	391
11:15 AM	7	0	95	0	102	63	110	4	0	177	4	1	1	0	6	0	103	5	0	108	393
11:30 AM	9	0	103	0	112	69	141	5	0	215	1	0	3	0	4	0	109	10	0	119	450
11:45 AM	8	1	66	0	75	85	117	4	0	206	14	0	1	0	15	4	104	11	0	119	415
Total	32	1	354	0	387	290	461	16	0	767	25	2	7	0	34	5	423	33	0	461	1649
12:00 PM	9	2	77	0	88	82	143	11	0	236	12	0	1	0	13	2	114	9	0	125	462
12:15 PM	7	0	77	0	84	80	122	3	0	205	6	0	1	0	7	1	132	8	0	141	437
12:30 PM	5	0	92	0	97	86	133	4	0	223	9	0	4	0	13	0	122	6	0	128	461
12:45 PM	5	1	49	0	55	65	120	5	0	190	6	0	1	0	7	2	94	7	0	103	355
Total	26	3	295	0	324	313	518	23	0	854	33	0	7	0	40	5	462	30	0	497	1715
1:00 PM	11	1	100	0	112	83	137	3	0	223	10	1	2	0	13	1	118	5	0	124	472
1:15 PM	8	0	76	0	84	85	148	6	0	239	11	0	1	0	12	2	112	9	0	123	458
1:30 PM	10	0	76	0	86	67	153	4	0	224	6	2	2	0	10	2	126	9	0	137	457
1:45 PM	7	1	64	0	72	79	161	8	0	248	6	1	4	0	11	2	114	13	0	129	460
Total	36	2	316	0	354	314	599	21	0	934	33	4	9	0	46	7	470	36	0	513	1847
Grand Total	94	6	965	0	1065	917	1578	60	0	2555	91	6	23	0	120	17	1355	99	0	1471	5211
Approach %	8.8	0.6	90.6	0.0		35.9	61.8	2.3	0.0		75.8	5.0	19.2	0.0		1.2	92.1	6.7	0.0		
Total %	1.8	0.1	18.5	0.0	20.4	17.6	30.3	1.2	0.0	49.0	1.7	0.1	0.4	0.0	2.3	0.3	26.0	1.9	0.0	28.2	
Exiting Leg Total					1022					2411					83					1695	5211

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	11	1	100	0	112	83	137	3	0	223	10	1	2	0	13	1	118	5	0	124	472
1:15 PM	8	0	76	0	84	85	148	6	0	239	11	0	1	0	12	2	112	9	0	123	458
1:30 PM	10	0	76	0	86	67	153	4	0	224	6	2	2	0	10	2	126	9	0	137	457
1:45 PM	7	1	64	0	72	79	161	8	0	248	6	1	4	0	11	2	114	13	0	129	460
Total Volume	36	2	316	0	354	314	599	21	0	934	33	4	9	0	46	7	470	36	0	513	1847
% Approach Total	10.2	0.6	89.3	0.0		33.6	64.1	2.2	0.0		71.7	8.7	19.6	0.0		1.4	91.6	7.0	0.0		
PHF	0.818	0.500	0.790	0.000	0.790	0.924	0.930	0.656	0.000	0.942	0.750	0.500	0.563	0.000	0.885	0.875	0.933	0.692	0.000	0.936	0.978
Entering Leg	36	2	316	0	354	314	599	21	0	934	33	4	9	0	46	7	470	36	0	513	1847
Exiting Leg					354					819					30					644	1847
Total					708					1753					76					1157	3694

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, October 28, 2023**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	2	0	2	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	4
11:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	3
11:30 AM	1	0	1	0	2	1	3	0	0	4	0	0	0	0	0	0	1	0	0	1	7
11:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	6
Total	2	0	4	0	6	1	4	0	0	5	0	1	0	0	1	0	6	2	0	8	20
12:00 PM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	4
12:15 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
12:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
12:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Total	0	0	1	0	1	1	12	0	0	13	0	0	0	0	0	0	1	0	0	1	15
1:00 PM	0	0	0	0	0	1	1	0	0	2	1	0	0	0	1	0	0	0	0	0	3
1:15 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2
1:30 PM	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	5
1:45 PM	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	5
Total	0	0	3	0	3	5	4	0	0	9	1	0	0	0	1	0	2	0	0	2	15
Grand Total	2	0	8	0	10	7	20	0	0	27	1	1	0	0	2	0	9	2	0	11	50
Approach %	20.0	0.0	80.0	0.0		25.9	74.1	0.0	0.0		50.0	50.0	0.0	0.0		0.0	81.8	18.2	0.0		
Total %	4.0	0.0	16.0	0.0	20.0	14.0	40.0	0.0	0.0	54.0	2.0	2.0	0.0	0.0	4.0	0.0	18.0	4.0	0.0	22.0	
Exiting Leg Total					10					18					0					22	50
Buses	0	0	0	0	0	1	5	0	0	6	0	1	0	0	1	0	3	0	0	3	10
% Buses	0.0	0.0	0.0	0.0	0.0	14.3	25.0	0.0	0.0	22.2	0.0	100.0	0.0	0.0	50.0	0.0	33.3	0.0	0.0	27.3	20.0
Exiting Leg Total					2					3					0					5	10
Single-Unit Trucks	1	0	8	0	9	5	8	0	0	13	1	0	0	0	1	0	6	1	0	7	30
% Single-Unit	50.0	0.0	100.0	0.0	90.0	71.4	40.0	0.0	0.0	48.1	100.0	0.0	0.0	0.0	50.0	0.0	66.7	50.0	0.0	63.6	60.0
Exiting Leg Total					6					15					0					9	30
Articulated Trucks	1	0	0	0	1	1	7	0	0	8	0	0	0	0	0	0	0	1	0	1	10
% Articulated	50.0	0.0	0.0	0.0	10.0	14.3	35.0	0.0	0.0	29.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	9.1	20.0
Exiting Leg Total					2					0					0					8	10

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	2	0	2	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	4
11:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	3
11:30 AM	1	0	1	0	2	1	3	0	0	4	0	0	0	0	0	0	1	0	0	1	7
11:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	6
Total Volume	2	0	4	0	6	1	4	0	0	5	0	1	0	0	1	0	6	2	0	8	20
% Approach Total	33.3	0.0	66.7	0.0		20.0	80.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	75.0	25.0	0.0		
PHF	0.500	0.000	0.500	0.000	0.750	0.250	0.333	0.000	0.000	0.313	0.000	0.250	0.000	0.000	0.250	0.000	0.300	0.250	0.000	0.400	0.714
Buses	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	20.0	0.0	100.0	0.0	0.0	100.0	0.0	16.7	0.0	0.0	12.5	15.0
Single-Unit Trucks	1	0	4	0	5	1	1	0	0	2	0	0	0	0	0	0	5	1	0	6	13
Single-Unit %	50.0	0.0	100.0	0.0	83.3	100.0	25.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	83.3	50.0	0.0	75.0	65.0
Articulated Trucks	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	4
Articulated %	50.0	0.0	0.0	0.0	16.7	0.0	50.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	12.5	20.0
Buses	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
Single-Unit Trucks	1	0	4	0	5	1	1	0	0	2	0	0	0	0	0	0	5	1	0	6	13
Articulated Trucks	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	4
Total Entering Leg	2	0	4	0	6	1	4	0	0	5	0	1	0	0	1	0	6	2	0	8	20
Buses					1					1					0					1	3
Single-Unit Trucks					2					9					0					2	13
Articulated Trucks					1					0					0					3	4
Total Exiting Leg					4					10					0					6	20

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, October 28, 2023**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
1:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Grand Total	0	0	0	0	0	1	5	0	0	6	0	1	0	0	1	0	3	0	0	3	10
Approach %	0.0	0.0	0.0	0.0		16.7	83.3	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	10.0	50.0	0.0	0.0	60.0	0.0	10.0	0.0	0.0	10.0	0.0	30.0	0.0	0.0	30.0	
Exiting Leg Total					2					3					0					5	10

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:45 AM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total Volume	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.333
Entering Leg	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
Exiting Leg					0					1					0					3	4
Total					0					4					0					4	8

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, October 28, 2023**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Single-Unit Trucks**

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	2	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
11:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
11:30 AM	1	0	1	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
Total	1	0	4	0	5	1	1	0	0	2	0	0	0	0	0	0	5	1	0	6	13
12:00 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2
12:15 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	1	0	1	1	5	0	0	6	0	0	0	0	0	0	0	0	0	0	7
1:00 PM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	2
1:15 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2
1:30 PM	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3
1:45 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
Total	0	0	3	0	3	3	2	0	0	5	1	0	0	0	1	0	1	0	0	1	10
Grand Total	1	0	8	0	9	5	8	0	0	13	1	0	0	0	1	0	6	1	0	7	30
Approach %	11.1	0.0	88.9	0.0		38.5	61.5	0.0	0.0		100.0	0.0	0.0	0.0		0.0	85.7	14.3	0.0		
Total %	3.3	0.0	26.7	0.0	30.0	16.7	26.7	0.0	0.0	43.3	3.3	0.0	0.0	0.0	3.3	0.0	20.0	3.3	0.0	23.3	
Exiting Leg Total					6					15					0					9	30

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	2	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
11:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
11:30 AM	1	0	1	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
Total Volume	1	0	4	0	5	1	1	0	0	2	0	0	0	0	0	0	5	1	0	6	13
% Approach Total	20.0	0.0	80.0	0.0		50.0	50.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	83.3	16.7	0.0		
PHF	0.250	0.000	0.500	0.000	0.625	0.250	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.300	0.650
Entering Leg	1	0	4	0	5	1	1	0	0	2	0	0	0	0	0	0	5	1	0	6	13
Exiting Leg					2					9					0					2	13
Total					7					11					0					8	26

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, October 28, 2023**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class:

Articulated Trucks

	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
11:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
11:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	4
12:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
1:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Grand Total	1	0	0	0	1	1	7	0	0	8	0	0	0	0	0	0	0	1	0	1	10
Approach %	100.0	0.0	0.0	0.0		12.5	87.5	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	10.0	0.0	0.0	0.0	10.0	10.0	70.0	0.0	0.0	80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	10.0	
Exiting Leg Total					2					0					0					8	10

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:15 AM	West Street					Southbridge Street (Route 12)					Plaza Driveway					Southbridge Street (Route 12)					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
11:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
11:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total Volume	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	1	0	1	6
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.750
Entering Leg	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	1	0	1	6
Exiting Leg					1					0					0					5	6
Total					2					4					0					6	12

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, October 28, 2023**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	West Street from North							Southbridge Street (Route 12) from East							Plaza Driveway from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	West Street from North							Southbridge Street (Route 12) from East							Plaza Driveway from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **239637 G**
Location: **N: West Street S: Plaza Driveway**
Location: **E: Southbridge Street (Route 12) W: Southbridge Street (Route 12)**
City, State: **Auburn, MA**
Client: **GPI/ S. Theriault**
Site Code: **NEX-2020145.00**
Count Date: **Saturday, October 28, 2023**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	West Street from North							Southbridge Street (Route 12) from East							Plaza Driveway from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Approach %	0	0	0	0	0	100		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	100		
Total %	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	
Exiting Leg Total							1							0							0							1	2

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	West Street from North							Southbridge Street (Route 12) from East							Plaza Driveway from South							Southbridge Street (Route 12) from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250
Entering Leg	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Exiting Leg							1							0							0							1	2
Total							2							0							0							2	4

TRAFFIC-VOLUME ADJUSTMENT DATA

Massachusetts Highway Department
Statewide Traffic Data Collection
2022 Weekday Seasonal Factors

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Axle Factor
R1	1.25	1.18	1.12	1.08	1.02	0.96	0.92	0.91	0.99	1.00	1.02	1.04	0.80
R3	1.08	1.08	1.02	0.95	0.91	0.89	0.86	0.86	0.92	0.91	0.97	0.99	0.98
R4-R7	1.17	1.16	1.09	1.00	0.92	0.91	0.88	0.87	0.92	0.93	1.01	1.05	0.98
U1-Boston	1.14	1.09	0.99	0.95	0.93	0.91	0.91	0.91	0.92	0.93	0.96	0.99	0.96
U1-Essex	1.17	1.13	1.05	1.01	0.95	0.90	0.86	0.86	0.93	0.96	1.00	1.03	0.96
U1-Southeast	1.19	1.12	1.04	0.98	0.93	0.87	0.84	0.84	0.90	0.94	0.98	1.03	0.96
U1-West	1.11	1.06	1.01	0.99	0.96	0.93	0.92	0.91	0.92	0.93	0.97	0.98	0.86
U1-Worcester	1.09	1.05	0.97	0.94	0.91	0.90	0.91	0.91	0.92	0.92	0.94	0.97	0.92
U3	1.03	1.04	0.96	0.93	0.90	0.90	0.91	0.91	0.91	0.91	0.94	0.98	0.96
U4-U7	1.00	1.01	0.94	0.92	0.87	0.90	0.95	0.94	0.90	0.88	0.89	0.94	0.99
UR2	1.09	1.05	0.97	0.94	0.92	0.89	0.90	0.90	0.91	0.92	0.94	0.98	0.99
Rec - East	1.24	1.21	1.10	1.01	0.92	0.83	0.77	0.79	0.90	0.97	1.03	1.08	0.99
Rec - West	1.47	1.43	1.28	1.02	0.89	0.80	0.68	0.70	0.93	0.89	1.11	1.30	0.99

Round off:
0-999 = 10
>1000 = 100

U = Urban
R = Rural

1 - Interstate
2 - Freeway and Expressway
3 - Other Principal Arterial
4 - Minor Arterial
5 - Major Collector
6 - Minor Collector
7 - Local Road and Street

US Route 20
US Route 12, US Route 56

UR2 Group - Combination of Urban Freeways and Expressways and Rural Freeways and Expressways.

Recreational - East Group - Cape Cod (all towns) including the town of Plymouth south of Route 3A (stations 7014,7079,7080,7090,7091,7092,7093,7094,7095,7096,7097,7108 and 7178), Martha's Vineyard and Nantucket.

Recreational - West Group - Continuous Stations 2 and 189 including stations 1066,1067,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,1105,1106,1107,1108,1113, 1114,1116,2196,2197 and 2198.

Massachusetts Highway Department
Statewide Traffic Data Collection
2023 Weekday Seasonal Factors

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Axle Factor
R1	1.23	1.14	1.11	1.06	1.01	0.96	0.93	0.91	1.00	0.97	1.04	1.08	0.77
R3	1.11	1.07	1.02	0.95	0.90	0.89	0.87	0.87	0.92	0.89	0.95	0.99	0.98
R4-R7	1.19	1.16	1.10	1.00	0.92	0.91	0.87	0.88	0.93	0.93	1.01	1.06	0.98
U1-Boston	1.07	1.05	1.00	0.95	0.93	0.92	0.92	0.92	0.94	0.93	0.96	0.99	0.94
U1-Essex	1.14	1.11	1.06	1.00	0.95	0.91	0.87	0.87	0.94	0.95	1.00	1.03	0.96
U1-Southeast	1.12	1.09	1.04	0.96	0.91	0.87	0.84	0.86	0.92	0.94	0.98	1.03	0.96
U1-West	1.05	1.02	0.98	0.96	0.94	0.93	0.94	0.94	0.95	0.92	0.96	0.98	0.81
U1-Worcester	1.06	1.04	0.97	0.93	0.92	0.90	0.92	0.92	0.93	0.92	0.94	0.97	0.88
U3	1.05	1.02	0.96	0.92	0.89	0.89	0.91	0.92	0.91	0.90	0.94	0.96	0.98
U4-U7	1.02	1.00	0.94	0.89	0.86	0.88	0.91	0.92	0.89	0.88	0.91	0.91	0.99
UR2	1.05	1.01	0.97	0.92	0.90	0.90	0.91	0.91	0.91	0.90	0.94	0.97	0.98
Rec - East	1.17	1.16	1.09	1.04	0.92	0.84	0.76	0.80	0.93	1.00	1.03	1.06	0.98
Rec - West	1.46	1.38	1.32	1.06	0.94	0.79	0.59	0.69	0.97	0.99	1.18	1.28	0.98

Round off:
0-999 = 10
>1000 = 100

U = Urban
R = Rural

1 - Interstate
2 - Freeway and Expressway
3 - Other Principal Arterial US Route 20
4 - Minor Arterial US Route 12, US Route 56
5 - Major Collector
6 - Minor Collector
7 - Local Road and Street

UR2 Group - Combination of Urban Freeways and Expressways and Rural Freeways and Expressways.

Recreational - East Group - Cape Cod (all towns) including the town of Plymouth south of Route 3A (stations 7014,7079,7080,7090,7091,7092,7093,7094,7095,7096,7097,7108 and 7178), Martha's Vineyard and Nantucket.

Recreational - West Group - Continuous Stations 2 and 189 including stations 1066,1067,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,1105,1106,1107,1108,1113, 1114,1116,2196,2197 and 2198.

CRASH RATE WORKSHEETS

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Oxford | COUNT DATE : Nov-15

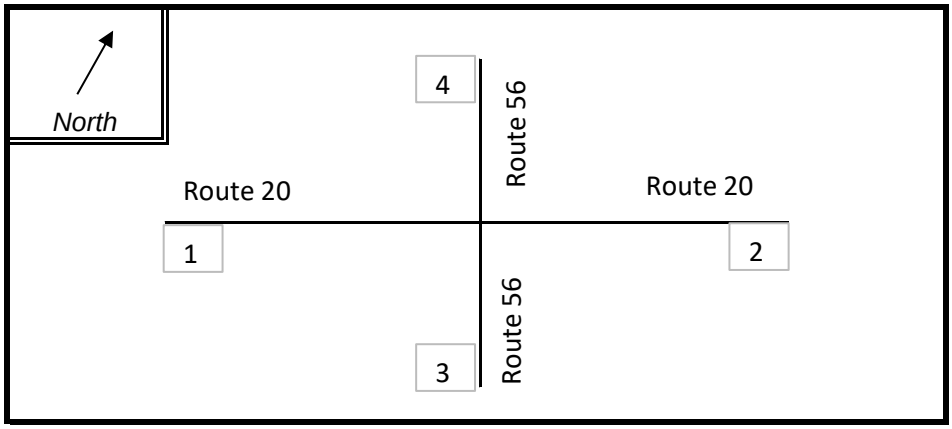
DISTRICT : 3 | UNSIGNALIZED : | SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Route 20 (Southbridge Road)

MINOR STREET(S) : Route 56 (Leicester Street)

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	820	1,358	354	417		**2,949**

" K " FACTOR : **0.077**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **38,299**

TOTAL # OF CRASHES : 61

OF YEARS : 5

AVERAGE # OF CRASHES PER YEAR (**A**) : **12.20**

CRASH RATE CALCULATION : **0.87**

RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : Weekday PM volumes used

Project Title & Date: NEX-2020145.00 - Oxford/Auburn, MA - The Reserve

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Oxford COUNT DATE : Sep-17

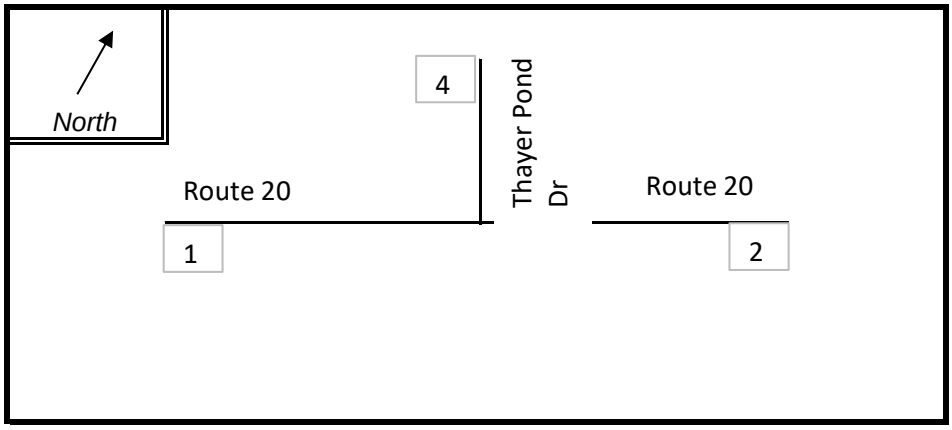
DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Route 20 (Southbridge Road)

MINOR STREET(S) : Thayer Pond Drive

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	792	1,356	0	37		**2,185**

" K " FACTOR : **0.077**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **28,377**

TOTAL # OF CRASHES : 14

OF YEARS : 5

AVERAGE # OF CRASHES PER YEAR (**A**) : **2.80**

CRASH RATE CALCULATION : **0.27**

$$\text{RATE} = \frac{(A * 1{,}000{,}000)}{(V * 365)}$$

Comments : Weekday PM volumes used

Project Title & Date: NEX-2020145.00 - Oxford/Auburn, MA - The Reserve

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Oxford COUNT DATE : Dec-16

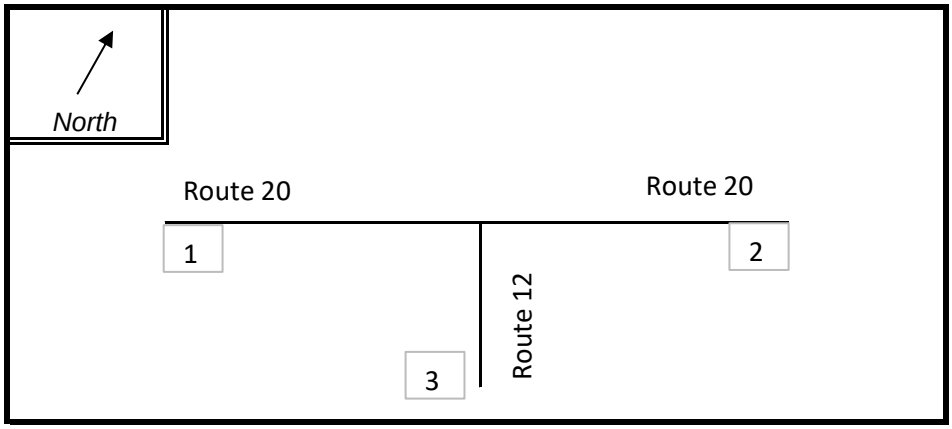
DISTRICT : 3 UNSIGNALIZED : SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Route 20 (Southbridge Road/Southbridge Street)

MINOR STREET(S) : Route 12 (Main St)

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	817	1,871	355	0		**3,043**

" K " FACTOR : **0.077** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **39,519**

TOTAL # OF CRASHES : 24 # OF YEARS : 5 AVERAGE # OF CRASHES PER YEAR (**A**) : **4.80**

CRASH RATE CALCULATION : **0.33** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : Weekday PM volumes used

Project Title & Date: NEX-2020145.00 - Oxford/Auburn, MA - The Reserve

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Auburn | COUNT DATE : Dec-16

DISTRICT : 3 | UNSIGNALIZED : | SIGNALIZED : X

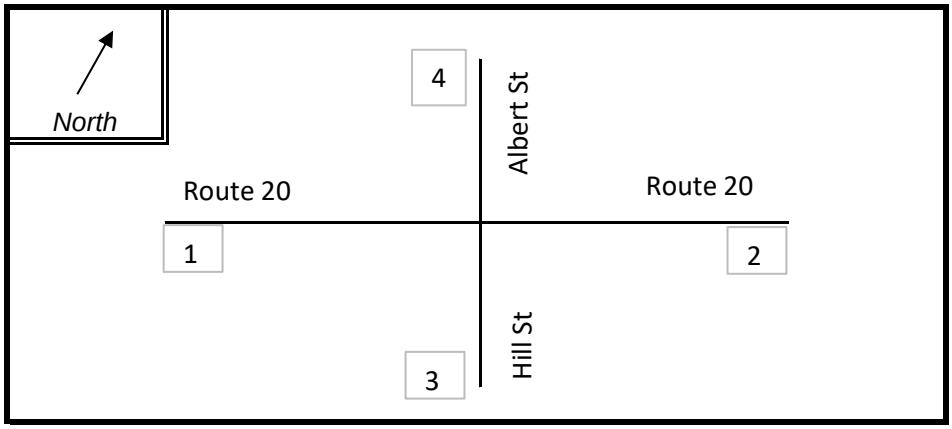
~ INTERSECTION DATA ~

MAJOR STREET : Route 20 (Southbridge Road)

MINOR STREET(S) : Albert Street

Hill Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	1,064	1,889	19	57		**3,029**

" K " FACTOR : **0.077**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **39,338**

TOTAL # OF CRASHES : 19

OF YEARS : 5

AVERAGE # OF CRASHES PER YEAR (**A**) : **3.80**

CRASH RATE CALCULATION : 0.26

RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : Weekday PM volumes used

Project Title & Date: NEX-2020145.00 - Oxford/Auburn, MA - The Reserve

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Auburn COUNT DATE : Dec-16

DISTRICT : 3 UNSIGNALIZED : SIGNALIZED : X

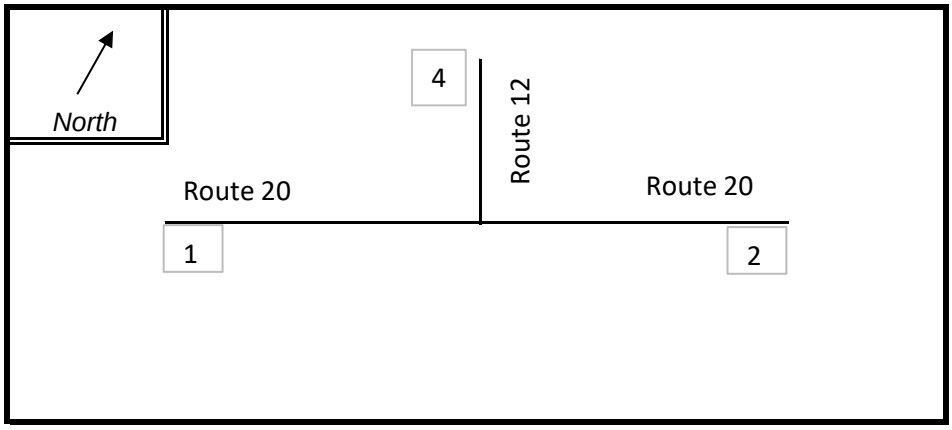
~ INTERSECTION DATA ~

MAJOR STREET : Route 20 (Southbridge Street)

MINOR STREET(S) : Route 20 (Washington Street)

Route 12 (Southbridge Street)

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	1,132	988	0	801		**2,921**

" K " FACTOR : **0.077** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **37,935**

TOTAL # OF CRASHES : 37 # OF YEARS : 5 AVERAGE # OF CRASHES PER YEAR (**A**) : **7.40**

CRASH RATE CALCULATION : **0.53** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : Weekday PM volumes used

Project Title & Date: NEX-2020145.00 - Oxford/Auburn, MA - The Reserve

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Auburn | COUNT DATE : Oct-23

DISTRICT : 3 | UNSIGNALIZED : | SIGNALIZED : X

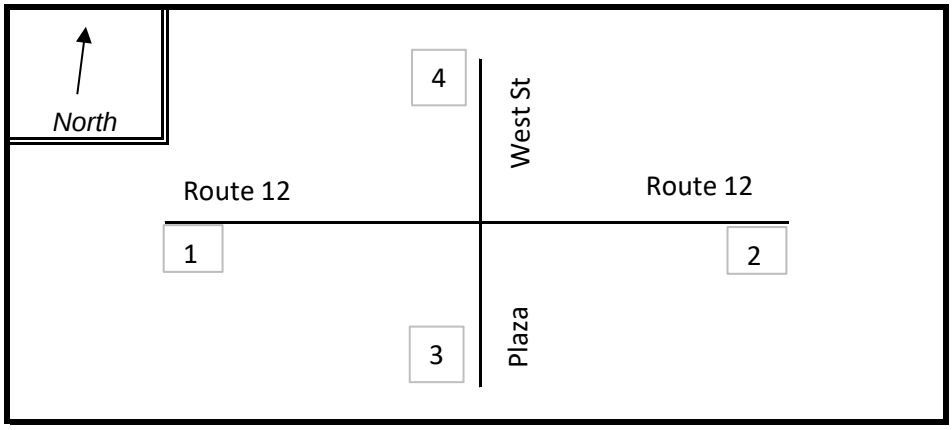
~ INTERSECTION DATA ~

MAJOR STREET : Route 12 (Southbridge Street)

MINOR STREET(S) : West Street

Plaza Driveway

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	459	1,388	24	342		**2,213**

" K " FACTOR : **0.077**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **28,740**

TOTAL # OF CRASHES : 20

OF YEARS : 5

AVERAGE # OF CRASHES PER YEAR (**A**) : **4.00**

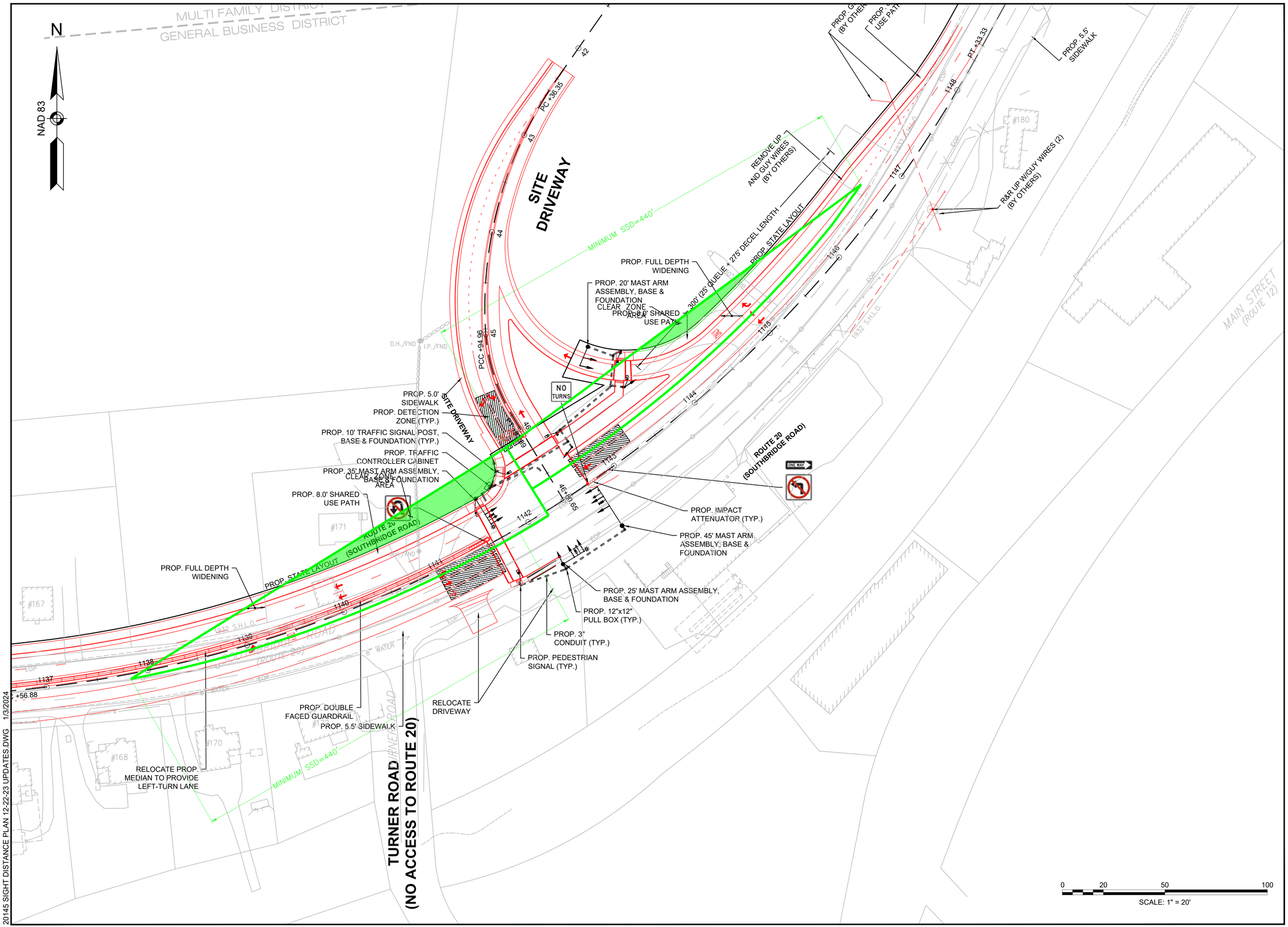
CRASH RATE CALCULATION : 0.38

$$\text{RATE} = \frac{(A * 1{,}000{,}000)}{(V * 365)}$$

Comments : Weekday PM volumes used

Project Title & Date: NEX-2020145.00 - Oxford/Auburn, MA - The Reserve

SIGHT DISTANCE PLANS (FIGURE A-1 & A-2) & CALCULATIONS



20145 SIGHT DISTANCE PLAN 12-22-23 UPDATES.DWG 1/3/2024

GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street, Suite 202
Wilmington, MA 01887

PREPARED FOR
EASTLAND PARTNERS, INC.
4 CHARLESVIEW ROAD
SUITE 1
HOPEDALE, MA

TRAFFIC SIGNAL AND ROADWAY IMPROVEMENTS FOR ASHWORTH COMMONS DEVELOPMENT

PROPOSED ROAD AT ROUTE 20
OXFORD, MA

REVISIONS

NO.	REVISION	DATE

JANUARY 2, 2024

DRAWN/DESIGN BY	CHECKED BY
CJD	

SIGHT DISTANCE PLANS

SCALE: AS NOTED

NEX-2020145.00

FIGURE A-1

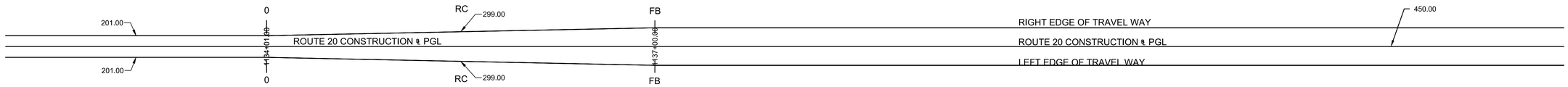
CHARLTON - OXFORD
ROUTE 20

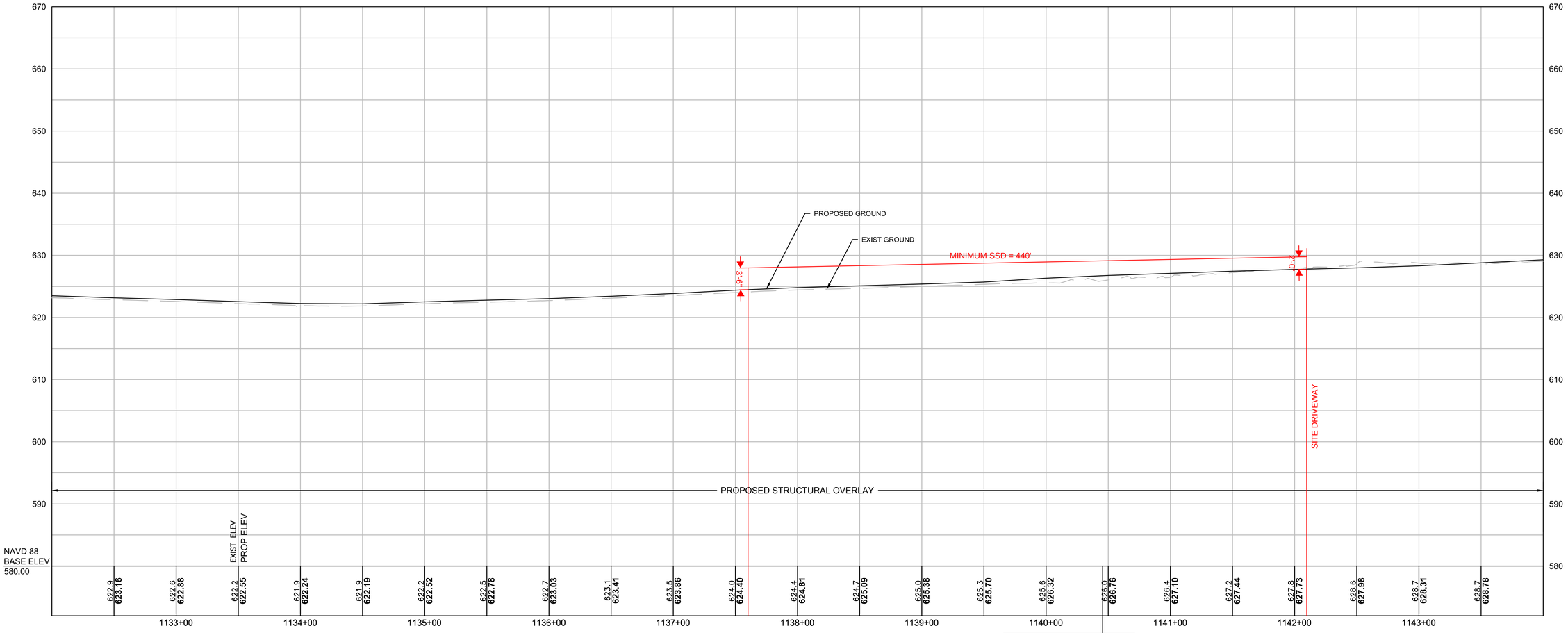
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	57	183
PROJECT FILE NO.	602659		

PROFILES
SHEET 13 OF 19

602659_HD\PROFILES\.DWG Plotted on 24-Jun-2020 10:16 PM

SOUTHBRIDGE ROAD
(ROUTE 20)





STOPPING SIGHT DISTANCE PLAN
FIGURE A-1

FOR CONSTRUCTION PLAN
SEE SHEET NO. 41 AND 42

HOR. SCALE IN FEET
40 0 40 80
8 0 8 16
VER. SCALE IN FEET

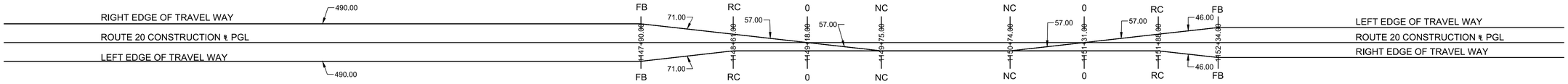
CHARLTON - OXFORD
ROUTE 20

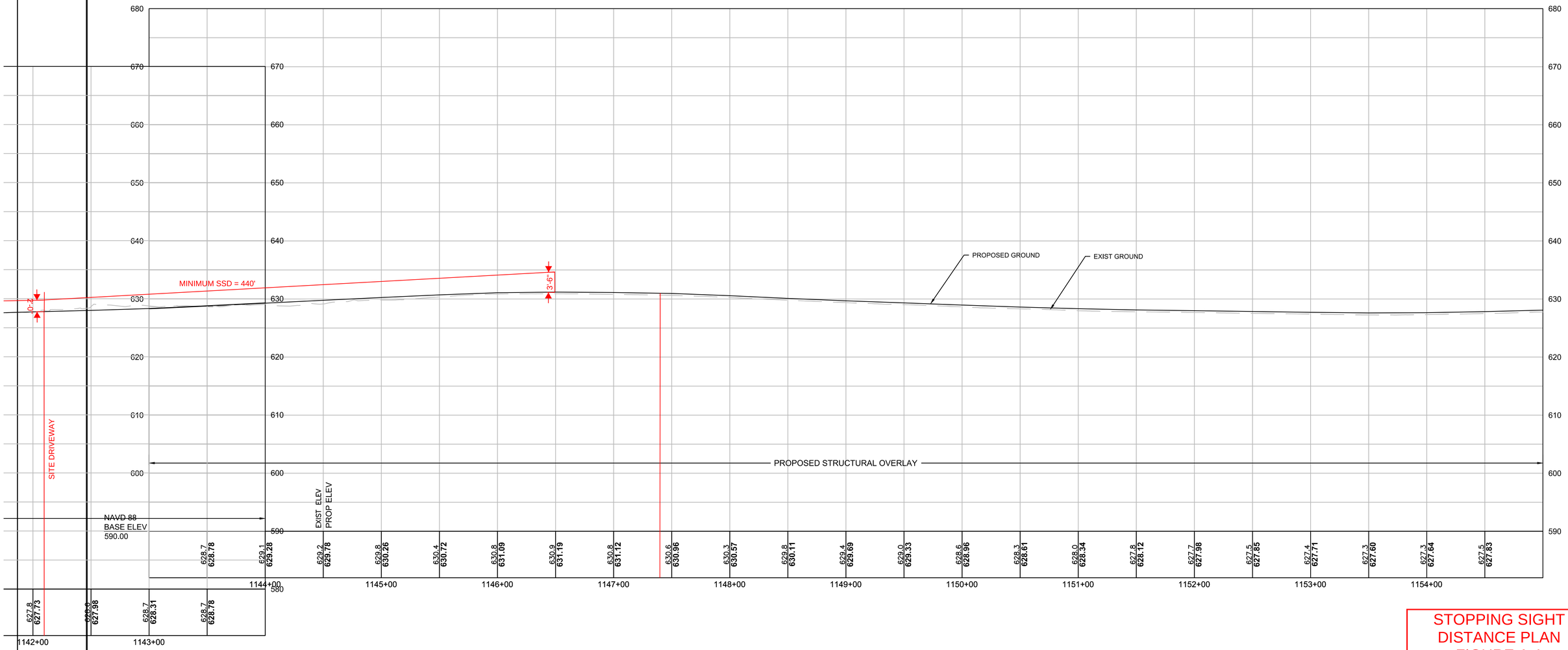
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	58	183
PROJECT FILE NO. 602659			

PROFILES
SHEET 14 OF 19

602659_HD(PROFILES).DWG Plotted on 24-Jun-2020 10:16 PM

SOUTHBRIDGE ROAD
(ROUTE 20)

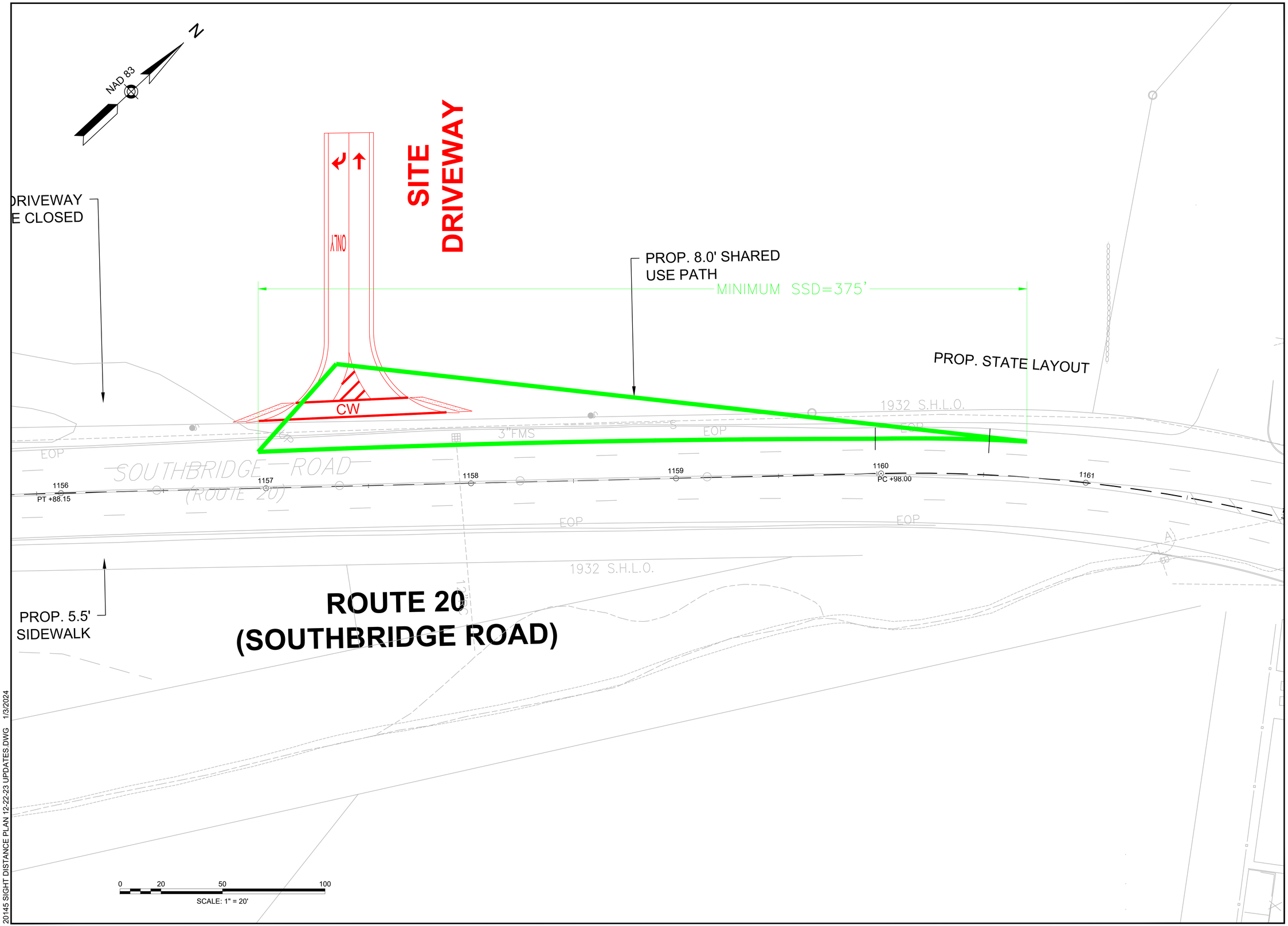




STOPPING SIGHT DISTANCE PLAN
FIGURE A-1

FOR CONSTRUCTION PLAN
SEE SHEET NO. 42 AND 43

HOR. SCALE IN FEET
40 0 40 80
8 0 8 16
VER. SCALE IN FEET



20145 SIGHT DISTANCE PLAN 12-22-23 UPDATES.DWG 1/3/2024

GPI
Engineering
Design
Planning
Construction Management
978.570.2999
GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street, Suite 202
Wilmington, MA 01887

PREPARED FOR
EASTLAND PARTNERS, INC.
4 CHARLESVIEW ROAD
SUITE 1
HOPEDALE, MA

TRAFFIC SIGNAL AND ROADWAY IMPROVEMENTS FOR ASHWORTH COMMONS DEVELOPMENT

PROPOSED ROAD AT ROUTE 20
OXFORD, MA

REVISIONS

NO.	REVISION	DATE

JANUARY 2, 2024

DRAWN/DESIGN BY	CHECKED BY
CJD	

SIGHT DISTANCE PLANS

SCALE: AS NOTED

NEX-2020145.00

FIGURE A-2

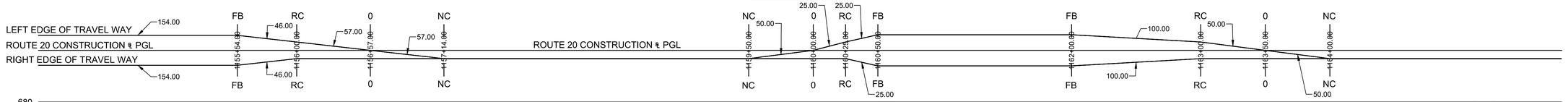
CHARLTON - OXFORD
ROUTE 20

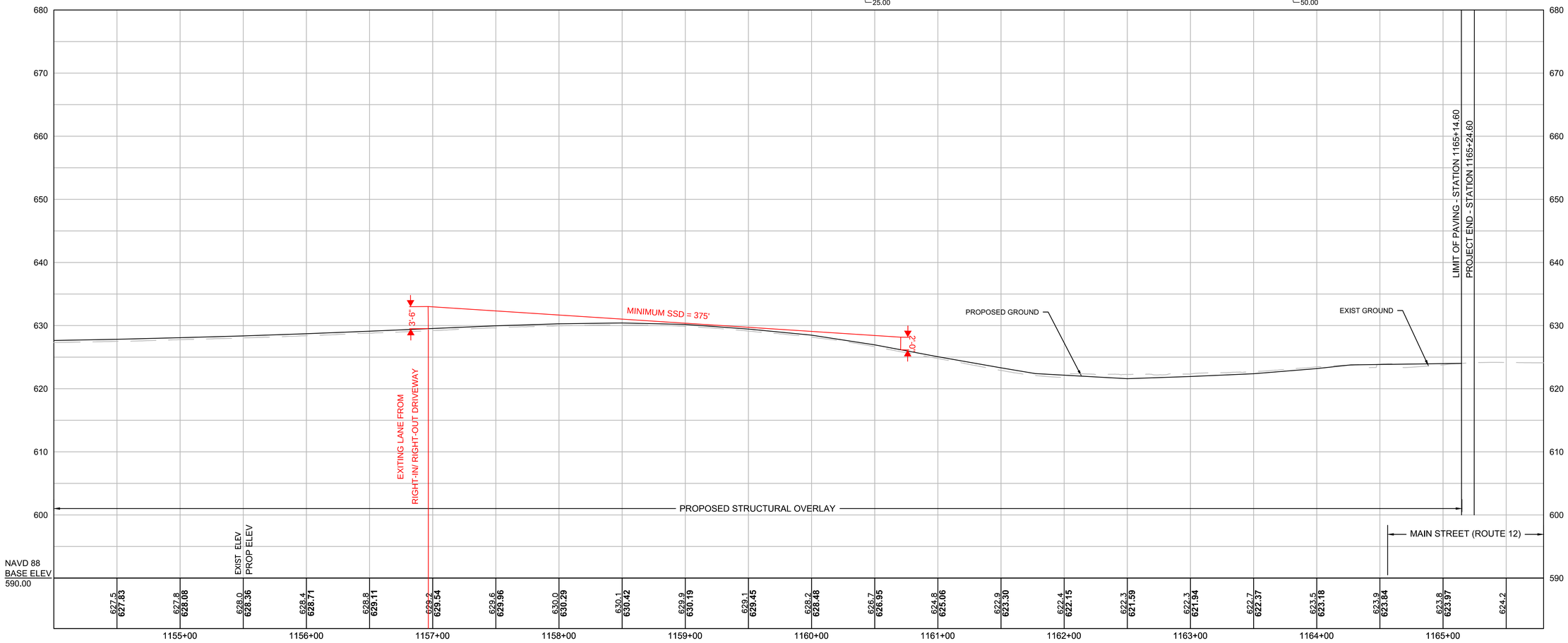
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	59	183
PROJECT FILE NO. 602659			

PROFILES
SHEET 15 OF 19

602659_HD(PROFILES).DWG Plotted on 24-Jun-2020 10:16 PM

SOUTHBRIDGE ROAD
(ROUTE 20)





STOPPING SIGHT DISTANCE PLAN
FIGURE A-2

FOR CONSTRUCTION PLAN
SEE SHEET NO. 43 AND 44

HOR. SCALE IN FEET
40 0 40 80
8 0 8 16
VER. SCALE IN FEET

AASHTO Recommended Sight Distance Summary
(Passenger Vehicles)

LOCATION: Route 20 at Western Commercial Site Driveway

Side Street Direction:	SB
Number of Lanes on Mainline =	4
Median Width (Feet) =	0

STOPPING SIGHT DISTANCE

Mainline Direction:	WB	
85th Percentile Speed (V) =	51	MPH
Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	438	FT
SSD =	**440**	**FT**

Mainline Direction:	EB	
85th Percentile Speed (V) =	51	MPH
Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	437	FT
SSD =	**440**	**FT**

INTERSECTION SIGHT DISTANCE

RIGHT TURN FROM STOP:	East	of Driveway
Posted Speed (V) =	45	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	6.5	seconds
ISD (Right Turn from Stop) = 1.47 * t_g * V =	430	FT
ISD (Right Turn from Stop) =	**430**	**FT**

LEFT TURN FROM STOP:	West	of Driveway
Posted Speed (V) =	45	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	8.5	seconds
ISD (Left Turn from Stop) = 1.47 * t_g * V =	563	FT
ISD (Left Turn from Stop) =	**565**	**FT**

AASHTO Recommended Sight Distance Summary
(Passenger Vehicles)

LOCATION: Route 20 at Eastern Commercial Site Driveway

Side Street Direction:	SB
Number of Lanes on Mainline =	4
Median Width (Feet) =	0

STOPPING SIGHT DISTANCE

Mainline Direction:	WB	
85th Percentile Speed (V) =	45	MPH
Grade (G) =	-2.0%	
Apply Grade Adjustment	Yes	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	372	FT
SSD =	**375**	**FT**

Mainline Direction:	EB	
85th Percentile Speed (V) =		MPH
Grade (G) =	2.0%	
Apply Grade Adjustment	Yes	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	0	FT
SSD =	**0**	**FT**

INTERSECTION SIGHT DISTANCE

RIGHT TURN FROM STOP:	East	of Driveway
Posted Speed (V) =	45	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	6.5	seconds
ISD (Right Turn from Stop) = 1.47 * t_g * V =	430	FT
ISD (Right Turn from Stop) =	**430**	**FT**

LEFT TURN FROM STOP:	West	of Driveway
Posted Speed (V) =		MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	8.5	seconds
ISD (Left Turn from Stop) = 1.47 * t_g * V =	0	FT
ISD (Left Turn from Stop) =	**0**	**FT**

AASHTO Recommended Sight Distance Summary
(Passenger Vehicles)

LOCATION: Blaker Street at Site Driveway

Side Street Direction:	EB
Number of Lanes on Mainline =	2
Median Width (Feet) =	0

STOPPING SIGHT DISTANCE

Mainline Direction:	SB	
85th Percentile Speed (V) =	37	MPH
Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	268	FT
SSD =	**270**	**FT**

Mainline Direction:	NB	
85th Percentile Speed (V) =	37	MPH
Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	268	FT
SSD =	**270**	**FT**

INTERSECTION SIGHT DISTANCE

RIGHT TURN FROM STOP:	North	of Driveway
Posted Speed (V) =	30	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	6.5	seconds
ISD (Right Turn from Stop) = 1.47 * t_g * V =	287	FT
ISD (Right Turn from Stop) =	**290**	**FT**

LEFT TURN FROM STOP:	South	of Driveway
Posted Speed (V) =	30	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	7.5	seconds
ISD (Left Turn from Stop) = 1.47 * t_g * V =	331	FT
ISD (Left Turn from Stop) =	**335**	**FT**

AASHTO Recommended Sight Distance Summary
(Passenger Vehicles)

LOCATION: Blaker Street at Site Driveway

Side Street Direction:	WB
Number of Lanes on Mainline =	2
Median Width (Feet) =	0

STOPPING SIGHT DISTANCE

Mainline Direction:	NB	
85th Percentile Speed (V) =	37	MPH
Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	268	FT
SSD =	**270**	**FT**

Mainline Direction:	SB	
85th Percentile Speed (V) =	37	MPH
Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	268	FT
SSD =	**270**	**FT**

INTERSECTION SIGHT DISTANCE

RIGHT TURN FROM STOP:	South	of Driveway
Posted Speed (V) =	30	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	6.5	seconds
ISD (Right Turn from Stop) = 1.47 * t_g * V =	287	FT
ISD (Right Turn from Stop) =	**290**	**FT**

LEFT TURN FROM STOP:	North	of Driveway
Posted Speed (V) =	30	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	7.5	seconds
ISD (Left Turn from Stop) = 1.47 * t_g * V =	331	FT
ISD (Left Turn from Stop) =	**335**	**FT**

AASHTO Recommended Sight Distance Summary
(Passenger Vehicles)

LOCATION: Ashworth Drive at Site Driveway

Side Street Direction:	WB
Number of Lanes on Mainline =	2
Median Width (Feet) =	0

STOPPING SIGHT DISTANCE

Mainline Direction:	NB	
85th Percentile Speed (V) =	37	MPH
Grade (G) =	-1.5%	
Apply Grade Adjustment	No	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	268	FT
SSD =	**270**	**FT**

Mainline Direction:	SB	
85th Percentile Speed (V) =	37	MPH
Grade (G) =	1.5%	
Apply Grade Adjustment	No	
Brake Reaction Time (T) =	2.5	seconds
Deceleration Rate (A) =	11.2	ft/s^2
SSD = 1.47 V * T +1.075 V^2/A =	262	FT
SSD =	**265**	**FT**

INTERSECTION SIGHT DISTANCE

RIGHT TURN FROM STOP:	South	of Driveway
Posted Speed (V) =	30	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	6.5	seconds
ISD (Right Turn from Stop) = 1.47 * t_g * V =	287	FT
ISD (Right Turn from Stop) =	**290**	**FT**

LEFT TURN FROM STOP:	North	of Driveway
Posted Speed (V) =	30	MPH
Minor Street Approach Grade (G) =	0.0%	
Apply Grade Adjustment	No	
Time Gap (t_g) =	7.5	seconds
ISD (Left Turn from Stop) = 1.47 * t_g * V =	331	FT
ISD (Left Turn from Stop) =	**335**	**FT**

PUBLIC TRANSPORTATION DATA

Welcome aboard the WRTA!

This route timetable shows the times of departure at major stops along the route and contains route maps and other important information. Additional information be can obtained by calling the WRTA Information Line at **(508) 791-WRTA (9782)**, or visit our website at www.TheRTA.com.

WRTA FARE INFORMATION
Effective July 1, 2017

Full Cash Fare (Adults age 14 and up)	$1.75
Senior/Disabled Cash Fare	$0.85
Children 5-13 years of age accompanied by an adult	$0.85
Children 9 years of age not accompanied by an adult**	$1.75
Children under 5 accompanied by an adult	FREE
One Day 8 Ride Pass (Adults age 14 & up)	$4.50
Senior/Disabled*/Child One Day 8 Ride Pass	$2.25
31 Day Pass	$57.00
Senior/Disabled*31 Day Pass	$28.50

***Valid ID Required for Senior/Disabled Fare**

Please have exact fare ready when boarding the bus. The farebox does not accept pennies or half dollars.

***The Charlie Card** is available to either purchase a monthly pass or add stored value (cash). The stored value gives you discounted fare with the WRTA. They can be used on the WRTA, MBTA and other participating RTA's in Massachusetts. You can obtain a Charlie Card at the Customer Service Center located at 60 Foster Street, Worcester, MA*

Route schedules and the purchase of passes are available at the Customer Service Center at 60 Foster Street, Worcester.

ACCESSIBILITY: All WRTA buses are wheelchair accessible and feature bicycle racks for two bicycles. For TTY service call Massachusetts Relay TTY (800) 439-2370. For information, accommodations and or to provide feedback call 508-791-9782 option 2.

PROPER IDENTIFICATION: One of the following valid identification cards must be shown to the driver each time you board:

SENIOR . . . . . WRTA Senior I.D. card

DISABLED . . . Statewide Access Pass / WRTA ADA Photo I.D. MCB ID and PCA-ride free

MEDICARE . . . . . Medicare card with Photo I.D.

HOLIDAY SERVICE: Saturday* Service is provided on Martin Luther King, Jr. Day, Presidents' Day, Patriots' Day, Columbus Day, and the day after Thanksgiving.

Weekday Service is provided on Veterans' Day.

Routes 29, 33, 42 and community shuttles operate on a weekday schedule on these holidays. Routes 19 and 30 operate on a modified Saturday schedule on these holidays.

NO SERVICE ON: New Years Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Christmas Day

Please…NO Smoking, Eating, Drinking or Music

**The Federal Transit Administration permits transit systems to set a minimum age limit for children riding without a parent or guardian. The WRTA has set this age limit at Nine (9) years old. In order to ensure compliance with this age limit, operators may question a child seeking to board a bus who appears, in the operator's opinion, to be Eight (8) years old or younger. If an operator is not satisfied with a child's answer, the operator may call for assistance from a WRTA supervisor and/or public safety personnel. This policy applies to Paratransit Service as well.

OUTBOUND

WEEKDAYS

See the map for matching timepoint locations

1	2	3	4	5	6	7
BUS STARTS Union Station Hub	**BUS LEAVES** Auburn Mall	**BUS LEAVES** Rt 12 & Rt 20	**BUS LEAVES** Rt 20 & Rt 169	**BUS LEAVES** Optical Dr Southbridge	**BUS LEAVES** Southbridge Library	**BUS ENDS** Big Bunny Plaza
535a	550a	558a	610a	620a	624a	629a
735a	750a	758a	810a	820a	824a	829a
935a	950a	958a	1010a	1015a	1019a	1029a
1135a	1150a	1158a	**1210p**	**1215p**	**1219p**	**1229p**
135p	**150p**	**158p**	**210p**	**215p**	**219p**	**229p**
335p	**350p**	**358p**	**410p**	**415p**	**419p**	**429p**
535p	**550p**	**558p**	**610p**	**615p**	**619p**	**629p**

THIS ROUTE DOES NOT PICK UP OR DROP OFF ON ROUTE 20 *(SEE MAP INSERT)

SATURDAYS

See the map for matching timepoint locations

1	2	3	4	5	6	7
BUS STARTS Union Station Hub	**BUS LEAVES** Auburn Mall	**BUS LEAVES** Rt 12 & Rt 20	**BUS LEAVES** Rt 20 & Rt 169	**BUS Leaves** Optical Dr Southbridge	**BUS LEAVES** Southbridge Library	**BUS ENDS** Big Bunny Plaza
800a	815a	823a	835a	845a	849a	854a
1000a	1015a	1023a	1035a	1045a	1049a	1054a
1200p	**1215p**	**1223p**	**1235p**	**1245p**	**1249p**	**1254p**
200p	**215p**	**223p**	**235p**	**245p**	**249p**	**254p**
400p	**415p**	**423p**	**435p**	**445p**	**449p**	**454p**
600p	**615p**	**623p**	**635p**	**645p**	**649p**	**654p**

INBOUND

WEEKDAYS

See the map for matching timepoint locations

7	4	3	2	1
BUS LEAVES Big Bunny Plaza	**BUS LEAVES** Rt 20 & Rt 169	**BUS LEAVES** Rt 12 & Rt 20	**BUS LEAVES** Auburn Mall	**BUS ENDS** Union Station Hub
633a	643a	705a	715a	735a
833a	843a	905a	915a	935a
1033a	1043a	1105a	1115a	1135a
1233p	**1243p**	**105p**	**115p**	**135p**
233p	**243p**	**305p**	**315p**	**335p**
433p	**443p**	**505p**	**515p**	**535p**
633p	**643p**	**705p**	**715p**	**735p**

THIS ROUTE DOES NOT PICK UP OR DROP OFF ON ROUTE 20 *(SEE MAP INSERT)

SATURDAYS

See the map for matching timepoint locations

6	4	3	2	1
BUS LEAVES Southbridge Library	**BUS LEAVES** Rt 20 & Rt 169	**BUS LEAVES** Rt 12 & Rt 20	**BUS LEAVES** Auburn Mall	**BUS ENDS** Union Station Hub
858a	908a	930a	940a	1000a
1058a	1108a	1130a	1140a	**1200p**
1258p	**108p**	**130p**	**140p**	**200p**
258p	**308p**	**330p**	**340p**	**400p**
458p	**508p**	**530p**	**540p**	**600p**
658p	**708p**	**730p**	**740p**	**800p**

Route 29

UNION STATION HUB – SOUTHBRIDGE – CHARLTON

Effective Date: January 25, 2020

Worcester Regional Transit Authority

Serving:

Auburn Mall

Optical Drive - Southbridge

Union Station Hub

Southbridge Library

Big Bunny Plaza

Translation

English: If this information is needed in another language, please visit www.therta.com and use the Google Translate feature.

Portuguese: Se esta informação é necessária em outro idioma, por favor visite www.therta.com e use o Google Translate.

Spanish: Si necesita esta información en otro idioma, por favor visite www.therta.com y utilice Google Translate.

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Swahili: Kama unahitaji habari hii katika nyingine lugha, unaweza kubonyeza mahali panaandikwa "Google Translate" hapa juu.

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For Transit Information Call
***508·791·9782** or visit*
www.therta.com

29 UNION STATION HUB/AUBURN MALL – Southbridge - Charlton 29

Most Routes Serve:

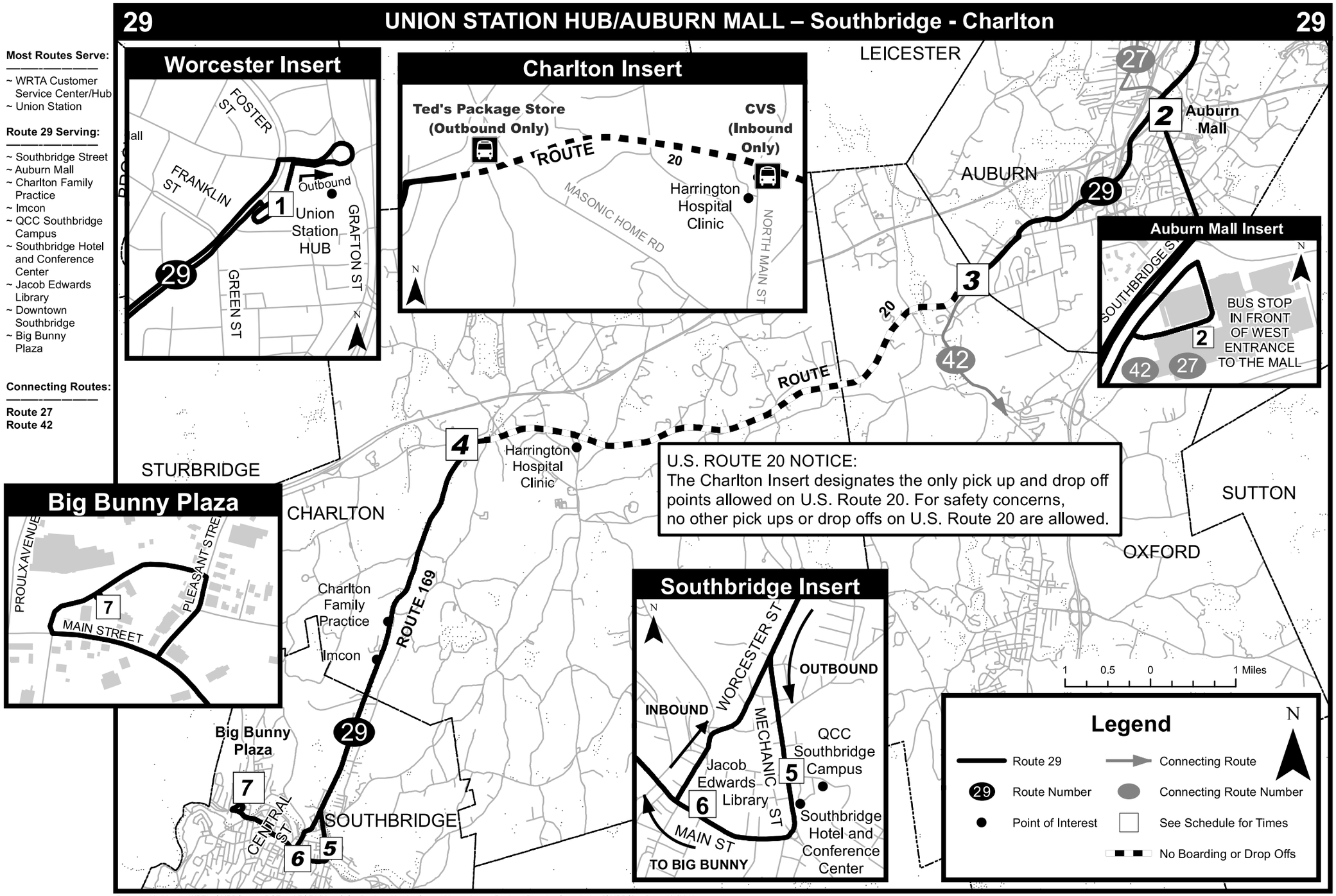
~ WRTA Customer Service Center/Hub
~ Union Station

Route 29 Serving:

~ Southbridge Street
~ Auburn Mall
~ Charlton Family Practice
~ Imcon
~ QCC Southbridge Campus
~ Southbridge Hotel and Conference Center
~ Jacob Edwards Library
~ Downtown Southbridge
~ Big Bunny Plaza

Connecting Routes:

Route 27
Route 42



Data provided by the WRTA, CMRPC, massDOT and EOEA/MassGIS. Produced by the Central MassachusettsRegional Planning Commission (CMRPC) ~ Date: 6/5/2019

Thank you for riding the WRTA

Welcome aboard the WRTA!

This route timetable shows the times of departure at major stops along the route and contains route maps and other important information. Additional information be can obtained by calling the WRTA Information Line at **(508) 791-WRTA (9782)**, or visit our website at www.TheRTA.com.

WRTA FARE INFORMATION
Effective July 1, 2017

Full Cash Fare (Adults age 14 and up)	$1.75
Senior/Disabled Cash Fare	$0.85
Children 5-13 years of age accompanied by an adult	$0.85
Children 9 years of age not accompanied by an adult**	$1.75
Children under 5 accompanied by an adult	FREE
One Day 8 Ride Pass (Adults age 14 & up)	$4.50
Senior/Disabled*/Child One Day 8 Ride Pass	$2.25
31 Day Pass	$57.00
Senior/Disabled*31 Day Pass	$28.50

***Valid ID Required for Senior/Disabled Fare**

Please have exact fare ready when boarding the bus. The farebox does not accept pennies or half dollars.

***The Charlie Card** is available to either purchase a monthly pass or add stored value (cash). The stored value gives you discounted fare with the WRTA. They can be used on the WRTA, MBTA and other participating RTA's in Massachusetts. You can obtain a Charlie Card at the Customer Service Center located at 60 Foster Street, Worcester, MA*

Route schedules and the purchase of passes are available at the Customer Service Center at 60 Foster Street, Worcester.

ACCESSIBILITY: All WRTA buses are wheelchair accessible and feature bicycle racks for two bicycles. For TTY service call Massachusetts Relay TTY (800) 439-2370. For information, accommodations and or to provide feedback call 508-791-9782 option 2.

PROPER IDENTIFICATION: One of the following valid identification cards must be shown to the driver each time you board:

SENIOR . . . . . WRTA Senior I.D. card

DISABLED . . . Statewide Access Pass / WRTA ADA Photo I.D. MCB ID and PCA-ride free

MEDICARE . . . . . Medicare card with Photo I.D.

HOLIDAY SERVICE: Saturday* Service is provided on Martin Luther King, Jr. Day, Presidents' Day, Patriots' Day, Columbus Day, and the day after Thanksgiving.

Weekday Service is provided on Veterans' Day.

Routes 29, 33, 42 and community shuttles operate on a weekday schedule on these holidays. Routes 19 and 30 operate on a modified Saturday schedule on these holidays.

NO SERVICE ON: New Years Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Christmas Day

Please…NO Smoking, Eating, Drinking or Music

**The Federal Transit Administration permits transit systems to set a minimum age limit for children riding without a parent or guardian. The WRTA has set this age limit at Nine (9) years old. In order to ensure compliance with this age limit, operators may question a child seeking to board a bus who appears, in the operator's opinion, to be Eight (8) years old or younger. If an operator is not satisfied with a child's answer, the operator may call for assistance from a WRTA supervisor and/or public safety personnel. This policy applies to Paratransit Service as well.

OUTBOUND

WEEKDAYS

See the map for matching timepoint locations

1 BUS STARTS Union Station Hub	2 BUS LEAVES Southbridge & Cambridge St.	3 BUS LEAVES Auburn Mall	4 BUS LEAVES Oxford Center	5 BUS ENDS Davis & Main in Webster
525a*	530a	540a	.....	556a
645a	655a	705a	720a	746a
845a	855a	905a	920a	941a
1035a	1045a	1055a	1110a	1131a
1225p	**1235p**	**1245p**	**105p**	**121p**
215p	**225p**	**235p**	**255p**	**311p**
415p	**425p**	**435p**	**457p**	**521p**
625p	**635p**	**645p**	**705p**	**726p**

***This trip is express to Webster via I-395 after the Auburn Mall**

SATURDAY

1 BUS STARTS Union Station Hub	2 BUS LEAVES Southbridge & Cambridge St.	3 BUS LEAVES Auburn Mall	4 BUS LEAVES Oxford Center	5 BUS ENDS Davis & Main in Webster
700a	710a	720a	733a	756a
900a	910a	920a	933a	956a
1100a	1110a	1120a	1133a	1156a
100p	**110p**	**120p**	**133p**	**156p**
300p	**310p**	**320p**	**333p**	**356p**
500p	**510p**	**520p**	**533p**	**556p**
700p	**710p**	**720p**	**733p**	**746p**

NO SUNDAY SERVICE

INBOUND

WEEKDAYS

See the map for matching timepoint locations

5 BUS STARTS Davis & Main in Webster	4 BUS LEAVES Oxford Center	3 BUS LEAVES Auburn Mall	2 BUS LEAVES Southbridge & Cambridge St.	1 BUS ENDS Union Station Hub)
600a	617a	632a	637a	645a
750a	807a	822a	832a	840a
945a	1002a	1017a	1027a	1035a
1135a	1152a	**1207p**	**1215p**	**1225p**
125p	**142p**	**157p**	**205p**	**215p**
315p	**332p**	**357p**	**405p**	**415p**
525p	**542p**	**607p**	**615p**	**625p**
730p	**747p**	**802p**	**810p**	**820p**

SATURDAY

5 BUS STARTS Davis & Main in Webster	4 BUS LEAVES Oxford Center	3 BUS LEAVES Auburn Mall	2 BUS LEAVES Southbridge & Cambridge St.	1 BUS ENDS Union Station Hub
800a	820a	842a	852a	900a
1000a	1020a	1042a	1052a	1100a
1200p	**1220p**	**1242p**	**1252p**	**100p**
200p	**220p**	**242p**	**252p**	**300p**
400p	**420p**	**442p**	**452p**	**500p**
600p	**620p**	**642p**	**652p**	**700p**
***750p**	.....	.....	**810p**	**815p**

***This trip is express from Webster via I-395**

NO SUNDAY SERVICE

Route 42

UNION STATION HUB – OXFORD – WEBSTER via SOUTHBRIDGE ST. & ROUTE 12

Effective Date: January 25, 2020

Worcester Regional Transit Authority

Serving:
Union Station
College of the Holy Cross
Auburn Mall
Wal-Mart (Oxford)
Webster Plaza
Webster Town Hall

Translation

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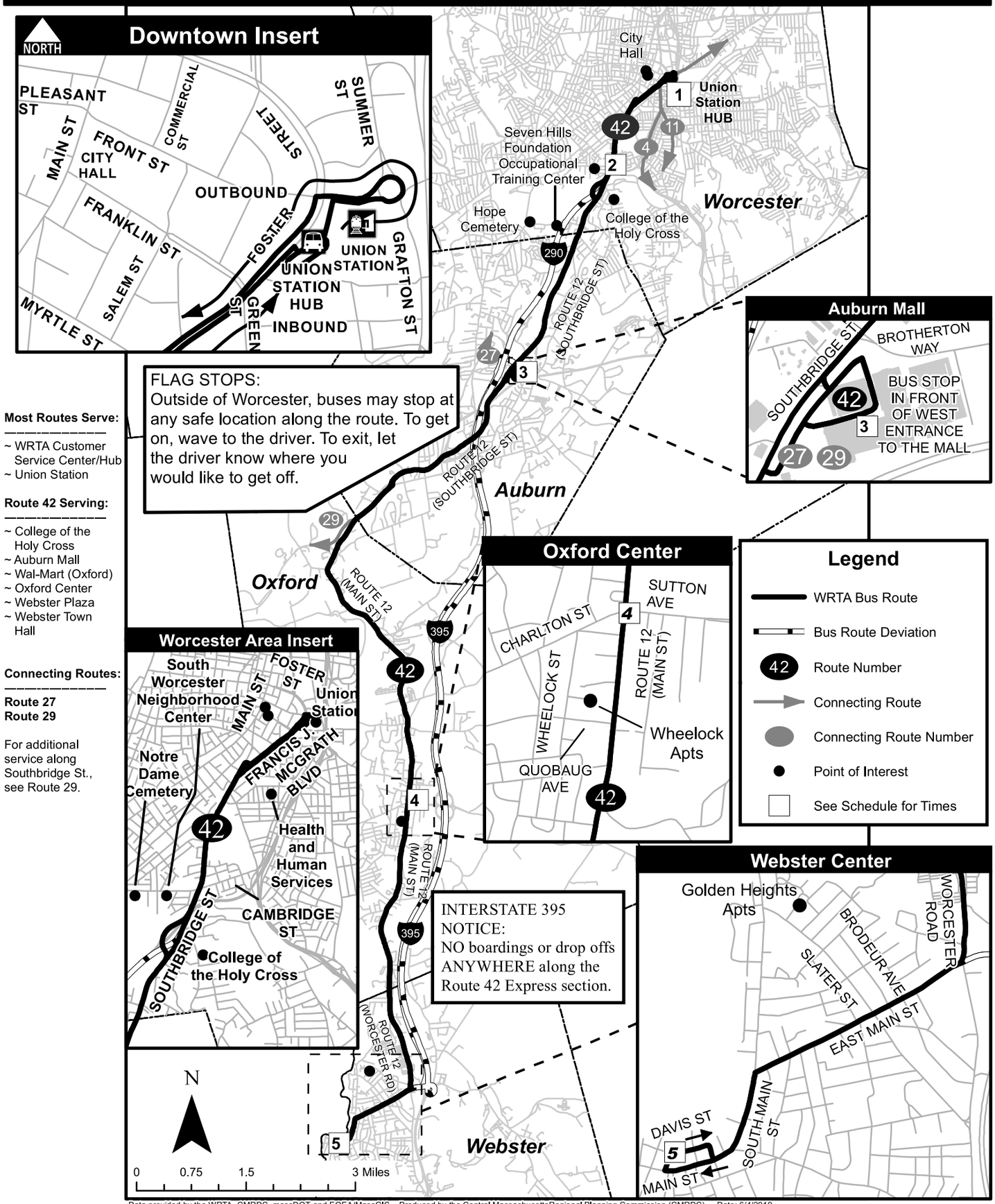
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For Transit Information Call
***508·791·9782** or visit*
www.therta.com

42 UNION STATION HUB – Oxford - Webster via Southbridge St & Route 12 42



Most Routes Serve:

~ WRTA Customer Service Center/Hub
~ Union Station

Route 42 Serving:

~ College of the Holy Cross
~ Auburn Mall
~ Wal-Mart (Oxford)
~ Oxford Center
~ Webster Plaza
~ Webster Town Hall

Connecting Routes:

Route 27
Route 29

For additional service along Southbridge St., see Route 29.

Data provided by the WRTA, CMRPC, massDOT and EOEA/MassGIS. Produced by the Central MassachusettsRegional Planning Commission (CMRPC) ~ Date: 6/4/2019

Thank You for riding the WRTA

Moving Our Region Forward

Worcester Regional Transit Authority
60 Foster Street
Worcester, MA 01608

January 4, 2024

Clayton Williams
Eastland Partners, Inc.
997 Millbury Street
Worcester, MA 01607

Mr. Williams,

WRTA is in receipt of plans from Eastland Partners, Inc. regarding 652 units of housing that is proposed in both the Towns of Auburn, and Oxford.

As you are aware, the WRTA provides fixed-route bus service (WRTA Route 29) along U.S. Route 20 in the vicinity of the project area. Route 29 operates as a 'flag-stop' route in Auburn, but is closed door once the bus travels through the intersection of MA Route 12 and U.S. Route 20, due to safety concerns along a high-speed, divided highway.

The Towns of Auburn, and Oxford, both receive demand-response paratransit services through the WRTA. The Auburn Council on Aging, and Oxford Council on Aging, operate these services respectively. Americans with Disabilities Act (ADA) complementary paratransit service is available within a ¾ mile buffer of existing WRTA fixed-routes.

At this current time, WRTA does not have plans to expand its fixed-route network to provide direct service to the project area. As the project progresses and a need for expanded service is identified, the WRTA would welcome such discussions with the developer, and host communities.

Sincerely,

Nicholas Burnham
Manager of Transit Operations and Planning

Cc: Constance Mellis, CMRPC

[redacted]

REDISTRIBUTED TRIPS (FIGURE A-3)

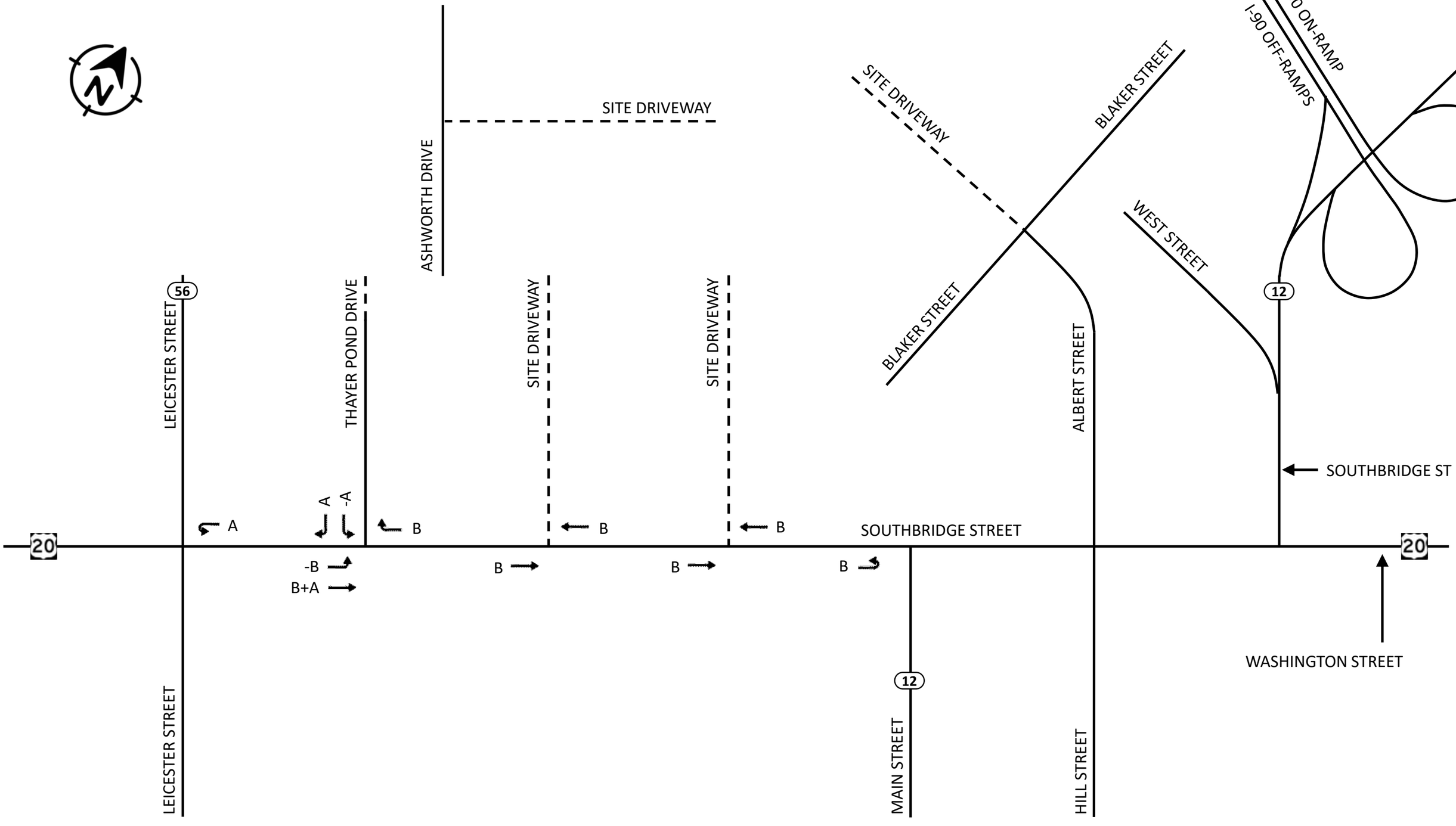


FIGURE A-3
REDISTRIBUTED TRIPS

MASSDOT COORDINATION TIMELINE

August 2016 - Witnessed a land surveyor working on our property at 191 Southbridge Road, Oxford and started exploration of contacts at MassDOT to learn more.

September 20, 2016 – Shared Overall Development Concept as of 2016 and shared plans of previously approved project from 2009 with Arthur Frost, Alex Murray, Ann Sullivan, and Barry Lorion (MassDOT).

October & November 2016 – Shared preliminary information from both MassDOT and Eastland. HDR project manager, Richard Kelley Jr. and Eastland's Traffic Engineer, Ali Khorasani (AK Associates) engage in information sharing of a proposed "future" controlled stop and conceptual analysis of the Overall Master Development.

February 1, 2017 - Public Information Presentation by MassDOT & HDR for the Charlton/Oxford Route 20 Reconstruction Project. Met with Arthur Frost and Richard Kelly after presentation in person. Eastland requested copies of Draft MassDOT plans.

August 2017 - Eastland commissioned Oxford Traffic Study generated by AK Associates, residential development only.

November 2017 - Requested the sharing of MassDOT plans from February 2017 between MassDOT and HDR. Traffic Study by AK Associates completed for residential development in Oxford.

November 14, 2017 - Draft 25% Construction Plans for the Route 20 Reconstruction Project in Oxford, east of French River, received from HDR.

December, 2017 - Request to meet MassDOT at District 3 for working meeting & additional sharing of information.

December 21, 2017 – Received updated plans from HDR including Plan & Profile sheets. Learned that the orientation of the highway is moving 80± feet into the Eastland property as well as significant elevation change.

January 18, 2018 – Attended a work session/meeting with MassDOT with Arthur Frost, Alex Murray, and Ann Sullivan.

July 24, 2018 – Meeting with Town of Oxford DPW Engineer and HDR to discuss latest Route 20 Reconstruction Project plans.

July 30, 2018 - Initial review by Lori Shattuck of MassDOT of Eastland's overall development plans reveal that a MEPA review and Mandatory EIR (generation of 3000+ cars a day) will be required. Lori Shattuck recommends that Eastland meet with MassDOT to determine scope of study and mitigation in advance of MEPA filing.

February 6, 2019 - Conference call with Senator Ryan Fattman and MassDOT.

February 14, 2019 - Traffic Generation/Signal Warrant Analysis for Eastland's proposed development in Oxford prepared by Ali Khorasani of AK Associates and submitted to MassDOT.

February 15, 2019 - Meeting with Barry Lorion and MassDOT staff regarding controlled stop, current highway design, property taking, and sharing of any updated project information.

February 21, 2019 - MassDOT comments from our 2/15/19 meeting that the Traffic Study should be prepared on the newly released ITE Trip Generation Manual.

April 25, 2019 - Revised Traffic Generation/Signal Warrant Analysis is prepared by Ali Khorasani of AK Associates and submitted to MassDOT.

June 13, 2019 - Discussion organized by Melisa Alvino of MassDOT regarding future signal at Eastland development intersection with Route 20.

June 14, 2019 - MassDOT provides comments on revised Traffic Generation/Signal Warrant Analysis.

July 16, 2019 - Meeting with Jeffrey Gomes of MassDOT – District 3 in Worcester office.

August 5, 2019 - Meeting with Lionel Lucien and Michael Clark of MassDOT (Boston) regarding Eastland's Oxford Development.

January 29, 2020 – Attended MassDOT Public Outreach Meeting for Route 20 Reconstruction Project. Learned that the design has changed significantly along the frontage of the Eastland's property and Eastland's site engineering needs to be totally redesigned and will take months.

March 19, 2020 – Teleconference with Lori Shattuck of MassDOT regarding clearing, grading, and earth removal on a portion of Eastland's property in preparation of MEPA Phase 1 Waiver.

July 29, 2020 - Teleconference with Lori Shattuck and Tom Emerick of MassDOT continuing discussion of a MEPA Phase 1 Waiver.

August 20, 2020 – Meeting with Arthur Frost of MassDOT regarding MEPA Phase 1 Waiver.

*** GPI appears to be in picture ***

August 26, 2020 - Teleconference with MassDOT (District 3) and Phan Thuong (Boston) regarding review comments for MEPA Phase 1 Waiver request.

TRIP-GENERATION CALCULATIONS

Trip Generation Calculations (11th Edition)

	The Reserve	Auburn Condos			Auburn Condos	Ashworth Hills	Ashworth Commons					Ashworth Commons	TOTAL
	LUC 220	LUC 215	LUC 215	Total	LUC 215	LUC 215	LUC 821	LUC 945	LUC 934	LUC 710/712	Total	LUC 821, 945, 934, 710/712	
Weekday Daily		Albert St Ext	Blaker St										
Enter	1,076	22	7	29	29	442	1,193	1,101	643	428	3,365	3,365	4,912
Exit	1,076	22	7	29	29	660	1,168	1,078	464	437	3,147	3,147	4,912
Total	2,152	44	14	58	58	1,102	2,361	2,179	1,107	865	6,512	6,512	9,824
Weekday AM													
Enter	30	1	0	1	1	37	48	145	53	120	366	366	434
Exit	93	2	1	3	3	95	28	135	71	2	236	236	427
Total	123	3	1	4	4	132	76	280	124	122	602	602	861
Weekday PM													
Enter	101	2	1	3	3	43	88	95	47	23	253	253	400
Exit	59	2	0	2	2	36	92	96	31	115	334	334	431
Total	160	4	1	5	5	79	180	191	78	138	587	587	831
Saturday Daily													
Enter	737	26	9	35	35	1,193	1,702	1,449	872	69	4,092	4,092	6,057
Exit	737	26	9	35	35	1,295	1,500	1,277	1,130	83	3,990	3,990	6,057
Total	1,474	52	18	70	70	2,488	3,202	2,726	2,002	152	8,082	8,082	12,114
Saturday Midday													
Enter	68	2	0	2	2	44	130	103	83	17	333	333	447
Exit	65	2	1	3	3	42	107	88	103	16	314	314	424
Total	133	4	1	5	5	86	237	191	186	33	647	647	871

Ashworth Commons

	Total Trips					Pass-By Trips					New Trips				
	LUC 821	LUC 945	LUC 934	LUC 710/712	Total	LUC 821	LUC 945	LUC 934	LUC 710/712	Total	LUC 821	LUC 945	LUC 934	LUC 710/712	Total
Weekday Daily															
Enter	1,193	1,101	643	428	3,365	366	817	277	0	1,460	827	284	366	428	1,905
Exit	1,168	1,078	464	437	3,147	366	817	277	0	1,460	802	261	187	437	1,687
Total	2,361	2,179	1,107	865	6,512	732	1,634	554	0	2,920	1,629	545	553	865	3,592
Weekday AM															
Enter	48	145	53	120	366	12	106	31	0	149	36	39	22	120	217
Exit	28	135	71	2	236	12	106	31	0	149	16	29	40	2	87
Total	76	280	124	122	602	24	212	62	0	298	52	68	62	122	304
Weekday PM															
Enter	88	95	47	23	253	36	72	21	0	129	52	23	26	23	124
Exit	92	96	31	115	334	36	72	21	0	129	56	24	10	115	205
Total	180	191	78	138	587	72	144	42	0	258	108	47	36	138	329
Saturday Daily															
Enter	1,702	1,449	872	69	4,092	496	1,022	501	0	2,019	1,206	427	371	69	2,073
Exit	1,500	1,277	1,130	83	3,990	496	1,022	501	0	2,019	1,004	255	629	83	1,971
Total	3,202	2,726	2,002	152	8,082	992	2,044	1,002	0	4,038	2,210	682	1,000	152	4,044
Saturday Midday															
Enter	130	103	83	17	333	37	72	47	0	156	93	31	36	17	177
Exit	107	88	103	16	314	37	72	47	0	156	70	16	56	16	158
Total	237	191	186	33	647	74	144	94	0	312	163	47	92	33	335

	LUC 821	LUC 945	LUC 934	--
Weekday Daily	31%	75%	50%	--
Weekday AM	31%	76%	50%	--
Weekday PM	40%	75%	55%	--
Saturday Daily	31%	75%	50%	--
Saturday Midday	31%	75%	50%	--

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 220 - Multifamily Housing (Low-Rise)

General Urban/Suburban

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 324

AVERAGE WEEKDAY DAILY

T = 6.41 * (X) + 75.31
T = 6.41 * 324 + 75.31
T = 2152.15
T = 2,152 vehicle trips
with 50% (1,076 vpd) entering and 50% (1,076 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.31 * (X) + 22.85
T = 0.31 * 324 + 22.85
T = 123.29
T = 123 vehicle trips
with 24% (30 vph) entering and 76% (93 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.43 * (X) + 20.55
T = 0.43 * 324 + 20.55
T = 159.87
T = 160 vehicle trips
with 63% (101 vph) entering and 37% (59 vph) exiting.

SATURDAY DAILY

T = 4.55 * (X)
T = 4.55 * 324
T = 1474.20
T = 1,474 vehicle trips
with 50% (737 vpd) entering and 50% (737 vpd) exiting.

SATURDAY PEAK HOUR OF GENERATOR

T = 0.41 * (X)
T = 0.41 * 324
T = 132.84
T = 133 vehicle trips
*with 51% (68 vph) entering and 49% (65 vph) exiting.

** Distribution not given for Sat Midday Peak Hour, used distribution from LUC 221 - Dwelling Units*

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 215 - Single-Family Attached Housing

General Urban/Suburban

Average Vehicle Trips Ends vs: Dwelling Units

Independent Variable (X): 8

	Albert St Ext. 0.75	Blaker St 0.25
AVERAGE WEEKDAY DAILY		
T = 7.20 *(X)		
T = 7.20 * 8		
T = 57.60	22	7
T = 58 vehicle trips	22	7
with 50% (29 vpd) entering and 50% (29 vpd) exiting.	44	14
WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC		
T = 0.48 * (X)		
T = 0.48 * 8		
T = 3.84	1	0
T = 4 vehicle trips	2	1
with 31% (1 vph) entering and 69% (3 vph) exiting.	3	1
WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC		
T = 0.57 * (X)		
T = 0.57 * 8		
T = 4.56	2	1
T = 5 vehicle trips	2	0
with 57% (3 vph) entering and 43% (2 vph) exiting.	4	1
SATURDAY DAILY		
T = 8.76 * (X)		
T = 8.76 * 8		
T = 70.08	26	9
T = 70 vehicle trips	26	9
with 50% (35 vpd) entering and 50% (35 vpd) exiting.	52	18
SATURDAY PEAK HOUR OF GENERATOR		
T = 0.57 * (X)		
T = 0.57 * 8		
T = 4.56	2	0
T = 5 vehicle trips	2	1
with 48% (2 vph) entering and 52% (3 vph) exiting.	4	1

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 215 - Single-Family Attached Housing

General Urban/Suburban

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 320

AVERAGE WEEKDAY DAILY

T = 7.62 * (X) - 50.48
T = 7.62 * 320 - 50.48
T = 2387.92
T = 2,388 vehicle trips
with 50% (1,194 vpd) entering and 50% (1,194 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.52 * (X) - 5.70
T = 0.52 * 320 - 5.70
T = 160.70
T = 161 vehicle trips
with 25% (40 vpd) entering and 75% (121 vpd) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.60 * (X) - 3.93
T = 0.6 * 320 - 3.93
T = 188.07
T = 188 vehicle trips
with 59% (111 vpd) entering and 41% (77 vpd) exiting.

SATURDAY DAILY

T = 13.21 * (X) - 444.34
T = 13.21 * 320 - 444.34
T = 3782.86
T = 3,782 vehicle trips
with 50% (1,891 vpd) entering and 50% (1,891 vpd) exiting.

SATURDAY PEAK HOUR OF GENERATOR

Ln T = 0.82 Ln (X) + 0.43
Ln T = 0.82 Ln(320) - 0.43
Ln T = 5.16
T = 174.17
T = 174 vehicle trips
with 48% (84 vpd) entering and 52% (90 vpd) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 821 - Shopping Plaza (40-150k)

General Urban/Suburban

Average Vehicle Trips Ends vs: 1000 Sq. Ft. Gross Floor Area
Independent Variable (X): 49.800

AVERAGE WEEKDAY DAILY

T = 67.52 * (X)
T = 67.52 * 49.800
T = 3362.50
T = 3,362 vehicle trips
with 50% (1,681 vph) entering and 50% (1,681 vph) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 1.73 * (X)
T = 1.73 * 49.800
T = 86.15
T = 86 vehicle trips
with 62% (53 vph) entering and 38% (33 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 5.19 * (X)
T = 5.19 * 49.800
T = 258.46
T = 258 vehicle trips
with 49% (126 vph) entering and 51% (132 vph) exiting.

SATURDAY DAILY

T = 81.07 * (X)
T = 81.07 * 49.800
T = 4037.29
T = 4,038 vehicle trips
with 50% (2,019 vph) entering and 50% (2,019 vph) exiting.

SATURDAY PEAK HOUR OF GENERATOR

T = 6.22 * (X)
T = 6.22 * 49.800
T = 309.76
T = 310 vehicle trips
with 52% (161 vph) entering and 48% (149 vph) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 945 - Convenience Store/Gas Station

Subcategory: GFA (4-5.5k)

General Urban/Suburban

Average Vehicle Trips Ends vs: Vehicle Fueling Positions
Independent Variable (X): 12

AVERAGE WEEKDAY DAILY

T = 257.13 * (X)
T = 257.13 * 12
T = 3085.56
T = 3,086 vehicle trips
with 50% (1,543 vpd) entering and 50% (1,543 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 27.04 * (X)
T = 27.04 * 12
T = 324.48
T = 324 vehicle trips
with 50% (162 vph) entering and 50% (162 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 22.76 * (X)
T = 22.76 * 12
T = 273.12
T = 273 vehicle trips
with 50% (136 vph) entering and 50% (137 vph) exiting.

SATURDAY DAILY

T = 291.67 * (X)
T = 291.67 * 12
T = 3500.04
T = 3,500 vehicle trips
with 50% (1,750 vpd) entering and 50% (1,750 vpd) exiting.

SATURDAY PEAK HOUR OF GENERATOR

T = 20.44 * (X)
T = 20.44 * 12
T = 245.28
T = 245 vehicle trips
with 51% (125 vph) entering and 49% (120 vph) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 934 - Fast-Food Restaurant with Drive-Through Window

General Urban/Suburban

Average Vehicle Trips Ends vs: 1,000 Sq. Ft. Gross Floor Area
Independent Variable (X): 5.000

AVERAGE WEEKDAY DAILY

T = 467.48 * (X)
T = 467.48 * 5.000
T = 2337.40
T = 2,338 vehicle trips
with 50% (1,169 vpd) entering and 50% (1,169 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 44.61 * (X)
T = 44.61 * 5.000
T = 223.05
T = 223 vehicle trips
with 51% (114 vph) entering and 49% (109 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 33.03 * (X)
T = 33.03 * 5.000
T = 165.15
T = 165 vehicle trips
with 52% (86 vph) entering and 48% (79 vph) exiting.

SATURDAY DAILY

T = 616.12 * (X)
T = 616.12 * 5.000
T = 3080.60
T = 3,080 vehicle trips
with 50% (1,540 vpd) entering and 50% (1,540 vpd) exiting.

SATURDAY PEAK HOUR OF GENERATOR

T = 55.25 * (X)
T = 55.25 * 5.000
T = 276.25
T = 276 vehicle trips
with 51% (141 vph) entering and 49% (135 vph) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 710 - General Office Building

General Urban/Suburban

Average Vehicle Trips Ends vs: 1000 Sq. Feet Gross Floor Area
Independent Variable (X): 90.000

AVERAGE WEEKDAY DAILY

Ln(T) = 0.87 Ln (X) + 3.05
Ln(T) = 0.87 Ln (90.000) + 3.05
Ln(T) = 6.96
T = 1058.74
T = 1,058 vehicle trips
with 50% (529 vpd) entering and 50% (529 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

Ln(T) = 0.86 Ln (X) + 1.16
Ln(T) = 0.86 Ln (90.000) + 1.16
Ln(T) = 5.03
T = 152.91
T = 153 vehicle trips
with 88% (135 vph) entering and 12% (18 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

Ln(T) = 0.83 Ln (X) + 1.29
Ln(T) = 0.83 Ln (90.000) + 1.29
Ln(T) = 5.02
T = 152.15
T = 152 vehicle trips
with 17% (26 vph) entering and 83% (126 vph) exiting.

SATURDAY DAILY

T = 2.21 * (X)
T = 2.21 * 90.000
T = 198.90
T = 198 vehicle trips
with 50% (99 vph) entering and 50% (99 vph) exiting.

SATURDAY PEAK HOUR OF GENERATOR

T = 0.53 * (X)
T = 0.53 * 90.000
T = 47.70
T = 48 vehicle trips
with 54% (26 vph) entering and 46% (22 vph) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 712 - Small Office Building

General Urban/Suburban

Average Vehicle Trips Ends vs: 1000 Sq. Feet Gross Floor Area
Independent Variable (X): 10.000

AVERAGE WEEKDAY DAILY

T = 14.39 * (X)
T = 14.39 * 10.000
T = 143.90
T = 144 vehicle trips
with 50% (72 vpd) entering and 50% (72 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 1.67 * (X)
T = 1.67 * 10.000
T = 16.70
T = 17 vehicle trips
with 82% (14 vph) entering and 18% (3 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 2.16* (X)
T = 2.16 * 10.000
T = 21.60
T = 22 vehicle trips
with 34% (7 vph) entering and 66% (15 vph) exiting.

SATURDAY DAILY

$$\frac{\text{ITE LUC 710 Saturday Daily Trip Rate}}{\text{ITE LUC 710 Weekday Daily Trip Rate}} = \frac{\text{ITE LUC 712 Saturday Daily Trip Rate}}{\text{ITE LUC 712 Weekday Daily Trip Rate}}$$

$$\frac{2.21}{10.84} = \frac{(Y)}{14.39} \quad ' = 2.93$$

T = Y * 10.000
T = 29.30
T = 30 vehicle trips
with 50% (15 vpd) entering and 50% (15 vpd) exiting.

(same distribution split as ITE LUC 710 during the Saturday Daily)

SATURDAY PEAK HOUR OF GENERATOR

$$\frac{\text{ITE LUC 710 Saturday Peak Hour Trip Rate}}{\text{ITE LUC 710 PM Peak Hour Trip Rate}} = \frac{\text{ITE LUC 712 Saturday Peak Hour Trip Rate}}{\text{ITE LUC 712 PM Peak Hour Trip Rate}}$$

$$\frac{0.53}{1.44} = \frac{(Y)}{2.16} \quad ' = 0.80$$

T = Y * 10.000
T = 8.00
T = 8 vehicle trips
with 54% (4 vpd) entering and 46% (4 vpd) exiting.

(same distribution split as ITE LUC 710 during the Saturday Peak Hour)

TOTAL SITE-GENERATED TRIPS PER USE

		Retail	Restaurant	Entertainment	Residential	Hotel	Office
ITE Land Use Codes:		821, 945	934		215		710/712
Size:		49,800	5,000		320		100,000
Measurement:		SF	SF	SEATS	UNITS	ROOMS	SF
Weekday Daily	Entering	3,224	1,169	0	1,194	0	601
	Exiting	3,224	1,169	0	1,194	0	601
	Total	6448	2338	0	2388	0	1202
Weekday AM Peak Hour	Entering	215	114	0	40	0	149
	Exiting	195	109	0	121	0	21
	Total	410	223	0	161	0	170
Weekday PM Peak Hour	Entering	262	86	0	111	0	33
	Exiting	269	79	0	77	0	141
	Total	531	165	0	188	0	174
Saturday Daily	Entering	3,769	1,540	0	1,891	0	114
	Exiting	3,769	1,540	0	1,891	0	114
	Total	7538	3080	0	3782	0	228
Saturday Midday Peak Hour	Entering	286	141	0	84	0	30
	Exiting	269	135	0	90	0	26
	Total	555	276	0	174	0	56

Name of Development: The Reserve

Date: 1/18/2023

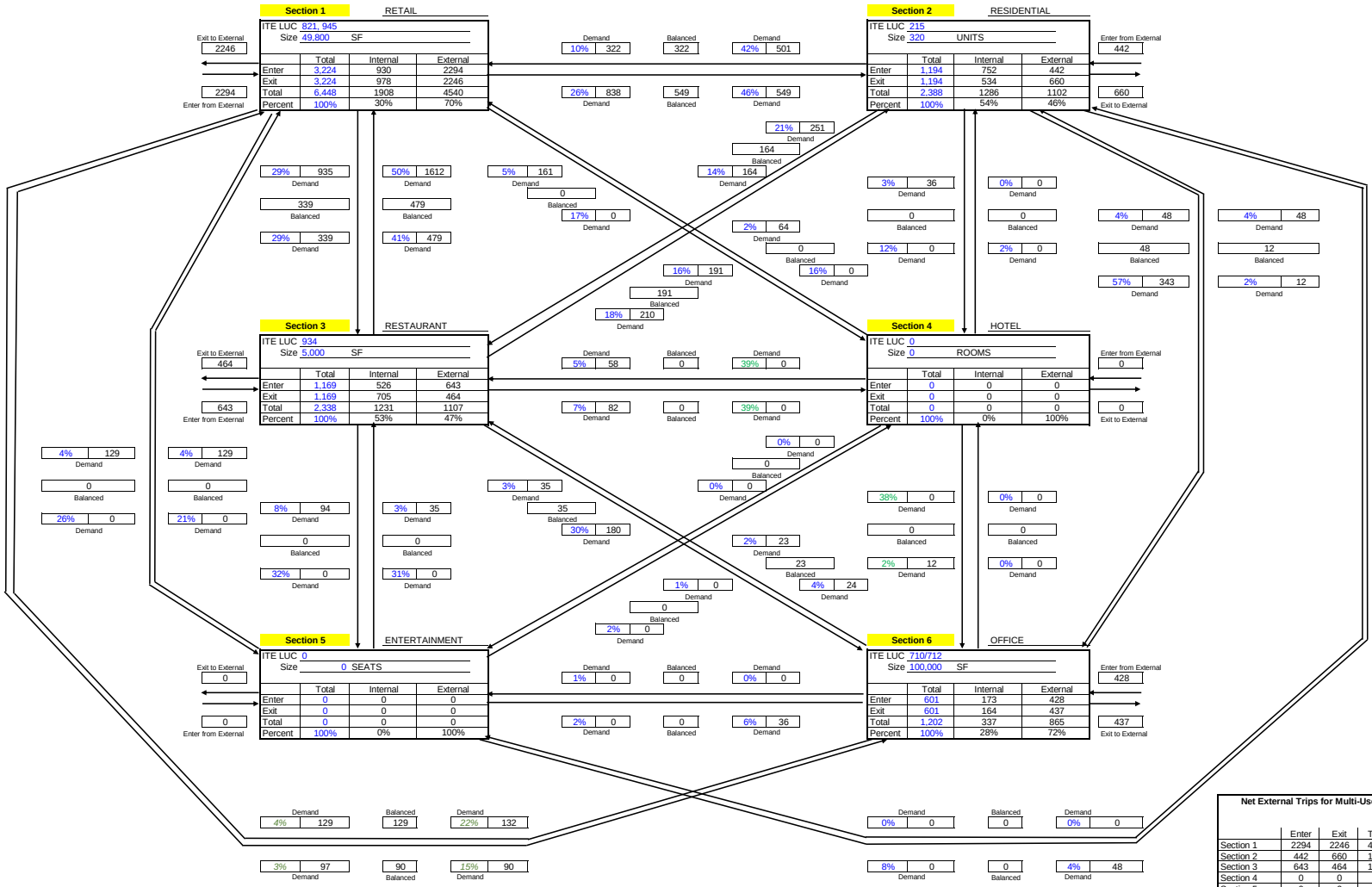
Analyst: Susannah E. Theriault, P.E.

Note: Fill in cells highlighted in blue only. All others calculated automatically

Analyst: Susannah E. Theriault, P.E.
Date: January 18, 2023

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt: The Reserve
Time Period: Weekday Daily



Net External Trips for Multi-Use Development

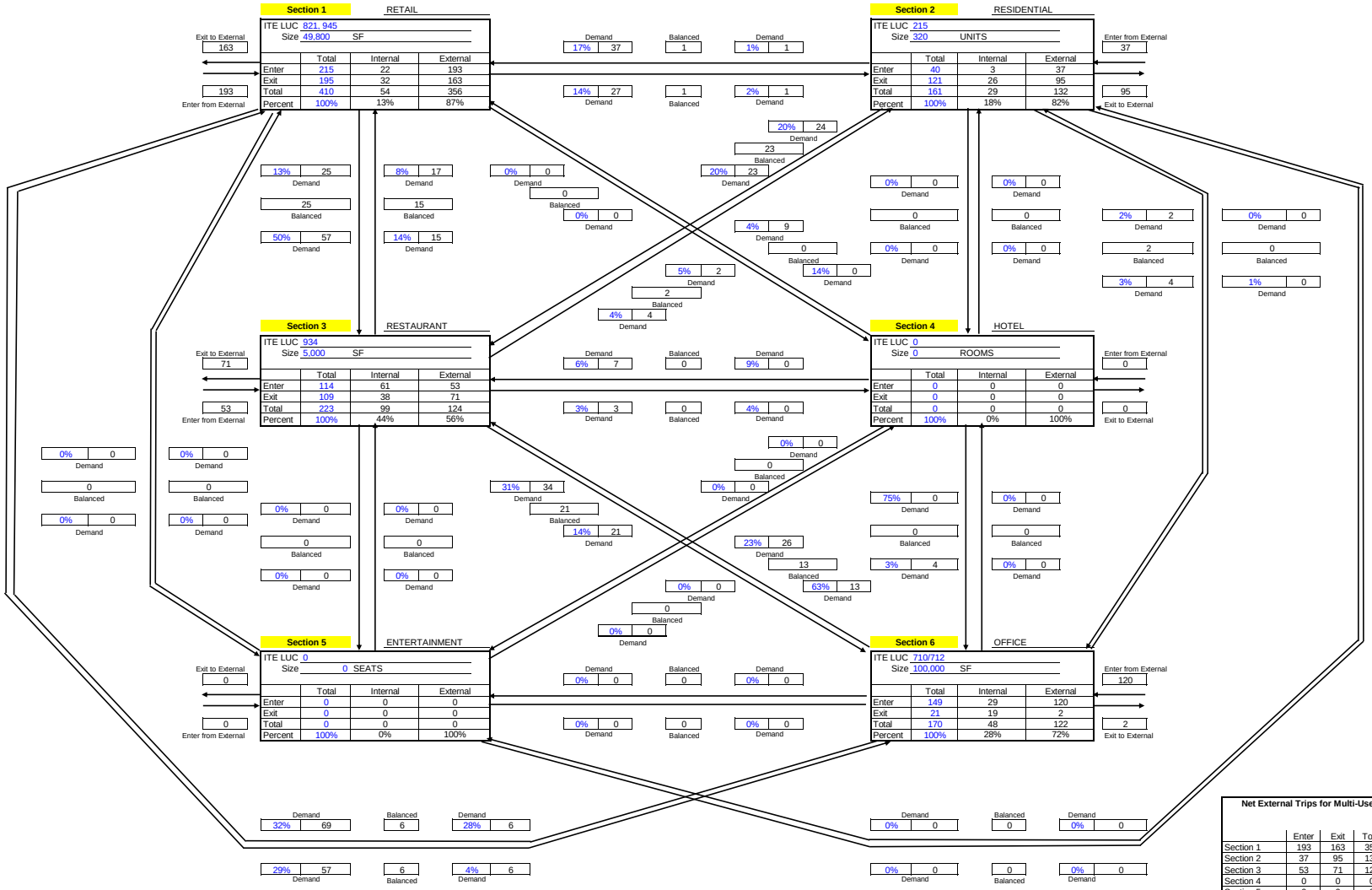
	Enter	Exit	Total	Single-Use Trip Gen Est.	
Section 1	2294	2246	4540	6448	
Section 2	442	660	1102	2388	
Section 3	643	464	1107	2338	
Section 4	0	0	0	0	
Section 5	0	0	0	0	
Section 6	428	437	865	1202	*Internal Capture*
TOTAL	3807	3807	7614	12376	**38%**

Based on Weekday PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on an average of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.

Analyst: Susannah E. Theriault, P.E.
Date: January 18, 2023

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt: The Reserve
Time Period: Weekday AM



Net External Trips for Multi-Use Development

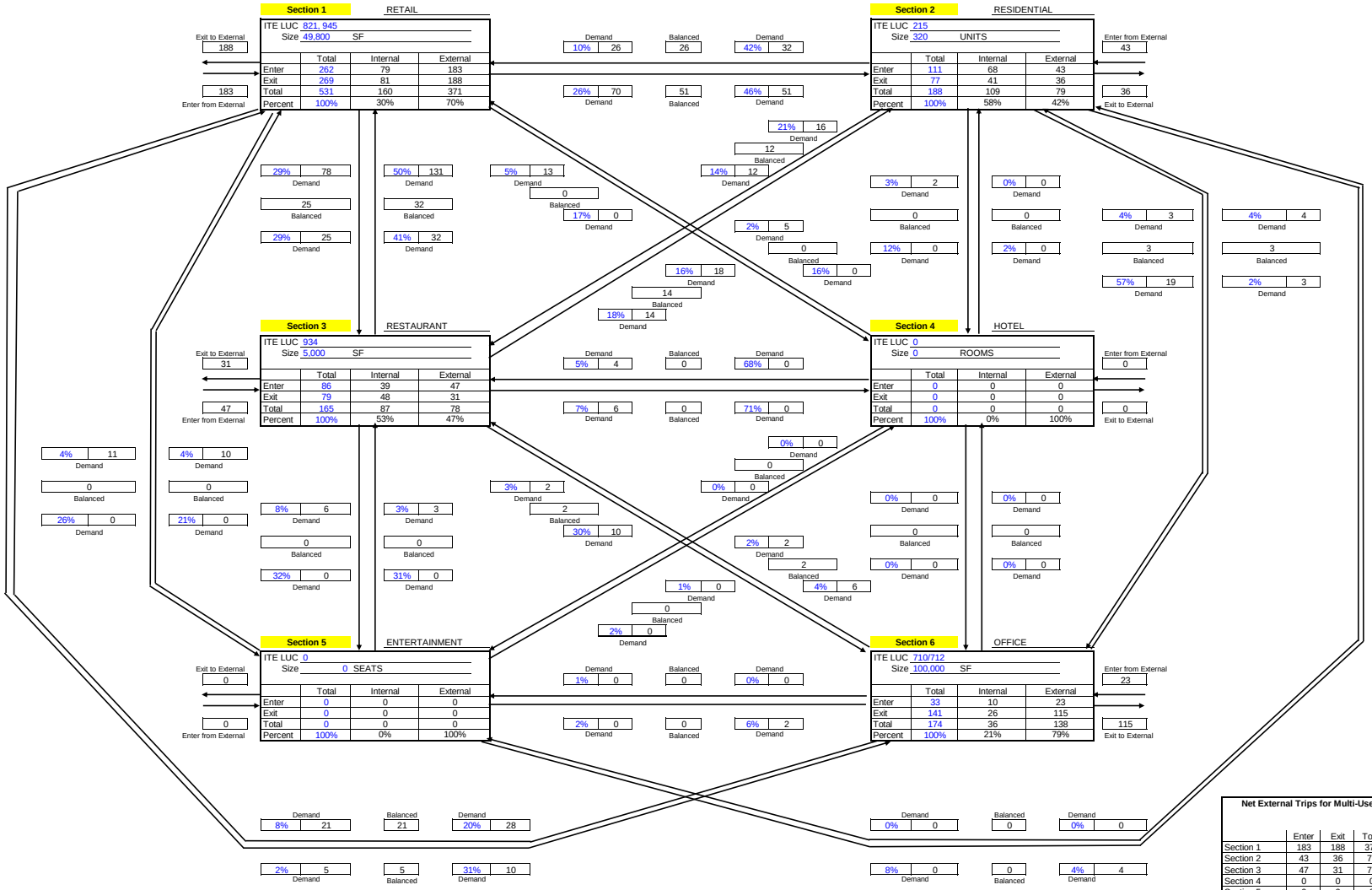
	Enter	Exit	Total	Single-Use Trip Gen Est.	
Section 1	193	163	356	410	
Section 2	37	95	132	161	
Section 3	53	71	124	223	
Section 4	0	0	0	0	
Section 5	0	0	0	0	
Section 6	120	2	122	170	*Internal Capture*
TOTAL	403	331	734	964	**24%**

Based on ITE Trip Generation Handbook, 3rd Edition, August 2014.

Analyst: Susannah E. Theriault, P.E.
Date: January 18, 2023

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt: The Reserve
Time Period: Weekday PM



Net External Trips for Multi-Use Development

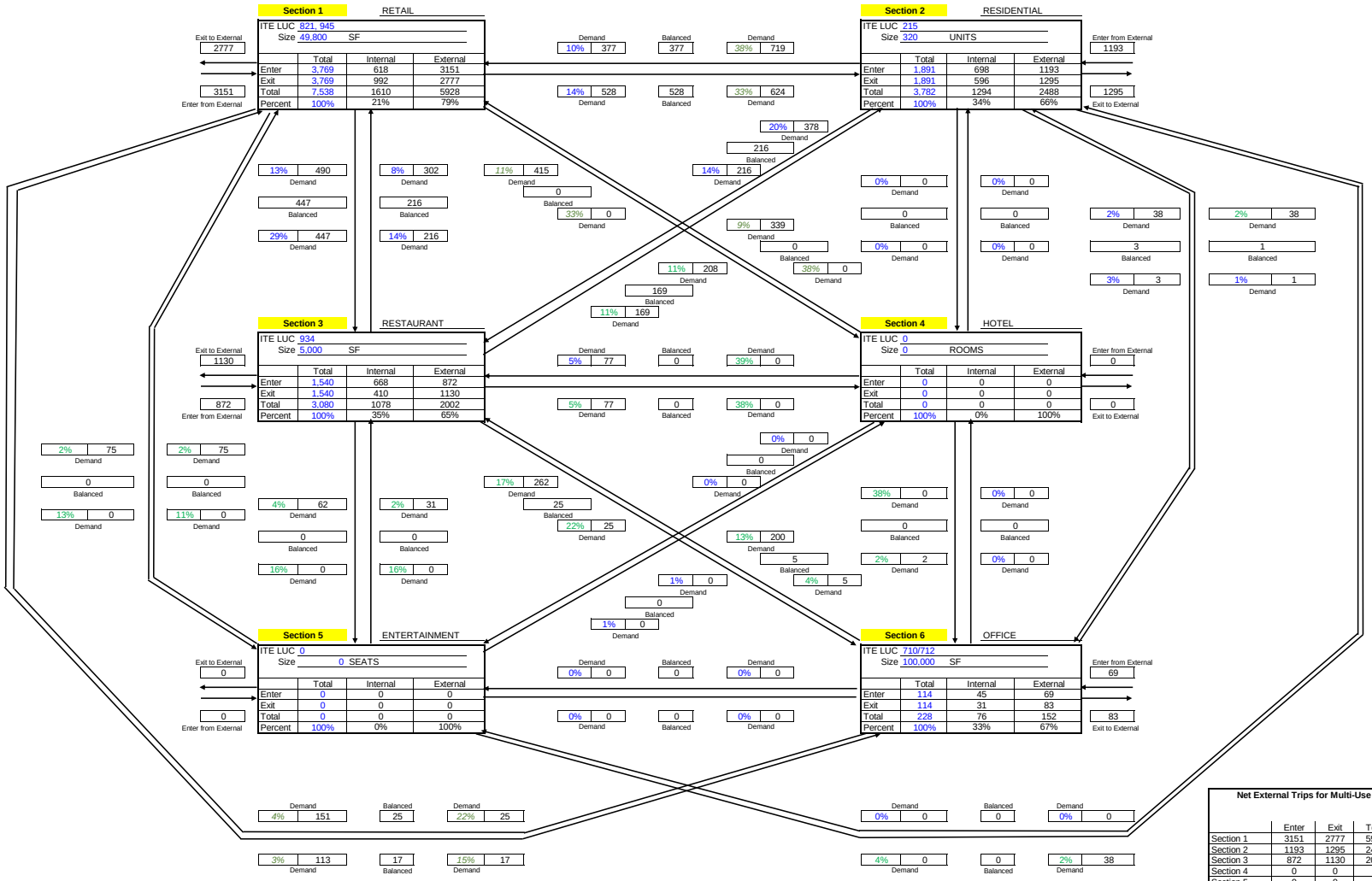
	Enter	Exit	Total	Single-Use Trip Gen Est.	
Section 1	183	188	371	531	
Section 2	43	36	79	188	
Section 3	47	31	78	165	
Section 4	0	0	0	0	
Section 5	0	0	0	0	
Section 6	23	115	138	174	*Internal Capture*
TOTAL	296	370	666	1058	**37%**

Based on ITE Trip Generation Handbook, 3rd Edition, August 2014.

Analyst: Susannah E. Theriault, P.E.
Date: January 18, 2023

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt: The Reserve
Time Period: Saturday Daily



Net External Trips for Multi-Use Development

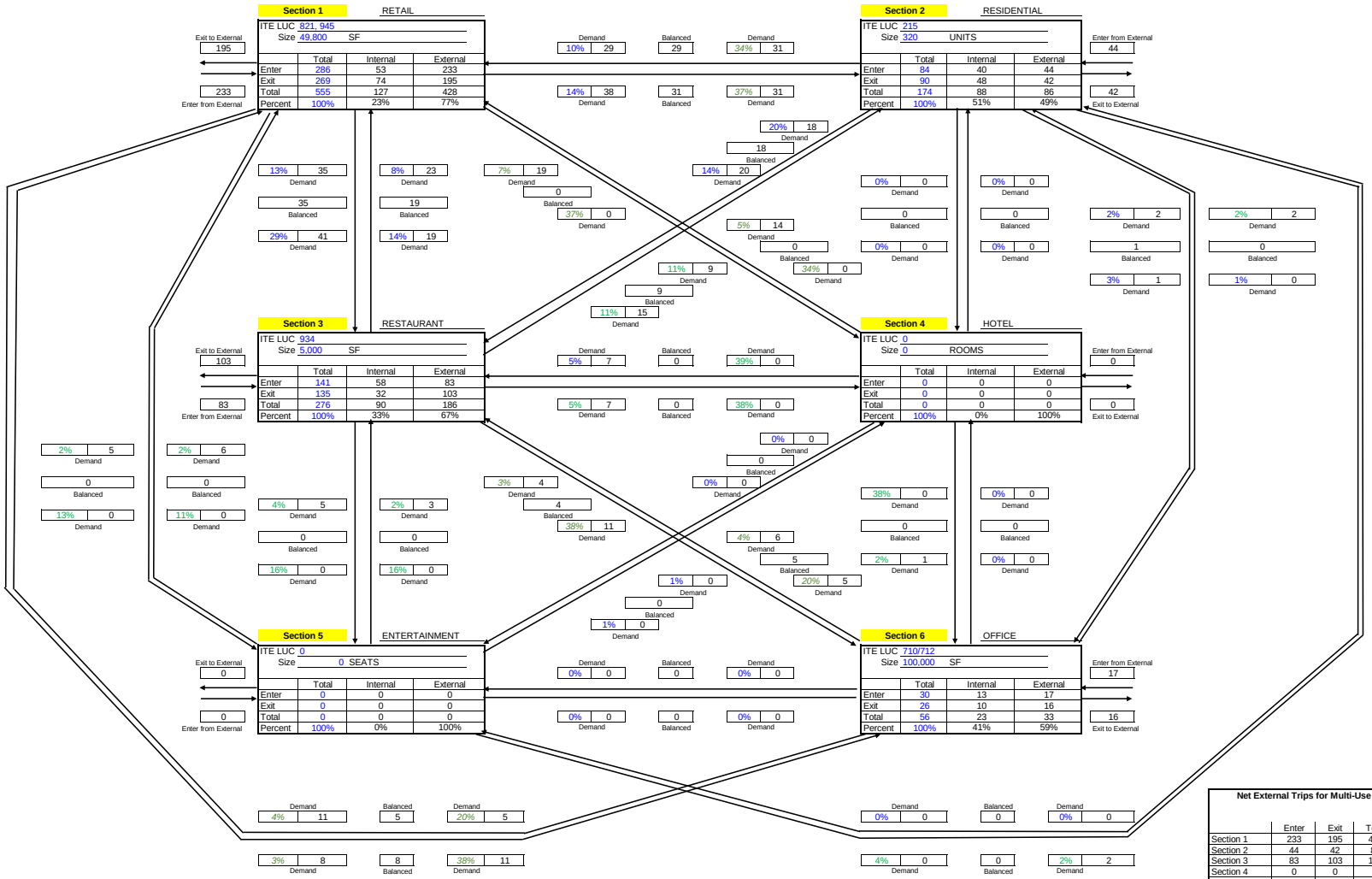
	Enter	Exit	Total	Single-Use Trip Gen Est.	
Section 1	3151	2777	5928	7538	
Section 2	1193	1295	2488	3782	
Section 3	872	1130	2002	3080	
Section 4	0	0	0	0	
Section 5	0	0	0	0	
Section 6	69	83	152	228	*Internal Capture*
TOTAL	5285	5285	10570	14628	**28%**

Based on most conservative of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on an average of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on ITE Trip Generation Handbook, 2nd Edition, June 2004.

Analyst: Susannah E. Theriault, P.E.
Date: January 18, 2023

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt: The Reserve
Time Period: Saturday Midday



Net External Trips for Multi-Use Development

	Enter	Exit	Total	Single-Use Trip Gen Est.	
Section 1	233	195	428	555	
Section 2	44	42	86	174	
Section 3	83	103	186	276	
Section 4	0	0	0	0	
Section 5	0	0	0	0	
Section 6	17	16	33	56	*Internal Capture*
TOTAL	377	356	733	1061	**31%**

Based on most conservative of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on an average of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on ITE Trip Generation Handbook, 2nd Edition, June 2004.

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	821
Land Use	Shopping Plaza (40 - 150k)
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	15
Average Pass-By Rate	40%

Pass-By Characteristics for Individual Sites

GLA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
45	Florida	1992	844	56	24	20	44	—	30
50	Florida	1992	555	41	41	18	59	—	30
52	Florida	1995	665	42	33	25	58	—	30
53	Florida	1993	162	59	—	—	41	—	30
57.23	Kentucky	1993	247	31	53	16	69	2659	34
60	Florida	1995	1583	40	38	22	60	—	30
69.4	Kentucky	1993	109	25	42	33	75	1559	34
77	Florida	1992	365	46	—	—	54	—	30
78	Florida	1991	702	55	23	22	45	—	30
82	Florida	1992	336	34	—	—	66	—	30
92.857	Kentucky	1993	133	22	50	28	78	3555	34
100.888	Kentucky	1993	281	28	50	22	72	2111	34
121.54	Kentucky	1993	210	53	30	17	47	2636	34
144	New Jersey	1990	176	32	44	24	68	—	24
146.8	Kentucky	1993	—	36	39	25	64	—	34

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	821								
Land Use	Shopping Plaza (40 - 150k)								
Setting	General Urban/Suburban								
Time Period	Saturday Midday								
# Data Sites	1								
Average Pass-By Rate	31%								
	Pass-By Characteristics for Individual Sites								
	State or	Survey		Pass-By	Non-Pass-By Trips			Adjacent Street	
GLA (000)	Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Daily Volume	Source
144	New Jersey	1990	264	31	47	22	69	63362	24

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

Land Use Code	945									
Land Use	Convenience Store/Gas Station									
Setting	General Urban/Suburban									
Time Period	Weekday AM Peak Period									
# Data Sites	16 Sites with between 2 and 8 VFP					28 Sites with between 9 and 20 VFP				
Average Pass-By Rate	60% for Sites with between 2 and 8 VFP					76% for Sites with between 9 and 20 VFP				
	Pass-By Characteristics for Individual Sites									
			Survey		Pass-By	Non-Pass-By Trips			Adj Street Peak	
GFA (000)	VFP	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source
2	8	Maryland	1992	46	87	13	0	13	2235	25
2.1	6	Maryland	1992	26	58	23	19	42	2080	25
2.1	6	Maryland	1992	26	58	23	19	42	2080	25
2.2	8	Maryland	1992	31	47	34	19	53	1785	25
2.2	< 8	Indiana	1993	79	56	6	38	44	635	2
2.2	8	Maryland	1992	35	78	9	13	22	7080	25
2.3	6	Maryland	1992	37	32	41	27	68	2080	25
2.3	< 8	Kentucky	1993	58	64	5	31	36	1255	2
2.3	6	Maryland	1992	37	32	41	27	68	2080	25
2.4	< 8	Kentucky	1993	—	48	17	35	52	1210	2
2.6	< 8	Kentucky	1993	—	72	15	13	28	940	2
2.8	< 8	Kentucky	1993	—	54	11	35	46	1240	2
3	< 8	Indiana	1993	62	74	10	16	26	790	2
3.6	< 8	Kentucky	1993	49	67	4	29	33	1985	2
3.7	< 8	Kentucky	1993	49	66	16	18	34	990	2
4.694	12	Maryland	2000	—	72	—	—	28	2440	30
4.694	12	Maryland	2000	—	78	—	—	22	1561	30
4.694	12	Maryland	2000	—	79	—	—	21	2764	30
4.848	12	Virginia	2000	—	55	—	—	45	1398	30
5.06	12	Pennsylvania	2000	—	84	—	—	16	3219	30
5.242	12	Virginia	2000	—	74	—	—	26	1160	30
5.242	12	Virginia	2000	—	71	—	—	29	548	30
5.488	12	Delaware	2000	—	80	—	—	20	—	30
5.5	12	Pennsylvania	2000	—	85	—	—	15	2975	30
4.2	< 8	Kentucky	1993	47	62	19	19	38	1705	2
4.694	16	Maryland	2000	—	90	—	—	10	2278	30
4.694	16	Delaware	2000	—	74	—	—	26	2185	30
4.694	16	Delaware	2000	—	58	—	—	42	962	30
4.694	16	Delaware	2000	—	84	—	—	16	2956	30
4.694	16	New Jersey	2000	—	79	—	—	21	1859	30
4.694	20	Delaware	2000	—	84	—	—	16	3864	30
4.848	16	Virginia	2000	—	68	—	—	32	2106	30
4.848	16	Virginia	2000	—	85	—	—	15	2676	30
4.848	16	Virginia	2000	—	75	—	—	25	3244	30
4.848	16	Virginia	2000	—	71	—	—	29	1663	30
4.993	16	Pennsylvania	2000	—	75	—	—	25	1991	30
5.094	16	New Jersey	2000	—	86	—	—	14	1260	30
5.5	16	Pennsylvania	2000	—	82	—	—	18	1570	30
5.543	16	Pennsylvania	2000	—	84	—	—	16	1933	30
5.565	16	Pennsylvania	2000	—	77	—	—	23	2262	30
5.565	16	Pennsylvania	2000	—	68	—	—	32	2854	30
5.565	16	New Jersey	2000	—	58	—	—	42	1253	30
5.565	16	New Jersey	2000	—	79	—	—	21	1928	30
5.565	16	New Jersey	2000	---	84	---	---	16	1953	30

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

Land Use Code	945									
Land Use	Convenience Store/Gas Station									
Setting	General Urban/Suburban									
Time Period	Weekday PM Peak Period									
# Data Sites	12 Sites with between 2 and 8 VFP					28 Sites with between 9 and 20 VFP				
Average Pass-By Rate	56% for Sites with between 2 and 8 VFP					75% for Sites with between 9 and 20 VFP				
	Pass-By Characteristics for Individual Sites									
			Survey		Pass-By	Non-Pass-By Trips			Adj Street Peak	
GFA (000)	VFP	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source
2.1	8	Maryland	1992	31	52	13	35	48	1785	25
2.1	6	Maryland	1992	30	53	20	27	47	1060	25
2.2	< 8	Indiana	1993	115	48	16	36	52	820	2
2.3	< 8	Kentucky	1993	67	57	16	27	43	1954	2
2.3	6	Maryland	1992	55	40	11	49	60	2760	25
2.4	< 8	Kentucky	1993	—	58	13	29	42	2655	2
2.6	< 8	Kentucky	1993	68	67	15	18	33	950	2
2.8	< 8	Kentucky	1993	—	62	11	27	38	2875	2
3	< 8	Indiana	1993	80	65	15	20	35	1165	2
3.6	< 8	Kentucky	1993	60	56	17	27	44	2505	2
3.7	< 8	Kentucky	1993	70	61	16	23	39	2175	2
4.2	< 8	Kentucky	1993	61	58	26	16	42	2300	2
4.694	12	Maryland	2000	—	78	—	—	22	3549	30
4.694	12	Maryland	2000	—	67	—	—	33	2272	30
4.694	12	Maryland	2000	—	66	—	—	34	3514	30
4.848	12	Virginia	2000	—	71	—	—	29	2350	30
5.06	12	Pennsylvania	2000	—	91	—	—	9	4181	30
5.242	12	Virginia	2000	—	70	—	—	30	2445	30
5.242	12	Virginia	2000	—	56	—	—	44	950	30
5.488	12	Delaware	2000	—	73	—	—	27	—	30
5.5	12	Pennsylvania	2000	—	84	—	—	16	4025	30
4.694	16	Maryland	2000	—	89	—	—	11	2755	30
4.694	16	Delaware	2000	—	73	—	—	27	1858	30
4.694	16	Delaware	2000	—	59	—	—	41	1344	30
4.694	16	Delaware	2000	—	72	—	—	28	3434	30
4.694	16	New Jersey	2000	—	81	—	—	19	1734	30
4.694	20	Delaware	2000	—	76	—	—	24	1616	30
4.848	16	Virginia	2000	—	67	—	—	33	2.954	30
4.848	16	Virginia	2000	—	78	—	—	22	3086	30
4.848	16	Virginia	2000	—	83	—	—	17	4143	30
4.848	16	Virginia	2000	—	73	—	—	27	2534	30
4.993	16	Pennsylvania	2000	—	72	—	—	28	2917	30
5.094	16	New Jersey	2000	—	86	—	—	14	1730	30
5.5	16	Pennsylvania	2000	—	90	—	—	10	2616	30
5.543	16	Pennsylvania	2000	—	87	—	—	13	2363	30
5.565	16	Pennsylvania	2000	—	81	—	—	19	2770	30
5.565	16	Pennsylvania	2000	—	76	—	—	24	3362	30
5.565	16	New Jersey	2000	—	61	—	—	39	1713	30
5.565	16	New Jersey	2000	—	86	—	—	14	1721	30
5.565	16	New Jersey	2000	---	81	---	---	19	2227	30

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	934
Land Use	Fast-Food Restaurant with Drive-Through Window
Setting	General Urban/Suburban
Time Period	Weekday AM Peak Period
# Data Sites	5
Average Pass-By Rate	50%

Pass-By Characteristics for Individual Sites

GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
1.4	Kentucky	1993	—	62	22	16	38	1407	2
3	Kentucky	1993	—	43	14	43	57	2903	2
3.3	--	1996	—	68	—	—	32	—	21
3.6	Kentucky	1993	—	32	47	21	68	437	2
4.2	Indiana	1993	—	46	23	31	54	1049	2

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	934
Land Use	Fast-Food Restaurant with Drive-Through Window
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	11
Average Pass-By Rate	55%

Pass-By Characteristics for Individual Sites

GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
1.3	Kentucky	1993	—	68	22	10	32	2055	2
1.9	Kentucky	1993	33	67	24	9	33	2447	2
2.8	Florida	1995	47	66	—	—	34	—	30
2.9	Florida	1996	271	41	41	18	59	—	30
3	Kentucky	1993	—	31	31	38	69	4250	2
3.1	Florida	1995	28	71	—	—	29	—	30
3.1	Florida	1996	29	38	—	—	62	—	30
3.2	Florida	1996	202	40	39	21	60	—	30
3.3	—	1996	—	62	—	—	38	—	21
4.2	Indiana	1993	—	56	25	19	44	1632	2
4.3	Florida	1994	304	62	—	—	38	—	30

TRIP DISTRIBUTION DATA (FIGURES A-4 THROUGH A-7 & JOURNEY-TO-WORK)

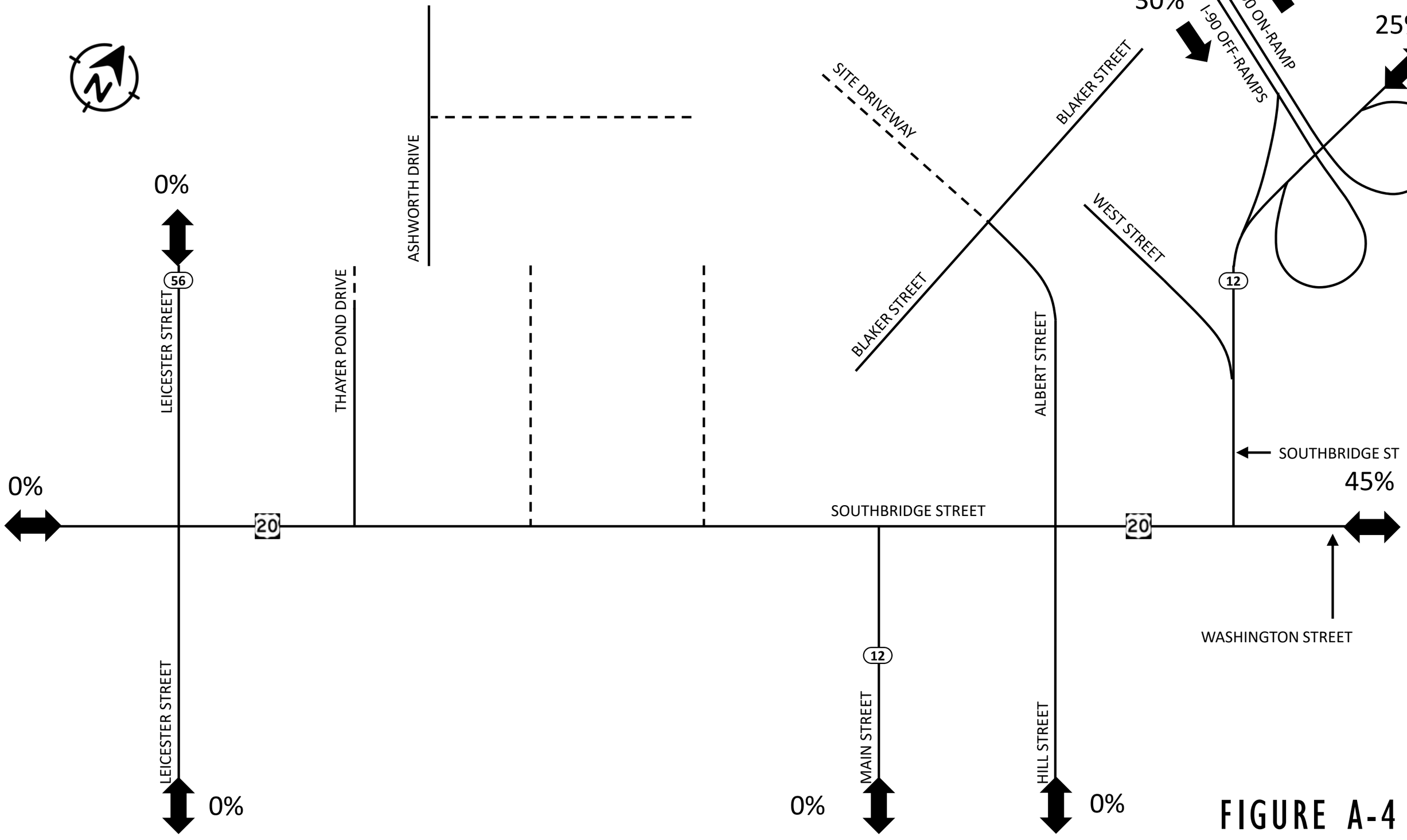


FIGURE A-4

THE RESERVE & AUBURN CONDOS TRIP DISTRIBUTION

GPI
Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887
THE RESERVE – OXFORD/AUBURN, MA

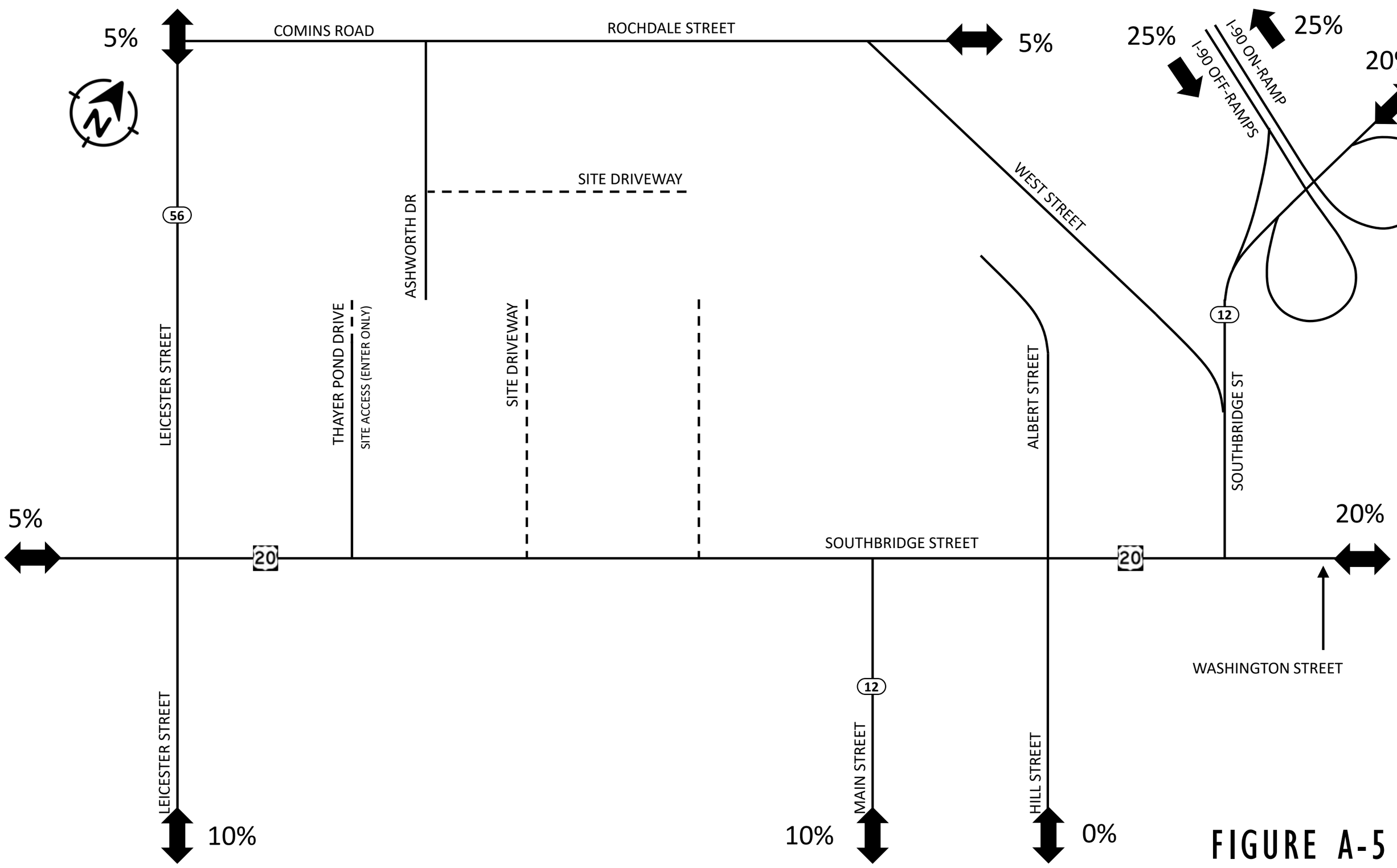


FIGURE A-5

ASHWORTH HILLS TRIP DISTRIBUTION

Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887

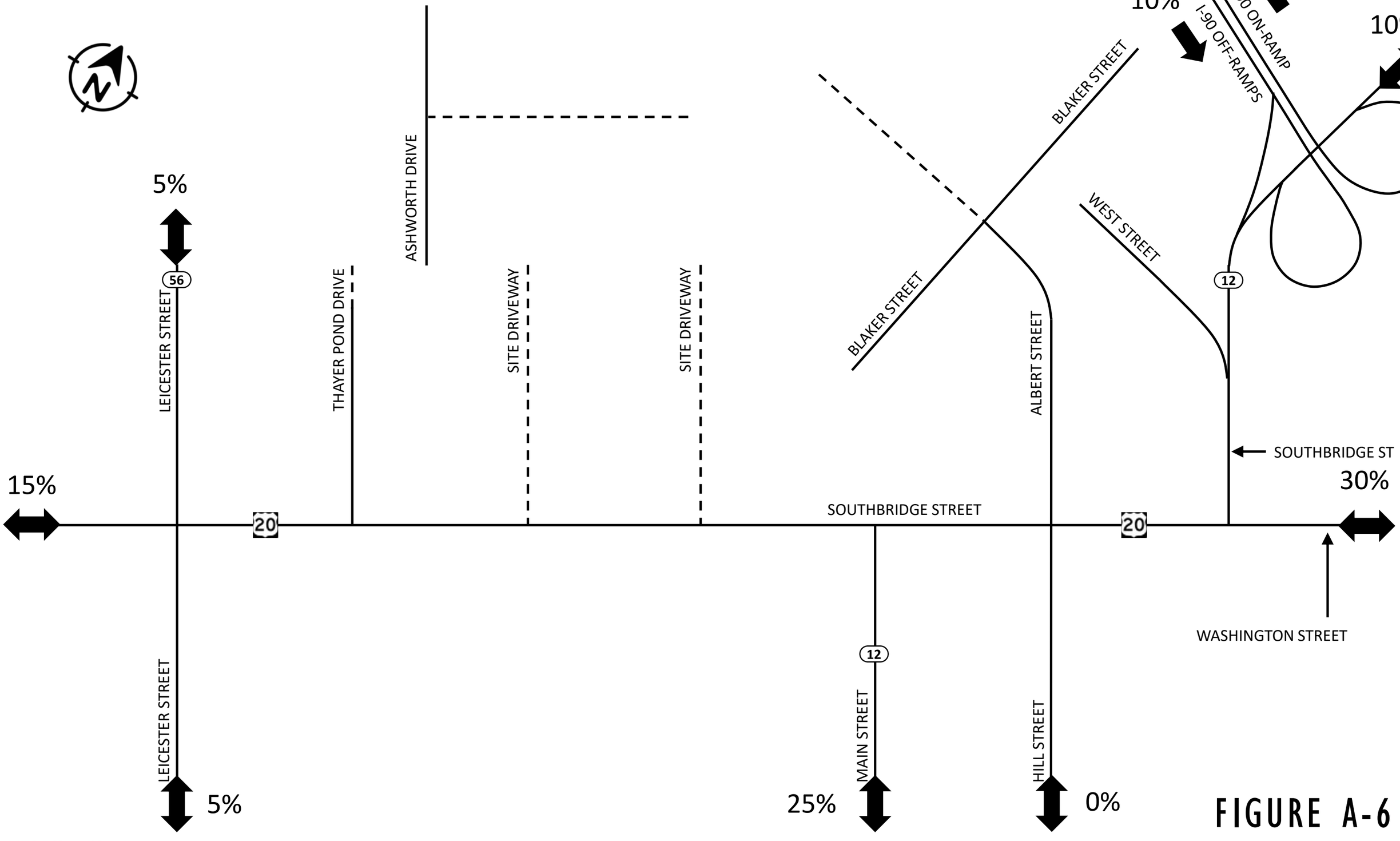


FIGURE A-6

ASHWORTH COMMONS OFFICE TRIP DISTRIBUTION

GPI
Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887
THE RESERVE – OXFORD/AUBURN, MA

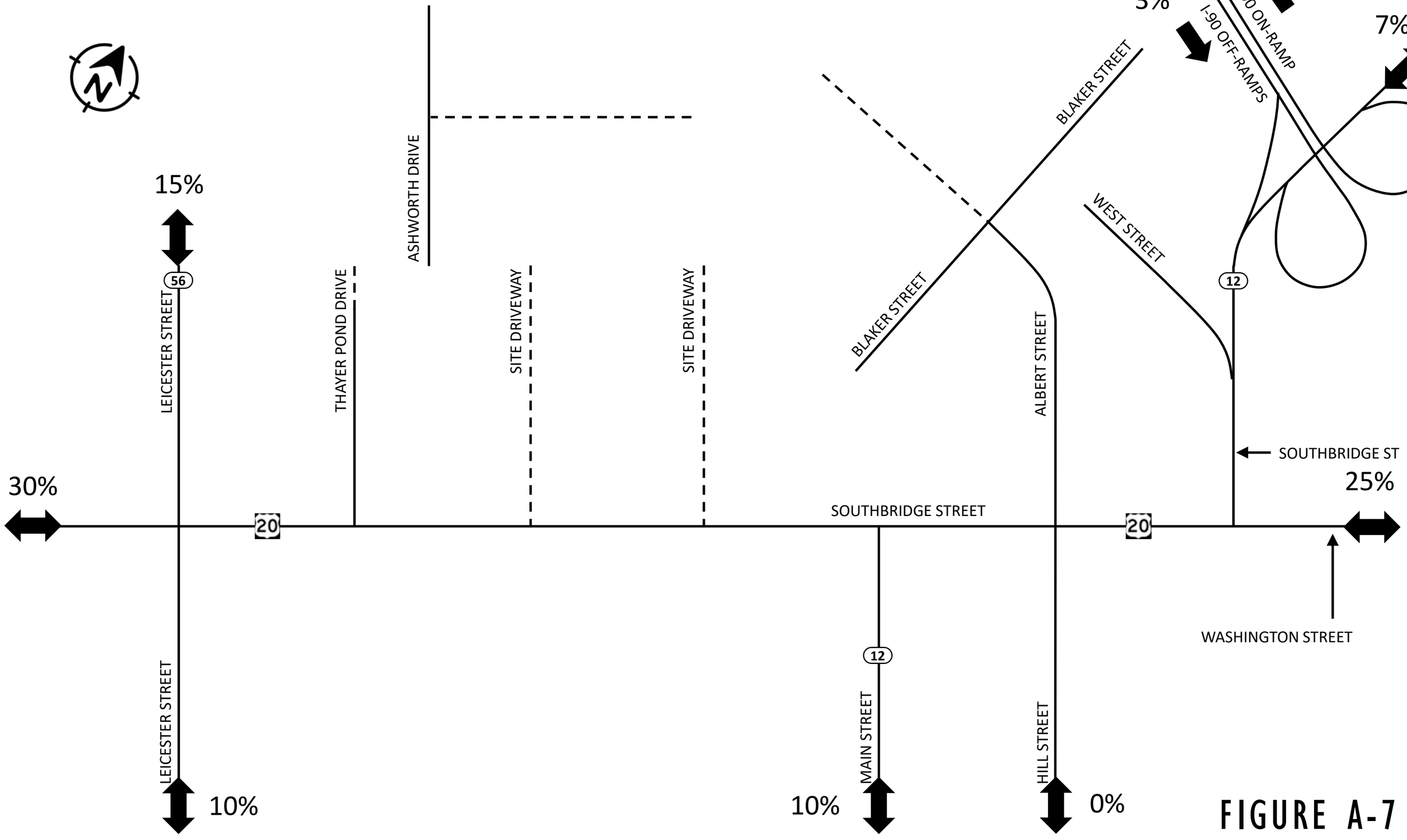


FIGURE A-7

ASHWORTH COMMONS RETAIL TRIP DISTRIBUTION

GPI
Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887
THE RESERVE – OXFORD/AUBURN, MA

Residence		Place of Work		Commuting Flow			Entering/Exiting Site To/From									Entering/Exiting Site To/From								
State Name	Minor Civil Division Name	State Name	Minor Civil Division Name	Workers in Commuting Flow			West Route 20	East Route 20	North Route 56	South Route 56	South Route 12	South Hill St	East I-90 Ramps	East Route 12	North Ashworth Drive	West Route 20	East Route 20	North Route 56	South Route 56	South Route 12	South Hill St	East I-90 Ramps	East Route 12	North Ashworth Drive
Massachusetts	Auburn town	Massachusetts	Worcester city	2,436	29.36%	34.53%		50%					25%	25%		0.0	1218.0	0.0	0.0	0.0	0.0	609.0	609.0	0.0
Massachusetts	Auburn town	Massachusetts	Auburn town	1,572	18.95%	22.29%		50%						50%		0.0	786.0	0.0	0.0	0.0	0.0	0.0	786.0	0.0
Massachusetts	Auburn town	Massachusetts	Shrewsbury town	408	4.92%	5.78%		50%					50%			0.0	204.0	0.0	0.0	0.0	0.0	204.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Westborough town	395	4.76%	5.60%		50%					50%			0.0	197.5	0.0	0.0	0.0	0.0	197.5	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Framingham town	205	2.47%	2.91%		10%					90%			0.0	20.5	0.0	0.0	0.0	0.0	184.5	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Millbury town	202	2.43%	2.86%		60%					40%			0.0	121.2	0.0	0.0	0.0	0.0	80.8	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Marlborough city	160	1.93%	2.27%		50%					50%			0.0	80.0	0.0	0.0	0.0	0.0	80.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Northborough town	155	1.87%	2.20%		60%					40%			0.0	93.0	0.0	0.0	0.0	0.0	62.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Boston city	130	1.57%	1.84%							100%			0.0	0.0	0.0	0.0	0.0	0.0	130.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Milford town	123	1.48%	1.74%		40%					60%			0.0	49.2	0.0	0.0	0.0	0.0	73.8	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Waltham city	117	1.41%	1.66%							100%			0.0	0.0	0.0	0.0	0.0	0.0	117.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Grafton town	96	1.16%	1.36%		30%					40%	30%		0.0	28.8	0.0	0.0	0.0	0.0	38.4	28.8	0.0
Massachusetts	Auburn town	Massachusetts	Sutton town	96	1.16%	1.36%		50%						50%		0.0	48.0	0.0	0.0	0.0	0.0	0.0	48.0	0.0
Massachusetts	Auburn town	Massachusetts	West Boylston town	81	0.98%	1.15%		70%					30%			0.0	56.7	0.0	0.0	0.0	0.0	24.3	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Webster town	79	0.95%	1.12%		40%			40%	10%				0.0	31.6	0.0	0.0	31.6	7.9	0.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Leicester town	78	0.94%	1.11%			60%					40%		0.0	0.0	46.8	0.0	0.0	0.0	0.0	31.2	0.0
Massachusetts	Auburn town	Massachusetts	Cambridge city	73	0.88%	1.03%							100%			0.0	0.0	0.0	0.0	0.0	0.0	73.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Fitchburg city	71	0.86%	1.01%		70%	30%							0.0	49.7	21.3	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Southbridge Town city	70	0.84%	0.99%	70%						30%			49.0	0.0	0.0	0.0	0.0	0.0	21.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Leominster city	68	0.82%	0.96%		70%	30%							0.0	47.6	20.4	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Oxford town	58	0.70%	0.82%		40%			40%	10%				0.0	23.2	0.0	0.0	23.2	5.8	0.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Newton city	52	0.63%	0.74%							100%			0.0	0.0	0.0	0.0	0.0	0.0	52.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Dudley town	50	0.60%	0.71%		40%			40%	10%				0.0	20.0	0.0	0.0	20.0	5.0	0.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Lowell city	49	0.59%	0.69%		30%					40%	30%		0.0	14.7	0.0	0.0	0.0	0.0	19.6	14.7	0.0
Massachusetts	Auburn town	Massachusetts	Burlington town	47	0.57%	0.67%		25%					50%	25%		0.0	11.8	0.0	0.0	0.0	0.0	23.5	11.8	0.0
Massachusetts	Auburn town	Massachusetts	Charlton town	47	0.57%	0.67%	100%									47.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Northbridge town	47	0.57%	0.67%		50%					50%			0.0	23.5	0.0	0.0	0.0	0.0	23.5	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Southborough town	47	0.57%	0.67%							100%			0.0	0.0	0.0	0.0	0.0	0.0	47.0	0.0	0.0
Massachusetts	Auburn town	Massachusetts	Hopkinton town	42	0.51%	0.60%							100%			0.0	0.0	0.0	0.0	0.0	0.0	42.0	0.0	0.0
				8,296	85.03%											96.0	3125.0	88.5	0.0	74.8	18.7	2102.9	1529.5	0.0
					7,054	100.00%										1.4%	44.3%	1.3%	0.0%	1.1%	0.3%	29.8%	21.7%	0.0%
															SAY:	**0%**	**45%**	**0%**	**0%**	**0%**	**0%**	**30%**	**25%**	**0%**

Residence		Place of Work		Commuting Flow			Entering/Exiting Site via Ashworth Drive									Entering/Exiting Site (via Route 20) To/From									Entering/Exiting Site via Ashworth Drive									Entering/Exiting Site via Route 20								
State Name	Minor Civil Division Name	State Name	Minor Civil Division Name	Workers in Commuting Flow			West	East	North	South	South	South	East	East	North	West	East	North	South	South	South	East	East	North	West	East	North	South	South	South	East	East	North	West	East	North	South	South	South	I-90 Ramps	East	East	North
							Route 20	Route 20	Route 56	Route 56	Route 12	Hill St	I-90 Ramps	Route 12	Rochdale St	Route 20	Route 20	Route 56	Route 56	Route 12	Hill St	I-90 Ramps	Route 12	Rochdale St	Route 20	Route 20	Route 56	Route 56	Route 12	Hill St	I-90 Ramps	Route 12	Rochdale St	Route 20	Route 20	Route 56	Route 56	Route 12	Hill St	I-90 Ramps	Route 12	Rochdale St
Massachusetts	Oxford town	Massachusetts	Worcester city	1,732	24.62%	27.31%			10%					40%	10%		40%									0.0	0.0	173.2	0.0	0.0	0.0	0.0	692.8	173.2	0.0	692.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Oxford town	1,026	14.59%	16.18%				45%						15%						40%				0.0	0.0	0.0	461.7	0.0	0.0	0.0	0.0	0.0	153.9	0.0	0.0	0.0	410.4	0.0	0.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Auburn town	711	10.11%	11.21%								35%	15%		25%							25%		0.0	0.0	0.0	0.0	0.0	0.0	0.0	248.9	106.7	0.0	177.8	0.0	0.0	0.0	0.0	0.0	177.8	0.0
Massachusetts	Oxford town	Massachusetts	Shrewsbury town	391	5.56%	6.16%							50%				10%						40%			0.0	0.0	0.0	0.0	0.0	0.0	195.5	0.0	0.0	0.0	39.1	0.0	0.0	0.0	0.0	156.4	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Webster town	386	5.49%	6.09%				30%							35%				35%					0.0	0.0	0.0	115.8	0.0	0.0	0.0	0.0	0.0	0.0	135.1	0.0	0.0	135.1	0.0	0.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Westborough town	172	2.45%	2.71%							50%				15%					35%				0.0	0.0	0.0	0.0	0.0	0.0	86.0	0.0	0.0	0.0	25.8	0.0	0.0	0.0	0.0	60.2	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Millbury town	167	2.37%	2.63%							50%				30%					20%				0.0	0.0	0.0	0.0	0.0	0.0	83.5	0.0	0.0	0.0	50.1	0.0	0.0	0.0	0.0	33.4	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Framingham town	144	2.05%	2.27%							50%				10%					40%				0.0	0.0	0.0	0.0	0.0	0.0	72.0	0.0	0.0	0.0	14.4	0.0	0.0	0.0	0.0	57.6	0.0	0.0
Massachusetts	Oxford town	Rhode Island	Woonsocket city	141	2.00%	2.22%							50%				25%					25%				0.0	0.0	0.0	0.0	0.0	0.0	70.5	0.0	0.0	0.0	35.3	0.0	0.0	0.0	0.0	35.3	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Hopkinton town	124	1.76%	1.95%							50%									50%				0.0	0.0	0.0	0.0	0.0	0.0	62.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Boston city	119	1.69%	1.88%							50%									50%				0.0	0.0	0.0	0.0	0.0	0.0	59.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.5	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Northbridge town	94	1.34%	1.48%							50%				25%					25%				0.0	0.0	0.0	0.0	0.0	0.0	47.0	0.0	0.0	0.0	23.5	0.0	0.0	0.0	0.0	23.5	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Milford town	89	1.27%	1.40%							50%				25%					25%				0.0	0.0	0.0	0.0	0.0	0.0	44.5	0.0	0.0	0.0	22.3	0.0	0.0	0.0	0.0	22.3	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Marlborough city	88	1.25%	1.39%							30%	20%			25%					25%				0.0	0.0	0.0	0.0	0.0	0.0	26.4	17.6	0.0	0.0	22.0	0.0	0.0	0.0	0.0	22.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Holden town	82	1.17%	1.29%			60%									40%								0.0	0.0	49.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.8	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Dudley town	77	1.09%	1.21%	25%			25%						25%					25%					19.3	0.0	0.0	19.3	0.0	0.0	0.0	0.0	0.0	19.3	0.0	0.0	0.0	19.3	0.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Southbridge Town city	75	1.07%	1.18%	50%									50%										37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Sutton town	72	1.02%	1.14%							20%				70%					10%				0.0	0.0	0.0	0.0	0.0	0.0	14.4	0.0	0.0	0.0	50.4	0.0	0.0	0.0	0.0	7.2	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Charlton town	69	0.98%	1.09%	50%									50%										34.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Gardner city	59	0.84%	0.93%			20%					20%	10%		25%	25%								0.0	0.0	11.8	0.0	0.0	0.0	0.0	11.8	5.9	0.0	14.8	14.8	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Upton town	57	0.81%	0.90%							50%				25%					25%				0.0	0.0	0.0	0.0	0.0	0.0	28.5	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	14.3	0.0	0.0
Massachusetts	Oxford town	Massachusetts	North Reading town	56	0.80%	0.88%							30%	20%			15%					20%	15%			0.0	0.0	0.0	0.0	0.0	0.0	16.8	11.2	0.0	0.0	8.4	0.0	0.0	0.0	0.0	11.2	8.4	0.0
Massachusetts	Oxford town	Massachusetts	Natick town	55	0.78%	0.87%							50%									50%				0.0	0.0	0.0	0.0	0.0	0.0	27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.5	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Bolton town	51	0.73%	0.80%							25%	25%			40%						10%			0.0	0.0	0.0	0.0	0.0	0.0	12.8	12.8	0.0	0.0	20.4	0.0	0.0	0.0	0.0	5.1	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Paxton town	51	0.73%	0.80%			50%									50%								0.0	0.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	West Brookfield town	50	0.71%	0.79%	25%		25%							30%		20%								12.5	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Oxford town	Connecticut	Putnam town	45	0.64%	0.71%	20%	30%									50%									9.0	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Leicester town	45	0.64%	0.71%			25%						25%			50%								0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	22.5	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Sturbridge town	41	0.58%	0.65%	25%						25%			30%						20%				10.3	0.0	0.0	0.0	0.0	0.0	10.3	0.0	0.0	12.3	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Palmer Town city	39	0.55%	0.61%	25%						25%			30%						20%				9.8	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0	11.7	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0
Massachusetts	Oxford town	Massachusetts	Athol town	35	0.50%	0.55%			25%					25%			10%	25%					15%			0.0	0.0	8.8	0.0	0.0	0.0	0.0	8.8	0.0	0.0	3.5	8.8	0.0	0.0	0.0	0.0	5.3	0.0
				7,034	90.18%																				132.8	13.5	292.2	596.8	0.0	0.0	866.9	1003.8	297.0	284.2	1372.3	114.3	0.0	564.8	0.0	608.3	196.5	0.0
				6,343	100.00%																				2.1%	0.2%	4.6%	9.4%	0.0%	0.0%	13.7%	15.8%	4.7%	4.5%	21.6%	1.8%	0.0%	8.9%	0.0%	9.6%	3.1%	0.0%
																								SAY:	0%	0%	5%	10%	0%	0%	15%	15%	5%	5%	20%	0%	0%	10%	0%	10%	5%	0%

Residence		Place of Work		Commuting Flow			Entering Site To/From									Exiting Site To/From									Entering Site To/From									Exiting Site To/From								
							West	East	North	South	South	South	East	East	North	West	East	North	South	South	South	East	East	North	West	East	North	South	South	South	East	East	North	West	East	North	South	South	South	East	East	North
State Name	Minor Civil Division Name	State Name	Minor Civil Division Name	Workers in Commuting Flow			Route 20	Route 20	Route 56	Route 56	Route 12	Hill St	I-90 Off-Ramp	Route 12	Ashworth Drive	Route 20	Route 20	Route 56	Route 56	Route 12	Hill St	I-90 On-Ramp	Route 12	Ashworth Drive	Route 20	Route 20	Route 56	Route 56	Route 12	Hill St	I-90 Off-Ramp	Route 12	Ashworth Drive	Route 20	Route 20	Route 56	Route 56	Route 12	Hill St	I-90 On-Ramp	Route 12	Ashworth Drive
Massachusetts	Oxford town	Massachusetts	Oxford town	1,026	21.07%	24.62%	20%		10%	10%	60%					20%		10%	10%	60%					205.2	0.0	102.6	102.6	615.6	0.0	0.0	0.0	0.0	205.2	0.0	102.6	102.6	615.6	0.0	0.0	0.0	0.0
Massachusetts	Worcester city	Massachusetts	Oxford town	687	14.11%	16.48%		50%						50%			50%						50%		0.0	343.5	0.0	0.0	0.0	0.0	0.0	343.5	0.0	0.0	343.5	0.0	0.0	0.0	0.0	0.0	343.5	0.0
Massachusetts	Webster town	Massachusetts	Oxford town	644	13.23%	15.45%		70%			30%						70%			30%					0.0	450.8	0.0	0.0	193.2	0.0	0.0	0.0	0.0	0.0	450.8	0.0	0.0	193.2	0.0	0.0	0.0	0.0
Massachusetts	Charlton town	Massachusetts	Oxford town	142	2.92%	3.41%	70%		15%	15%						70%		15%	15%						99.4	0.0	21.3	21.3	0.0	0.0	0.0	0.0	0.0	99.4	0.0	21.3	21.3	0.0	0.0	0.0	0.0	0.0
Massachusetts	Sturbridge town	Massachusetts	Oxford town	137	2.81%	3.29%	60%						40%			60%						40%			82.2	0.0	0.0	0.0	0.0	0.0	54.8	0.0	0.0	82.2	0.0	0.0	0.0	0.0	0.0	54.8	0.0	0.0
Massachusetts	Douglas town	Massachusetts	Oxford town	131	2.69%	3.14%		50%			40%		10%				50%			40%		10%			0.0	65.5	0.0	0.0	52.4	0.0	13.1	0.0	0.0	0.0	65.5	0.0	0.0	52.4	0.0	13.1	0.0	0.0
Massachusetts	Shrewsbury town	Massachusetts	Oxford town	120	2.46%	2.88%		50%					50%				50%					50%			0.0	60.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0
Connecticut	Thompson town	Massachusetts	Oxford town	111	2.28%	2.66%		50%		10%	40%						50%			10%	40%				0.0	55.5	0.0	11.1	44.4	0.0	0.0	0.0	0.0	0.0	55.5	0.0	11.1	44.4	0.0	0.0	0.0	0.0
Massachusetts	Sutton town	Massachusetts	Oxford town	99	2.03%	2.38%		60%					20%	20%			60%					20%	20%		0.0	59.4	0.0	0.0	0.0	0.0	19.8	19.8	0.0	0.0	59.4	0.0	0.0	0.0	0.0	19.8	19.8	0.0
Massachusetts	Dudley town	Massachusetts	Oxford town	98	2.01%	2.35%	40%	20%		10%	30%					40%	20%			10%	30%				39.2	19.6	0.0	9.8	29.4	0.0	0.0	0.0	0.0	39.2	19.6	0.0	9.8	29.4	0.0	0.0	0.0	0.0
Massachusetts	Southbridge Town city	Massachusetts	Oxford town	97	1.99%	2.33%	100%									100%									97.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Leicester town	Massachusetts	Oxford town	71	1.46%	1.70%			100%									100%							0.0	0.0	71.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Leominster city	Massachusetts	Oxford town	61	1.25%	1.46%		80%						20%			50%	30%					20%		0.0	48.8	0.0	0.0	0.0	0.0	12.2	0.0	0.0	0.0	30.5	18.3	0.0	0.0	0.0	0.0	12.2	0.0
Massachusetts	Auburn town	Massachusetts	Oxford town	58	1.19%	1.39%		50%						50%			50%						50%		0.0	29.0	0.0	0.0	0.0	0.0	0.0	29.0	0.0	0.0	29.0	0.0	0.0	0.0	0.0	0.0	29.0	0.0
Massachusetts	Brimfield town	Massachusetts	Oxford town	50	1.03%	1.20%	60%						40%			60%						40%			30.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0
Massachusetts	Grafton town	Massachusetts	Oxford town	50	1.03%	1.20%		50%					50%				50%					50%			0.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0
Massachusetts	Framingham town	Massachusetts	Oxford town	49	1.01%	1.18%							100%									100%			0.0	0.0	0.0	0.0	0.0	0.0	49.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.0	0.0	0.0
New Hampshire	Hopkinton town	Massachusetts	Oxford town	49	1.01%	1.18%							100%									100%			0.0	0.0	0.0	0.0	0.0	0.0	49.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.0	0.0	0.0
Rhode Island	Hopkinton town	Massachusetts	Oxford town	45	0.92%	1.08%		100%									100%								0.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Hudson town	Massachusetts	Oxford town	38	0.78%	0.91%		25%	50%					25%			25%	50%					25%		0.0	9.5	19.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	9.5	19.0	0.0	0.0	0.0	0.0	9.5	0.0
Connecticut	Putnam town	Massachusetts	Oxford town	36	0.74%	0.86%		90%			10%						90%			10%					0.0	32.4	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	32.4	0.0	0.0	3.6	0.0	0.0	0.0	0.0
Massachusetts	Northbridge town	Massachusetts	Oxford town	36	0.74%	0.86%		40%		20%			40%				50%					50%			0.0	14.4	0.0	7.2	0.0	0.0	14.4	0.0	0.0	0.0	18.0	0.0	0.0	0.0	0.0	18.0	0.0	0.0
Massachusetts	Holden town	Massachusetts	Oxford town	35	0.72%	0.84%		25%	50%					25%			25%	50%					25%		0.0	8.8	17.5	0.0	0.0	0.0	0.0	8.8	0.0	0.0	8.8	17.5	0.0	0.0	0.0	0.0	8.8	0.0
Rhode Island	Providence city	Massachusetts	Oxford town	35	0.72%	0.84%		60%			40%						20%				30%		50%		0.0	21.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	10.5	0.0	17.5	0.0	0.0
Massachusetts	Rutland town	Massachusetts	Oxford town	34	0.70%	0.82%			100%									100%							0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Millbury town	Massachusetts	Oxford town	33	0.68%	0.79%		60%					40%				60%					40%			0.0	19.8	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	19.8	0.0	0.0	0.0	0.0	13.2	0.0	0.0
Massachusetts	Boylston town	Massachusetts	Oxford town	32	0.66%	0.77%		80%						20%			80%						20%		0.0	25.6	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.0	25.6	0.0	0.0	0.0	0.0	0.0	6.4	0.0
Massachusetts	West Brookfield town	Massachusetts	Oxford town	31	0.64%	0.74%	50%		50%							50%		50%							15.5	0.0	15.5	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	15.5	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	North Brookfield town	Massachusetts	Oxford town	28	0.58%	0.67%	50%		50%							50%		50%							14.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Needham town	Massachusetts	Oxford town	27	0.55%	0.65%							100%									100%			0.0	0.0	0.0	0.0	0.0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.0	0.0	0.0
Massachusetts	Ashburnham town	Massachusetts	Oxford town	27	0.55%	0.65%		50%	50%								50%	50%							0.0	13.5	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5	13.5	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	Northborough town	Massachusetts	Oxford town	26	0.53%	0.62%		50%			50%						50%				50%				0.0	13.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0
Massachusetts	Bellingham town	Massachusetts	Oxford town	25	0.51%	0.60%							100%									100%			0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0
				4,869	85.60%																				582.5	1360.1	308.4	152.0	965.6	0.0	370.3	429.2	0.0	582.5	1331.4	326.7	144.8	962.1	0.0	391.4	429.2	0.0
				4,168	100.00%																				14.0%	32.6%	7.4%	3.6%	23.2%	0.0%	8.9%	10.3%	0.0%	14.0%	31.9%	7.8%	3.5%	23.1%	0.0%	9.4%	10.3%	0.0%
																								SAY:	15%	30%	5%	5%	25%	0%	10%	10%	0%	15%	30%	5%	5%	25%	0%	10%	10%	0%

PARKING DEMAND DATA

Institute of Transportation Engineers (ITE)
5th Edition Parking Generation
Land Use Code (LUC) 220 - Multifamily Housing (Low-Rise)
General Urban/Suburban (No nearby rail transit)

Independent Variable (X):		320	Dwelling Units
Weekday Demand			
Average Peak Demand		1.21	Dwelling Units
	=	387	vehicles
85th Percentile Peak Demand		1.52	Dwelling Units
	=	486	vehicles
Saturday Demand			
Average Peak Demand		1.31	Dwelling Units
	=	419	vehicles
85th Percentile Peak Demand		1.61	Dwelling Units
	=	515	vehicles

Based on Vehicles per Dwelling Units	Weekday		Saturday	
Hours Beginning	Percent of Peak Period	Number of Vehicles	Percent of Peak Period	Number of Vehicles
12:00 - 4:00 AM	100%	387	93%	390
5:00 AM	97%	375	100%	419
6:00 AM	90%	348	98%	411
7:00 AM	77%	298	96%	402
8:00 AM	56%	217	92%	385
9:00 AM	45%	174	80%	335
10:00 AM	40%	155	78%	327
11:00 AM	37%	143	71%	297
12:00 PM	36%	139	68%	285
1:00 PM	36%	139	66%	277
2:00 PM	37%	143	65%	272
3:00 PM	43%	166	68%	285
4:00 PM	45%	174	70%	293
5:00 PM	55%	213	73%	306
6:00 PM	66%	255	77%	323
7:00 PM	73%	283	81%	339
8:00 PM	77%	298	82%	344
9:00 PM	86%	333	86%	360
10:00 PM	92%	356	87%	365
11:00 PM	97%	375	92%	385

Institute of Transportation Engineers (ITE)
5th Edition Parking Generation
Land Use Code (LUC) 220 - Multifamily Housing (Low-Rise)
General Urban/Suburban (No nearby rail transit)

Independent Variable (X):		8	Dwelling Units
Weekday Demand			
Average Peak Demand		1.21	Dwelling Units
	=	10	vehicles
85th Percentile Peak Demand		1.52	Dwelling Units
	=	12	vehicles
Saturday Demand			
Average Peak Demand		1.31	Dwelling Units
	=	10	vehicles
85th Percentile Peak Demand		1.61	Dwelling Units
	=	13	vehicles

Based on Vehicles per Dwelling Units	Weekday		Saturday	
Hours Beginning	Percent of Peak Period	Number of Vehicles	Percent of Peak Period	Number of Vehicles
12:00 - 4:00 AM	100%	10	93%	9
5:00 AM	97%	10	100%	10
6:00 AM	90%	9	98%	10
7:00 AM	77%	8	96%	10
8:00 AM	56%	6	92%	9
9:00 AM	45%	5	80%	8
10:00 AM	40%	4	78%	8
11:00 AM	37%	4	71%	7
12:00 PM	36%	4	68%	7
1:00 PM	36%	4	66%	7
2:00 PM	37%	4	65%	7
3:00 PM	43%	4	68%	7
4:00 PM	45%	5	70%	7
5:00 PM	55%	6	73%	7
6:00 PM	66%	7	77%	8
7:00 PM	73%	7	81%	8
8:00 PM	77%	8	82%	8
9:00 PM	86%	9	86%	9
10:00 PM	92%	9	87%	9
11:00 PM	97%	10	92%	9

Institute of Transportation Engineers (ITE)
5th Edition Parking Generation
Land Use Code (LUC) 221 - Multifamily Housing (Mid-Rise)
General Urban/Suburban (No nearby rail transit)

Independent Variable (X):		324	Dwelling Units
Weekday Demand			
Average Peak Demand		1.31	Dwelling Units
	=	424	vehicles
85th Percentile Peak Demand		1.47	Dwelling Units
	=	476	vehicles
Saturday Demand			
Average Peak Demand		1.22	Dwelling Units
	=	395	vehicles
85th Percentile Peak Demand		1.33	Dwelling Units
	=	431	vehicles

Based on Vehicles per Dwelling Units	Weekday		Saturday	
Hours Beginning	Percent of Peak Period	Number of Vehicles	Percent of Peak Period	Number of Vehicles
12:00 - 4:00 AM	100%	424	100%	395
5:00 AM	94%	399	99%	391
6:00 AM	83%	352	97%	383
7:00 AM	71%	301	95%	375
8:00 AM	61%	259	88%	348
9:00 AM	55%	233	83%	328
10:00 AM	54%	229	75%	296
11:00 AM	53%	225	71%	280
12:00 PM	50%	212	68%	269
1:00 PM	49%	208	66%	261
2:00 PM	49%	208	70%	277
3:00 PM	50%	212	69%	273
4:00 PM	58%	246	72%	284
5:00 PM	64%	271	74%	292
6:00 PM	67%	284	74%	292
7:00 PM	70%	297	73%	288
8:00 PM	76%	322	75%	296
9:00 PM	83%	352	78%	308
10:00 PM	90%	382	82%	324
11:00 PM	93%	394	88%	348

Institute of Transportation Engineers (ITE)
5th Edition Parking Generation
Land Use Code (LUC) 710 - Office Building
General Urban/Suburban (No nearby rail transit)

Independent Variable (X):		90.000	/ 1000 Sq. Feet Gross Floor Area (GFA)
Weekday Demand			
Average Peak Demand		2.39	vehicles per 1,000 Sq. Feet GFA
	=	215	vehicles
85th Percentile Peak Demand		3.30	vehicles per 1,000 Sq. Feet GFA
	=	297	vehicles
Saturday Demand			
Average Peak Demand		0.28	Dwelling Units
	=	25	vehicles
85th Percentile Peak Demand		0.73	Dwelling Units
	=	66	vehicles

	Weekday	
Hours Beginning	Percent of Peak Period	Number of Vehicles
12:00 - 4:00 AM		0
5:00 AM		0
6:00 AM		0
7:00 AM	13%	28
8:00 AM	48%	103
9:00 AM	88%	189
10:00 AM	100%	215
11:00 AM	100%	215
12:00 PM	85%	183
1:00 PM	84%	181
2:00 PM	93%	200
3:00 PM	94%	202
4:00 PM	85%	183
5:00 PM	56%	120
6:00 PM	20%	43
7:00 PM	11%	24
8:00 PM		0
9:00 PM		0
10:00 PM		0
11:00 PM		0

Institute of Transportation Engineers (ITE)
5th Edition Parking Generation
Land Use Code (LUC) 712 - Small Office Building
General Urban/Suburban (No nearby rail transit)

Independent Variable (X):		10.000	/ 1000 Sq. Feet Gross Floor Area (GFA)
Weekday Demand			
Average Peak Demand		2.56	vehicles per 1,000 Sq. Feet GFA
	=	26	vehicles
85th Percentile Peak Demand		4.17	vehicles per 1,000 Sq. Feet GFA
	=	42	vehicles

	Weekday	(General
Hours Beginning	Percent of Peak Period	Number of Vehicles
12:00 - 4:00 AM		0
5:00 AM		0
6:00 AM		0
7:00 AM	0%	0
8:00 AM	27%	7
9:00 AM	69%	18
10:00 AM	88%	23
11:00 AM	100%	26
12:00 PM	81%	21
1:00 PM	81%	21
2:00 PM	84%	22
3:00 PM	86%	22
4:00 PM	92%	24
5:00 PM	85%	22
6:00 PM	4%	1
7:00 PM	0%	0
8:00 PM		0
9:00 PM		0
10:00 PM		0
11:00 PM		0

Institute of Transportation Engineers (ITE)
5th Edition Parking Generation
Land Use Code (LUC) 820 - Shopping Center - Non-December
General Urban/Suburban

Independent Variable (X): 49.800 / 1000 Sq. Feet Gross Floor Area (GFA)

Weekday Demand (Mon-Thurs)
Average Peak Demand 1.95 vehicles per 1,000 Sq. Feet GFA
= 97 vehicles
85th Percentile Peak Demand 3.68 vehicles per 1,000 Sq. Feet GFA
= 183 vehicles

Saturday Demand
Average Peak Demand 2.91 vehicles per 1,000 Sq. Feet GFA
= 145 vehicles
85th Percentile Peak Demand 3.74 vehicles per 1,000 Sq. Feet GFA
= 186 vehicles

Based on Vehicles per 1,000 Sq. Feet GFA	Weekday		Saturday	
Hours Beginning	Percent of Peak Period	Number of Vehicles	Percent of Peak Period	Number of Vehicles
12:00 - 4:00 AM		0		0
5:00 AM		0		0
6:00 AM		0		0
7:00 AM		0		0
8:00 AM	15%	15	27%	39
9:00 AM	32%	31	46%	67
10:00 AM	54%	52	67%	97
11:00 AM	71%	69	85%	123
12:00 PM	99%	96	95%	138
1:00 PM	100%	97	100%	145
2:00 PM	90%	87	98%	142
3:00 PM	83%	81	92%	133
4:00 PM	81%	79	86%	125
5:00 PM	84%	81	79%	115
6:00 PM	86%	83	71%	103
7:00 PM	80%	78	69%	100
8:00 PM	63%	61	60%	87
9:00 PM	42%	41	51%	74
10:00 PM	15%	15	38%	55
11:00 PM		0		0

Notes: Percent of Non-December Peak Parking Demand.

Institute of Transportation Engineers (ITE)
5th Edition Parking Generation
Land Use Code (LUC) 934 - Fast-Food Restaurant with Drive-Through Window
General Urban/Suburban

Independent Variable (X):		5.000	/ 1000 Sq. Feet Gross Floor Area (GFA)
Weekday Demand			
Average Peak Demand		8.66	vehicles per 1,000 Sq. Feet GFA
	=	43	vehicles
85th Percentile Peak Demand		13.78	vehicles per 1,000 Sq. Feet GFA
	=	69	vehicles
Saturday Demand			
Average Peak Demand		9.18	vehicles per 1,000 Sq. Feet GFA
	=	46	vehicles
85th Percentile Peak Demand		14.20	vehicles per 1,000 Sq. Feet GFA
	=	71	vehicles

Based on Vehicles per 1,000 Sq. Feet GFA	**Weekday**		**Saturday**	
Hours Beginning	**Percent of Peak Period**	**Number of Vehicles**	**Percent of Peak Period**	**Number of Vehicles**
12:00 - 4:00 AM		0		0
5:00 AM		0		0
6:00 AM		0		0
7:00 AM		0		0
8:00 AM		0		0
9:00 AM		0		0
10:00 AM	28%	12	31%	14
11:00 AM	60%	26	50%	23
12:00 PM	100%	43	88%	40
1:00 PM	85%	37	100%	46
2:00 PM	57%	25	75%	35
3:00 PM	43%	18	50%	23
4:00 PM	45%	19	31%	14
5:00 PM	59%	25	50%	23
6:00 PM	62%	27	69%	32
7:00 PM	18%	8	63%	29
8:00 PM		0		0
9:00 PM		0		0
10:00 PM		0		0
11:00 PM		0		0

Institute of Transportation Engineers (ITE)
5th Edition Parking Generation
Land Use Code (LUC) 960 - Super Convenience Market / Gas Station

Independent Variable (X):		5.000	/ 1000 Sq. Feet Gross Floor Area (GFA)
Weekday Demand			
Average Peak Demand		8.11	/ 1000 Sq. Feet Gross Floor Area (GFA)
	=	41	vehicles
85th Percentile Peak Demand		11.15	/ 1000 Sq. Feet Gross Floor Area (GFA)
	=	56	vehicles
Saturday Demand			
Average Peak Demand		5.07	Seats
	=	25	vehicles
85th Percentile Peak Demand		6.89	Seats
	=	34	vehicles

Based on Vehicles per 1,000 Sq. Feet GFA	**Weekday**		**Saturday**	
Hours Beginning	**Percent of Peak Period**	**Number of Vehicles**	**Percent of Peak Period**	**Number of Vehicles**
12:00 - 4:00 AM		0		0
5:00 AM		0		0
6:00 AM		0		0
7:00 AM		0		0
8:00 AM	45%	18	45%	11
9:00 AM	84%	34	84%	21
10:00 AM	97%	40	97%	24
11:00 AM	100%	41	100%	25
12:00 PM	87%	36	87%	22
1:00 PM	81%	33	81%	20
2:00 PM	87%	36	87%	22
3:00 PM	91%	37	91%	23
4:00 PM	86%	35	86%	22
5:00 PM	71%	29	71%	18
6:00 PM	23%	9	23%	6
7:00 PM	6%	2	6%	2
8:00 PM		0		0
9:00 PM		0		0
10:00 PM		0		0
11:00 PM		0		0

Notes: Time of Day Distribution based on LUC 943 (Automobile Parts and Service Center). Saturday distribution assumed to be the same as Weekday.

		Weekday										Saturday									
Hours Beginning	Available Parking Spaces	Ashworth Hills (LUC 220)	Auburn Condos (LUC 220)	LUC 221	LUC 710	LUC 712	LUC 820	LUC 934	LUC 960	Total Demand	Net	Ashworth Hills (LUC 220)	Auburn Condos (LUC 220)	LUC 221	LUC 710	LUC 712	LUC 820	LUC 934	LUC 960	Total Demand	Net
12:00 - 4:00 AM	1,737	387	10	424	0	0	0	0	0	**821**	916	390	9	395	0	0	0	0	0	**794**	943
5:00 AM	1,737	375	10	399	0	0	0	0	0	**784**	953	419	10	391	0	0	0	0	0	**820**	917
6:00 AM	1,737	348	9	352	0	0	0	0	0	**709**	1,028	411	10	383	0	0	0	0	0	**804**	933
7:00 AM	1,737	298	8	301	28	0	0	0	0	**635**	1,102	402	10	375	0	0	0	0	0	**787**	950
8:00 AM	1,737	217	6	259	103	7	15	0	18	**625**	1,112	385	9	348	0	0	39	0	11	**792**	945
9:00 AM	1,737	174	5	233	189	18	31	0	34	**684**	1,053	335	8	328	0	0	67	0	21	**759**	978
10:00 AM	1,737	155	4	229	215	23	52	12	40	**730**	1,007	327	8	296	0	0	97	14	24	**766**	971
11:00 AM	1,737	143	4	225	215	26	69	26	41	**749**	988	297	7	280	0	0	123	23	25	**755**	982
12:00 PM	1,737	139	4	212	183	21	96	43	36	**734**	1,003	285	7	269	0	0	138	40	22	**761**	976
1:00 PM	1,737	139	4	208	181	21	97	37	33	**720**	1,017	277	7	261	0	0	145	46	20	**756**	981
2:00 PM	1,737	143	4	208	200	22	87	25	36	**725**	1,012	272	7	277	0	0	142	35	22	**755**	982
3:00 PM	1,737	166	4	212	202	22	81	18	37	**742**	995	285	7	273	0	0	133	23	23	**744**	993
4:00 PM	1,737	174	5	246	183	24	79	19	35	**765**	972	293	7	284	0	0	125	14	22	**745**	992
5:00 PM	1,737	213	6	271	120	22	81	25	29	**767**	970	306	7	292	0	0	115	23	18	**761**	976
6:00 PM	1,737	255	7	284	43	1	83	27	9	**709**	1,028	323	8	292	0	0	103	32	6	**764**	973
7:00 PM	1,737	283	7	297	24	0	78	8	2	**699**	1,038	339	8	288	0	0	100	29	2	**766**	971
8:00 PM	1,737	298	8	322	0	0	61	0	0	**689**	1,048	344	8	296	0	0	87	0	0	**735**	1,002
9:00 PM	1,737	333	9	352	0	0	41	0	0	**735**	1,002	360	9	308	0	0	74	0	0	**751**	986
10:00 PM	1,737	356	9	382	0	0	15	0	0	**762**	975	365	9	324	0	0	55	0	0	**753**	984
11:00 PM	1,737	375	10	394	0	0	0	0	0	**779**	958	385	9	348	0	0	0	0	0	**742**	995

Weekday Maximum Demand	821
Saturday Maximum Demand	820

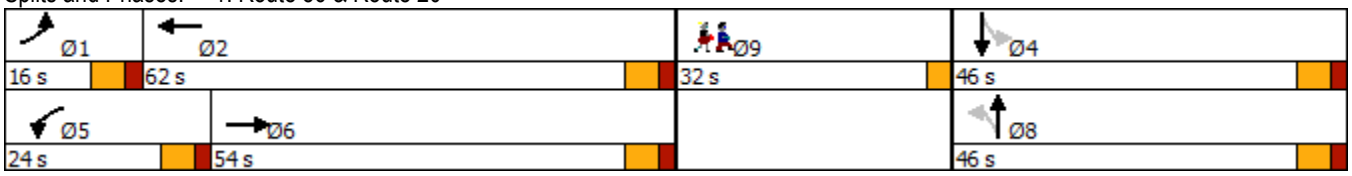
CAPACITY AND QUEUE ANALYSIS WORKSHEETS

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	37	929	15	515	71	171	131	196	
Future Volume (vph)	37	929	15	515	71	171	131	196	
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	
Protected Phases	1	6	5	2		8		4	9
Permitted Phases					8		4		
Detector Phase	1	6	5	2	8	8	4	4	
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	12.0	12.0	12.0	12.0	10.0
Minimum Split (s)	16.0	16.0	16.0	16.0	18.0	18.0	18.0	18.0	32.0
Total Split (s)	16.0	54.0	24.0	62.0	46.0	46.0	46.0	46.0	32.0
Total Split (%)	10.3%	34.6%	15.4%	39.7%	29.5%	29.5%	29.5%	29.5%	21%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	Min	Max	Min	Max	Min	Min	Min	Min	None
Act Effct Green (s)	10.0	56.0	10.0	56.0		40.0	40.0	40.0	
Actuated g/C Ratio	0.08	0.45	0.08	0.45		0.32	0.32	0.32	
v/c Ratio	0.35	0.75	0.12	0.44		0.82	0.60	0.57	
Control Delay	62.3	31.8	55.1	24.1		57.8	46.7	39.8	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Delay	62.3	31.8	55.1	24.1		57.8	46.7	39.8	
LOS	E	C	E	C		E	D	D	
Approach Delay		32.9		24.9		57.8		42.2	
Approach LOS		C		C		E		D	

Intersection Summary

Cycle Length: 156
Actuated Cycle Length: 124
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 35.4 Intersection LOS: D
Intersection Capacity Utilization 74.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	44	1168	16	624	300	158	307
v/c Ratio	0.35	0.75	0.12	0.44	0.82	0.60	0.57
Control Delay	62.3	31.8	55.1	24.1	57.8	46.7	39.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	31.8	55.1	24.1	57.8	46.7	39.8
Queue Length 50th (ft)	34	398	12	173	221	106	204
Queue Length 95th (ft)	70	442	35	224	#375	166	269
Internal Link Dist (ft)		1734		706	1474		1204
Turn Bay Length (ft)	120		90			215	
Base Capacity (vph)	125	1559	244	1425	367	262	539
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.75	0.07	0.44	0.82	0.60	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	929	64	15	515	59	71	171	34	131	196	59
Future Volume (vph)	37	929	64	15	515	59	71	171	34	131	196	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98			0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1556	3447		1687	3145			1765		1597	1673	
Flt Permitted	0.95	1.00		0.95	1.00			0.64		0.48	1.00	
Satd. Flow (perm)	1556	3447		1687	3145			1141		813	1673	
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.83	0.83	0.83
Adj. Flow (vph)	44	1093	75	16	560	64	77	186	37	158	236	71
RTOR Reduction (vph)	0	3	0	0	5	0	0	0	0	0	0	0
Lane Group Flow (vph)	44	1165	0	16	619	0	0	300	0	158	307	0
Heavy Vehicles (%)	16%	3%	14%	7%	12%	22%	4%	5%	3%	13%	8%	15%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	10.0	56.0		10.0	56.0			40.0		40.0	40.0	
Effective Green, g (s)	10.0	56.0		10.0	56.0			40.0		40.0	40.0	
Actuated g/C Ratio	0.08	0.45		0.08	0.45			0.32		0.32	0.32	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	125	1556		136	1420			368		262	539	
v/s Ratio Prot	c0.03	c0.34		0.01	0.20						0.18	
v/s Ratio Perm								c0.26		0.19		
v/c Ratio	0.35	0.75		0.12	0.44			0.82		0.60	0.57	
Uniform Delay, d1	53.9	28.2		52.9	23.2			38.6		35.3	34.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.7	3.4		0.4	1.0			13.0		3.9	1.4	
Delay (s)	55.6	31.5		53.3	24.2			51.6		39.2	36.2	
Level of Service	E	C		D	C			D		D	D	
Approach Delay (s)		32.4			24.9			51.6			37.2	
Approach LOS		C			C			D			D	

Intersection Summary

HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	1010	564	8	28	23
Future Volume (Veh/h)	6	1010	564	8	28	23
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	7	1135	620	9	32	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.74	
vC, conflicting volume	629				1206	314
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	629				562	314
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				91	96
cM capacity (veh/h)	963				337	687

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	385	757	413	216	32	26
Volume Left	7	0	0	0	32	0
Volume Right	0	0	0	9	0	26
cSH	963	1700	1700	1700	337	687
Volume to Capacity	0.01	0.45	0.24	0.13	0.09	0.04
Queue Length 95th (ft)	1	0	0	0	8	3
Control Delay (s)	0.2	0.0	0.0	0.0	16.8	10.4
Lane LOS	A				C	B
Approach Delay (s)	0.1		0.0		13.9	
Approach LOS					B	

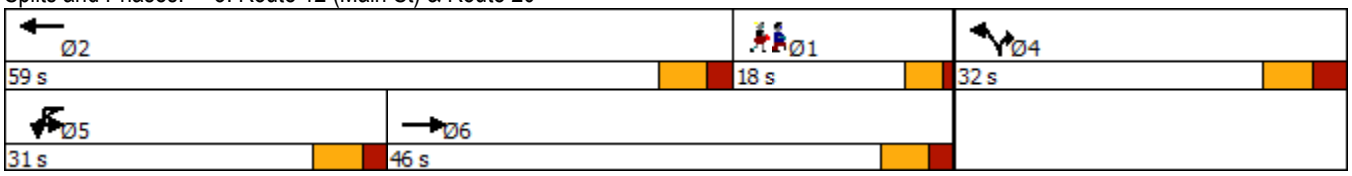
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	NBL	NBR	Ø1
Lane Configurations						
Traffic Volume (vph)	1033	93	552	22	271	
Future Volume (vph)	1033	93	552	22	271	
Turn Type	NA	Prot	NA	Prot	Prot	
Protected Phases	6	5	2	4	4	1
Permitted Phases						
Detector Phase	6	5	2	4	4	
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	6.0	6.0	6.0
Minimum Split (s)	26.0	20.0	16.0	21.0	21.0	18.0
Total Split (s)	46.0	31.0	59.0	32.0	32.0	18.0
Total Split (%)	42.2%	28.4%	54.1%	29.4%	29.4%	17%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	3.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	7.0	7.0	
Lead/Lag	Lag	Lead	Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	Min	None	Min	None	None	None
Act Effct Green (s)	34.0	7.7	47.9	13.4	13.4	
Actuated g/C Ratio	0.46	0.10	0.64	0.18	0.18	
v/c Ratio	0.77	0.37	0.29	0.60	0.64	
Control Delay	21.4	37.3	6.6	39.3	41.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.4	37.3	6.6	39.3	41.6	
LOS	C	D	A	D	D	
Approach Delay	21.4		11.9	40.5		
Approach LOS	C		B	D		

Intersection Summary

Cycle Length: 109
Actuated Cycle Length: 74.6
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 21.2 Intersection LOS: C
Intersection Capacity Utilization 61.1% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1208	124	600	168	168
v/c Ratio	0.77	0.37	0.29	0.60	0.64
Control Delay	21.4	37.3	6.6	39.3	41.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	37.3	6.6	39.3	41.6
Queue Length 50th (ft)	230	28	55	73	77
Queue Length 95th (ft)	357	60	100	140	148
Internal Link Dist (ft)	525		1851	2202	
Turn Bay Length (ft)		440			
Base Capacity (vph)	1898	1128	2401	531	501
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.64	0.11	0.25	0.32	0.34

Intersection Summary

Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	1033	18	21	93	552	22	271
Future Volume (vph)	1033	18	21	93	552	22	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	6.0	7.0	7.0
Lane Util. Factor	0.95			0.97	0.95	1.00	0.95
Frt	1.00			1.00	1.00	0.87	0.85
Flt Protected	1.00			0.95	1.00	0.99	1.00
Satd. Flow (prot)	3455			3287	3252	1547	1461
Flt Permitted	1.00			0.95	1.00	0.99	1.00
Satd. Flow (perm)	3455			3287	3252	1547	1461
Peak-hour factor, PHF	0.87	0.87	0.92	0.92	0.92	0.87	0.87
Adj. Flow (vph)	1187	21	23	101	600	25	311
RTOR Reduction (vph)	1	0	0	0	0	0	0
Lane Group Flow (vph)	1207	0	0	124	600	168	168
Heavy Vehicles (%)	4%	17%	0%	8%	11%	14%	5%
Turn Type	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	6		5	5	2	4	4
Permitted Phases							
Actuated Green, G (s)	34.2			7.7	47.9	13.4	13.4
Effective Green, g (s)	34.2			7.7	47.9	13.4	13.4
Actuated g/C Ratio	0.46			0.10	0.64	0.18	0.18
Clearance Time (s)	6.0			6.0	6.0	7.0	7.0
Vehicle Extension (s)	2.0			2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	1590			340	2096	279	263
v/s Ratio Prot	c0.35			0.04	c0.18	0.11	c0.11
v/s Ratio Perm							
v/c Ratio	0.76			0.36	0.29	0.60	0.64
Uniform Delay, d1	16.6			31.0	5.8	28.0	28.2
Progression Factor	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9			0.2	0.0	2.5	3.7
Delay (s)	18.5			31.3	5.8	30.5	31.9
Level of Service	B			C	A	C	C
Approach Delay (s)	18.5				10.1	31.2	
Approach LOS	B				B	C	

Intersection Summary

HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	74.3	Sum of lost time (s)	19.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

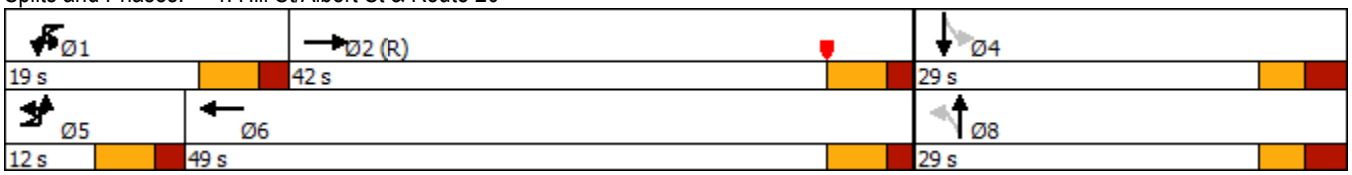
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	14	1279	4	646	7	1	5	0
Future Volume (vph)	14	1279	4	646	7	1	5	0
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	12.0	42.0	19.0	49.0	29.0	29.0	29.0	29.0
Total Split (%)	13.3%	46.7%	21.1%	54.4%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.6	73.7	6.5	71.2	6.2	6.2	6.2	6.2
Actuated g/C Ratio	0.07	0.82	0.07	0.79	0.07	0.07	0.07	0.07
v/c Ratio	0.23	0.54	0.21	0.28	0.08	0.17	0.07	0.05
Control Delay	43.4	6.7	51.0	7.5	40.4	20.9	40.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	6.7	51.0	7.5	40.4	20.9	40.6	0.3
LOS	D	A	D	A	D	C	D	A
Approach Delay		7.5		9.0		27.2		13.7
Approach LOS		A		A		C		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 30 (33%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 8.3 Intersection LOS: A
Intersection Capacity Utilization 51.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	1531	26	717	10	21	8	16
v/c Ratio	0.23	0.54	0.21	0.28	0.08	0.17	0.07	0.05
Control Delay	43.4	6.7	51.0	7.5	40.4	20.9	40.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	6.7	51.0	7.5	40.4	20.9	40.6	0.3
Queue Length 50th (ft)	17	121	0	72	6	1	4	0
Queue Length 95th (ft)	41	303	m42	90	16	15	13	0
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	132	2813	242	2544	485	412	404	536
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.54	0.11	0.28	0.02	0.05	0.02	0.03

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	14	1279	7	21	4	646	28	7	1	14	5
Future Volume (vph)	12	14	1279	7	21	4	646	28	7	1	14	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Lane Util. Factor		1.00	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	1.00			1.00	0.99		1.00	0.86		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1805	3436			1676	3213		1805	1555		1504
Flt Permitted		0.95	1.00			0.95	1.00		1.00	1.00		1.00
Satd. Flow (perm)		1805	3436			1676	3213		1900	1555		1583
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.94	0.94	0.94	0.94	0.69	0.69	0.69	0.63
Adj. Flow (vph)	14	17	1523	8	22	4	687	30	10	1	20	8
RTOR Reduction (vph)	0	0	0	0	0	0	2	0	0	19	0	0
Lane Group Flow (vph)	0	31	1531	0	0	26	715	0	10	2	0	8
Confl. Peds. (#/hr)				2		2						
Heavy Vehicles (%)	0%	0%	5%	0%	0%	50%	12%	4%	0%	100%	0%	20%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Perm	NA		Perm
Protected Phases	5	5	2		1	1	6			8		
Permitted Phases									8			4
Actuated Green, G (s)		4.2	65.3			2.9	64.0		3.8	3.8		3.8
Effective Green, g (s)		4.2	65.3			2.9	64.0		3.8	3.8		3.8
Actuated g/C Ratio		0.05	0.73			0.03	0.71		0.04	0.04		0.04
Clearance Time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Vehicle Extension (s)		2.0	2.0			2.0	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)		84	2493			54	2284		80	65		66
v/s Ratio Prot		c0.02	c0.45			0.02	0.22			0.00		
v/s Ratio Perm									c0.01			0.01
v/c Ratio		0.37	0.61			0.48	0.31		0.12	0.03		0.12
Uniform Delay, d1		41.6	6.1			42.8	4.8		41.5	41.3		41.5
Progression Factor		1.00	1.00			1.20	1.44		1.00	1.00		1.00
Incremental Delay, d2		1.0	1.1			2.3	0.3		0.3	0.1		0.3
Delay (s)		42.6	7.3			53.8	7.3		41.8	41.4		41.8
Level of Service		D	A			D	A		D	D		D
Approach Delay (s)			8.0				8.9			41.5		
Approach LOS			A				A			D		

Intersection Summary

HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	10
Future Volume (vph)	0	10
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.85	
Flt Protected	1.00	
Satd. Flow (prot)	1346	
Flt Permitted	1.00	
Satd. Flow (perm)	1346	
Peak-hour factor, PHF	0.63	0.63
Adj. Flow (vph)	0	16
RTOR Reduction (vph)	15	0
Lane Group Flow (vph)	1	0
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	0%	20%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	3.8	
Effective Green, g (s)	3.8	
Actuated g/C Ratio	0.04	
Clearance Time (s)	6.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	56	
v/s Ratio Prot	0.00	
v/s Ratio Perm		
v/c Ratio	0.01	
Uniform Delay, d1	41.3	
Progression Factor	1.00	
Incremental Delay, d2	0.0	
Delay (s)	41.3	
Level of Service	D	
Approach Delay (s)	41.5	
Approach LOS	D	

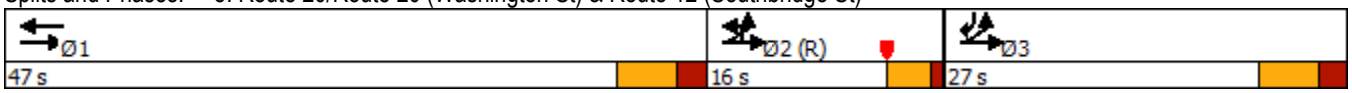
Intersection Summary

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	17	422	859	484	14	224
Future Volume (vph)	17	422	859	484	14	224
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	16.0			47.0		27.0
Total Split (%)	17.8%			52.2%		30.0%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	12.0	35.6	90.0	44.4	90.0	17.6
Actuated g/C Ratio	0.13	0.40	1.00	0.49	1.00	0.20
v/c Ratio	0.09	0.38	0.29	0.32	0.01	0.48
Control Delay	48.6	19.5	0.2	15.1	0.0	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	19.5	0.2	15.1	0.0	34.8
LOS	D	B	A	B	A	C
Approach Delay			7.1	14.7		
Approach LOS			A	B		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 11.7 Intersection LOS: B
Intersection Capacity Utilization 42.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	20	502	1023	520	15	241
v/c Ratio	0.09	0.38	0.29	0.32	0.01	0.48
Control Delay	48.6	19.5	0.2	15.1	0.0	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	19.5	0.2	15.1	0.0	34.8
Queue Length 50th (ft)	9	63	0	92	0	68
Queue Length 95th (ft)	m23	103	0	134	0	105
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	214	1431	3433	1632	1509	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.35	0.30	0.32	0.01	0.41

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	17	422	859	484	14	0	224
Future Volume (vph)	17	422	859	484	14	0	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1612	3303	3471	3312	1509		2538
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1612	3303	3471	3312	1509		2538
Peak-hour factor, PHF	0.84	0.84	0.84	0.93	0.93	0.93	0.93
Adj. Flow (vph)	20	502	1023	520	15	0	241
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	20	502	1023	520	15	0	241
Heavy Vehicles (%)	12%	6%	4%	9%	7%	0%	12%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	12.0	33.6	90.0	44.4	90.0		17.6
Effective Green, g (s)	12.0	33.6	86.0	44.4	90.0		17.6
Actuated g/C Ratio	0.13	0.37	0.96	0.49	1.00		0.20
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	214	1233	3316	1633	1509		496
v/s Ratio Prot	0.01	c0.15	c0.29	0.16			c0.09
v/s Ratio Perm					0.01		
v/c Ratio	0.09	0.41	0.31	0.32	0.01		0.49
Uniform Delay, d1	34.2	20.8	0.1	13.7	0.0		32.2
Progression Factor	1.38	0.99	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.7	0.1	0.0	0.5	0.0		0.3
Delay (s)	47.9	20.8	0.1	14.2	0.0		32.5
Level of Service	D	C	A	B	A		C
Approach Delay (s)			7.5	13.8		32.5	
Approach LOS			A	B		C	

Intersection Summary

HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

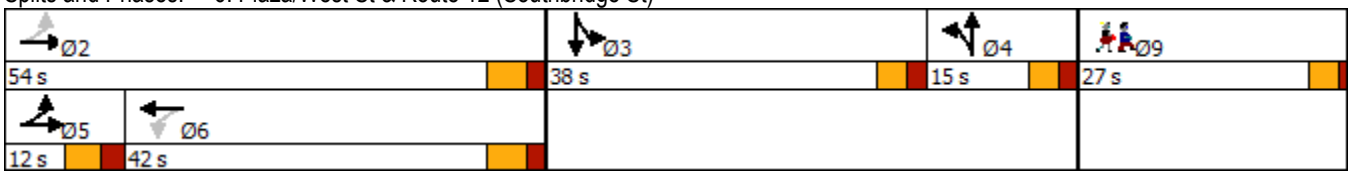
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	34	449	3	251	3	557	2		
Future Volume (vph)	34	449	3	251	3	557	2		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	6.0	6.0	6.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		33.4		20.3	6.6	30.0	30.0		
Actuated g/C Ratio		0.42		0.25	0.08	0.37	0.37		
v/c Ratio		0.43		0.73	0.09	0.64	0.64		
Control Delay		19.7		24.3	36.8	30.9	30.5		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		19.7		24.3	36.8	30.9	30.5		
LOS		B		C	D	C	C		
Approach Delay		19.7		24.3	36.8		30.7		
Approach LOS		B		C	D		C		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 80.1
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 25.8 Intersection LOS: C
Intersection Capacity Utilization 67.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	503	642	12	394	385
v/c Ratio	0.43	0.73	0.09	0.64	0.64
Control Delay	19.7	24.3	36.8	30.9	30.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	24.3	36.8	30.9	30.5
Queue Length 50th (ft)	71	84	2	131	127
Queue Length 95th (ft)	215	224	12	#405	#382
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	1807	1495	211	730	724
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.28	0.43	0.06	0.54	0.53

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	449	0	3	251	298	0	3	3	557	2	25
Future Volume (vph)	34	449	0	3	251	298	0	3	3	557	2	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.92			0.93		1.00	0.99	
Flt Protected		1.00			1.00			1.00		0.95	0.96	
Satd. Flow (prot)		3381			2977			1521		1633	1614	
Flt Permitted		0.79			0.95			1.00		0.95	0.96	
Satd. Flow (perm)		2691			2836			1521		1633	1614	
Peak-hour factor, PHF	0.96	0.96	0.96	0.86	0.86	0.86	0.50	0.50	0.50	0.75	0.75	0.75
Adj. Flow (vph)	35	468	0	3	292	347	0	6	6	743	3	33
RTOR Reduction (vph)	0	0	0	0	164	0	0	6	0	0	2	0
Lane Group Flow (vph)	0	503	0	0	478	0	0	6	0	394	383	0
Heavy Vehicles (%)	12%	6%	0%	0%	12%	11%	0%	0%	33%	5%	50%	8%
Turn Type	pm+pt	NA		Perm	NA			NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		33.4			20.9			0.8		30.0	30.0	
Effective Green, g (s)		33.4			20.9			0.8		30.0	30.0	
Actuated g/C Ratio		0.38			0.24			0.01		0.34	0.34	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1084			681			13		563	556	
v/s Ratio Prot		c0.03						c0.00		c0.24	0.24	
v/s Ratio Perm		0.14			c0.17							
v/c Ratio		0.46			0.70			0.47		0.70	0.69	
Uniform Delay, d1		20.1			30.2			42.9		24.6	24.5	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.3			3.3			9.3		3.1	2.8	
Delay (s)		20.4			33.5			52.2		27.7	27.3	
Level of Service		C			C			D		C	C	
Approach Delay (s)		20.4			33.5			52.2			27.5	
Approach LOS		C			C			D			C	

Intersection Summary

HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	87.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	4	0	1	18	4	0	1	2	5	0	0
Future Volume (Veh/h)	0	4	0	1	18	4	0	1	2	5	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.50	0.50	0.72	0.72	0.72	0.75	0.75	0.75	0.63	0.63	0.63
Hourly flow rate (vph)	0	8	0	1	25	6	0	1	3	8	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	37	20	0	22	18	2	0			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	37	20	0	22	18	2	0			4		
tC, single (s)	7.1	7.0	6.2	7.1	6.6	6.5	4.1			4.3		
tC, 2 stage (s)												
tF (s)	3.5	4.5	3.3	3.5	4.1	3.5	2.2			2.4		
p0 queue free %	100	99	100	100	97	99	100			99		
cM capacity (veh/h)	942	784	1091	983	853	1018	1636			1507		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	32	4	8
Volume Left	0	1	0	8
Volume Right	0	6	3	0
cSH	784	884	1636	1507
Volume to Capacity	0.01	0.04	0.00	0.01
Queue Length 95th (ft)	1	3	0	0
Control Delay (s)	9.6	9.2	0.0	7.4
Lane LOS	A	A		A
Approach Delay (s)	9.6	9.2	0.0	7.4
Approach LOS	A	A		

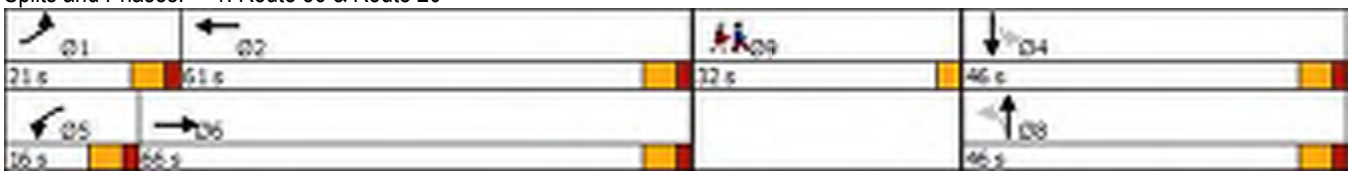
Intersection Summary				
Average Delay	8.3			
Intersection Capacity Utilization	14.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	70	658	28	1187	114	222	88	263	
Future Volume (vph)	70	658	28	1187	114	222	88	263	
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	
Protected Phases	1	6	5	2		8		4	9
Permitted Phases					8		4		
Detector Phase	1	6	5	2	8	8	4	4	
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	12.0	12.0	12.0	12.0	10.0
Minimum Split (s)	16.0	16.0	16.0	16.0	18.0	18.0	18.0	18.0	32.0
Total Split (s)	21.0	66.0	16.0	61.0	46.0	46.0	46.0	46.0	32.0
Total Split (%)	13.1%	41.3%	10.0%	38.1%	28.8%	28.8%	28.8%	28.8%	20%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	Min	Max	Min	Max	Min	Min	Min	Min	None
Act Effct Green (s)	11.6	60.5	10.1	58.9		40.3	40.3	40.3	
Actuated g/C Ratio	0.09	0.45	0.08	0.44		0.30	0.30	0.30	
v/c Ratio	0.51	0.52	0.24	1.00		1.60	0.40	0.64	
Control Delay	73.0	29.0	66.7	60.5		319.8	46.5	48.8	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Delay	73.0	29.0	66.7	60.5		319.8	46.5	48.8	
LOS	E	C	E	E		F	D	D	
Approach Delay		32.8		60.6		319.8		48.3	
Approach LOS		C		E		F		D	

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 134.4
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.60
Intersection Signal Delay: 82.1 Intersection LOS: F
Intersection Capacity Utilization 102.6% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	75	807	32	1512	385	93	346
v/c Ratio	0.51	0.52	0.24	1.00	1.60	0.40	0.64
Control Delay	73.0	29.0	66.7	60.5	319.8	46.5	48.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.0	29.0	66.7	60.5	319.8	46.5	48.8
Queue Length 50th (ft)	61	235	25	616	~447	60	244
Queue Length 95th (ft)	135	429	70	#1146	#831	148	463
Internal Link Dist (ft)		1734		706	1474		1204
Turn Bay Length (ft)	120		90			215	
Base Capacity (vph)	191	1557	135	1512	241	233	542
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.52	0.24	1.00	1.60	0.40	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	658	92	28	1187	143	114	222	18	88	263	66
Future Volume (vph)	70	658	92	28	1187	143	114	222	18	88	263	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98			0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1703	3444		1805	3437			1794		1719	1811	
Flt Permitted	0.95	1.00		0.95	1.00			0.44		0.43	1.00	
Satd. Flow (perm)	1703	3444		1805	3437			804		778	1811	
Peak-hour factor, PHF	0.93	0.93	0.93	0.88	0.88	0.88	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	75	708	99	32	1349	162	124	241	20	93	277	69
RTOR Reduction (vph)	0	6	0	0	5	0	0	0	0	0	0	0
Lane Group Flow (vph)	75	801	0	32	1507	0	0	385	0	93	346	0
Heavy Vehicles (%)	6%	3%	2%	0%	3%	6%	6%	2%	6%	5%	1%	5%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	11.6	60.5		10.1	59.0			40.3		40.3	40.3	
Effective Green, g (s)	11.6	60.5		10.1	59.0			40.3		40.3	40.3	
Actuated g/C Ratio	0.08	0.44		0.07	0.43			0.29		0.29	0.29	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	144	1523		133	1482			236		229	533	
v/s Ratio Prot	c0.04	0.23		0.02	c0.44						0.19	
v/s Ratio Perm								c0.48		0.12		
v/c Ratio	0.52	0.53		0.24	1.02			1.63		0.41	0.65	
Uniform Delay, d1	59.9	27.7		59.7	38.9			48.3		38.7	42.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	3.4	1.3		0.9	27.7			302.6		1.2	2.7	
Delay (s)	63.3	29.0		60.7	66.6			350.9		39.8	44.8	
Level of Service	E	C		E	E			F		D	D	
Approach Delay (s)		31.9			66.4			350.9			43.8	
Approach LOS		C			E			F			D	

Intersection Summary

HCM 2000 Control Delay	87.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	136.8	Sum of lost time (s)	21.0
Intersection Capacity Utilization	102.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	775	1321	35	19	18
Future Volume (Veh/h)	17	775	1321	35	19	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.83	0.83	0.77	0.77
Hourly flow rate (vph)	19	861	1592	42	25	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.84	
vC, conflicting volume	1634				2082	817
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1634				1910	817
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				49	93
cM capacity (veh/h)	402				49	324

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	306	574	1061	573	25	23
Volume Left	19	0	0	0	25	0
Volume Right	0	0	0	42	0	23
cSH	402	1700	1700	1700	49	324
Volume to Capacity	0.05	0.34	0.62	0.34	0.51	0.07
Queue Length 95th (ft)	4	0	0	0	47	6
Control Delay (s)	1.7	0.0	0.0	0.0	137.4	17.0
Lane LOS	A				F	C
Approach Delay (s)	0.6		0.0		79.7	
Approach LOS					F	

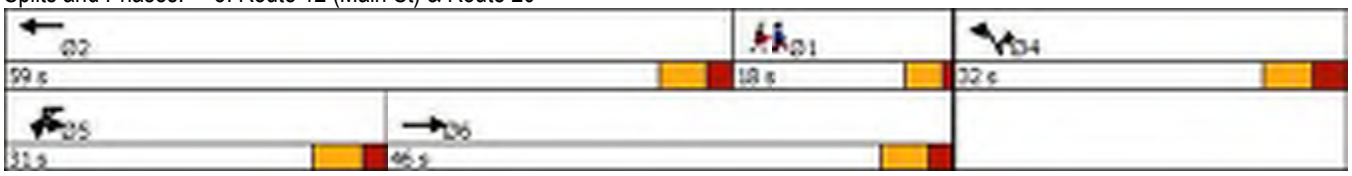
Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	NBL	NBR	Ø1
Lane Configurations						
Traffic Volume (vph)	789	570	1267	80	275	
Future Volume (vph)	789	570	1267	80	275	
Turn Type	NA	Prot	NA	Prot	Prot	
Protected Phases	6	5	2	4	4	1
Permitted Phases						
Detector Phase	6	5	2	4	4	
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	6.0	6.0	6.0
Minimum Split (s)	26.0	20.0	16.0	21.0	21.0	18.0
Total Split (s)	46.0	31.0	59.0	32.0	32.0	18.0
Total Split (%)	42.2%	28.4%	54.1%	29.4%	29.4%	17%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	3.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	7.0	7.0	
Lead/Lag	Lag	Lead	Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	Min	None	Min	None	None	None
Act Effct Green (s)	29.4	22.0	57.6	15.7	15.7	
Actuated g/C Ratio	0.34	0.25	0.66	0.18	0.18	
v/c Ratio	0.80	0.81	0.64	0.65	0.69	
Control Delay	32.6	40.5	10.5	45.5	48.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.6	40.5	10.5	45.5	48.8	
LOS	C	D	B	D	D	
Approach Delay	32.6		20.2	47.1		
Approach LOS	C		C	D		

Intersection Summary

Cycle Length: 109
Actuated Cycle Length: 86.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 26.5 Intersection LOS: C
Intersection Capacity Utilization 67.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	950	711	1491	198	188
v/c Ratio	0.80	0.81	0.64	0.65	0.69
Control Delay	32.6	40.5	10.5	45.5	48.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	40.5	10.5	45.5	48.8
Queue Length 50th (ft)	251	188	215	105	105
Queue Length 95th (ft)	352	#315	334	196	201
Internal Link Dist (ft)	525		1851	2202	
Turn Bay Length (ft)		440			
Base Capacity (vph)	1674	1039	2489	505	455
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.57	0.68	0.60	0.39	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	789	28	34	570	1267	80	275
Future Volume (vph)	789	28	34	570	1267	80	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	6.0	7.0	7.0
Lane Util. Factor	0.95			0.97	0.95	1.00	0.95
Frt	0.99			1.00	1.00	0.92	0.85
Flt Protected	1.00			0.95	1.00	0.98	1.00
Satd. Flow (prot)	3490			3469	3505	1686	1519
Flt Permitted	1.00			0.95	1.00	0.98	1.00
Satd. Flow (perm)	3490			3469	3505	1686	1519
Peak-hour factor, PHF	0.86	0.86	0.85	0.85	0.85	0.92	0.92
Adj. Flow (vph)	917	33	40	671	1491	87	299
RTOR Reduction (vph)	3	0	0	0	0	0	0
Lane Group Flow (vph)	947	0	0	711	1491	198	188
Heavy Vehicles (%)	3%	0%	0%	1%	3%	1%	1%
Turn Type	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	6		5	5	2	4	4
Permitted Phases							
Actuated Green, G (s)	29.6			22.0	57.6	15.6	15.6
Effective Green, g (s)	29.6			22.0	57.6	15.6	15.6
Actuated g/C Ratio	0.34			0.26	0.67	0.18	0.18
Clearance Time (s)	6.0			6.0	6.0	7.0	7.0
Vehicle Extension (s)	2.0			2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	1198			885	2342	305	274
v/s Ratio Prot	c0.27			c0.20	0.43	0.12	c0.12
v/s Ratio Perm							
v/c Ratio	0.79			0.80	0.64	0.65	0.69
Uniform Delay, d1	25.5			30.1	8.3	32.8	33.0
Progression Factor	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4			5.0	0.4	3.5	5.6
Delay (s)	28.9			35.1	8.7	36.3	38.6
Level of Service	C			D	A	D	D
Approach Delay (s)	28.9				17.2	37.4	
Approach LOS	C				B	D	

Intersection Summary

HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	86.2	Sum of lost time (s)	19.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

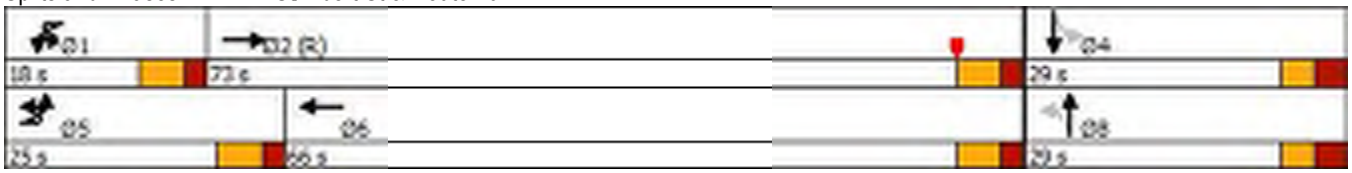
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	1039	9	1828	7	2	30	1
Future Volume (vph)	10	1039	9	1828	7	2	30	1
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	25.0	73.0	18.0	66.0	29.0	29.0	29.0	29.0
Total Split (%)	20.8%	60.8%	15.0%	55.0%	24.2%	24.2%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.7	91.0	8.5	95.1	8.6	8.6	8.6	8.6
Actuated g/C Ratio	0.06	0.76	0.07	0.79	0.07	0.07	0.07	0.07
v/c Ratio	0.25	0.42	0.46	0.75	0.16	0.20	0.44	0.27
Control Delay	60.2	7.8	62.5	20.8	54.6	25.8	66.4	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	7.8	62.5	20.8	54.6	25.8	66.4	20.9
LOS	E	A	E	C	D	C	E	C
Approach Delay		8.9		21.9		36.3		45.0
Approach LOS		A		C		D		D

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 18.3 Intersection LOS: B
Intersection Capacity Utilization 69.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	24	1108	58	2112	16	28	44	39
v/c Ratio	0.25	0.42	0.46	0.75	0.16	0.20	0.44	0.27
Control Delay	60.2	7.8	62.5	20.8	54.6	25.8	66.4	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	7.8	62.5	20.8	54.6	25.8	66.4	20.9
Queue Length 50th (ft)	18	168	42	844	12	4	33	1
Queue Length 95th (ft)	46	260	m59	m867	16	7	53	19
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	273	2656	180	2803	266	337	269	326
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.42	0.32	0.75	0.06	0.08	0.16	0.12

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	10	1039	3	42	9	1828	10	7	2	10	30
Future Volume (vph)	12	10	1039	3	42	9	1828	10	7	2	10	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Lane Util. Factor		1.00	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	1.00			1.00	1.00		1.00	0.88		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1726	3503			1805	3536		1802	1666		1805
Flt Permitted		0.95	1.00			0.95	1.00		0.73	1.00		0.74
Satd. Flow (perm)		1726	3503			1805	3536		1388	1666		1404
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.87	0.87	0.87	0.87	0.43	0.43	0.43	0.68
Adj. Flow (vph)	13	11	1105	3	48	10	2101	11	16	5	23	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	22	0	0
Lane Group Flow (vph)	0	24	1108	0	0	58	2112	0	16	6	0	44
Confl. Peds. (#/hr)		1		1		1		1	1			
Heavy Vehicles (%)	0%	10%	3%	0%	0%	0%	2%	0%	0%	0%	0%	0%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Perm	NA		Perm
Protected Phases	5	5	2		1	1	6			8		
Permitted Phases									8			4
Actuated Green, G (s)		4.3	87.3			7.3	90.3		7.4	7.4		7.4
Effective Green, g (s)		4.3	87.3			7.3	90.3		7.4	7.4		7.4
Actuated g/C Ratio		0.04	0.73			0.06	0.75		0.06	0.06		0.06
Clearance Time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Vehicle Extension (s)		2.0	2.0			2.0	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)		61	2548			109	2660		85	102		86
v/s Ratio Prot		0.01	0.32			c0.03	c0.60			0.00		
v/s Ratio Perm									0.01			c0.03
v/c Ratio		0.39	0.43			0.53	0.79		0.19	0.06		0.51
Uniform Delay, d1		56.6	6.5			54.7	9.1		53.4	53.0		54.5
Progression Factor		1.00	1.00			1.04	1.91		1.00	1.00		1.00
Incremental Delay, d2		1.5	0.5			1.6	1.7		0.4	0.1		2.1
Delay (s)		58.1	7.1			58.4	19.1		53.8	53.1		56.7
Level of Service		E	A			E	B		D	D		E
Approach Delay (s)			8.1				20.2			53.4		
Approach LOS			A				C			D		

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1	26
Future Volume (vph)	1	26
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.85	
Flt Protected	1.00	
Satd. Flow (prot)	1541	
Flt Permitted	1.00	
Satd. Flow (perm)	1541	
Peak-hour factor, PHF	0.68	0.68
Adj. Flow (vph)	1	38
RTOR Reduction (vph)	36	0
Lane Group Flow (vph)	3	0
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	0%	4%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	7.4	
Effective Green, g (s)	7.4	
Actuated g/C Ratio	0.06	
Clearance Time (s)	6.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	95	
v/s Ratio Prot	0.00	
v/s Ratio Perm		
v/c Ratio	0.04	
Uniform Delay, d1	52.9	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	53.0	
Level of Service	D	
Approach Delay (s)	54.9	
Approach LOS	D	

Intersection Summary

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	44	355	733	973	15	801
Future Volume (vph)	44	355	733	973	15	801
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	15.0			66.0		39.0
Total Split (%)	12.5%			55.0%		32.5%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	11.0	50.0	120.0	60.0	120.0	33.0
Actuated g/C Ratio	0.09	0.42	1.00	0.50	1.00	0.28
v/c Ratio	0.30	0.28	0.24	0.64	0.01	1.08
Control Delay	57.6	18.3	0.2	24.1	0.0	97.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	18.3	0.2	24.1	0.0	97.3
LOS	E	B	A	C	A	F
Approach Delay			8.1	23.8		
Approach LOS			A	C		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 36.2 Intersection LOS: D
Intersection Capacity Utilization 76.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	50	403	833	1118	17	826
v/c Ratio	0.30	0.28	0.24	0.64	0.01	1.08
Control Delay	57.6	18.3	0.2	24.1	0.0	97.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	18.3	0.2	24.1	0.0	97.3
Queue Length 50th (ft)	29	85	0	324	0	~405
Queue Length 95th (ft)	67	71	0	376	0	#543
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	165	1444	3505	1752	1329	766
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.28	0.24	0.64	0.01	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	44	355	733	973	15	0	801
Future Volume (vph)	44	355	733	973	15	0	801
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1805	3467	3505	3505	1329		2787
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1805	3467	3505	3505	1329		2787
Peak-hour factor, PHF	0.88	0.88	0.88	0.87	0.87	0.97	0.97
Adj. Flow (vph)	50	403	833	1118	17	0	826
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	50	403	833	1118	17	0	826
Confl. Bikes (#/hr)					1		
Heavy Vehicles (%)	0%	1%	3%	3%	20%	0%	2%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	11.0	48.0	120.0	60.0	120.0		33.0
Effective Green, g (s)	11.0	48.0	116.0	60.0	120.0		33.0
Actuated g/C Ratio	0.09	0.40	0.97	0.50	1.00		0.28
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	165	1386	3388	1752	1329		766
v/s Ratio Prot	0.03	c0.12	0.24	c0.32			c0.30
v/s Ratio Perm					0.01		
v/c Ratio	0.30	0.29	0.25	0.64	0.01		1.08
Uniform Delay, d1	50.9	24.4	0.1	22.0	0.0		43.5
Progression Factor	1.03	0.77	1.00	1.00	1.00		1.00
Incremental Delay, d2	4.4	0.0	0.0	1.8	0.0		55.7
Delay (s)	56.9	18.8	0.1	23.8	0.0		99.2
Level of Service	E	B	A	C	A		F
Approach Delay (s)			8.2	23.5		99.2	
Approach LOS			A	C		F	

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

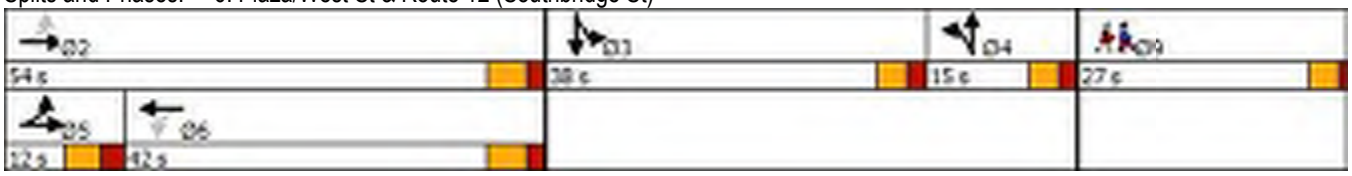
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	44	415	19	839	5	317	1		
Future Volume (vph)	44	415	19	839	5	317	1		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		48.7		36.6	5.6	14.1	14.1		
Actuated g/C Ratio		0.61		0.46	0.07	0.18	0.18		
v/c Ratio		0.39		0.96	0.23	0.68	0.67		
Control Delay		10.0		38.7	26.2	44.1	42.4		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		10.0		38.7	26.2	44.1	42.4		
LOS		B		D	C	D	D		
Approach Delay		10.0		38.7	26.2		43.3		
Approach LOS		B		D	C		D		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 80
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 32.6 Intersection LOS: C
Intersection Capacity Utilization 79.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	566	1431	32	197	196
v/c Ratio	0.39	0.96	0.23	0.68	0.67
Control Delay	10.0	38.7	26.2	44.1	42.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	38.7	26.2	44.1	42.4
Queue Length 50th (ft)	72	~373	6	103	98
Queue Length 95th (ft)	114	#630	27	172	168
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	1454	1489	236	690	689
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.96	0.14	0.29	0.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	415	0	19	839	530	3	5	16	317	1	24
Future Volume (vph)	44	415	0	19	839	530	3	5	16	317	1	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.94			0.91		1.00	0.98	
Flt Protected		1.00			1.00			0.99		0.95	0.96	
Satd. Flow (prot)		3499			3335			1721		1649	1638	
Flt Permitted		0.63			0.94			0.99		0.95	0.96	
Satd. Flow (perm)		2229			3144			1721		1649	1638	
Peak-hour factor, PHF	0.81	0.81	0.81	0.97	0.97	0.97	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	54	512	0	20	865	546	4	7	21	364	1	28
RTOR Reduction (vph)	0	0	0	0	54	0	0	20	0	0	5	0
Lane Group Flow (vph)	0	566	0	0	1377	0	0	12	0	197	191	0
Heavy Vehicles (%)	9%	2%	0%	0%	2%	2%	0%	0%	0%	4%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		48.7			36.6			3.3		14.0	14.0	
Effective Green, g (s)		48.7			36.6			3.3		14.0	14.0	
Actuated g/C Ratio		0.59			0.45			0.04		0.17	0.17	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1418			1403			69		281	279	
v/s Ratio Prot		c0.03						c0.01		c0.12	0.12	
v/s Ratio Perm		0.21			c0.44							
v/c Ratio		0.40			0.98			0.17		0.70	0.68	
Uniform Delay, d1		8.9			22.4			38.0		32.0	31.9	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.2			19.7			0.4		6.3	5.5	
Delay (s)		9.0			42.0			38.5		38.3	37.4	
Level of Service		A			D			D		D	D	
Approach Delay (s)		9.0			42.0			38.5			37.9	
Approach LOS		A			D			D			D	

Intersection Summary

HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	2	7	0	0	0	6	0	0	1	3	0	0
Future Volume (Veh/h)	2	7	0	0	0	6	0	0	1	3	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.45	0.45	0.45	0.50	0.50	0.50	0.25	0.25	0.25	0.38	0.38	0.38
Hourly flow rate (vph)	4	16	0	0	0	12	0	0	4	8	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	30	20	0	26	18	2	0			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	30	20	0	26	18	2	0			4		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	100	100	100	99	100			100		
cM capacity (veh/h)	969	873	1091	972	876	1088	1636			1631		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	20	12	4	8
Volume Left	4	0	0	8
Volume Right	0	12	4	0
cSH	891	1088	1636	1631
Volume to Capacity	0.02	0.01	0.00	0.00
Queue Length 95th (ft)	2	1	0	0
Control Delay (s)	9.1	8.3	0.0	7.2
Lane LOS	A	A		A
Approach Delay (s)	9.1	8.3	0.0	7.2
Approach LOS	A	A		

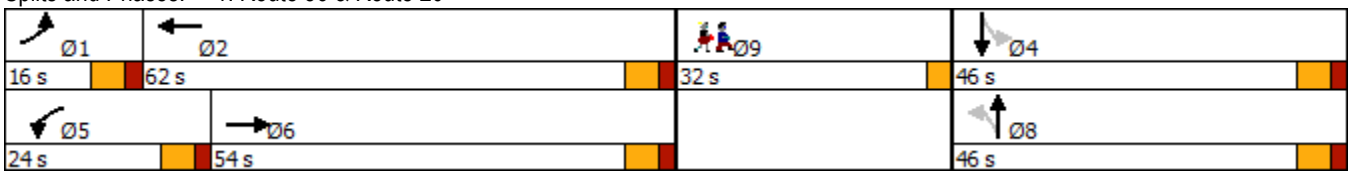
Intersection Summary				
Average Delay	7.7			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	53	1017	32	862	121	183	90	187	
Future Volume (vph)	53	1017	32	862	121	183	90	187	
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	
Protected Phases	1	6	5	2		8		4	9
Permitted Phases					8		4		
Detector Phase	1	6	5	2	8	8	4	4	
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	12.0	12.0	12.0	12.0	10.0
Minimum Split (s)	16.0	16.0	16.0	16.0	18.0	18.0	18.0	18.0	32.0
Total Split (s)	16.0	54.0	24.0	62.0	46.0	46.0	46.0	46.0	32.0
Total Split (%)	10.3%	34.6%	15.4%	39.7%	29.5%	29.5%	29.5%	29.5%	21%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	Min	Max	Min	Max	Min	Min	Min	Min	None
Act Effct Green (s)	10.0	56.0	10.0	56.0		40.0	40.0	40.0	
Actuated g/C Ratio	0.08	0.45	0.08	0.45		0.32	0.32	0.32	
v/c Ratio	0.37	0.70	0.23	0.67		1.04	0.38	0.46	
Control Delay	61.9	30.2	57.7	29.0		99.5	37.3	36.6	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Delay	61.9	30.2	57.7	29.0		99.5	37.3	36.6	
LOS	E	C	E	C		F	D	D	
Approach Delay		31.7		29.9		99.5		36.8	
Approach LOS		C		C		F		D	

Intersection Summary

Cycle Length: 156
Actuated Cycle Length: 124
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 40.1 Intersection LOS: D
Intersection Capacity Utilization 90.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	54	1115	34	1055	372	106	272
v/c Ratio	0.37	0.70	0.23	0.67	1.04	0.38	0.46
Control Delay	61.9	30.2	57.7	29.0	99.5	37.3	36.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.9	30.2	57.7	29.0	99.5	37.3	36.6
Queue Length 50th (ft)	42	368	26	339	~321	65	173
Queue Length 95th (ft)	85	450	60	415	#516	112	239
Internal Link Dist (ft)		1734		706	1474		1204
Turn Bay Length (ft)	120		90			215	
Base Capacity (vph)	145	1582	262	1575	358	280	588
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.70	0.13	0.67	1.04	0.38	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	1017	87	32	862	119	121	183	35	90	187	44
Future Volume (vph)	53	1017	87	32	862	119	121	183	35	90	187	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98			0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1805	3500		1805	3475			1825		1770	1824	
Flt Permitted	0.95	1.00		0.95	1.00			0.60		0.47	1.00	
Satd. Flow (perm)	1805	3500		1805	3475			1112		870	1824	
Peak-hour factor, PHF	0.99	0.99	0.99	0.93	0.93	0.93	0.91	0.91	0.91	0.85	0.85	0.85
Adj. Flow (vph)	54	1027	88	34	927	128	133	201	38	106	220	52
RTOR Reduction (vph)	0	3	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	54	1112	0	34	1049	0	0	372	0	106	272	0
Heavy Vehicles (%)	0%	2%	1%	0%	2%	2%	1%	1%	0%	2%	1%	2%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	10.0	56.0		10.0	56.0			40.0		40.0	40.0	
Effective Green, g (s)	10.0	56.0		10.0	56.0			40.0		40.0	40.0	
Actuated g/C Ratio	0.08	0.45		0.08	0.45			0.32		0.32	0.32	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	145	1580		145	1569			358		280	588	
v/s Ratio Prot	c0.03	c0.32		0.02	0.30						0.15	
v/s Ratio Perm								c0.33		0.12		
v/c Ratio	0.37	0.70		0.23	0.67			1.04		0.38	0.46	
Uniform Delay, d1	54.0	27.3		53.4	26.7			42.0		32.4	33.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.6	2.7		0.8	2.3			58.1		0.9	0.6	
Delay (s)	55.6	30.0		54.2	29.0			100.1		33.3	34.0	
Level of Service	E	C		D	C			F		C	C	
Approach Delay (s)		31.2			29.8			100.1			33.8	
Approach LOS		C			C			F			C	

Intersection Summary

HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	1128	993	32	14	19
Future Volume (Veh/h)	23	1128	993	32	14	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.98	0.98	0.83	0.83
Hourly flow rate (vph)	24	1175	1013	33	17	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.75	
vC, conflicting volume	1046				1665	523
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1046				1215	523
tC, single (s)	4.2				6.9	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	96				86	95
cM capacity (veh/h)	649				120	504

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	416	783	675	371	17	23
Volume Left	24	0	0	0	17	0
Volume Right	0	0	0	33	0	23
cSH	649	1700	1700	1700	120	504
Volume to Capacity	0.04	0.46	0.40	0.22	0.14	0.05
Queue Length 95th (ft)	3	0	0	0	12	4
Control Delay (s)	1.1	0.0	0.0	0.0	39.9	12.5
Lane LOS	A				E	B
Approach Delay (s)	0.4		0.0		24.1	
Approach LOS					C	

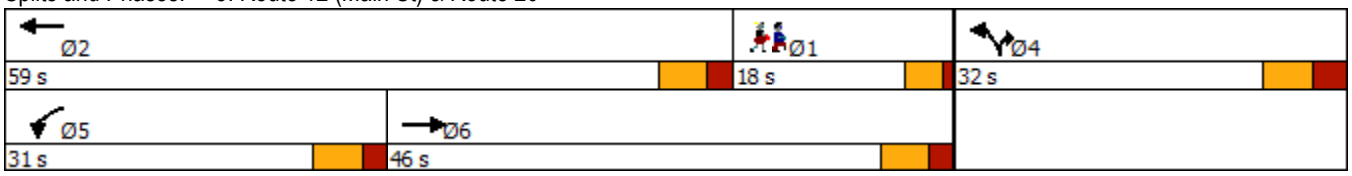
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	NBL	NBR	Ø1
Lane Configurations						
Traffic Volume (vph)	1063	415	946	74	344	
Future Volume (vph)	1063	415	946	74	344	
Turn Type	NA	Prot	NA	Prot	Prot	
Protected Phases	6	5	2	4	4	1
Permitted Phases						
Detector Phase	6	5	2	4	4	
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	6.0	6.0	6.0
Minimum Split (s)	26.0	20.0	16.0	21.0	21.0	18.0
Total Split (s)	46.0	31.0	59.0	32.0	32.0	18.0
Total Split (%)	42.2%	28.4%	54.1%	29.4%	29.4%	17%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	3.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	7.0	7.0	
Lead/Lag	Lag	Lead	Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	Min	None	Min	None	None	None
Act Effct Green (s)	34.6	16.3	57.1	17.6	17.6	
Actuated g/C Ratio	0.39	0.18	0.65	0.20	0.20	
v/c Ratio	0.85	0.70	0.44	0.70	0.75	
Control Delay	32.3	41.4	8.7	46.3	50.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.3	41.4	8.7	46.3	50.8	
LOS	C	D	A	D	D	
Approach Delay	32.3		18.7	48.5		
Approach LOS	C		B	D		

Intersection Summary

Cycle Length: 109
Actuated Cycle Length: 88.2
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 28.3 Intersection LOS: C
Intersection Capacity Utilization 69.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1170	446	1017	235	229
v/c Ratio	0.85	0.70	0.44	0.70	0.75
Control Delay	32.3	41.4	8.7	46.3	50.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	41.4	8.7	46.3	50.8
Queue Length 50th (ft)	304	127	132	128	132
Queue Length 95th (ft)	#498	195	210	227	238
Internal Link Dist (ft)	525		1851	2202	
Turn Bay Length (ft)		440			
Base Capacity (vph)	1652	1017	2448	494	449
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.44	0.42	0.48	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1063	48	415	946	74	344
Future Volume (vph)	1063	48	415	946	74	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	7.0	7.0
Lane Util. Factor	0.95		0.97	0.95	1.00	0.95
Frt	0.99		1.00	1.00	0.90	0.85
Flt Protected	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	3516		3467	3539	1685	1534
Flt Permitted	1.00		0.95	1.00	0.98	1.00
Satd. Flow (perm)	3516		3467	3539	1685	1534
Peak-hour factor, PHF	0.95	0.95	0.93	0.93	0.90	0.90
Adj. Flow (vph)	1119	51	446	1017	82	382
RTOR Reduction (vph)	3	0	0	0	0	0
Lane Group Flow (vph)	1167	0	446	1017	235	229
Heavy Vehicles (%)	2%	2%	1%	2%	0%	0%
Turn Type	NA		Prot	NA	Prot	Prot
Protected Phases	6		5	2	4	4
Permitted Phases						
Actuated Green, G (s)	34.8		16.3	57.1	17.6	17.6
Effective Green, g (s)	34.8		16.3	57.1	17.6	17.6
Actuated g/C Ratio	0.40		0.19	0.65	0.20	0.20
Clearance Time (s)	6.0		6.0	6.0	7.0	7.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	1395		644	2304	338	307
v/s Ratio Prot	c0.33		c0.13	0.29	0.14	c0.15
v/s Ratio Perm						
v/c Ratio	0.84		0.69	0.44	0.70	0.75
Uniform Delay, d1	23.9		33.4	7.5	32.6	32.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3		2.6	0.0	4.9	8.3
Delay (s)	28.2		36.0	7.5	37.5	41.3
Level of Service	C		D	A	D	D
Approach Delay (s)	28.2			16.2	39.4	
Approach LOS	C			B	D	

Intersection Summary

HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	87.7	Sum of lost time (s)	19.0
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

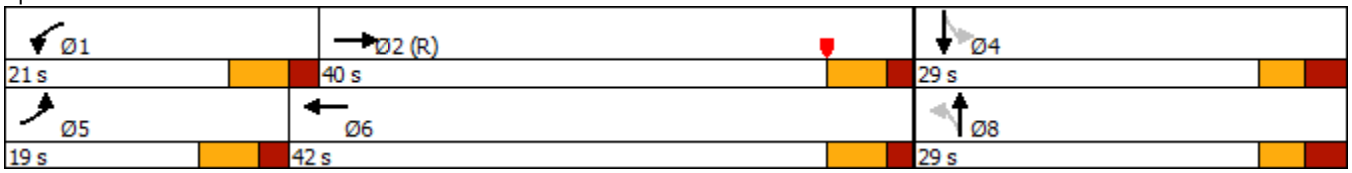
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	11	1415	18	1419	11	0	29	1
Future Volume (vph)	11	1415	18	1419	11	0	29	1
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	19.0	40.0	21.0	42.0	29.0	29.0	29.0	29.0
Total Split (%)	21.1%	44.4%	23.3%	46.7%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.1	72.8	6.2	75.4	7.3	7.3	7.3	7.3
Actuated g/C Ratio	0.07	0.81	0.07	0.84	0.08	0.08	0.08	0.08
v/c Ratio	0.09	0.52	0.15	0.51	0.13	0.07	0.29	0.06
Control Delay	41.2	7.0	29.4	7.5	39.9	0.3	44.3	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	7.0	29.4	7.5	39.9	0.3	44.3	23.7
LOS	D	A	C	A	D	A	D	C
Approach Delay		7.2		7.7		15.6		40.5
Approach LOS		A		A		B		D

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 53 (59%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 8.1 Intersection LOS: A
Intersection Capacity Utilization 57.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	1488	19	1538	17	27	35	8
v/c Ratio	0.09	0.52	0.15	0.51	0.13	0.07	0.29	0.06
Control Delay	41.2	7.0	29.4	7.5	39.9	0.3	44.3	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	7.0	29.4	7.5	39.9	0.3	44.3	23.7
Queue Length 50th (ft)	6	119	9	282	9	0	19	1
Queue Length 95th (ft)	23	346	m12	m340	20	0	43	12
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	260	2862	300	2990	396	616	384	427
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.52	0.06	0.51	0.04	0.04	0.09	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1415	13	18	1419	11	11	0	17	29	1	6
Future Volume (vph)	11	1415	13	18	1419	11	11	0	17	29	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3535		1805	3568		1805	1524		1752	1651	
Flt Permitted	0.95	1.00		0.95	1.00		0.82	1.00		0.82	1.00	
Satd. Flow (perm)	1805	3535		1805	3568		1551	1524		1506	1651	
Peak-hour factor, PHF	0.96	0.96	0.96	0.93	0.93	0.93	0.64	0.64	0.64	0.82	0.82	0.82
Adj. Flow (vph)	11	1474	14	19	1526	12	17	0	27	35	1	7
RTOR Reduction (vph)	0	0	0	0	0	0	0	26	0	0	7	0
Lane Group Flow (vph)	11	1488	0	19	1538	0	17	1	0	35	1	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	9%	0%	0%	6%	3%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.3	64.5		2.6	65.8		4.9	4.9		4.9	4.9	
Effective Green, g (s)	1.3	64.5		2.6	65.8		4.9	4.9		4.9	4.9	
Actuated g/C Ratio	0.01	0.72		0.03	0.73		0.05	0.05		0.05	0.05	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	26	2533		52	2608		84	82		81	89	
v/s Ratio Prot	0.01	0.42		c0.01	c0.43			0.00			0.00	
v/s Ratio Perm							0.01			c0.02		
v/c Ratio	0.42	0.59		0.37	0.59		0.20	0.02		0.43	0.02	
Uniform Delay, d1	44.0	6.2		42.9	5.7		40.7	40.3		41.2	40.3	
Progression Factor	1.00	1.00		0.71	1.47		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	1.0		0.9	0.6		0.4	0.0		1.3	0.0	
Delay (s)	48.0	7.2		31.2	9.0		41.1	40.3		42.5	40.3	
Level of Service	D	A		C	A		D	D		D	D	
Approach Delay (s)		7.5			9.2			40.6			42.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

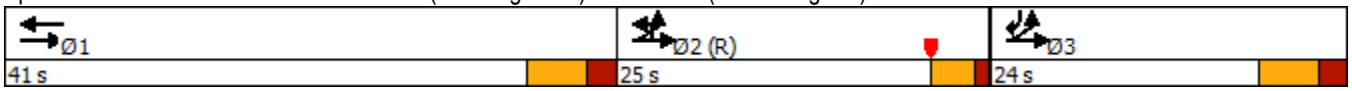
c Critical Lane Group

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	45	490	998	894	19	480
Future Volume (vph)	45	490	998	894	19	480
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	25.0			41.0		24.0
Total Split (%)	27.8%			45.6%		26.7%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	21.0	45.0	90.0	35.0	90.0	18.0
Actuated g/C Ratio	0.23	0.50	1.00	0.39	1.00	0.20
v/c Ratio	0.11	0.29	0.29	0.68	0.01	1.05
Control Delay	24.5	19.3	0.2	26.0	0.0	88.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	19.3	0.2	26.0	0.0	88.6
LOS	C	B	A	C	A	F
Approach Delay			7.0	25.5		
Approach LOS			A	C		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 27.8 Intersection LOS: C
Intersection Capacity Utilization 63.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	47	510	1040	951	20	585
v/c Ratio	0.11	0.29	0.29	0.68	0.01	1.05
Control Delay	24.5	19.3	0.2	26.0	0.0	88.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	19.3	0.2	26.0	0.0	88.6
Queue Length 50th (ft)	23	87	0	232	0	~207
Queue Length 95th (ft)	m46	195	0	302	0	#276
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	421	1733	3574	1389	1538	557
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.29	0.29	0.68	0.01	1.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	45	490	998	894	19	0	480
Future Volume (vph)	45	490	998	894	19	0	480
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1805	3467	3574	3574	1538		2787
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1805	3467	3574	3574	1538		2787
Peak-hour factor, PHF	0.96	0.96	0.96	0.94	0.94	0.82	0.82
Adj. Flow (vph)	47	510	1040	951	20	0	585
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	47	510	1040	951	20	0	585
Heavy Vehicles (%)	0%	1%	1%	1%	5%	2%	2%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	21.0	43.0	90.0	35.0	90.0		18.0
Effective Green, g (s)	21.0	43.0	86.0	35.0	90.0		18.0
Actuated g/C Ratio	0.23	0.48	0.96	0.39	1.00		0.20
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	421	1656	3415	1389	1538		557
v/s Ratio Prot	0.03	0.15	c0.29	c0.27			c0.21
v/s Ratio Perm					0.01		
v/c Ratio	0.11	0.31	0.30	0.68	0.01		1.05
Uniform Delay, d1	27.2	14.4	0.1	22.9	0.0		36.0
Progression Factor	0.87	1.42	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.5	0.0	0.0	2.8	0.0		52.0
Delay (s)	24.2	20.5	0.1	25.7	0.0		88.0
Level of Service	C	C	A	C	A		F
Approach Delay (s)			7.3	25.1		88.0	
Approach LOS			A	C		F	

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

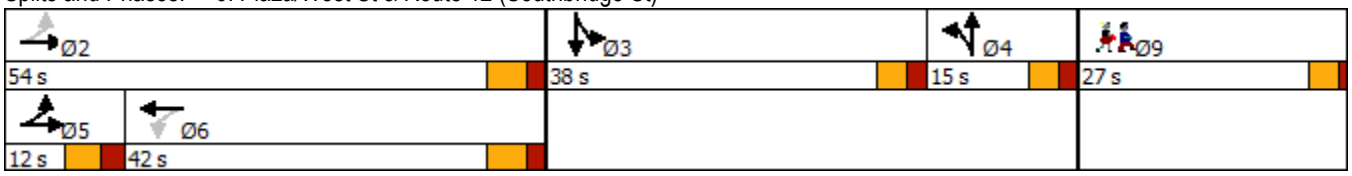
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	36	472	21	603	4	319	2		
Future Volume (vph)	36	472	21	603	4	319	2		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		48.6		36.5	6.0	15.7	15.7		
Actuated g/C Ratio		0.58		0.43	0.07	0.19	0.19		
v/c Ratio		0.33		0.71	0.36	0.72	0.69		
Control Delay		11.1		23.4	25.3	45.9	42.9		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		11.1		23.4	25.3	45.9	42.9		
LOS		B		C	C	D	D		
Approach Delay		11.1		23.4	25.3		44.4		
Approach LOS		B		C	C		D		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 84.1
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 24.7 Intersection LOS: C
Intersection Capacity Utilization 68.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	555	1002	56	227	220
v/c Ratio	0.33	0.71	0.36	0.72	0.69
Control Delay	11.1	23.4	25.3	45.9	42.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	23.4	25.3	45.9	42.9
Queue Length 50th (ft)	74	213	8	121	111
Queue Length 95th (ft)	136	353	41	178	168
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	1705	1407	235	675	669
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.71	0.24	0.34	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	472	7	21	603	319	9	4	34	319	2	36
Future Volume (vph)	36	472	7	21	603	319	9	4	34	319	2	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.95			0.90		1.00	0.97	
Flt Protected		1.00			1.00			0.99		0.95	0.96	
Satd. Flow (prot)		3557			3379			1664		1698	1671	
Flt Permitted		0.80			0.93			0.99		0.95	0.96	
Satd. Flow (perm)		2864			3160			1664		1698	1671	
Peak-hour factor, PHF	0.93	0.93	0.93	0.94	0.94	0.94	0.84	0.84	0.84	0.80	0.80	0.80
Adj. Flow (vph)	39	508	8	22	641	339	11	5	40	399	2	45
RTOR Reduction (vph)	0	0	0	0	38	0	0	38	0	0	7	0
Lane Group Flow (vph)	0	555	0	0	964	0	0	18	0	227	213	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	3%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		48.6			36.5			4.8		15.7	15.7	
Effective Green, g (s)		48.6			36.5			4.8		15.7	15.7	
Actuated g/C Ratio		0.57			0.43			0.06		0.18	0.18	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1685			1355			93		313	308	
v/s Ratio Prot		c0.02						c0.01		c0.13	0.13	
v/s Ratio Perm		0.16			c0.31							
v/c Ratio		0.33			0.71			0.20		0.73	0.69	
Uniform Delay, d1		9.6			20.0			38.3		32.7	32.4	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.1			1.8			0.4		6.9	5.3	
Delay (s)		9.8			21.8			38.7		39.6	37.7	
Level of Service		A			C			D		D	D	
Approach Delay (s)		9.8			21.8			38.7			38.7	
Approach LOS		A			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	85.1	Sum of lost time (s)	26.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	5	1	0	4	0
Future Volume (Veh/h)	1	5	1	0	4	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.50	0.50	0.25	0.25	0.50	0.50
Hourly flow rate (vph)	2	10	4	0	8	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	20	4			4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	20	4			4	
tC, single (s)	7.4	6.2			4.3	
tC, 2 stage (s)						
tF (s)	4.4	3.3			2.4	
p0 queue free %	100	99			99	
cM capacity (veh/h)	791	1085			1479	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	12	4	8
Volume Left	2	0	8
Volume Right	10	0	0
cSH	1022	1700	1479
Volume to Capacity	0.01	0.00	0.01
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.6	0.0	7.4
Lane LOS	A		A
Approach Delay (s)	8.6	0.0	7.4
Approach LOS	A		

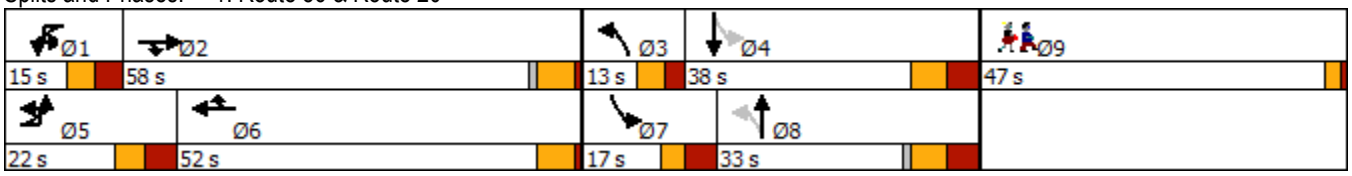
Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	40	996	69	16	552	63	76	183	140	210	
Future Volume (vph)	40	996	69	16	552	63	76	183	140	210	
Turn Type	Prot	NA	Prot	Prot	NA	Prot	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2	1	6	6	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2	1	6	6	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0	16.0	14.0	16.0	16.0	13.0	16.0	14.0	16.0	47.0
Total Split (s)	22.0	58.0	58.0	15.0	52.0	52.0	13.0	33.0	17.0	38.0	47.0
Total Split (%)	12.8%	33.7%	33.7%	8.7%	30.2%	30.2%	7.6%	19.2%	9.9%	22.1%	27%
Yellow Time (s)	4.0	5.0	5.0	3.5	5.0	5.0	3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0	1.0	3.5	1.0	1.0	2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0	6.0	7.0	6.0	6.0	6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	9.2	52.1	52.1	7.8	50.0	50.0	35.1	25.1	41.1	29.1	
Actuated g/C Ratio	0.08	0.43	0.43	0.06	0.41	0.41	0.29	0.21	0.34	0.24	
v/c Ratio	0.39	0.74	0.12	0.44	0.47	0.11	0.29	0.67	0.51	0.76	
Control Delay	64.5	33.3	0.4	69.6	28.4	0.4	29.9	55.7	35.6	57.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	64.5	33.3	0.4	69.6	28.4	0.4	29.9	55.7	35.6	57.7	
LOS	E	C	A	E	C	A	C	E	D	E	
Approach Delay		32.4			28.4			49.0		50.2	
Approach LOS		C			C			D		D	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 121
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 36.3 Intersection LOS: D
Intersection Capacity Utilization 74.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	1083	75	47	600	68	83	238	152	296
v/c Ratio	0.39	0.74	0.12	0.44	0.47	0.11	0.29	0.67	0.51	0.76
Control Delay	64.5	33.3	0.4	69.6	28.4	0.4	29.9	55.7	35.6	57.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.5	33.3	0.4	69.6	28.4	0.4	29.9	55.7	35.6	57.7
Queue Length 50th (ft)	34	384	0	37	184	0	44	178	87	224
Queue Length 95th (ft)	71	471	0	79	250	0	82	272	143	#356
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	168	1488	659	109	1286	592	283	354	296	388
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.73	0.11	0.43	0.47	0.11	0.29	0.67	0.51	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

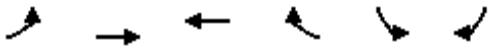
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	40	996	69	28	16	552	63	76	183	36	140	210
Future Volume (vph)	40	996	69	28	16	552	63	76	183	36	140	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.98		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1452	3388	1322		1643	3116	1236	1678	1712		1544	1618
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.45	1.00		0.40	1.00
Satd. Flow (perm)	1452	3388	1322		1643	3116	1236	801	1712		655	1618
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	1083	75	30	17	600	68	83	199	39	152	228
RTOR Reduction (vph)	0	0	43	0	0	0	40	0	0	0	0	0
Lane Group Flow (vph)	43	1083	32	0	47	600	28	83	238	0	152	296
Heavy Vehicles (%)	16%	3%	14%	0%	7%	12%	22%	4%	5%	3%	13%	8%
Turn Type	Prot	NA	Prot	Prot	Prot	NA	Prot	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2	1	1	6	6	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	7.7	52.5	52.5		6.2	50.0	50.0	32.1	25.1		39.1	29.1
Effective Green, g (s)	7.7	52.5	52.5		6.2	50.0	50.0	32.1	25.1		39.1	29.1
Actuated g/C Ratio	0.06	0.43	0.43		0.05	0.41	0.41	0.26	0.20		0.32	0.24
Clearance Time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	91	1448	565		82	1268	503	259	349		280	383
v/s Ratio Prot	c0.03	c0.32	0.02		0.03	0.19	0.02	0.02	0.14		c0.04	c0.18
v/s Ratio Perm								0.07			0.13	
v/c Ratio	0.47	0.75	0.06		0.57	0.47	0.06	0.32	0.68		0.54	0.77
Uniform Delay, d1	55.6	29.6	20.6		57.0	26.7	22.1	35.4	45.2		32.1	43.8
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.8	2.2	0.0		9.3	0.3	0.0	0.7	5.4		2.1	9.3
Delay (s)	59.4	31.7	20.7		66.3	27.0	22.1	36.1	50.6		34.3	53.1
Level of Service	E	C	C		E	C	C	D	D		C	D
Approach Delay (s)		32.0				29.1			46.8			46.7
Approach LOS		C				C			D			D

Intersection Summary

HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	122.8	Sum of lost time (s)	33.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	63
Future Volume (vph)	63
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	68
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	15%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1117	605	14	0	51
Future Volume (Veh/h)	0	1117	605	14	0	51
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1214	658	15	0	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.74	
vC, conflicting volume	673				1272	336
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	673				659	336
tC, single (s)	4.1				6.8	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	927				296	656

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	607	607	439	234	55
Volume Left	0	0	0	0	0
Volume Right	0	0	0	15	55
cSH	1700	1700	1700	1700	656
Volume to Capacity	0.36	0.36	0.26	0.14	0.08
Queue Length 95th (ft)	0	0	0	0	7
Control Delay (s)	0.0	0.0	0.0	0.0	11.0
Lane LOS					B
Approach Delay (s)	0.0		0.0		11.0
Approach LOS					B

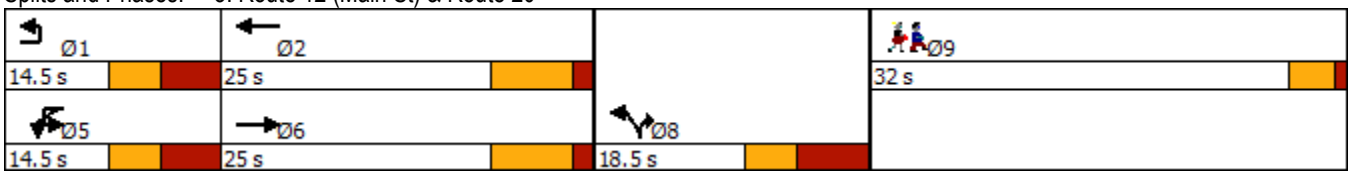
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	6	1108	100	592	24	291	
Future Volume (vph)	6	1108	100	592	24	291	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	14.5	25.0	14.5	25.0	18.5	18.5	32.0
Total Split (%)	16.1%	27.8%	16.1%	27.8%	20.6%	20.6%	36%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.1	18.3	7.1	26.6	7.9	7.9	
Actuated g/C Ratio	0.13	0.35	0.13	0.50	0.15	0.15	
v/c Ratio	0.03	1.06	0.30	0.39	0.48	0.47	
Control Delay	22.5	66.6	24.7	10.5	11.8	9.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	22.5	66.6	24.7	10.5	11.8	9.3	
LOS	C	E	C	B	B	A	
Approach Delay		66.4		12.9	10.5		
Approach LOS		E		B	B		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 52.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 40.6
Intersection LOS: D
Intersection Capacity Utilization 68.2%
ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	7	1225	132	643	171	171
v/c Ratio	0.03	1.06	0.30	0.39	0.48	0.47
Control Delay	22.5	66.6	24.7	10.5	11.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	66.6	24.7	10.5	11.8	9.3
Queue Length 50th (ft)	2	~254	20	48	8	0
Queue Length 95th (ft)	12	#398	44	148	53	45
Internal Link Dist (ft)		640		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	234	1156	442	1636	414	418
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	1.06	0.30	0.39	0.41	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	6	1108	19	21	100	592	24	291
Future Volume (vph)	6	1108	19	21	100	592	24	291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12
Total Lost time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95			0.97	0.95	1.00	0.95
Frt	1.00	1.00			1.00	1.00	0.87	0.85
Flt Protected	0.95	1.00			0.95	1.00	0.99	1.00
Satd. Flow (prot)	1745	3340			3285	3252	1547	1461
Flt Permitted	0.95	1.00			0.95	1.00	0.99	1.00
Satd. Flow (perm)	1745	3340			3285	3252	1547	1461
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	1204	21	23	109	643	26	316
RTOR Reduction (vph)	0	1	0	0	0	0	126	148
Lane Group Flow (vph)	7	1224	0	0	132	643	45	23
Heavy Vehicles (%)	0%	4%	17%	0%	8%	11%	14%	5%
Turn Type	Prot	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	1	6		5	5	2	8	8
Permitted Phases								
Actuated Green, G (s)	1.3	22.6			5.3	26.6	7.9	7.9
Effective Green, g (s)	1.3	22.6			5.3	26.6	7.9	7.9
Actuated g/C Ratio	0.02	0.38			0.09	0.45	0.13	0.13
Clearance Time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	38	1283			296	1471	207	196
v/s Ratio Prot	0.00	c0.37			c0.04	c0.20	c0.03	0.02
v/s Ratio Perm								
v/c Ratio	0.18	0.95			0.45	0.44	0.22	0.12
Uniform Delay, d1	28.2	17.6			25.4	11.0	22.7	22.4
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3	15.3			1.1	0.2	0.5	0.3
Delay (s)	30.6	32.9			26.4	11.2	23.2	22.7
Level of Service	C	C			C	B	C	C
Approach Delay (s)		32.9				13.8	22.9	
Approach LOS		C				B	C	

Intersection Summary

HCM 2000 Control Delay	25.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	58.8	Sum of lost time (s)	27.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

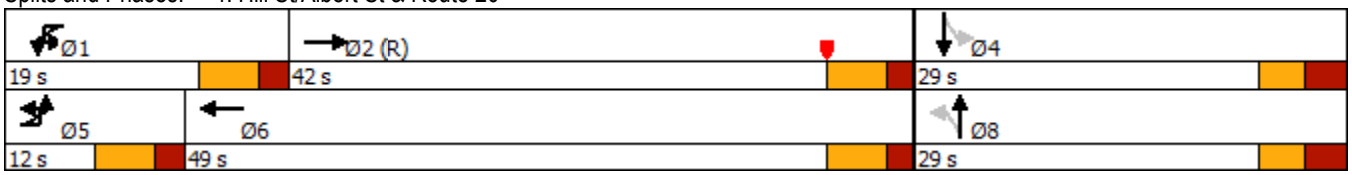
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	14	1371	4	693	8	1	5	0
Future Volume (vph)	14	1371	4	693	8	1	5	0
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	12.0	42.0	19.0	49.0	29.0	29.0	29.0	29.0
Total Split (%)	13.3%	46.7%	21.1%	54.4%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.5	77.3	6.6	77.4	6.1	6.1	6.1	6.1
Actuated g/C Ratio	0.07	0.86	0.07	0.86	0.07	0.07	0.07	0.07
v/c Ratio	0.22	0.51	0.22	0.28	0.07	0.14	0.05	0.04
Control Delay	43.0	5.8	49.6	5.6	40.5	22.1	40.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	5.8	49.6	5.6	40.5	22.1	40.2	0.2
LOS	D	A	D	A	D	C	D	A
Approach Delay		6.5		7.1		28.5		12.7
Approach LOS		A		A		C		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 30 (33%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 7.0 Intersection LOS: A
Intersection Capacity Utilization 54.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	1499	27	783	9	17	5	11
v/c Ratio	0.22	0.51	0.22	0.28	0.07	0.14	0.05	0.04
Control Delay	43.0	5.8	49.6	5.6	40.5	22.1	40.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	5.8	49.6	5.6	40.5	22.1	40.2	0.2
Queue Length 50th (ft)	15	0	13	0	5	1	3	0
Queue Length 95th (ft)	41	332	m41	98	20	21	14	0
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	130	2951	242	2763	485	405	404	519
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.51	0.11	0.28	0.02	0.04	0.01	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	14	1371	8	21	4	693	28	8	1	15	5
Future Volume (vph)	12	14	1371	8	21	4	693	28	8	1	15	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Lane Util. Factor		1.00	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	1.00			1.00	0.99		1.00	0.86		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1805	3436			1681	3213		1805	1541		1504
Flt Permitted		0.95	1.00			0.95	1.00		1.00	1.00		1.00
Satd. Flow (perm)		1805	3436			1681	3213		1900	1541		1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	15	1490	9	23	4	753	30	9	1	16	5
RTOR Reduction (vph)	0	0	0	0	0	0	2	0	0	16	0	0
Lane Group Flow (vph)	0	28	1499	0	0	27	781	0	9	1	0	5
Confl. Peds. (#/hr)				2		2						
Heavy Vehicles (%)	0%	0%	5%	0%	0%	50%	12%	4%	0%	100%	0%	20%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Perm	NA		Perm
Protected Phases	5	5	2		1	1	6			8		
Permitted Phases									8			4
Actuated Green, G (s)		2.9	66.5			3.0	66.6		2.5	2.5		2.5
Effective Green, g (s)		2.9	66.5			3.0	66.6		2.5	2.5		2.5
Actuated g/C Ratio		0.03	0.74			0.03	0.74		0.03	0.03		0.03
Clearance Time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Vehicle Extension (s)		2.0	2.0			2.0	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)		58	2538			56	2377		52	42		43
v/s Ratio Prot		0.02	c0.44			c0.02	0.24			0.00		
v/s Ratio Perm									c0.00			0.00
v/c Ratio		0.48	0.59			0.48	0.33		0.17	0.03		0.12
Uniform Delay, d1		42.8	5.4			42.7	4.0		42.7	42.6		42.7
Progression Factor		1.00	1.00			1.17	1.42		1.00	1.00		1.00
Incremental Delay, d2		2.3	1.0			2.2	0.4		0.6	0.1		0.4
Delay (s)		45.1	6.5			52.0	6.1		43.3	42.7		43.1
Level of Service		D	A			D	A		D	D		D
Approach Delay (s)			7.2				7.6			42.9		
Approach LOS			A				A			D		

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	10
Future Volume (vph)	0	10
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.85	
Flt Protected	1.00	
Satd. Flow (prot)	1346	
Flt Permitted	1.00	
Satd. Flow (perm)	1346	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	0	11
RTOR Reduction (vph)	11	0
Lane Group Flow (vph)	0	0
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	0%	20%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	2.5	
Effective Green, g (s)	2.5	
Actuated g/C Ratio	0.03	
Clearance Time (s)	6.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	37	
v/s Ratio Prot	0.00	
v/s Ratio Perm		
v/c Ratio	0.01	
Uniform Delay, d1	42.5	
Progression Factor	1.00	
Incremental Delay, d2	0.0	
Delay (s)	42.6	
Level of Service	D	
Approach Delay (s)	42.7	
Approach LOS	D	

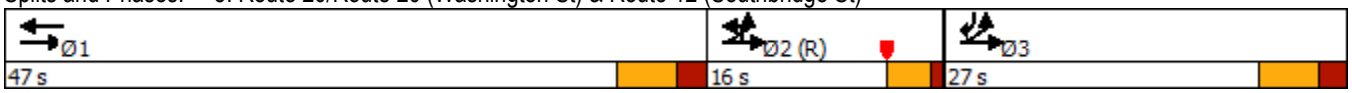
Intersection Summary

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	17	452	921	519	15	240
Future Volume (vph)	17	452	921	519	15	240
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	16.0			47.0		27.0
Total Split (%)	17.8%			52.2%		30.0%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	12.0	36.0	90.0	44.0	90.0	18.0
Actuated g/C Ratio	0.13	0.40	1.00	0.49	1.00	0.20
v/c Ratio	0.08	0.37	0.29	0.35	0.01	0.51
Control Delay	48.9	19.6	0.2	15.6	0.0	35.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	19.6	0.2	15.6	0.0	35.3
LOS	D	B	A	B	A	D
Approach Delay			7.1	15.1		
Approach LOS			A	B		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 12.2 Intersection LOS: B
Intersection Capacity Utilization 44.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	18	491	1001	564	16	261
v/c Ratio	0.08	0.37	0.29	0.35	0.01	0.51
Control Delay	48.9	19.6	0.2	15.6	0.0	35.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	19.6	0.2	15.6	0.0	35.3
Queue Length 50th (ft)	9	96	0	104	0	73
Queue Length 95th (ft)	m22	106	0	147	0	113
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	214	1431	3424	1619	1509	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.34	0.29	0.35	0.01	0.44

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	17	452	921	519	15	0	240
Future Volume (vph)	17	452	921	519	15	0	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1612	3303	3471	3312	1509		2538
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1612	3303	3471	3312	1509		2538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	491	1001	564	16	0	261
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	491	1001	564	16	0	261
Heavy Vehicles (%)	12%	6%	4%	9%	7%	0%	12%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	12.0	34.0	90.0	44.0	90.0		18.0
Effective Green, g (s)	12.0	34.0	86.0	44.0	90.0		18.0
Actuated g/C Ratio	0.13	0.38	0.96	0.49	1.00		0.20
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	214	1247	3316	1619	1509		507
v/s Ratio Prot	0.01	c0.15	0.29	c0.17			c0.10
v/s Ratio Perm					0.01		
v/c Ratio	0.08	0.39	0.30	0.35	0.01		0.51
Uniform Delay, d1	34.2	20.5	0.1	14.2	0.0		32.1
Progression Factor	1.39	1.01	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.7	0.1	0.0	0.6	0.0		0.4
Delay (s)	48.3	20.8	0.1	14.8	0.0		32.5
Level of Service	D	C	A	B	A		C
Approach Delay (s)			7.4	14.4		32.5	
Approach LOS			A	B		C	

Intersection Summary

HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

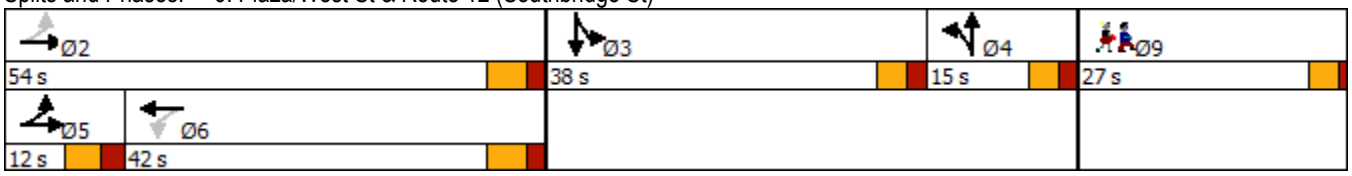
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	36	481	3	269	3	597	2		
Future Volume (vph)	36	481	3	269	3	597	2		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		33.2		19.7	5.8	22.5	22.5		
Actuated g/C Ratio		0.46		0.27	0.08	0.31	0.31		
v/c Ratio		0.42		0.69	0.05	0.68	0.67		
Control Delay		17.3		21.3	37.7	33.3	32.8		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		17.3		21.3	37.7	33.3	32.8		
LOS		B		C	D	C	C		
Approach Delay		17.3		21.3	37.7		33.1		
Approach LOS		B		C	D		C		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 72.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 24.4 Intersection LOS: C
Intersection Capacity Utilization 70.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	562	642	6	344	336
v/c Ratio	0.42	0.69	0.05	0.68	0.67
Control Delay	17.3	21.3	37.7	33.3	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	21.3	37.7	33.3	32.8
Queue Length 50th (ft)	64	70	1	110	107
Queue Length 95th (ft)	241	241	17	#454	#438
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	2109	1685	239	840	832
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.38	0.03	0.41	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	481	0	3	269	319	0	3	3	597	2	27
Future Volume (vph)	36	481	0	3	269	319	0	3	3	597	2	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.92			0.93		1.00	0.99	
Flt Protected		1.00			1.00			1.00		0.95	0.96	
Satd. Flow (prot)		3381			2977			1521		1633	1615	
Flt Permitted		0.81			0.95			1.00		0.95	0.96	
Satd. Flow (perm)		2765			2835			1521		1633	1615	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	523	0	3	292	347	0	3	3	649	2	29
RTOR Reduction (vph)	0	0	0	0	160	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	562	0	0	482	0	0	3	0	344	334	0
Heavy Vehicles (%)	12%	6%	0%	0%	12%	11%	0%	0%	33%	5%	50%	8%
Turn Type	pm+pt	NA		Perm	NA			NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		33.2			20.4			0.7		22.5	22.5	
Effective Green, g (s)		33.2			20.4			0.7		22.5	22.5	
Actuated g/C Ratio		0.42			0.26			0.01		0.28	0.28	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1215			732			13		465	459	
v/s Ratio Prot		c0.04						c0.00		c0.21	0.21	
v/s Ratio Perm		0.15			c0.17							
v/c Ratio		0.46			0.66			0.23		0.74	0.73	
Uniform Delay, d1		16.5			26.2			38.9		25.6	25.5	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.3			2.1			3.3		5.3	4.8	
Delay (s)		16.8			28.3			42.2		30.9	30.3	
Level of Service		B			C			D		C	C	
Approach Delay (s)		16.8			28.3			42.2			30.6	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	4	0	1	18	4	0	1	2	5	0	0
Future Volume (Veh/h)	0	4	0	1	18	4	0	1	2	5	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	4	0	1	20	4	0	1	2	5	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	26	13	0	14	12	2	0			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26	13	0	14	12	2	0			3		
tC, single (s)	7.1	7.0	6.2	7.1	6.6	6.5	4.1			4.3		
tC, 2 stage (s)												
tF (s)	3.5	4.5	3.3	3.5	4.1	3.5	2.2			2.4		
p0 queue free %	100	99	100	100	98	100	100			100		
cM capacity (veh/h)	966	793	1091	1001	862	1019	1636			1509		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	4	1	24	3	5
Volume Left	0	1	0	0	5
Volume Right	0	0	4	2	0
cSH	793	1001	886	1636	1509
Volume to Capacity	0.01	0.00	0.03	0.00	0.00
Queue Length 95th (ft)	0	0	2	0	0
Control Delay (s)	9.6	8.6	9.2	0.0	7.4
Lane LOS	A	A	A		A
Approach Delay (s)	9.6	9.2		0.0	7.4
Approach LOS	A	A			

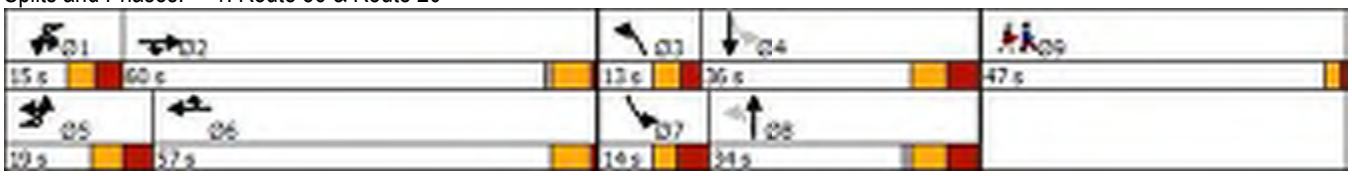
Intersection Summary				
Average Delay	8.2			
Intersection Capacity Utilization	14.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	75	705	99	29	1273	153	122	238	94	282	
Future Volume (vph)	75	705	99	29	1273	153	122	238	94	282	
Turn Type	Prot	NA	Prot	Prot	NA	Prot	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2	1	6	6	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2	1	6	6	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0	16.0	14.0	16.0	16.0	13.0	16.0	14.0	16.0	47.0
Total Split (s)	19.0	60.0	60.0	15.0	57.0	57.0	13.0	34.0	14.0	36.0	47.0
Total Split (%)	11.0%	34.9%	34.9%	8.7%	33.1%	33.1%	7.6%	19.8%	8.1%	20.9%	27%
Yellow Time (s)	4.0	5.0	5.0	3.5	5.0	5.0	3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0	1.0	3.5	1.0	1.0	2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0	6.0	7.0	6.0	6.0	6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	10.8	58.8	58.8	7.9	51.9	51.9	36.6	26.4	36.6	27.5	
Actuated g/C Ratio	0.08	0.44	0.44	0.06	0.39	0.39	0.27	0.20	0.27	0.21	
v/c Ratio	0.65	0.52	0.15	0.55	1.06	0.26	0.92	0.80	0.48	1.07	
Control Delay	84.5	32.2	2.7	84.5	80.4	9.2	95.7	69.6	47.4	117.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	84.5	32.2	2.7	84.5	80.4	9.2	95.7	69.6	47.4	117.4	
LOS	F	C	A	F	F	A	F	E	D	F	
Approach Delay		33.4			73.2			78.0		102.7	
Approach LOS		C			E			E		F	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 134
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 66.9 Intersection LOS: E
Intersection Capacity Utilization 91.1% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	766	108	54	1384	166	133	280	102	384
v/c Ratio	0.65	0.52	0.15	0.55	1.06	0.26	0.92	0.80	0.48	1.07
Control Delay	84.5	32.2	2.7	84.5	80.4	9.2	95.7	69.6	47.4	117.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.5	32.2	2.7	84.5	80.4	9.2	95.7	69.6	47.4	117.4
Queue Length 50th (ft)	65	231	0	43	~583	13	76	215	58	~321
Queue Length 95th (ft)	#197	480	21	#137	#1223	86	#279	#539	153	#795
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	132	1485	726	102	1311	636	144	350	211	358
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.52	0.15	0.53	1.06	0.26	0.92	0.80	0.48	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	75	705	99	20	29	1273	153	122	238	19	94	282
Future Volume (vph)	75	705	99	20	29	1273	153	122	238	19	94	282
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1589	3388	1478		1685	3388	1422	1646	1775		1662	1750
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.15	1.00		0.32	1.00
Satd. Flow (perm)	1589	3388	1478		1685	3388	1422	262	1775		561	1750
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	766	108	22	32	1384	166	133	259	21	102	307
RTOR Reduction (vph)	0	0	62	0	0	0	86	0	0	0	0	0
Lane Group Flow (vph)	82	766	46	0	54	1384	80	133	280	0	102	384
Heavy Vehicles (%)	6%	3%	2%	0%	0%	3%	6%	6%	2%	6%	5%	1%
Turn Type	Prot	NA	Prot	Prot	Prot	NA	Prot	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2	1	1	6	6	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	10.8	58.8	58.8		6.4	53.4	53.4	33.6	26.5		34.6	27.5
Effective Green, g (s)	10.8	58.8	58.8		6.4	53.4	53.4	33.6	26.5		34.6	27.5
Actuated g/C Ratio	0.08	0.43	0.43		0.05	0.39	0.39	0.24	0.19		0.25	0.20
Clearance Time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	124	1446	631		78	1313	551	135	341		197	349
v/s Ratio Prot	c0.05	c0.23	0.03		0.03	c0.41	0.06	c0.05	0.16		0.03	c0.22
v/s Ratio Perm								0.19			0.10	
v/c Ratio	0.66	0.53	0.07		0.69	1.05	0.15	0.99	0.82		0.52	1.10
Uniform Delay, d1	61.7	29.2	23.3		64.7	42.1	27.3	48.4	53.3		41.7	55.1
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	12.5	0.4	0.0		23.3	40.4	0.1	72.4	14.6		2.3	77.9
Delay (s)	74.1	29.6	23.4		88.0	82.6	27.5	120.8	67.9		44.0	133.0
Level of Service	E	C	C		F	F	C	F	E		D	F
Approach Delay (s)		32.7				77.1			85.0			114.3
Approach LOS		C				E			F			F

Intersection Summary

HCM 2000 Control Delay	71.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	137.7	Sum of lost time (s)	33.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	71
Future Volume (vph)	71
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	77
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	5%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Volume (veh/h)	0	867	1416	52	0	37
Future Volume (Veh/h)	0	867	1416	52	0	37
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	942	1539	57	0	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.84	
vC, conflicting volume	1596				2038	798
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1596				1850	798
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	88
cM capacity (veh/h)	416				56	333

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	471	471	1026	570	40
Volume Left	0	0	0	0	0
Volume Right	0	0	0	57	40
cSH	1700	1700	1700	1700	333
Volume to Capacity	0.28	0.28	0.60	0.34	0.12
Queue Length 95th (ft)	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	17.3
Lane LOS					C
Approach Delay (s)	0.0		0.0		17.3
Approach LOS					C

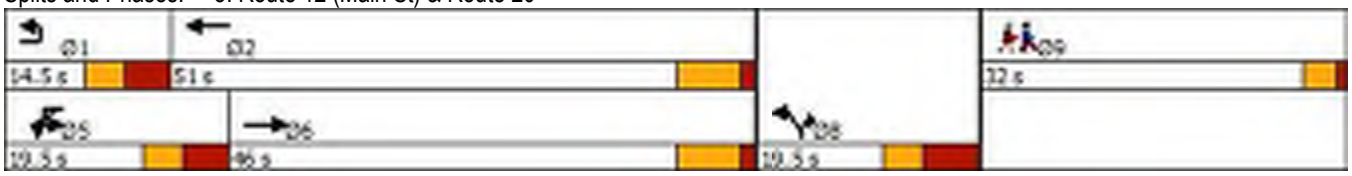
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	17	846	611	1358	86	295	
Future Volume (vph)	17	846	611	1358	86	295	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	14.5	46.0	19.5	51.0	19.5	19.5	32.0
Total Split (%)	12.4%	39.3%	16.7%	43.6%	16.7%	16.7%	27%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.0	29.6	12.1	46.6	11.1	11.1	
Actuated g/C Ratio	0.09	0.39	0.16	0.61	0.15	0.15	
v/c Ratio	0.11	0.72	1.27	0.69	0.75	0.51	
Control Delay	35.8	22.9	166.2	12.8	44.4	10.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.8	22.9	166.2	12.8	44.4	10.5	
LOS	D	C	F	B	D	B	
Approach Delay		23.2		62.2	27.9		
Approach LOS		C		E	C		

Intersection Summary

Cycle Length: 117
Actuated Cycle Length: 75.8
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 47.6 Intersection LOS: D
Intersection Capacity Utilization 74.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	18	953	701	1476	212	202
v/c Ratio	0.11	0.72	1.27	0.69	0.75	0.51
Control Delay	35.8	22.9	166.2	12.8	44.4	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.8	22.9	166.2	12.8	44.4	10.5
Queue Length 50th (ft)	8	193	~210	191	74	0
Queue Length 95th (ft)	29	255	#372	421	#209	63
Internal Link Dist (ft)		643		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	162	1746	551	2153	282	394
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.55	1.27	0.69	0.75	0.51

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	17	846	30	34	611	1358	86	295
Future Volume (vph)	17	846	30	34	611	1358	86	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12
Total Lost time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95			0.97	0.95	1.00	0.95
Frt	1.00	0.99			1.00	1.00	0.92	0.85
Flt Protected	0.95	1.00			0.95	1.00	0.98	1.00
Satd. Flow (prot)	1745	3374			3469	3505	1686	1519
Flt Permitted	0.95	1.00			0.95	1.00	0.98	1.00
Satd. Flow (perm)	1745	3374			3469	3505	1686	1519
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	920	33	37	664	1476	93	321
RTOR Reduction (vph)	0	2	0	0	0	0	37	175
Lane Group Flow (vph)	18	951	0	0	701	1476	175	27
Heavy Vehicles (%)	0%	3%	0%	0%	1%	3%	1%	1%
Turn Type	Prot	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	1	6		5	5	2	8	8
Permitted Phases								
Actuated Green, G (s)	1.2	35.7			12.1	46.6	11.1	11.1
Effective Green, g (s)	1.2	35.7			12.1	46.6	11.1	11.1
Actuated g/C Ratio	0.01	0.44			0.15	0.57	0.14	0.14
Clearance Time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	25	1470			512	1994	228	205
v/s Ratio Prot	0.01	0.28			c0.20	c0.42	c0.10	0.02
v/s Ratio Perm								
v/c Ratio	0.72	0.65			1.37	0.74	0.77	0.13
Uniform Delay, d1	40.2	18.2			34.9	13.1	34.2	31.2
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	67.0	1.0			178.3	1.5	14.3	0.3
Delay (s)	107.2	19.1			213.2	14.7	48.4	31.5
Level of Service	F	B			F	B	D	C
Approach Delay (s)		20.8				78.6	40.1	
Approach LOS		C				E	D	

Intersection Summary

HCM 2000 Control Delay	58.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	81.9	Sum of lost time (s)	27.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

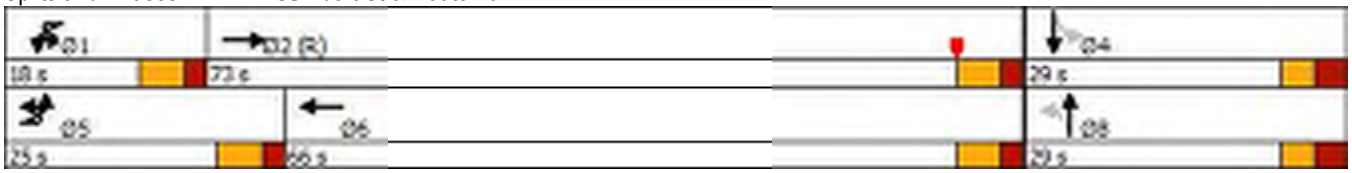
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	1114	10	1960	8	2	30	1
Future Volume (vph)	10	1114	10	1960	8	2	30	1
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	25.0	73.0	18.0	66.0	29.0	29.0	29.0	29.0
Total Split (%)	20.8%	60.8%	15.0%	55.0%	24.2%	24.2%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.7	91.9	8.4	96.0	7.7	7.7	7.7	7.7
Actuated g/C Ratio	0.06	0.77	0.07	0.80	0.06	0.06	0.06	0.06
v/c Ratio	0.25	0.45	0.45	0.76	0.10	0.12	0.36	0.23
Control Delay	60.2	7.7	58.7	21.3	54.0	28.9	64.3	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	7.7	58.7	21.3	54.0	28.9	64.3	23.1
LOS	E	A	E	C	D	C	E	C
Approach Delay		8.7		22.3		38.7		45.0
Approach LOS		A		C		D		D

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 18.0 Intersection LOS: B
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	24	1214	57	2141	9	14	33	29
v/c Ratio	0.25	0.45	0.45	0.76	0.10	0.12	0.36	0.23
Control Delay	60.2	7.7	58.7	21.3	54.0	28.9	64.3	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	7.7	58.7	21.3	54.0	28.9	64.3	23.1
Queue Length 50th (ft)	18	186	40	866	7	2	25	1
Queue Length 95th (ft)	46	283	m52	m857	24	23	58	31
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	273	2684	180	2829	268	326	272	318
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.45	0.32	0.76	0.03	0.04	0.12	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	10	1114	3	42	10	1960	10	8	2	11	30
Future Volume (vph)	12	10	1114	3	42	10	1960	10	8	2	11	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Lane Util. Factor		1.00	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	1.00			1.00	1.00		1.00	0.87		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1726	3504			1805	3536		1802	1656		1805
Flt Permitted		0.95	1.00			0.95	1.00		0.74	1.00		0.75
Satd. Flow (perm)		1726	3504			1805	3536		1401	1656		1422
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	11	1211	3	46	11	2130	11	9	2	12	33
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	11	0	0
Lane Group Flow (vph)	0	24	1214	0	0	57	2141	0	9	3	0	33
Confl. Peds. (#/hr)		1		1		1		1	1			
Heavy Vehicles (%)	0%	10%	3%	0%	0%	0%	2%	0%	0%	0%	0%	0%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Perm	NA		Perm
Protected Phases	5	5	2		1	1	6			8		
Permitted Phases									8			4
Actuated Green, G (s)		4.3	88.3			7.2	91.2		6.5	6.5		6.5
Effective Green, g (s)		4.3	88.3			7.2	91.2		6.5	6.5		6.5
Actuated g/C Ratio		0.04	0.74			0.06	0.76		0.05	0.05		0.05
Clearance Time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Vehicle Extension (s)		2.0	2.0			2.0	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)		61	2578			108	2687		75	89		77
v/s Ratio Prot		0.01	0.35			c0.03	c0.61			0.00		
v/s Ratio Perm									0.01			c0.02
v/c Ratio		0.39	0.47			0.53	0.80		0.12	0.03		0.43
Uniform Delay, d1		56.6	6.4			54.7	8.8		54.0	53.8		55.0
Progression Factor		1.00	1.00			1.00	2.09		1.00	1.00		1.00
Incremental Delay, d2		1.5	0.6			1.0	1.3		0.3	0.0		1.4
Delay (s)		58.1	7.0			55.9	19.6		54.3	53.8		56.3
Level of Service		E	A			E	B		D	D		E
Approach Delay (s)			8.0				20.5			54.0		
Approach LOS			A				C			D		

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1	26
Future Volume (vph)	1	26
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1544	
Flt Permitted	1.00	
Satd. Flow (perm)	1544	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	1	28
RTOR Reduction (vph)	26	0
Lane Group Flow (vph)	3	0
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	0%	4%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	6.5	
Effective Green, g (s)	6.5	
Actuated g/C Ratio	0.05	
Clearance Time (s)	6.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	83	
v/s Ratio Prot	0.00	
v/s Ratio Perm		
v/c Ratio	0.03	
Uniform Delay, d1	53.8	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	53.8	
Level of Service	D	
Approach Delay (s)	55.2	
Approach LOS	E	

Intersection Summary

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	44	381	786	1043	16	859
Future Volume (vph)	44	381	786	1043	16	859
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	15.0			66.0		39.0
Total Split (%)	12.5%			55.0%		32.5%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	11.0	50.0	120.0	60.0	120.0	33.0
Actuated g/C Ratio	0.09	0.42	1.00	0.50	1.00	0.28
v/c Ratio	0.29	0.29	0.24	0.65	0.01	1.22
Control Delay	57.6	17.9	0.2	24.3	0.0	148.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	17.9	0.2	24.3	0.0	148.5
LOS	E	B	A	C	A	F
Approach Delay			7.8	24.0		
Approach LOS			A	C		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.22
Intersection Signal Delay: 51.9 Intersection LOS: D
Intersection Capacity Utilization 80.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	48	414	854	1134	17	934
v/c Ratio	0.29	0.29	0.24	0.65	0.01	1.22
Control Delay	57.6	17.9	0.2	24.3	0.0	148.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	17.9	0.2	24.3	0.0	148.5
Queue Length 50th (ft)	27	86	0	331	0	~504
Queue Length 95th (ft)	64	70	0	404	0	#645
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	165	1444	3505	1752	1329	766
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.29	0.24	0.65	0.01	1.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	44	381	786	1043	16	0	859
Future Volume (vph)	44	381	786	1043	16	0	859
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1805	3467	3505	3505	1329		2787
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1805	3467	3505	3505	1329		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	414	854	1134	17	0	934
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	48	414	854	1134	17	0	934
Confl. Bikes (#/hr)					1		
Heavy Vehicles (%)	0%	1%	3%	3%	20%	0%	2%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	11.0	48.0	120.0	60.0	120.0		33.0
Effective Green, g (s)	11.0	48.0	116.0	60.0	120.0		33.0
Actuated g/C Ratio	0.09	0.40	0.97	0.50	1.00		0.28
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	165	1386	3388	1752	1329		766
v/s Ratio Prot	0.03	c0.12	0.24	c0.32			c0.34
v/s Ratio Perm					0.01		
v/c Ratio	0.29	0.30	0.25	0.65	0.01		1.22
Uniform Delay, d1	50.9	24.5	0.1	22.2	0.0		43.5
Progression Factor	1.04	0.75	1.00	1.00	1.00		1.00
Incremental Delay, d2	4.1	0.0	0.0	1.9	0.0		110.4
Delay (s)	57.0	18.3	0.1	24.0	0.0		153.9
Level of Service	E	B	A	C	A		F
Approach Delay (s)			7.9	23.7		153.9	
Approach LOS			A	C		F	

Intersection Summary			
HCM 2000 Control Delay	53.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

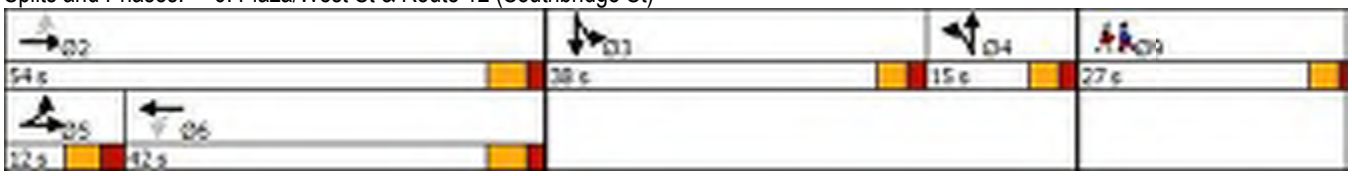
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	47	445	19	900	5	340	1		
Future Volume (vph)	47	445	19	900	5	340	1		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		48.7		36.5	5.5	14.2	14.2		
Actuated g/C Ratio		0.62		0.47	0.07	0.18	0.18		
v/c Ratio		0.37		1.06	0.18	0.67	0.66		
Control Delay		9.1		62.9	25.9	41.8	40.3		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		9.1		62.9	25.9	41.8	40.3		
LOS		A		E	C	D	D		
Approach Delay		9.1		62.9	25.9		41.1		
Approach LOS		A		E	C		D		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 78
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 48.0 Intersection LOS: D
Intersection Capacity Utilization 83.3% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	535	1616	25	200	199
v/c Ratio	0.37	1.06	0.18	0.67	0.66
Control Delay	9.1	62.9	25.9	41.8	40.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	62.9	25.9	41.8	40.3
Queue Length 50th (ft)	44	~364	3	88	85
Queue Length 95th (ft)	121	#751	29	181	176
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	1447	1526	237	708	707
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.37	1.06	0.11	0.28	0.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

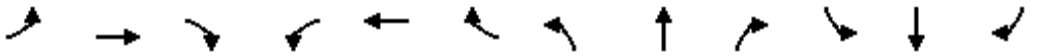
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	445	0	19	900	568	3	5	16	340	1	26
Future Volume (vph)	47	445	0	19	900	568	3	5	16	340	1	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.94			0.91		1.00	0.98	
Flt Protected		1.00			1.00			0.99		0.95	0.96	
Satd. Flow (prot)		3500			3335			1715		1649	1639	
Flt Permitted		0.61			0.94			0.99		0.95	0.96	
Satd. Flow (perm)		2147			3148			1715		1649	1639	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	484	0	21	978	617	3	5	17	370	1	28
RTOR Reduction (vph)	0	0	0	0	53	0	0	17	0	0	5	0
Lane Group Flow (vph)	0	535	0	0	1563	0	0	8	0	200	194	0
Heavy Vehicles (%)	9%	2%	0%	0%	2%	2%	0%	0%	0%	4%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		48.7			36.6			2.2		14.2	14.2	
Effective Green, g (s)		48.7			36.6			2.2		14.2	14.2	
Actuated g/C Ratio		0.60			0.45			0.03		0.18	0.18	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1391			1420			46		288	286	
v/s Ratio Prot		c0.03						c0.00		c0.12	0.12	
v/s Ratio Perm		0.20			c0.50							
v/c Ratio		0.38			1.10			0.18		0.69	0.68	
Uniform Delay, d1		8.4			22.2			38.6		31.4	31.3	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.2			56.4			0.7		5.8	5.0	
Delay (s)		8.6			78.6			39.3		37.2	36.3	
Level of Service		A			E			D		D	D	
Approach Delay (s)		8.6			78.6			39.3			36.7	
Approach LOS		A			E			D			D	

Intersection Summary

HCM 2000 Control Delay	57.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	81.1	Sum of lost time (s)	26.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	2	7	0	0	0	6	0	0	1	3	0	0
Future Volume (Veh/h)	2	7	0	0	0	6	0	0	1	3	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	8	0	0	0	7	0	0	1	3	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	14	7	0	10	6	0	0			1		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	14	7	0	10	6	0	0			1		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	100	100	99	100			100		
cM capacity (veh/h)	1000	891	1091	1004	891	1090	1636			1635		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	7	1	3
Volume Left	2	0	0	3
Volume Right	0	7	1	0
cSH	910	1090	1636	1635
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	9.0	8.3	0.0	7.2
Lane LOS	A	A		A
Approach Delay (s)	9.0	8.3	0.0	7.2
Approach LOS	A	A		

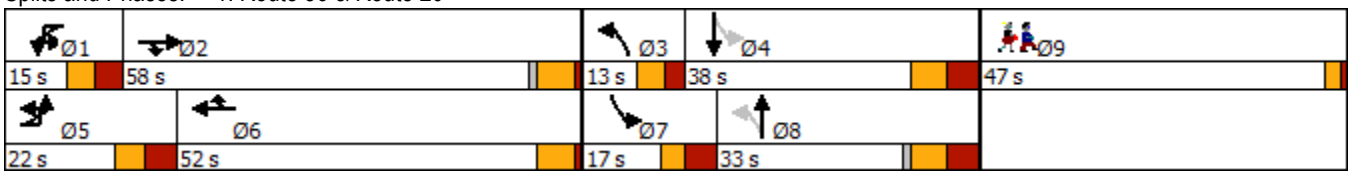
Intersection Summary				
Average Delay	8.1			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	57	1101	94	34	933	129	131	198	97	202	
Future Volume (vph)	57	1101	94	34	933	129	131	198	97	202	
Turn Type	Prot	NA	Prot	Prot	NA	Prot	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2	1	6	6	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2	1	6	6	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0	16.0	14.0	16.0	16.0	13.0	16.0	14.0	16.0	47.0
Total Split (s)	22.0	58.0	58.0	15.0	52.0	52.0	13.0	33.0	17.0	38.0	47.0
Total Split (%)	12.8%	33.7%	33.7%	8.7%	30.2%	30.2%	7.6%	19.2%	9.9%	22.1%	27%
Yellow Time (s)	4.0	5.0	5.0	3.5	5.0	5.0	3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0	1.0	3.5	1.0	1.0	2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0	6.0	7.0	6.0	6.0	6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	9.9	52.3	52.3	7.8	49.4	49.4	34.5	24.4	39.3	27.9	
Actuated g/C Ratio	0.08	0.44	0.44	0.07	0.41	0.41	0.29	0.20	0.33	0.23	
v/c Ratio	0.45	0.80	0.14	0.49	0.72	0.20	0.47	0.71	0.35	0.67	
Control Delay	63.8	35.4	1.8	71.3	34.4	4.9	34.9	57.3	30.9	51.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	63.8	35.4	1.8	71.3	34.4	4.9	34.9	57.3	30.9	51.5	
LOS	E	D	A	E	C	A	C	E	C	D	
Approach Delay		34.2			32.6			49.3		45.8	
Approach LOS		C			C			D		D	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 119.9
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 36.7 Intersection LOS: D
Intersection Capacity Utilization 80.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	1197	102	53	1014	140	142	256	105	272
v/c Ratio	0.45	0.80	0.14	0.49	0.72	0.20	0.47	0.71	0.35	0.67
Control Delay	63.8	35.4	1.8	71.3	34.4	4.9	34.9	57.3	30.9	51.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	35.4	1.8	71.3	34.4	4.9	34.9	57.3	30.9	51.5
Queue Length 50th (ft)	48	437	0	41	357	0	78	193	58	199
Queue Length 95th (ft)	93	540	15	86	466	43	130	#290	101	296
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	197	1518	739	112	1409	691	305	372	310	428
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.79	0.14	0.47	0.72	0.20	0.47	0.69	0.34	0.64

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

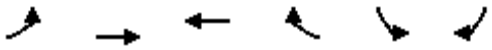
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	57	1101	94	15	34	933	129	131	198	38	97	202
Future Volume (vph)	57	1101	94	15	34	933	129	131	198	38	97	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.98		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1685	3421	1492		1685	3421	1478	1728	1778		1711	1763
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.49	1.00		0.37	1.00
Satd. Flow (perm)	1685	3421	1492		1685	3421	1478	892	1778		670	1763
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	1197	102	16	37	1014	140	142	215	41	105	220
RTOR Reduction (vph)	0	0	58	0	0	0	83	0	0	0	0	0
Lane Group Flow (vph)	62	1197	44	0	53	1014	57	142	256	0	105	272
Heavy Vehicles (%)	0%	2%	1%	0%	0%	2%	2%	1%	1%	0%	2%	1%
Turn Type	Prot	NA	Prot	Prot	Prot	NA	Prot	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2	1	1	6	6	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	8.3	52.5	52.5		6.2	49.4	49.4	31.4	24.4		37.4	27.9
Effective Green, g (s)	8.3	52.5	52.5		6.2	49.4	49.4	31.4	24.4		37.4	27.9
Actuated g/C Ratio	0.07	0.43	0.43		0.05	0.41	0.41	0.26	0.20		0.31	0.23
Clearance Time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	115	1476	644		85	1389	600	278	356		287	404
v/s Ratio Prot	c0.04	c0.35	0.03		0.03	0.30	0.04	c0.03	0.14		0.03	c0.15
v/s Ratio Perm								0.10			0.08	
v/c Ratio	0.54	0.81	0.07		0.62	0.73	0.09	0.51	0.72		0.37	0.67
Uniform Delay, d1	54.8	30.2	20.2		56.6	30.5	22.3	37.0	45.4		31.6	42.7
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.8	3.5	0.0		13.4	2.0	0.1	1.6	6.8		0.8	4.4
Delay (s)	59.6	33.7	20.3		69.9	32.5	22.4	38.6	52.2		32.4	47.1
Level of Service	E	C	C		E	C	C	D	D		C	D
Approach Delay (s)		33.9				32.9			47.4			43.0
Approach LOS		C				C			D			D

Intersection Summary

HCM 2000 Control Delay	36.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	33.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	48
Future Volume (vph)	48
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	52
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1258	1075	55	0	33
Future Volume (Veh/h)	0	1258	1075	55	0	33
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1367	1168	60	0	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.69	
vC, conflicting volume	1228				1882	614
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1228				1379	614
tC, single (s)	4.2				6.9	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	552				89	440

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	684	684	779	449	36
Volume Left	0	0	0	0	0
Volume Right	0	0	0	60	36
cSH	1700	1700	1700	1700	440
Volume to Capacity	0.40	0.40	0.46	0.26	0.08
Queue Length 95th (ft)	0	0	0	0	7
Control Delay (s)	0.0	0.0	0.0	0.0	13.9
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.9
Approach LOS					B

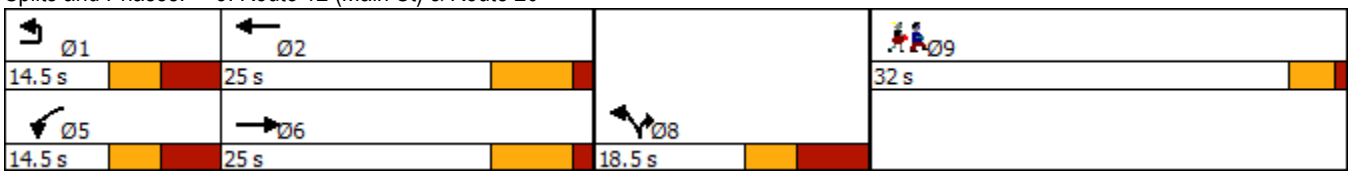
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	23	1151	449	1024	80	373	
Future Volume (vph)	23	1151	449	1024	80	373	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	14.5	25.0	14.5	25.0	18.5	18.5	32.0
Total Split (%)	16.1%	27.8%	16.1%	27.8%	20.6%	20.6%	36%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.0	18.0	7.0	29.6	10.0	10.0	
Actuated g/C Ratio	0.12	0.31	0.12	0.51	0.17	0.17	
v/c Ratio	0.12	1.24	1.17	0.62	0.69	0.52	
Control Delay	24.3	137.8	126.4	15.2	27.1	8.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	24.3	137.8	126.4	15.2	27.1	8.2	
LOS	C	F	F	B	C	A	
Approach Delay		135.7		49.1	17.7		
Approach LOS		F		D	B		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 58
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.24
Intersection Signal Delay: 78.3
Intersection LOS: E
Intersection Capacity Utilization 77.5%
ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	25	1308	488	1113	249	243
v/c Ratio	0.12	1.24	1.17	0.62	0.69	0.52
Control Delay	24.3	137.8	126.4	15.2	27.1	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	137.8	126.4	15.2	27.1	8.2
Queue Length 50th (ft)	8	~310	~107	115	53	0
Queue Length 95th (ft)	27	#430	#188	#332	#145	53
Internal Link Dist (ft)		640		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	210	1057	418	1806	360	465
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	1.24	1.17	0.62	0.69	0.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	23	1151	52	449	1024	80	373
Future Volume (vph)	23	1151	52	449	1024	80	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12
Total Lost time (s)	7.5	7.0		7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95		0.97	0.95	1.00	0.95
Frt	1.00	0.99		1.00	1.00	0.90	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	1745	3399		3467	3539	1685	1534
Flt Permitted	0.95	1.00		0.95	1.00	0.98	1.00
Satd. Flow (perm)	1745	3399		3467	3539	1685	1534
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	1251	57	488	1113	87	405
RTOR Reduction (vph)	0	3	0	0	0	71	205
Lane Group Flow (vph)	25	1305	0	488	1113	178	38
Heavy Vehicles (%)	0%	2%	2%	1%	2%	0%	0%
Turn Type	Prot	NA		Prot	NA	Prot	Prot
Protected Phases	1	6		5	2	8	8
Permitted Phases							
Actuated Green, G (s)	1.4	24.0		7.0	29.6	10.0	10.0
Effective Green, g (s)	1.4	24.0		7.0	29.6	10.0	10.0
Actuated g/C Ratio	0.02	0.38		0.11	0.46	0.16	0.16
Clearance Time (s)	7.5	7.0		7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	38	1274		379	1636	263	239
v/s Ratio Prot	0.01	c0.38		c0.14	c0.31	c0.11	0.02
v/s Ratio Perm							
v/c Ratio	0.66	1.02		1.29	0.68	0.68	0.16
Uniform Delay, d1	31.1	20.0		28.5	13.5	25.5	23.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	34.3	31.5		148.0	1.2	6.8	0.3
Delay (s)	65.3	51.5		176.5	14.7	32.2	23.7
Level of Service	E	D		F	B	C	C
Approach Delay (s)		51.8			64.0	28.0	
Approach LOS		D			E	C	

Intersection Summary

HCM 2000 Control Delay	54.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

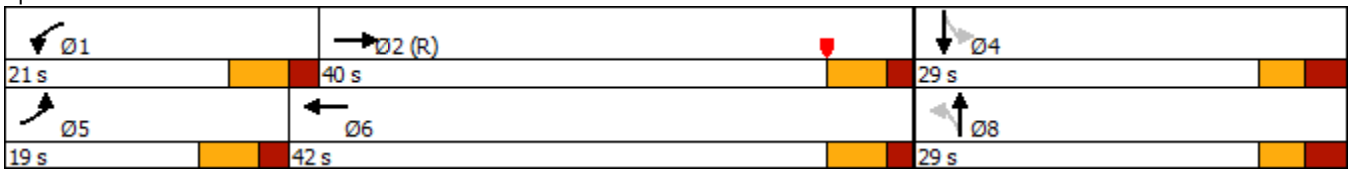
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	11	1532	19	1537	12	0	29	1
Future Volume (vph)	11	1532	19	1537	12	0	29	1
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	19.0	40.0	21.0	42.0	29.0	29.0	29.0	29.0
Total Split (%)	21.1%	44.4%	23.3%	46.7%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.1	73.0	6.3	75.6	7.1	7.1	7.1	7.1
Actuated g/C Ratio	0.07	0.81	0.07	0.84	0.08	0.08	0.08	0.08
v/c Ratio	0.10	0.59	0.17	0.56	0.10	0.05	0.26	0.06
Control Delay	41.3	7.9	32.9	8.1	39.2	0.2	43.6	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	7.9	32.9	8.1	39.2	0.2	43.6	23.9
LOS	D	A	C	A	D	A	D	C
Approach Delay		8.1		8.4		15.6		39.6
Approach LOS		A		A		B		D

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 53 (59%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 8.7 Intersection LOS: A
Intersection Capacity Utilization 61.1% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	1680	21	1683	13	20	32	8
v/c Ratio	0.10	0.59	0.17	0.56	0.10	0.05	0.26	0.06
Control Delay	41.3	7.9	32.9	8.1	39.2	0.2	43.6	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	7.9	32.9	8.1	39.2	0.2	43.6	23.9
Queue Length 50th (ft)	7	146	9	337	7	0	18	1
Queue Length 95th (ft)	24	430	m13	m394	24	0	45	14
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	260	2867	300	2997	413	615	401	427
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.59	0.07	0.56	0.03	0.03	0.08	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1532	14	19	1537	11	12	0	18	29	1	6
Future Volume (vph)	11	1532	14	19	1537	11	12	0	18	29	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3535		1805	3568		1805	1524		1752	1651	
Flt Permitted	0.95	1.00		0.95	1.00		0.85	1.00		0.85	1.00	
Satd. Flow (perm)	1805	3535		1805	3568		1617	1524		1570	1651	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	1665	15	21	1671	12	13	0	20	32	1	7
RTOR Reduction (vph)	0	0	0	0	0	0	0	19	0	0	7	0
Lane Group Flow (vph)	12	1680	0	21	1683	0	13	1	0	32	1	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	9%	0%	0%	6%	3%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.3	64.6		2.7	66.0		4.7	4.7		4.7	4.7	
Effective Green, g (s)	1.3	64.6		2.7	66.0		4.7	4.7		4.7	4.7	
Actuated g/C Ratio	0.01	0.72		0.03	0.73		0.05	0.05		0.05	0.05	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	26	2537		54	2616		84	79		81	86	
v/s Ratio Prot	0.01	c0.48		c0.01	0.47			0.00			0.00	
v/s Ratio Perm							0.01			c0.02		
v/c Ratio	0.46	0.66		0.39	0.64		0.15	0.01		0.40	0.02	
Uniform Delay, d1	44.0	6.8		42.8	6.1		40.8	40.5		41.3	40.5	
Progression Factor	1.00	1.00		0.79	1.48		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	1.4		1.0	0.7		0.3	0.0		1.2	0.0	
Delay (s)	48.7	8.2		35.0	9.7		41.1	40.5		42.4	40.5	
Level of Service	D	A		C	A		D	D		D	D	
Approach Delay (s)		8.5			10.0			40.7			42.0	
Approach LOS		A			A			D			D	

Intersection Summary

HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

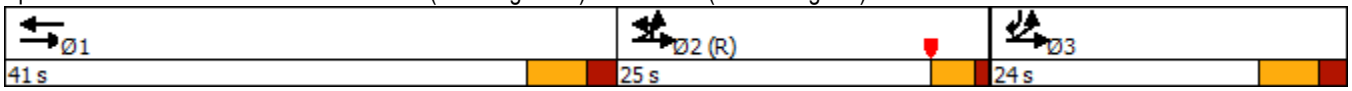
c Critical Lane Group

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	45	531	1081	968	21	520
Future Volume (vph)	45	531	1081	968	21	520
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	25.0			41.0		24.0
Total Split (%)	27.8%			45.6%		26.7%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	21.0	45.0	90.0	35.0	90.0	18.0
Actuated g/C Ratio	0.23	0.50	1.00	0.39	1.00	0.20
v/c Ratio	0.12	0.33	0.33	0.76	0.01	1.01
Control Delay	23.5	19.6	0.2	28.1	0.0	79.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	19.6	0.2	28.1	0.0	79.2
LOS	C	B	A	C	A	E
Approach Delay			7.1	27.5		
Approach LOS			A	C		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 25.3 Intersection LOS: C
Intersection Capacity Utilization 66.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	49	577	1175	1052	23	565
v/c Ratio	0.12	0.33	0.33	0.76	0.01	1.01
Control Delay	23.5	19.6	0.2	28.1	0.0	79.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	19.6	0.2	28.1	0.0	79.2
Queue Length 50th (ft)	24	107	0	266	0	~188
Queue Length 95th (ft)	m39	223	0	344	0	#307
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	421	1733	3574	1389	1538	557
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.33	0.33	0.76	0.01	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	45	531	1081	968	21	0	520
Future Volume (vph)	45	531	1081	968	21	0	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1805	3467	3574	3574	1538		2787
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1805	3467	3574	3574	1538		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	577	1175	1052	23	0	565
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	49	577	1175	1052	23	0	565
Heavy Vehicles (%)	0%	1%	1%	1%	5%	2%	2%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	21.0	43.0	90.0	35.0	90.0		18.0
Effective Green, g (s)	21.0	43.0	86.0	35.0	90.0		18.0
Actuated g/C Ratio	0.23	0.48	0.96	0.39	1.00		0.20
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	421	1656	3415	1389	1538		557
v/s Ratio Prot	0.03	0.17	c0.33	c0.29			c0.20
v/s Ratio Perm					0.01		
v/c Ratio	0.12	0.35	0.34	0.76	0.01		1.01
Uniform Delay, d1	27.2	14.7	0.1	23.8	0.0		36.0
Progression Factor	0.83	1.41	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.5	0.0	0.0	3.9	0.0		41.8
Delay (s)	23.1	20.7	0.2	27.7	0.0		77.8
Level of Service	C	C	A	C	A		E
Approach Delay (s)			7.4	27.1		77.8	
Approach LOS			A	C		E	

Intersection Summary

HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

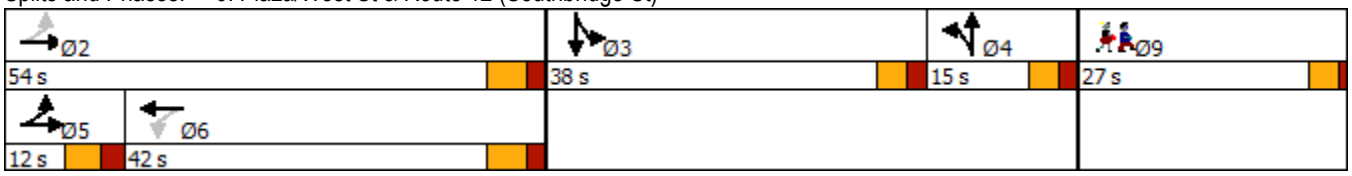
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	39	506	21	646	4	342	2		
Future Volume (vph)	39	506	21	646	4	342	2		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		48.6		36.4	5.9	14.8	14.8		
Actuated g/C Ratio		0.58		0.44	0.07	0.18	0.18		
v/c Ratio		0.36		0.77	0.34	0.70	0.67		
Control Delay		10.9		25.0	24.8	45.5	42.2		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		10.9		25.0	24.8	45.5	42.2		
LOS		B		C	C	D	D		
Approach Delay		10.9		25.0	24.8		43.9		
Approach LOS		B		C	C		D		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 83.1
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 24.7 Intersection LOS: C
Intersection Capacity Utilization 71.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	600	1097	51	212	204
v/c Ratio	0.36	0.77	0.34	0.70	0.67
Control Delay	10.9	25.0	24.8	45.5	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	25.0	24.8	45.5	42.2
Queue Length 50th (ft)	78	239	7	111	102
Queue Length 95th (ft)	143	#428	44	193	181
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	1660	1421	234	682	676
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.77	0.22	0.31	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	506	7	21	646	342	9	4	34	342	2	39
Future Volume (vph)	39	506	7	21	646	342	9	4	34	342	2	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.95			0.90		1.00	0.97	
Flt Protected		1.00			1.00			0.99		0.95	0.96	
Satd. Flow (prot)		3558			3378			1661		1698	1670	
Flt Permitted		0.77			0.93			0.99		0.95	0.96	
Satd. Flow (perm)		2735			3156			1661		1698	1670	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	550	8	23	702	372	10	4	37	372	2	42
RTOR Reduction (vph)	0	0	0	0	38	0	0	35	0	0	7	0
Lane Group Flow (vph)	0	600	0	0	1059	0	0	16	0	212	197	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	3%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		48.6			36.5			4.7		14.8	14.8	
Effective Green, g (s)		48.6			36.5			4.7		14.8	14.8	
Actuated g/C Ratio		0.58			0.43			0.06		0.18	0.18	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1640			1369			92		298	293	
v/s Ratio Prot		c0.03						c0.01		c0.12	0.12	
v/s Ratio Perm		0.18			c0.34							
v/c Ratio		0.37			0.77			0.17		0.71	0.67	
Uniform Delay, d1		9.5			20.3			37.9		32.6	32.4	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.1			2.8			0.3		6.5	4.7	
Delay (s)		9.6			23.1			38.2		39.2	37.1	
Level of Service		A			C			D		D	D	
Approach Delay (s)		9.6			23.1			38.2			38.1	
Approach LOS		A			C			D			D	

Intersection Summary

HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	26.0
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	5	1	0	4	0
Future Volume (Veh/h)	1	5	1	0	4	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	5	1	0	4	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	9	1			1	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	9	1			1	
tC, single (s)	7.4	6.2			4.3	
tC, 2 stage (s)						
tF (s)	4.4	3.3			2.4	
p0 queue free %	100	100			100	
cM capacity (veh/h)	805	1090			1483	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	1	4
Volume Left	1	0	4
Volume Right	5	0	0
cSH	1029	1700	1483
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	8.5	0.0	7.4
Lane LOS	A		A
Approach Delay (s)	8.5	0.0	7.4
Approach LOS	A		

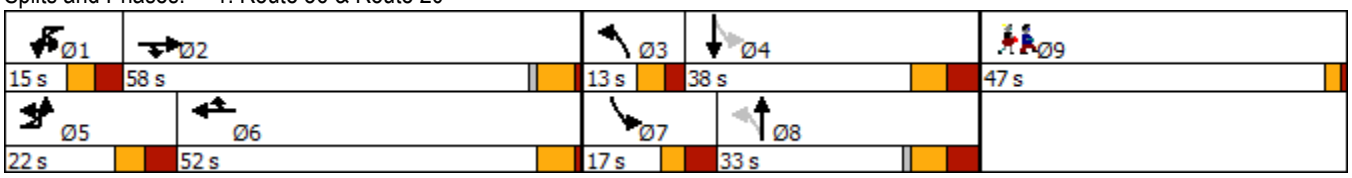
Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	40	1044	69	25	581	76	76	187	161	220	
Future Volume (vph)	40	1044	69	25	581	76	76	187	161	220	
Turn Type	Prot	NA	Prot	Prot	NA	Prot	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2	1	6	6	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2	1	6	6	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0	16.0	14.0	16.0	16.0	13.0	16.0	14.0	16.0	47.0
Total Split (s)	22.0	58.0	58.0	15.0	52.0	52.0	13.0	33.0	17.0	38.0	47.0
Total Split (%)	12.8%	33.7%	33.7%	8.7%	30.2%	30.2%	7.6%	19.2%	9.9%	22.1%	27%
Yellow Time (s)	4.0	5.0	5.0	3.5	5.0	5.0	3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0	1.0	3.5	1.0	1.0	2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0	6.0	7.0	6.0	6.0	6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	9.2	52.0	52.0	8.0	52.8	52.8	35.0	25.0	41.0	29.0	
Actuated g/C Ratio	0.07	0.42	0.42	0.06	0.43	0.43	0.28	0.20	0.33	0.23	
v/c Ratio	0.40	0.80	0.12	2.36	0.48	0.14	0.32	0.76	0.66	0.81	
Control Delay	65.0	36.7	0.4	666.9	28.4	0.8	30.7	62.1	43.2	62.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.0	36.7	0.4	666.9	28.4	0.8	30.7	62.1	43.2	62.6	
LOS	E	D	A	F	C	A	C	E	D	E	
Approach Delay		35.5			192.9			54.5		55.5	
Approach LOS		D			F			D		E	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 124
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.36
Intersection Signal Delay: 90.8 Intersection LOS: F
Intersection Capacity Utilization 87.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	1135	75	253	632	83	83	260	175	307
v/c Ratio	0.40	0.80	0.12	2.36	0.48	0.14	0.32	0.76	0.66	0.81
Control Delay	65.0	36.7	0.4	666.9	28.4	0.8	30.7	62.1	43.2	62.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.0	36.7	0.4	666.9	28.4	0.8	30.7	62.1	43.2	62.6
Queue Length 50th (ft)	34	411	0	~332	197	0	44	198	102	234
Queue Length 95th (ft)	71	503	0	#502	266	4	82	#320	163	#378
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	163	1448	645	107	1325	606	260	342	267	379
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.78	0.12	2.36	0.48	0.14	0.32	0.76	0.66	0.81

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	40	1044	69	208	25	581	76	76	187	52	161	220
Future Volume (vph)	40	1044	69	208	25	581	76	76	187	52	161	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.97		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1452	3388	1322		1672	3116	1236	1678	1699		1544	1621
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.42	1.00		0.35	1.00
Satd. Flow (perm)	1452	3388	1322		1672	3116	1236	735	1699		571	1621
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	1135	75	226	27	632	83	83	203	57	175	239
RTOR Reduction (vph)	0	0	43	0	0	0	48	0	0	0	0	0
Lane Group Flow (vph)	43	1135	32	0	253	632	35	83	260	0	175	307
Heavy Vehicles (%)	16%	3%	14%	0%	7%	12%	22%	4%	5%	3%	13%	8%
Turn Type	Prot	NA	Prot	Prot	Prot	NA	Prot	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2	1	1	6	6	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	7.8	53.6	53.6		8.0	52.8	52.8	32.0	25.0		39.0	29.0
Effective Green, g (s)	7.8	53.6	53.6		8.0	52.8	52.8	32.0	25.0		39.0	29.0
Actuated g/C Ratio	0.06	0.43	0.43		0.06	0.42	0.42	0.25	0.20		0.31	0.23
Clearance Time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	90	1445	564		106	1309	519	239	338		254	374
v/s Ratio Prot	0.03	c0.34	0.02		c0.15	0.20	0.03	0.02	0.15		c0.05	c0.19
v/s Ratio Perm								0.07			0.16	
v/c Ratio	0.48	0.79	0.06		2.39	0.48	0.07	0.35	0.77		0.69	0.82
Uniform Delay, d1	56.9	31.0	21.1		58.8	26.5	21.7	36.9	47.6		35.4	45.8
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.0	2.9	0.0		652.0	0.3	0.1	0.9	10.1		7.6	13.5
Delay (s)	60.9	33.9	21.2		710.8	26.8	21.8	37.8	57.7		42.9	59.3
Level of Service	E	C	C		F	C	C	D	E		D	E
Approach Delay (s)		34.1				205.1			52.9			53.4
Approach LOS		C				F			D			D

Intersection Summary

HCM 2000 Control Delay	93.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	125.6	Sum of lost time (s)	33.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	63
Future Volume (vph)	63
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	68
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	15%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1382	836	14	0	51
Future Volume (Veh/h)	0	1382	836	14	0	51
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1502	909	15	0	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.72	
vC, conflicting volume	924				1668	462
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	924				1138	462
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	90
cM capacity (veh/h)	748				142	552

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	751	751	606	318	55
Volume Left	0	0	0	0	0
Volume Right	0	0	0	15	55
cSH	1700	1700	1700	1700	552
Volume to Capacity	0.44	0.44	0.36	0.19	0.10
Queue Length 95th (ft)	0	0	0	0	8
Control Delay (s)	0.0	0.0	0.0	0.0	12.2
Lane LOS					B
Approach Delay (s)	0.0		0.0		12.2
Approach LOS					B

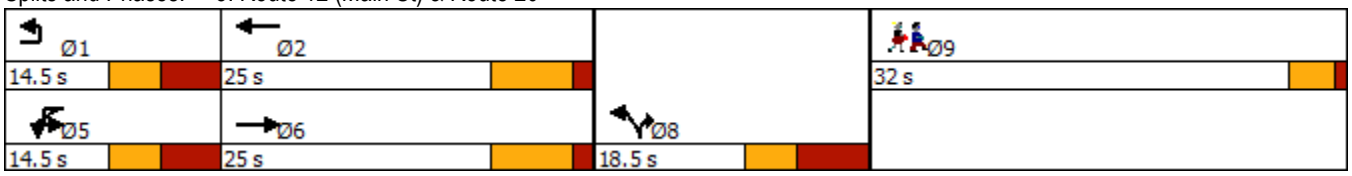
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	188	1171	100	697	68	291	
Future Volume (vph)	188	1171	100	697	68	291	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	14.5	25.0	14.5	25.0	18.5	18.5	32.0
Total Split (%)	16.1%	27.8%	16.1%	27.8%	20.6%	20.6%	36%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.0	21.0	7.0	18.0	9.5	9.5	
Actuated g/C Ratio	0.12	0.37	0.12	0.31	0.17	0.17	
v/c Ratio	0.96	1.08	0.33	0.74	0.62	0.48	
Control Delay	84.3	75.6	25.9	23.4	23.8	8.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	84.3	75.6	25.9	23.4	23.8	8.6	
LOS	F	E	C	C	C	A	
Approach Delay		76.7		23.8	16.4		
Approach LOS		E		C	B		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 57.5
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 51.5 Intersection LOS: D
Intersection Capacity Utilization 70.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	204	1315	132	758	200	190
v/c Ratio	0.96	1.08	0.33	0.74	0.62	0.48
Control Delay	84.3	75.6	25.9	23.4	23.8	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.3	75.6	25.9	23.4	23.8	8.6
Queue Length 50th (ft)	72	~318	22	122	39	0
Queue Length 95th (ft)	#184	#438	44	180	#109	48
Internal Link Dist (ft)		640		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	212	1217	400	1019	334	411
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.96	1.08	0.33	0.74	0.60	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	188	1171	39	21	100	697	68	291
Future Volume (vph)	188	1171	39	21	100	697	68	291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12
Total Lost time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95			0.97	0.95	1.00	0.95
Frt	1.00	1.00			1.00	1.00	0.91	0.85
Flt Protected	0.95	1.00			0.95	1.00	0.98	1.00
Satd. Flow (prot)	1745	3326			3285	3252	1559	1461
Flt Permitted	0.95	1.00			0.95	1.00	0.98	1.00
Satd. Flow (perm)	1745	3326			3285	3252	1559	1461
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	204	1273	42	23	109	758	74	316
RTOR Reduction (vph)	0	2	0	0	0	0	65	160
Lane Group Flow (vph)	204	1313	0	0	132	758	135	30
Heavy Vehicles (%)	0%	4%	17%	0%	8%	11%	14%	5%
Turn Type	Prot	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	1	6		5	5	2	8	8
Permitted Phases								
Actuated Green, G (s)	7.0	21.0			5.6	19.6	9.4	9.4
Effective Green, g (s)	7.0	21.0			5.6	19.6	9.4	9.4
Actuated g/C Ratio	0.12	0.36			0.09	0.33	0.16	0.16
Clearance Time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	207	1183			311	1080	248	232
v/s Ratio Prot	c0.12	c0.39			0.04	0.23	c0.09	0.02
v/s Ratio Perm								
v/c Ratio	0.99	1.11			0.42	0.70	0.55	0.13
Uniform Delay, d1	25.9	19.0			25.2	17.2	22.8	21.3
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	57.9	61.8			0.9	2.1	2.4	0.3
Delay (s)	83.9	80.8			26.1	19.2	25.3	21.5
Level of Service	F	F			C	B	C	C
Approach Delay (s)		81.2				20.3	23.5	
Approach LOS		F				C	C	

Intersection Summary

HCM 2000 Control Delay	53.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	59.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

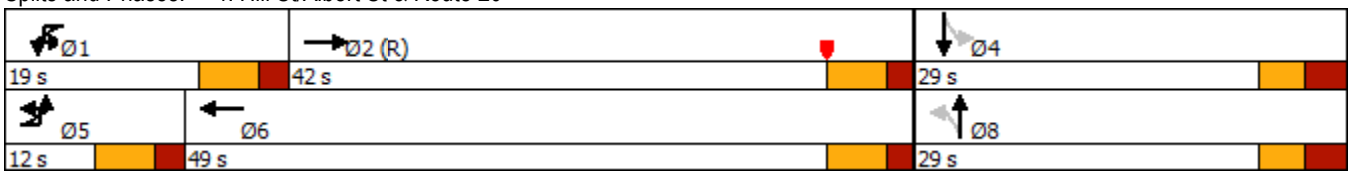
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	14	1434	4	798	8	1	101	0
Future Volume (vph)	14	1434	4	798	8	1	101	0
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	12.0	42.0	19.0	49.0	29.0	29.0	29.0	29.0
Total Split (%)	13.3%	46.7%	21.1%	54.4%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.5	63.5	6.6	63.6	12.7	12.7	12.7	12.7
Actuated g/C Ratio	0.07	0.71	0.07	0.71	0.14	0.14	0.14	0.14
v/c Ratio	0.22	0.65	0.22	0.41	0.04	0.07	0.66	0.03
Control Delay	43.0	13.6	49.0	13.5	30.5	15.2	54.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	13.6	49.0	13.5	30.5	15.2	54.1	0.2
LOS	D	B	D	B	C	B	D	A
Approach Delay		14.1		14.5		20.5		49.2
Approach LOS		B		B		C		D

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 30 (33%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 15.9 Intersection LOS: B
Intersection Capacity Utilization 62.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	1568	27	931	9	17	110	11
v/c Ratio	0.22	0.65	0.22	0.41	0.04	0.07	0.66	0.03
Control Delay	43.0	13.6	49.0	13.5	30.5	15.2	54.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	13.6	49.0	13.5	30.5	15.2	54.1	0.2
Queue Length 50th (ft)	15	198	17	98	4	1	60	0
Queue Length 95th (ft)	41	#583	m30	119	17	18	107	0
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	130	2425	242	2269	364	405	301	495
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.65	0.11	0.41	0.02	0.04	0.37	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	14	1434	8	21	4	798	59	8	1	15	101
Future Volume (vph)	12	14	1434	8	21	4	798	59	8	1	15	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Lane Util. Factor		1.00	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	1.00			1.00	0.99		1.00	0.86		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1805	3436			1681	3206		1805	1541		1504
Flt Permitted		0.95	1.00			0.95	1.00		0.75	1.00		0.75
Satd. Flow (perm)		1805	3436			1681	3206		1426	1541		1182
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	15	1559	9	23	4	867	64	9	1	16	110
RTOR Reduction (vph)	0	0	0	0	0	0	4	0	0	14	0	0
Lane Group Flow (vph)	0	28	1568	0	0	27	927	0	9	3	0	110
Confl. Peds. (#/hr)				2		2						
Heavy Vehicles (%)	0%	0%	5%	0%	0%	50%	12%	4%	0%	100%	0%	20%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Perm	NA		Perm
Protected Phases	5	5	2		1	1	6			8		
Permitted Phases									8			4
Actuated Green, G (s)		2.9	57.5			3.0	57.6		11.5	11.5		11.5
Effective Green, g (s)		2.9	57.5			3.0	57.6		11.5	11.5		11.5
Actuated g/C Ratio		0.03	0.64			0.03	0.64		0.13	0.13		0.13
Clearance Time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Vehicle Extension (s)		2.0	2.0			2.0	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)		58	2195			56	2051		182	196		151
v/s Ratio Prot		0.02	c0.46			c0.02	0.29			0.00		
v/s Ratio Perm									0.01			c0.09
v/c Ratio		0.48	0.71			0.48	0.45		0.05	0.02		0.73
Uniform Delay, d1		42.8	10.8			42.7	8.2		34.5	34.3		37.7
Progression Factor		1.00	1.00			1.16	1.46		1.00	1.00		1.00
Incremental Delay, d2		2.3	2.0			2.2	0.7		0.0	0.0		13.8
Delay (s)		45.1	12.8			51.5	12.6		34.5	34.3		51.5
Level of Service		D	B			D	B		C	C		D
Approach Delay (s)			13.4				13.7			34.4		
Approach LOS			B				B			C		

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	10
Future Volume (vph)	0	10
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.85	
Flt Protected	1.00	
Satd. Flow (prot)	1346	
Flt Permitted	1.00	
Satd. Flow (perm)	1346	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	0	11
RTOR Reduction (vph)	10	0
Lane Group Flow (vph)	1	0
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	0%	20%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	11.5	
Effective Green, g (s)	11.5	
Actuated g/C Ratio	0.13	
Clearance Time (s)	6.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	171	
v/s Ratio Prot	0.00	
v/s Ratio Perm		
v/c Ratio	0.01	
Uniform Delay, d1	34.3	
Progression Factor	1.00	
Incremental Delay, d2	0.0	
Delay (s)	34.3	
Level of Service	C	
Approach Delay (s)	50.0	
Approach LOS	D	

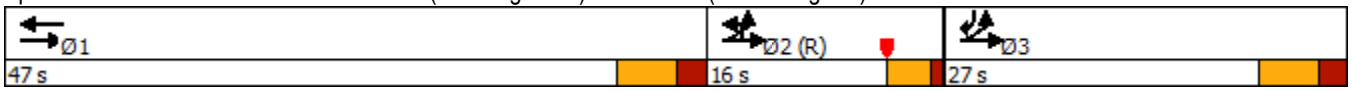
Intersection Summary

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	17	529	1003	598	15	297
Future Volume (vph)	17	529	1003	598	15	297
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	16.0			47.0		27.0
Total Split (%)	17.8%			52.2%		30.0%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	12.0	37.5	90.0	42.5	90.0	19.5
Actuated g/C Ratio	0.13	0.42	1.00	0.47	1.00	0.22
v/c Ratio	0.08	0.42	0.31	0.42	0.01	0.59
Control Delay	42.3	22.5	0.2	17.0	0.0	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	22.5	0.2	17.0	0.0	36.1
LOS	D	C	A	B	A	D
Approach Delay			8.3	16.6		
Approach LOS			A	B		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 13.7 Intersection LOS: B
Intersection Capacity Utilization 48.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	18	575	1090	650	16	323
v/c Ratio	0.08	0.42	0.31	0.42	0.01	0.59
Control Delay	42.3	22.5	0.2	17.0	0.0	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	22.5	0.2	17.0	0.0	36.1
Queue Length 50th (ft)	10	76	0	127	0	92
Queue Length 95th (ft)	m18	181	0	172	0	139
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	214	1431	3433	1565	1509	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.40	0.32	0.42	0.01	0.55

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	17	529	1003	598	15	0	297
Future Volume (vph)	17	529	1003	598	15	0	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1612	3303	3471	3312	1509		2538
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1612	3303	3471	3312	1509		2538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	575	1090	650	16	0	323
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	575	1090	650	16	0	323
Heavy Vehicles (%)	12%	6%	4%	9%	7%	0%	12%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	12.0	35.5	90.0	42.5	90.0		19.5
Effective Green, g (s)	12.0	35.5	86.0	42.5	90.0		19.5
Actuated g/C Ratio	0.13	0.39	0.96	0.47	1.00		0.22
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	214	1302	3316	1564	1509		549
v/s Ratio Prot	0.01	c0.17	0.31	c0.20			c0.13
v/s Ratio Perm					0.01		
v/c Ratio	0.08	0.44	0.33	0.42	0.01		0.59
Uniform Delay, d1	34.2	20.0	0.1	15.6	0.0		31.6
Progression Factor	1.21	1.18	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.6	0.1	0.0	0.8	0.0		1.0
Delay (s)	41.8	23.6	0.1	16.4	0.0		32.7
Level of Service	D	C	A	B	A		C
Approach Delay (s)			8.6	16.0		32.7	
Approach LOS			A	B		C	

Intersection Summary

HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

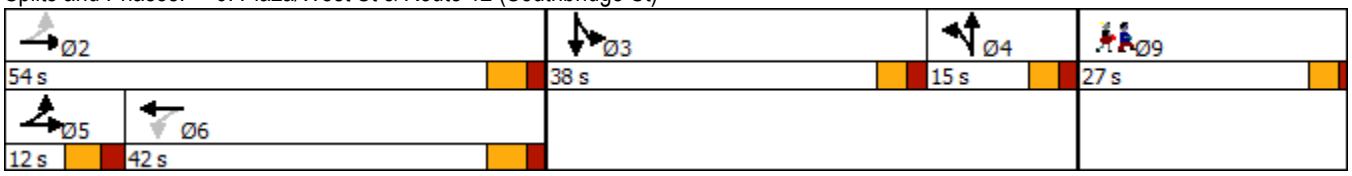
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	36	558	3	326	3	625	2		
Future Volume (vph)	36	558	3	326	3	625	2		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		36.1		22.9	5.6	25.4	25.4		
Actuated g/C Ratio		0.46		0.29	0.07	0.32	0.32		
v/c Ratio		0.50		0.74	0.05	0.68	0.66		
Control Delay		19.0		25.4	39.3	34.0	33.3		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		19.0		25.4	39.3	34.0	33.3		
LOS		B		C	D	C	C		
Approach Delay		19.0		25.4	39.3		33.6		
Approach LOS		B		C	D		C		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 78.2
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 26.3 Intersection LOS: C
Intersection Capacity Utilization 75.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	646	717	6	360	350
v/c Ratio	0.50	0.74	0.05	0.68	0.66
Control Delay	19.0	25.4	39.3	34.0	33.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	25.4	39.3	34.0	33.3
Queue Length 50th (ft)	86	102	1	128	123
Queue Length 95th (ft)	281	301	17	#488	#469
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	1869	1534	216	757	751
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.47	0.03	0.48	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	558	0	3	326	331	0	3	3	625	2	27
Future Volume (vph)	36	558	0	3	326	331	0	3	3	625	2	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.92			0.93		1.00	0.99	
Flt Protected		1.00			1.00			1.00		0.95	0.96	
Satd. Flow (prot)		3384			2995			1521		1633	1616	
Flt Permitted		0.79			0.95			1.00		0.95	0.96	
Satd. Flow (perm)		2684			2852			1521		1633	1616	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	607	0	3	354	360	0	3	3	679	2	29
RTOR Reduction (vph)	0	0	0	0	135	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	646	0	0	582	0	0	3	0	360	348	0
Heavy Vehicles (%)	12%	6%	0%	0%	12%	11%	0%	0%	33%	5%	50%	8%
Turn Type	pm+pt	NA		Perm	NA			NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		36.1			23.5			0.7		25.4	25.4	
Effective Green, g (s)		36.1			23.5			0.7		25.4	25.4	
Actuated g/C Ratio		0.42			0.28			0.01		0.30	0.30	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1194			788			12		487	482	
v/s Ratio Prot		c0.04						c0.00		c0.22	0.22	
v/s Ratio Perm		0.19			c0.20							
v/c Ratio		0.54			0.74			0.25		0.74	0.72	
Uniform Delay, d1		18.3			28.0			41.9		26.8	26.6	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.5			3.7			4.0		5.0	4.5	
Delay (s)		18.8			31.6			45.9		31.8	31.1	
Level of Service		B			C			D		C	C	
Approach Delay (s)		18.8			31.6			45.9			31.5	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1398	570	293	0	283
Future Volume (Veh/h)	0	1398	570	293	0	283
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1520	620	318	0	308
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	620				1539	469
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620				1539	469
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	43
cM capacity (veh/h)	956				106	541

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	760	760	413	525	308
Volume Left	0	0	0	0	0
Volume Right	0	0	0	318	308
cSH	1700	1700	1700	1700	541
Volume to Capacity	0.45	0.45	0.24	0.31	0.57
Queue Length 95th (ft)	0	0	0	0	88
Control Delay (s)	0.0	0.0	0.0	0.0	20.1
Lane LOS					C
Approach Delay (s)	0.0		0.0		20.1
Approach LOS					C

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1398	863	90	0	0
Future Volume (Veh/h)	0	1398	863	90	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1520	938	98	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			720			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	938				1747	518
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	465				1460	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	900				99	887

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	760	760	625	411	0
Volume Left	0	0	0	0	0
Volume Right	0	0	0	98	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.45	0.45	0.37	0.24	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					A
Approach Delay (s)	0.0		0.0		0.0
Approach LOS					A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	42.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	99	0	1	49	4	0	1	3	5	0	0
Future Volume (Veh/h)	0	99	0	1	49	4	0	1	3	5	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	108	0	1	53	4	0	1	3	5	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	43	14	0	66	12	2	0			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	43	14	0	66	12	2	0			4		
tC, single (s)	7.1	7.0	6.2	7.1	6.6	6.5	4.1			4.3		
tC, 2 stage (s)												
tF (s)	3.5	4.5	3.3	3.5	4.1	3.5	2.2			2.4		
p0 queue free %	100	86	100	100	94	100	100			100		
cM capacity (veh/h)	914	791	1091	832	862	1018	1636			1507		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	108	58	4	5
Volume Left	0	1	0	5
Volume Right	0	4	3	0
cSH	791	870	1636	1507
Volume to Capacity	0.14	0.07	0.00	0.00
Queue Length 95th (ft)	12	5	0	0
Control Delay (s)	10.3	9.4	0.0	7.4
Lane LOS	B	A		A
Approach Delay (s)	10.3	9.4	0.0	7.4
Approach LOS	B	A		

Intersection Summary			
Average Delay	9.7		
Intersection Capacity Utilization	16.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	48	2	0	20	0
Future Volume (Veh/h)	0	48	2	0	20	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	52	2	0	22	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	46	2			2	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	46	2			2	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			99	
cM capacity (veh/h)	951	1082			1620	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	52	2	22
Volume Left	0	0	22
Volume Right	52	0	0
cSH	1082	1700	1620
Volume to Capacity	0.05	0.00	0.01
Queue Length 95th (ft)	4	0	1
Control Delay (s)	8.5	0.0	7.3
Lane LOS	A		A
Approach Delay (s)	8.5	0.0	7.3
Approach LOS	A		

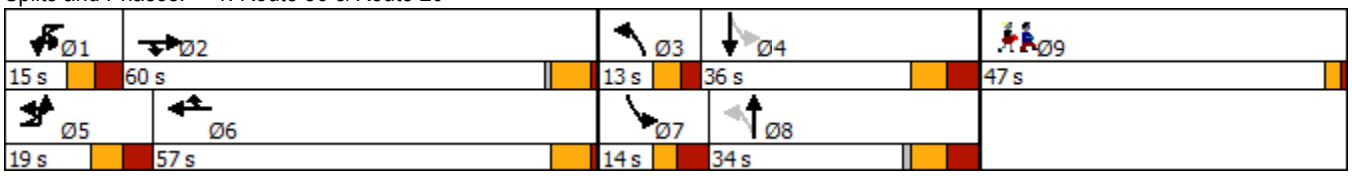
Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	75	741	99	44	1318	173	122	242	110	286	
Future Volume (vph)	75	741	99	44	1318	173	122	242	110	286	
Turn Type	Prot	NA	Prot	Prot	NA	Prot	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2	1	6	6	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2	1	6	6	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0	16.0	14.0	16.0	16.0	13.0	16.0	14.0	16.0	47.0
Total Split (s)	19.0	60.0	60.0	15.0	57.0	57.0	13.0	34.0	14.0	36.0	47.0
Total Split (%)	11.0%	34.9%	34.9%	8.7%	33.1%	33.1%	7.6%	19.8%	8.1%	20.9%	27%
Yellow Time (s)	4.0	5.0	5.0	3.5	5.0	5.0	3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0	1.0	3.5	1.0	1.0	2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0	6.0	7.0	6.0	6.0	6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	10.8	55.5	55.5	8.1	51.9	51.9	36.6	26.4	36.6	27.5	
Actuated g/C Ratio	0.08	0.41	0.41	0.06	0.39	0.39	0.27	0.20	0.27	0.21	
v/c Ratio	0.65	0.57	0.16	2.73	1.09	0.30	0.92	0.85	0.60	1.08	
Control Delay	84.5	34.5	2.7	830.5	92.9	11.3	95.7	74.9	52.1	120.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	84.5	34.5	2.7	830.5	92.9	11.3	95.7	74.9	52.1	120.5	
LOS	F	C	A	F	F	B	F	E	D	F	
Approach Delay		35.2			192.8			81.4		104.4	
Approach LOS		D			F			F		F	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 134
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.73
Intersection Signal Delay: 127.7 Intersection LOS: F
Intersection Capacity Utilization 92.6% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	805	108	278	1433	188	133	296	120	388
v/c Ratio	0.65	0.57	0.16	2.73	1.09	0.30	0.92	0.85	0.60	1.08
Control Delay	84.5	34.5	2.7	830.5	92.9	11.3	95.7	74.9	52.1	120.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.5	34.5	2.7	830.5	92.9	11.3	95.7	74.9	52.1	120.5
Queue Length 50th (ft)	65	247	0	~377	~656	23	76	230	69	~335
Queue Length 95th (ft)	#197	510	21	#756	#1282	112	#279	#583	#212	#804
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	132	1413	698	102	1311	636	144	347	201	358
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.57	0.15	2.73	1.09	0.30	0.92	0.85	0.60	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	75	741	99	212	44	1318	173	122	242	30	110	286
Future Volume (vph)	75	741	99	212	44	1318	173	122	242	30	110	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.98		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1589	3388	1478		1685	3388	1422	1646	1763		1662	1751
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.15	1.00		0.29	1.00
Satd. Flow (perm)	1589	3388	1478		1685	3388	1422	262	1763		512	1751
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	805	108	230	48	1433	188	133	263	33	120	311
RTOR Reduction (vph)	0	0	64	0	0	0	87	0	0	0	0	0
Lane Group Flow (vph)	82	805	44	0	278	1433	101	133	296	0	120	388
Heavy Vehicles (%)	6%	3%	2%	0%	0%	3%	6%	6%	2%	6%	5%	1%
Turn Type	Prot	NA	Prot	Prot	Prot	NA	Prot	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2	1	1	6	6	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	10.8	55.6	55.6		8.1	51.9	51.9	33.6	26.5		34.6	27.5
Effective Green, g (s)	10.8	55.6	55.6		8.1	51.9	51.9	33.6	26.5		34.6	27.5
Actuated g/C Ratio	0.08	0.41	0.41		0.06	0.38	0.38	0.25	0.19		0.25	0.20
Clearance Time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	126	1383	603		100	1291	541	136	343		190	353
v/s Ratio Prot	0.05	c0.24	0.03		c0.17	c0.42	0.07	c0.05	0.17		0.03	c0.22
v/s Ratio Perm								0.19			0.13	
v/c Ratio	0.65	0.58	0.07		2.78	1.11	0.19	0.98	0.86		0.63	1.10
Uniform Delay, d1	60.9	31.3	24.6		64.0	42.1	28.1	47.5	53.1		42.8	54.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	11.4	0.6	0.1		828.2	60.9	0.2	69.7	19.5		6.7	77.3
Delay (s)	72.3	31.9	24.6		892.2	103.1	28.3	117.1	72.6		49.5	131.6
Level of Service	E	C	C		F	F	C	F	E		D	F
Approach Delay (s)		34.4				211.2			86.4			112.2
Approach LOS		C				F			F			F

Intersection Summary

HCM 2000 Control Delay	138.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	136.2	Sum of lost time (s)	33.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	71
Future Volume (vph)	71
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	77
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	5%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1122	1688	52	0	37
Future Volume (Veh/h)	0	1122	1688	52	0	37
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1220	1835	57	0	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.82	
vC, conflicting volume	1892				2474	946
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1892				2357	946
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	85
cM capacity (veh/h)	320				25	266

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	610	610	1223	669	40
Volume Left	0	0	0	0	0
Volume Right	0	0	0	57	40
cSH	1700	1700	1700	1700	266
Volume to Capacity	0.36	0.36	0.72	0.39	0.15
Queue Length 95th (ft)	0	0	0	0	13
Control Delay (s)	0.0	0.0	0.0	0.0	20.9
Lane LOS					C
Approach Delay (s)	0.0		0.0		20.9
Approach LOS					C

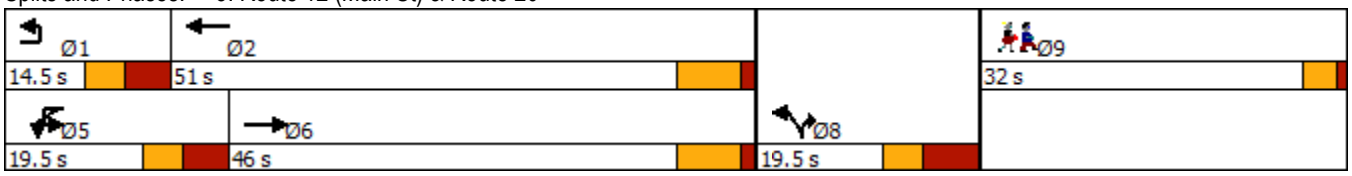
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	129	947	611	1422	106	295	
Future Volume (vph)	129	947	611	1422	106	295	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	14.5	46.0	19.5	51.0	19.5	19.5	32.0
Total Split (%)	12.4%	39.3%	16.7%	43.6%	16.7%	16.7%	27%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.0	39.0	12.0	44.0	11.0	11.0	
Actuated g/C Ratio	0.08	0.46	0.14	0.52	0.13	0.13	
v/c Ratio	0.98	0.72	1.43	0.85	0.91	0.56	
Control Delay	112.6	21.7	237.0	23.6	71.3	11.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	112.6	21.7	237.0	23.6	71.3	11.4	
LOS	F	C	F	C	E	B	
Approach Delay		31.9		90.2	42.2		
Approach LOS		C		F	D		

Intersection Summary

Cycle Length: 117
Actuated Cycle Length: 85
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.43
Intersection Signal Delay: 66.4 Intersection LOS: E
Intersection Capacity Utilization 78.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	140	1107	701	1546	224	212
v/c Ratio	0.98	0.72	1.43	0.85	0.91	0.56
Control Delay	112.6	21.7	237.0	23.6	71.3	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.6	21.7	237.0	23.6	71.3	11.4
Queue Length 50th (ft)	76	240	~264	354	103	0
Queue Length 95th (ft)	#189	315	#372	458	#236	64
Internal Link Dist (ft)		643		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	143	1544	489	1814	247	381
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.72	1.43	0.85	0.91	0.56

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	129	947	72	34	611	1422	106	295
Future Volume (vph)	129	947	72	34	611	1422	106	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12
Total Lost time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95			0.97	0.95	1.00	0.95
Frt	1.00	0.99			1.00	1.00	0.93	0.85
Flt Protected	0.95	1.00			0.95	1.00	0.97	1.00
Satd. Flow (prot)	1745	3359			3469	3505	1700	1519
Flt Permitted	0.95	1.00			0.95	1.00	0.97	1.00
Satd. Flow (perm)	1745	3359			3469	3505	1700	1519
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	1029	78	37	664	1546	115	321
RTOR Reduction (vph)	0	4	0	0	0	0	28	185
Lane Group Flow (vph)	140	1103	0	0	701	1546	196	27
Heavy Vehicles (%)	0%	3%	0%	0%	1%	3%	1%	1%
Turn Type	Prot	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	1	6		5	5	2	8	8
Permitted Phases								
Actuated Green, G (s)	7.0	39.0			12.0	44.0	11.0	11.0
Effective Green, g (s)	7.0	39.0			12.0	44.0	11.0	11.0
Actuated g/C Ratio	0.08	0.46			0.14	0.52	0.13	0.13
Clearance Time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	143	1541			489	1814	220	196
v/s Ratio Prot	0.08	0.33			c0.20	c0.44	c0.12	0.02
v/s Ratio Perm								
v/c Ratio	0.98	0.72			1.43	0.85	0.89	0.14
Uniform Delay, d1	38.9	18.5			36.5	17.7	36.4	32.8
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	68.1	1.6			206.6	4.1	33.0	0.3
Delay (s)	107.0	20.1			243.1	21.8	69.5	33.1
Level of Service	F	C			F	C	E	C
Approach Delay (s)		29.9				90.8	51.8	
Approach LOS		C				F	D	

Intersection Summary

HCM 2000 Control Delay	67.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

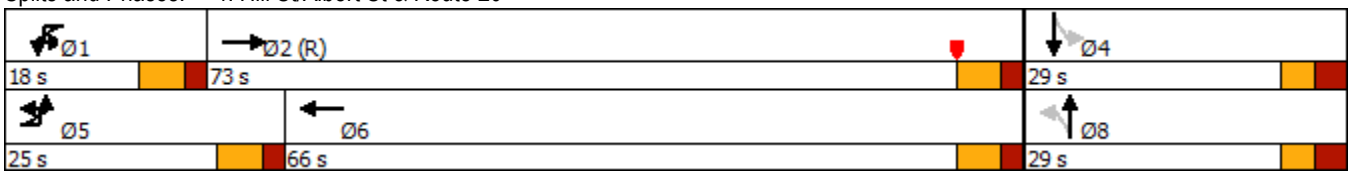
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	1215	10	2024	8	2	91	1
Future Volume (vph)	10	1215	10	2024	8	2	91	1
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	25.0	73.0	18.0	66.0	29.0	29.0	29.0	29.0
Total Split (%)	20.8%	60.8%	15.0%	55.0%	24.2%	24.2%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.7	83.2	8.4	87.3	12.7	12.7	12.7	12.7
Actuated g/C Ratio	0.06	0.69	0.07	0.73	0.11	0.11	0.11	0.11
v/c Ratio	0.25	0.54	0.45	0.91	0.06	0.08	0.66	0.15
Control Delay	60.2	11.7	57.8	30.8	46.0	24.2	71.0	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	11.7	57.8	30.8	46.0	24.2	71.0	18.0
LOS	E	B	E	C	D	C	E	B
Approach Delay		12.5		31.5		32.7		59.0
Approach LOS		B		C		C		E

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 25.8 Intersection LOS: C
Intersection Capacity Utilization 81.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	24	1324	57	2324	9	14	99	29
v/c Ratio	0.25	0.54	0.45	0.91	0.06	0.08	0.66	0.15
Control Delay	60.2	11.7	57.8	30.8	46.0	24.2	71.0	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	11.7	57.8	30.8	46.0	24.2	71.0	18.0
Queue Length 50th (ft)	18	256	42	986	6	1	75	1
Queue Length 95th (ft)	46	398	m50	m921	22	21	128	29
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	273	2431	180	2556	268	326	272	318
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.54	0.32	0.91	0.03	0.04	0.36	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	10	1215	3	42	10	2024	114	8	2	11	91
Future Volume (vph)	12	10	1215	3	42	10	2024	114	8	2	11	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Lane Util. Factor		1.00	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	1.00			1.00	0.99		1.00	0.87		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1726	3504			1805	3510		1802	1656		1805
Flt Permitted		0.95	1.00			0.95	1.00		0.74	1.00		0.75
Satd. Flow (perm)		1726	3504			1805	3510		1401	1656		1422
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	11	1321	3	46	11	2200	124	9	2	12	99
RTOR Reduction (vph)	0	0	0	0	0	0	2	0	0	11	0	0
Lane Group Flow (vph)	0	24	1324	0	0	57	2322	0	9	3	0	99
Confl. Peds. (#/hr)		1		1		1		1	1			
Heavy Vehicles (%)	0%	10%	3%	0%	0%	0%	2%	0%	0%	0%	0%	0%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Perm	NA		Perm
Protected Phases	5	5	2		1	1	6			8		
Permitted Phases									8			4
Actuated Green, G (s)		4.3	82.1			7.2	85.0		12.7	12.7		12.7
Effective Green, g (s)		4.3	82.1			7.2	85.0		12.7	12.7		12.7
Actuated g/C Ratio		0.04	0.68			0.06	0.71		0.11	0.11		0.11
Clearance Time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Vehicle Extension (s)		2.0	2.0			2.0	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)		61	2397			108	2486		148	175		150
v/s Ratio Prot		0.01	0.38			c0.03	c0.66			0.00		
v/s Ratio Perm									0.01			c0.07
v/c Ratio		0.39	0.55			0.53	0.93		0.06	0.02		0.66
Uniform Delay, d1		56.6	9.6			54.7	15.1		48.3	48.1		51.6
Progression Factor		1.00	1.00			1.01	1.93		1.00	1.00		1.00
Incremental Delay, d2		1.5	0.9			0.7	3.2		0.1	0.0		8.1
Delay (s)		58.1	10.5			56.3	32.3		48.3	48.1		59.7
Level of Service		E	B			E	C		D	D		E
Approach Delay (s)			11.4				32.8			48.2		
Approach LOS			B				C			D		

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1	26
Future Volume (vph)	1	26
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1544	
Flt Permitted	1.00	
Satd. Flow (perm)	1544	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	1	28
RTOR Reduction (vph)	25	0
Lane Group Flow (vph)	4	0
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	0%	4%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	12.7	
Effective Green, g (s)	12.7	
Actuated g/C Ratio	0.11	
Clearance Time (s)	6.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	163	
v/s Ratio Prot	0.00	
v/s Ratio Perm		
v/c Ratio	0.02	
Uniform Delay, d1	48.1	
Progression Factor	1.00	
Incremental Delay, d2	0.0	
Delay (s)	48.1	
Level of Service	D	
Approach Delay (s)	57.1	
Approach LOS	E	

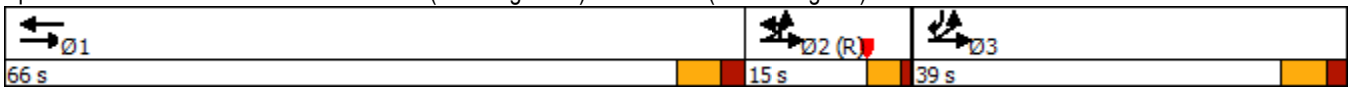
Intersection Summary

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	44	455	874	1134	16	936
Future Volume (vph)	44	455	874	1134	16	936
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	15.0			66.0		39.0
Total Split (%)	12.5%			55.0%		32.5%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	11.0	50.0	120.0	60.0	120.0	33.0
Actuated g/C Ratio	0.09	0.42	1.00	0.50	1.00	0.28
v/c Ratio	0.29	0.34	0.27	0.70	0.01	1.33
Control Delay	67.7	17.6	0.2	25.9	0.0	192.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.7	17.6	0.2	25.9	0.0	192.2
LOS	E	B	A	C	A	F
Approach Delay			8.1	25.5		
Approach LOS			A	C		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.33
Intersection Signal Delay: 63.7 Intersection LOS: E
Intersection Capacity Utilization 85.8% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	48	495	950	1233	17	1017
v/c Ratio	0.29	0.34	0.27	0.70	0.01	1.33
Control Delay	67.7	17.6	0.2	25.9	0.0	192.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.7	17.6	0.2	25.9	0.0	192.2
Queue Length 50th (ft)	30	79	0	375	0	~580
Queue Length 95th (ft)	m70	86	0	457	0	#724
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	165	1444	3505	1752	1329	766
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.34	0.27	0.70	0.01	1.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	44	455	874	1134	16	0	936
Future Volume (vph)	44	455	874	1134	16	0	936
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1805	3467	3505	3505	1329		2787
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1805	3467	3505	3505	1329		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	495	950	1233	17	0	1017
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	48	495	950	1233	17	0	1017
Confl. Bikes (#/hr)					1		
Heavy Vehicles (%)	0%	1%	3%	3%	20%	0%	2%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	11.0	48.0	120.0	60.0	120.0		33.0
Effective Green, g (s)	11.0	48.0	116.0	60.0	120.0		33.0
Actuated g/C Ratio	0.09	0.40	0.97	0.50	1.00		0.28
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	165	1386	3388	1752	1329		766
v/s Ratio Prot	0.03	c0.14	0.27	c0.35			c0.36
v/s Ratio Perm					0.01		
v/c Ratio	0.29	0.36	0.28	0.70	0.01		1.33
Uniform Delay, d1	50.9	25.2	0.1	23.1	0.0		43.5
Progression Factor	1.24	0.71	1.00	1.00	1.00		1.00
Incremental Delay, d2	3.8	0.1	0.0	2.4	0.0		156.4
Delay (s)	66.9	17.9	0.1	25.5	0.0		199.9
Level of Service	E	B	A	C	A		F
Approach Delay (s)			8.1	25.2		199.9	
Approach LOS			A	C		F	

Intersection Summary

HCM 2000 Control Delay	65.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

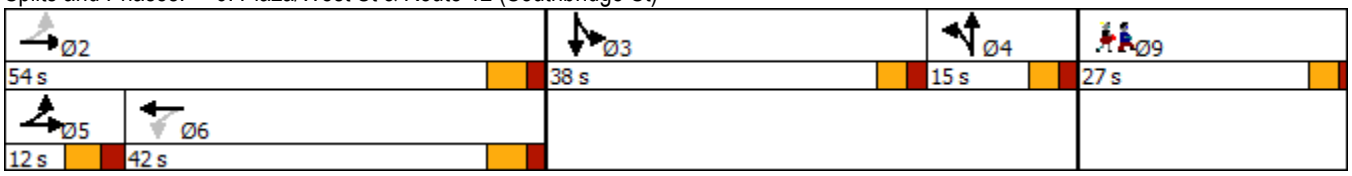
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	47	519	19	977	5	350	1		
Future Volume (vph)	47	519	19	977	5	350	1		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		48.7		36.5	5.5	14.4	14.4		
Actuated g/C Ratio		0.62		0.47	0.07	0.18	0.18		
v/c Ratio		0.43		1.13	0.18	0.67	0.67		
Control Delay		9.8		89.8	26.0	42.0	40.5		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		9.8		89.8	26.0	42.0	40.5		
LOS		A		F	C	D	D		
Approach Delay		9.8		89.8	26.0		41.3		
Approach LOS		A		F	C		D		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 78.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 64.2 Intersection LOS: E
Intersection Capacity Utilization 86.1% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	615	1713	25	205	204
v/c Ratio	0.43	1.13	0.18	0.67	0.67
Control Delay	9.8	89.8	26.0	42.0	40.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	89.8	26.0	42.0	40.5
Queue Length 50th (ft)	53	~458	4	90	87
Queue Length 95th (ft)	142	#825	29	186	181
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	1423	1517	237	706	704
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.43	1.13	0.11	0.29	0.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	519	0	19	977	580	3	5	16	350	1	26
Future Volume (vph)	47	519	0	19	977	580	3	5	16	350	1	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.94			0.91		1.00	0.98	
Flt Protected		1.00			1.00			0.99		0.95	0.96	
Satd. Flow (prot)		3505			3343			1715		1649	1639	
Flt Permitted		0.60			0.94			0.99		0.95	0.96	
Satd. Flow (perm)		2111			3152			1715		1649	1639	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	564	0	21	1062	630	3	5	17	380	1	28
RTOR Reduction (vph)	0	0	0	0	47	0	0	17	0	0	5	0
Lane Group Flow (vph)	0	615	0	0	1666	0	0	8	0	205	199	0
Heavy Vehicles (%)	9%	2%	0%	0%	2%	2%	0%	0%	0%	4%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		48.7			36.6			2.2		14.4	14.4	
Effective Green, g (s)		48.7			36.6			2.2		14.4	14.4	
Actuated g/C Ratio		0.60			0.45			0.03		0.18	0.18	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1369			1418			46		292	290	
v/s Ratio Prot		c0.03						c0.00		c0.12	0.12	
v/s Ratio Perm		0.24			c0.53							
v/c Ratio		0.45			1.18			0.18		0.70	0.69	
Uniform Delay, d1		8.9			22.3			38.7		31.4	31.3	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.2			86.5			0.7		6.1	5.3	
Delay (s)		9.2			108.9			39.4		37.5	36.6	
Level of Service		A			F			D		D	D	
Approach Delay (s)		9.2			108.9			39.4			37.1	
Approach LOS		A			F			D			D	

Intersection Summary

HCM 2000 Control Delay	75.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	81.3	Sum of lost time (s)	26.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1148	1410	258	0	323
Future Volume (Veh/h)	0	1148	1410	258	0	323
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1248	1533	280	0	351
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1533				2297	906
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1533				2297	906
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	0
cM capacity (veh/h)	430				33	279

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	624	624	1022	791	351
Volume Left	0	0	0	0	0
Volume Right	0	0	0	280	351
cSH	1700	1700	1700	1700	279
Volume to Capacity	0.37	0.37	0.60	0.47	1.26
Queue Length 95th (ft)	0	0	0	0	421
Control Delay (s)	0.0	0.0	0.0	0.0	179.8
Lane LOS					F
Approach Delay (s)	0.0		0.0		179.8
Approach LOS					F

Intersection Summary			
Average Delay	18.5		
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1148	1639	18	0	29
Future Volume (Veh/h)	0	1148	1639	18	0	29
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1248	1782	20	0	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			723			
pX, platoon unblocked	0.60				0.60	0.60
vC, conflicting volume	1782				2416	901
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	954				2019	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	434				31	645

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	624	624	1188	614	32
Volume Left	0	0	0	0	0
Volume Right	0	0	0	20	32
cSH	1700	1700	1700	1700	645
Volume to Capacity	0.37	0.37	0.70	0.36	0.05
Queue Length 95th (ft)	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	10.9
Lane LOS					B
Approach Delay (s)	0.0		0.0		10.9
Approach LOS					B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	68	0	1	103	6	0	0	1	3	0	0
Future Volume (Veh/h)	2	68	0	1	103	6	0	0	1	3	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	74	0	1	112	7	0	0	1	3	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	70	7	0	44	6	0	0			1		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	70	7	0	44	6	0	0			1		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	92	100	100	87	99	100			100		
cM capacity (veh/h)	832	891	1091	902	891	1090	1636			1635		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	76	120	1	3
Volume Left	2	1	0	3
Volume Right	0	7	1	0
cSH	889	901	1636	1635
Volume to Capacity	0.09	0.13	0.00	0.00
Queue Length 95th (ft)	7	11	0	0
Control Delay (s)	9.4	9.6	0.0	7.2
Lane LOS	A	A		A
Approach Delay (s)	9.4	9.6	0.0	7.2
Approach LOS	A	A		

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	16.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	18	1	0	20	2
Future Volume (Veh/h)	0	18	1	0	20	2
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	20	1	0	22	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	47	1			1	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	47	1			1	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			99	
cM capacity (veh/h)	950	1084			1622	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	1	24
Volume Left	0	0	22
Volume Right	20	0	0
cSH	1084	1700	1622
Volume to Capacity	0.02	0.00	0.01
Queue Length 95th (ft)	1	0	1
Control Delay (s)	8.4	0.0	6.7
Lane LOS	A		A
Approach Delay (s)	8.4	0.0	6.7
Approach LOS	A		

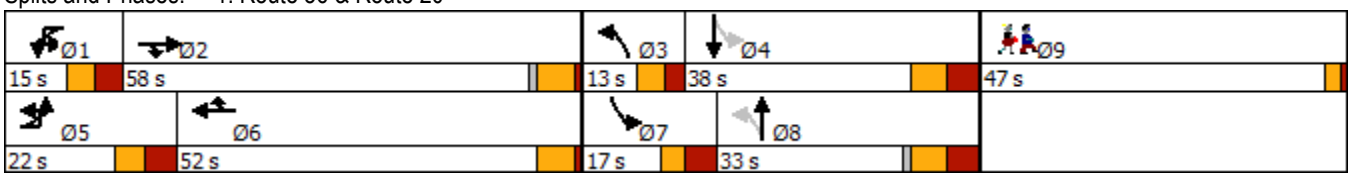
Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	57	1154	94	49	980	151	131	202	122	206	
Future Volume (vph)	57	1154	94	49	980	151	131	202	122	206	
Turn Type	Prot	NA	Prot	Prot	NA	Prot	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2	1	6	6	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2	1	6	6	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0	16.0	14.0	16.0	16.0	13.0	16.0	14.0	16.0	47.0
Total Split (s)	22.0	58.0	58.0	15.0	52.0	52.0	13.0	33.0	17.0	38.0	47.0
Total Split (%)	12.8%	33.7%	33.7%	8.7%	30.2%	30.2%	7.6%	19.2%	9.9%	22.1%	27%
Yellow Time (s)	4.0	5.0	5.0	3.5	5.0	5.0	3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0	1.0	3.5	1.0	1.0	2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0	6.0	7.0	6.0	6.0	6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	9.9	52.0	52.0	8.0	52.1	52.1	34.4	24.4	40.4	28.4	
Actuated g/C Ratio	0.08	0.42	0.42	0.06	0.42	0.42	0.28	0.20	0.33	0.23	
v/c Ratio	0.46	0.87	0.14	2.40	0.74	0.23	0.49	0.80	0.48	0.68	
Control Delay	64.6	40.5	1.8	687.3	35.2	6.9	36.0	65.5	34.8	53.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	64.6	40.5	1.8	687.3	35.2	6.9	36.0	65.5	34.8	53.0	
LOS	E	D	A	F	D	A	D	E	C	D	
Approach Delay		38.8			146.7			55.6		47.1	
Approach LOS		D			F			E		D	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 123.4
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.40
Intersection Signal Delay: 84.6 Intersection LOS: F
Intersection Capacity Utilization 90.2% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	1254	102	262	1065	164	142	280	133	276
v/c Ratio	0.46	0.87	0.14	2.40	0.74	0.23	0.49	0.80	0.48	0.68
Control Delay	64.6	40.5	1.8	687.3	35.2	6.9	36.0	65.5	34.8	53.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.6	40.5	1.8	687.3	35.2	6.9	36.0	65.5	34.8	53.0
Queue Length 50th (ft)	48	470	0	~343	383	12	78	215	74	202
Queue Length 95th (ft)	93	580	15	#519	499	59	130	#347	125	301
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	190	1469	720	109	1444	704	292	357	275	414
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.85	0.14	2.40	0.74	0.23	0.49	0.78	0.48	0.67

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	57	1154	94	192	49	980	151	131	202	55	122	206
Future Volume (vph)	57	1154	94	192	49	980	151	131	202	55	122	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.97		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1685	3421	1492		1685	3421	1478	1728	1764		1711	1764
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.48	1.00		0.31	1.00
Satd. Flow (perm)	1685	3421	1492		1685	3421	1478	875	1764		554	1764
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	1254	102	209	53	1065	164	142	220	60	133	224
RTOR Reduction (vph)	0	0	58	0	0	0	82	0	0	0	0	0
Lane Group Flow (vph)	62	1254	44	0	262	1065	82	142	280	0	133	276
Heavy Vehicles (%)	0%	2%	1%	0%	0%	2%	2%	1%	1%	0%	2%	1%
Turn Type	Prot	NA	Prot	Prot	Prot	NA	Prot	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2	1	1	6	6	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	8.5	53.6	53.6		8.0	52.1	52.1	31.4	24.4		38.4	28.4
Effective Green, g (s)	8.5	53.6	53.6		8.0	52.1	52.1	31.4	24.4		38.4	28.4
Actuated g/C Ratio	0.07	0.43	0.43		0.06	0.42	0.42	0.25	0.20		0.31	0.23
Clearance Time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	114	1466	639		107	1425	616	267	344		262	400
v/s Ratio Prot	0.04	c0.37	0.03		c0.16	0.31	0.06	0.03	c0.16		c0.04	c0.16
v/s Ratio Perm								0.10			0.12	
v/c Ratio	0.54	0.86	0.07		2.45	0.75	0.13	0.53	0.81		0.51	0.69
Uniform Delay, d1	56.4	32.2	21.0		58.5	30.9	22.5	39.0	48.1		33.4	44.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.2	5.1	0.0		679.2	2.2	0.1	2.0	13.7		1.5	4.9
Delay (s)	61.6	37.3	21.1		737.7	33.1	22.6	41.0	61.8		34.9	49.2
Level of Service	E	D	C		F	C	C	D	E		C	D
Approach Delay (s)		37.2				155.7			54.8			44.5
Approach LOS		D				F			D			D

Intersection Summary

HCM 2000 Control Delay	87.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	33.0
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	48
Future Volume (vph)	48
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	52
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1530	1336	55	0	33
Future Volume (Veh/h)	0	1530	1336	55	0	33
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1663	1452	60	0	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.66	
vC, conflicting volume	1512				2314	756
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1512				1966	756
tC, single (s)	4.2				6.9	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	100				100	90
cM capacity (veh/h)	429				34	355

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	832	832	968	544	36
Volume Left	0	0	0	0	0
Volume Right	0	0	0	60	36
cSH	1700	1700	1700	1700	355
Volume to Capacity	0.49	0.49	0.57	0.32	0.10
Queue Length 95th (ft)	0	0	0	0	8
Control Delay (s)	0.0	0.0	0.0	0.0	16.3
Lane LOS					C
Approach Delay (s)	0.0		0.0		16.3
Approach LOS					C

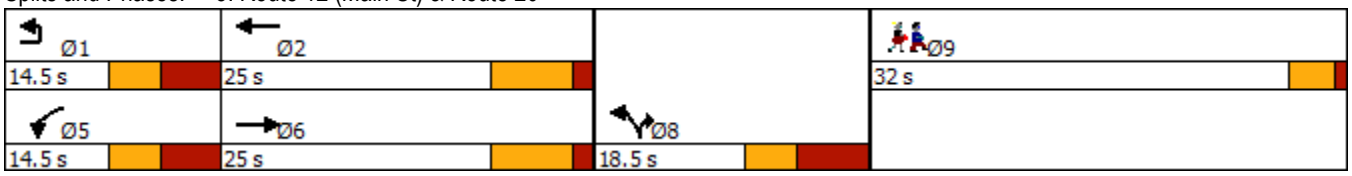
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	199	1225	449	1104	104	373	
Future Volume (vph)	199	1225	449	1104	104	373	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	14.5	25.0	14.5	25.0	18.5	18.5	32.0
Total Split (%)	16.1%	27.8%	16.1%	27.8%	20.6%	20.6%	36%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.0	18.0	7.0	18.0	10.0	10.0	
Actuated g/C Ratio	0.12	0.31	0.12	0.31	0.17	0.17	
v/c Ratio	1.03	1.34	1.17	1.09	0.78	0.53	
Control Delay	101.3	180.1	126.4	79.0	36.2	8.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	101.3	180.1	126.4	79.0	36.2	8.2	
LOS	F	F	F	E	D	A	
Approach Delay		169.7		92.7	22.7		
Approach LOS		F		F	C		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 58
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.34
Intersection Signal Delay: 115.9 Intersection LOS: F
Intersection Capacity Utilization 81.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	216	1412	488	1200	267	251
v/c Ratio	1.03	1.34	1.17	1.09	0.78	0.53
Control Delay	101.3	180.1	126.4	79.0	36.2	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.3	180.1	126.4	79.0	36.2	8.2
Queue Length 50th (ft)	~79	~353	~107	~257	68	0
Queue Length 95th (ft)	#195	#474	#188	#369	#177	54
Internal Link Dist (ft)		640		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	210	1057	418	1098	343	472
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.03	1.34	1.17	1.09	0.78	0.53

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	199	1225	74	449	1104	104	373
Future Volume (vph)	199	1225	74	449	1104	104	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12
Total Lost time (s)	7.5	7.0		7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95		0.97	0.95	1.00	0.95
Frt	1.00	0.99		1.00	1.00	0.91	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	1745	3392		3467	3539	1700	1534
Flt Permitted	0.95	1.00		0.95	1.00	0.98	1.00
Satd. Flow (perm)	1745	3392		3467	3539	1700	1534
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	216	1332	80	488	1200	113	405
RTOR Reduction (vph)	0	4	0	0	0	50	208
Lane Group Flow (vph)	216	1408	0	488	1200	217	43
Heavy Vehicles (%)	0%	2%	2%	1%	2%	0%	0%
Turn Type	Prot	NA		Prot	NA	Prot	Prot
Protected Phases	1	6		5	2	8	8
Permitted Phases							
Actuated Green, G (s)	7.0	18.0		7.0	18.0	10.0	10.0
Effective Green, g (s)	7.0	18.0		7.0	18.0	10.0	10.0
Actuated g/C Ratio	0.12	0.31		0.12	0.31	0.17	0.17
Clearance Time (s)	7.5	7.0		7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	210	1052		418	1098	293	264
v/s Ratio Prot	0.12	c0.42		c0.14	0.34	c0.13	0.03
v/s Ratio Perm							
v/c Ratio	1.03	1.34		1.17	1.09	0.74	0.16
Uniform Delay, d1	25.5	20.0		25.5	20.0	22.8	20.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	69.7	158.7		98.4	56.2	9.4	0.3
Delay (s)	95.2	178.7		123.9	76.2	32.1	20.7
Level of Service	F	F		F	E	C	C
Approach Delay (s)		167.6			89.9	26.6	
Approach LOS		F			F	C	

Intersection Summary

HCM 2000 Control Delay	114.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

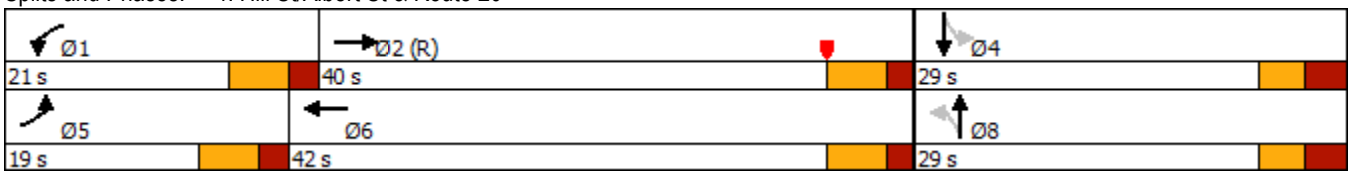
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	11	1606	19	1617	12	0	97	1
Future Volume (vph)	11	1606	19	1617	12	0	97	1
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	19.0	40.0	21.0	42.0	29.0	29.0	29.0	29.0
Total Split (%)	21.1%	44.4%	23.3%	46.7%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.1	65.2	6.3	67.8	11.3	11.3	11.3	11.3
Actuated g/C Ratio	0.07	0.72	0.07	0.75	0.13	0.13	0.13	0.13
v/c Ratio	0.10	0.69	0.17	0.69	0.07	0.04	0.61	0.04
Control Delay	41.3	13.2	29.2	13.5	32.9	0.2	51.4	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	13.2	29.2	13.5	32.9	0.2	51.4	19.7
LOS	D	B	C	B	C	A	D	B
Approach Delay		13.4		13.6		13.1		49.1
Approach LOS		B		B		B		D

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 53 (59%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 14.6 Intersection LOS: B
Intersection Capacity Utilization 69.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	1761	21	1846	13	20	105	8
v/c Ratio	0.10	0.69	0.17	0.69	0.07	0.04	0.61	0.04
Control Delay	41.3	13.2	29.2	13.5	32.9	0.2	51.4	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	13.2	29.2	13.5	32.9	0.2	51.4	19.7
Queue Length 50th (ft)	7	222	10	378	7	0	57	1
Queue Length 95th (ft)	24	#652	m12	m410	22	0	104	12
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	260	2561	300	2665	365	615	350	427
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.69	0.07	0.69	0.04	0.03	0.30	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1606	14	19	1617	81	12	0	18	97	1	6
Future Volume (vph)	11	1606	14	19	1617	81	12	0	18	97	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3535		1805	3535		1805	1524		1752	1651	
Flt Permitted	0.95	1.00		0.95	1.00		0.75	1.00		0.74	1.00	
Satd. Flow (perm)	1805	3535		1805	3535		1430	1524		1373	1651	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	1746	15	21	1758	88	13	0	20	105	1	7
RTOR Reduction (vph)	0	0	0	0	2	0	0	18	0	0	6	0
Lane Group Flow (vph)	12	1761	0	21	1844	0	13	2	0	105	2	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	9%	0%	0%	6%	3%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.3	59.2		2.7	60.6		10.1	10.1		10.1	10.1	
Effective Green, g (s)	1.3	59.2		2.7	60.6		10.1	10.1		10.1	10.1	
Actuated g/C Ratio	0.01	0.66		0.03	0.67		0.11	0.11		0.11	0.11	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	26	2325		54	2380		160	171		154	185	
v/s Ratio Prot	0.01	0.50		c0.01	c0.52			0.00			0.00	
v/s Ratio Perm							0.01			c0.08		
v/c Ratio	0.46	0.76		0.39	0.77		0.08	0.01		0.68	0.01	
Uniform Delay, d1	44.0	10.5		42.8	10.0		35.8	35.5		38.4	35.5	
Progression Factor	1.00	1.00		0.71	1.36		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	2.4		0.7	1.1		0.1	0.0		9.5	0.0	
Delay (s)	48.7	12.9		31.0	14.7		35.9	35.5		47.9	35.5	
Level of Service	D	B		C	B		D	D		D	D	
Approach Delay (s)		13.1			14.9			35.7			47.0	
Approach LOS		B			B			D			D	

Intersection Summary

HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

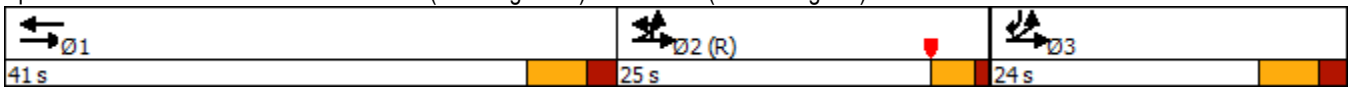
c Critical Lane Group

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	45	593	1161	1053	21	585
Future Volume (vph)	45	593	1161	1053	21	585
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	25.0			41.0		24.0
Total Split (%)	27.8%			45.6%		26.7%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	21.0	45.0	90.0	35.0	90.0	18.0
Actuated g/C Ratio	0.23	0.50	1.00	0.39	1.00	0.20
v/c Ratio	0.12	0.37	0.35	0.82	0.01	1.14
Control Delay	21.4	18.8	0.2	30.9	0.0	118.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	18.8	0.2	30.9	0.0	118.4
LOS	C	B	A	C	A	F
Approach Delay			6.9	30.3		
Approach LOS			A	C		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 33.0 Intersection LOS: C
Intersection Capacity Utilization 71.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	49	645	1262	1145	23	636
v/c Ratio	0.12	0.37	0.35	0.82	0.01	1.14
Control Delay	21.4	18.8	0.2	30.9	0.0	118.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	18.8	0.2	30.9	0.0	118.4
Queue Length 50th (ft)	24	144	0	302	0	~242
Queue Length 95th (ft)	m30	234	0	387	0	#359
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	421	1733	3574	1389	1538	557
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.37	0.35	0.82	0.01	1.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	45	593	1161	1053	21	0	585
Future Volume (vph)	45	593	1161	1053	21	0	585
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1805	3467	3574	3574	1538		2787
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1805	3467	3574	3574	1538		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	645	1262	1145	23	0	636
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	49	645	1262	1145	23	0	636
Heavy Vehicles (%)	0%	1%	1%	1%	5%	2%	2%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	21.0	43.0	90.0	35.0	90.0		18.0
Effective Green, g (s)	21.0	43.0	86.0	35.0	90.0		18.0
Actuated g/C Ratio	0.23	0.48	0.96	0.39	1.00		0.20
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	421	1656	3415	1389	1538		557
v/s Ratio Prot	0.03	c0.19	0.35	c0.32			c0.23
v/s Ratio Perm					0.01		
v/c Ratio	0.12	0.39	0.37	0.82	0.01		1.14
Uniform Delay, d1	27.2	15.1	0.1	24.7	0.0		36.0
Progression Factor	0.76	1.31	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.4	0.0	0.0	5.7	0.0		83.7
Delay (s)	21.0	19.7	0.2	30.4	0.0		119.7
Level of Service	C	B	A	C	A		F
Approach Delay (s)			7.1	29.8		119.7	
Approach LOS			A	C		F	

Intersection Summary

HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

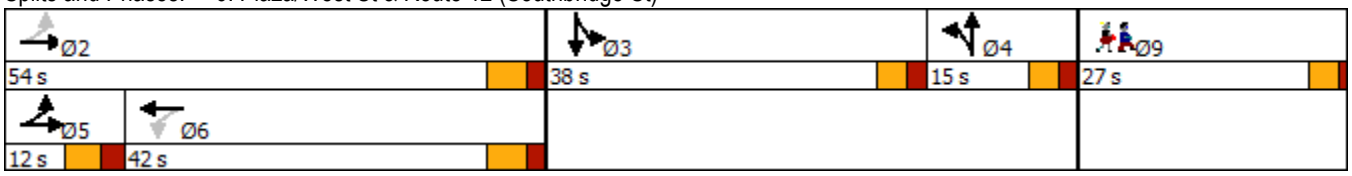
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	39	568	21	711	4	354	2		
Future Volume (vph)	39	568	21	711	4	354	2		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		48.6		36.4	5.9	15.1	15.1		
Actuated g/C Ratio		0.58		0.44	0.07	0.18	0.18		
v/c Ratio		0.41		0.84	0.34	0.70	0.69		
Control Delay		11.5		28.3	24.8	45.5	43.1		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		11.5		28.3	24.8	45.5	43.1		
LOS		B		C	C	D	D		
Approach Delay		11.5		28.3	24.8		44.3		
Approach LOS		B		C	C		D		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 83.3
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 26.4 Intersection LOS: C
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	667	1183	51	216	213
v/c Ratio	0.41	0.84	0.34	0.70	0.69
Control Delay	11.5	28.3	24.8	45.5	43.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	28.3	24.8	45.5	43.1
Queue Length 50th (ft)	90	275	7	114	107
Queue Length 95th (ft)	163	#494	43	197	189
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	1615	1415	234	680	675
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.84	0.22	0.32	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	568	7	21	711	356	9	4	34	354	2	39
Future Volume (vph)	39	568	7	21	711	356	9	4	34	354	2	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.95			0.90		1.00	0.97	
Flt Protected		1.00			1.00			0.99		0.95	0.96	
Satd. Flow (prot)		3559			3385			1661		1698	1672	
Flt Permitted		0.74			0.93			0.99		0.95	0.96	
Satd. Flow (perm)		2655			3159			1661		1698	1672	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	617	8	23	773	387	10	4	37	385	2	42
RTOR Reduction (vph)	0	0	0	0	34	0	0	35	0	0	7	0
Lane Group Flow (vph)	0	667	0	0	1149	0	0	16	0	216	206	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	3%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		48.6			36.5			4.7		15.1	15.1	
Effective Green, g (s)		48.6			36.5			4.7		15.1	15.1	
Actuated g/C Ratio		0.58			0.43			0.06		0.18	0.18	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1594			1366			92		303	299	
v/s Ratio Prot		c0.03						c0.01		c0.13	0.12	
v/s Ratio Perm		0.21			c0.36							
v/c Ratio		0.42			0.84			0.17		0.71	0.69	
Uniform Delay, d1		10.0			21.4			38.0		32.6	32.4	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.2			4.9			0.3		6.5	5.2	
Delay (s)		10.2			26.2			38.3		39.1	37.6	
Level of Service		B			C			D		D	D	
Approach Delay (s)		10.2			26.2			38.3			38.3	
Approach LOS		B			C			D			D	

Intersection Summary

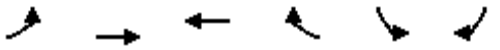
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	84.4	Sum of lost time (s)	26.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Volume (veh/h)	0	1498	1056	343	0	332
Future Volume (Veh/h)	0	1498	1056	343	0	332
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1628	1148	373	0	361
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1148				2148	760
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1148				2148	760
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	0
cM capacity (veh/h)	616				42	353

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	814	814	765	756	361
Volume Left	0	0	0	0	0
Volume Right	0	0	0	373	361
cSH	1700	1700	1700	1700	353
Volume to Capacity	0.48	0.48	0.45	0.44	1.02
Queue Length 95th (ft)	0	0	0	0	304
Control Delay (s)	0.0	0.0	0.0	0.0	89.3
Lane LOS					F
Approach Delay (s)	0.0		0.0		89.3
Approach LOS					F

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1498	1395	12	0	4
Future Volume (Veh/h)	0	1498	1395	12	0	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1628	1516	13	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			720			
pX, platoon unblocked	0.70				0.70	0.70
vC, conflicting volume	1516				2336	764
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	894				2059	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	541				34	769

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	814	814	1011	518	4
Volume Left	0	0	0	0	0
Volume Right	0	0	0	13	4
cSH	1700	1700	1700	1700	769
Volume to Capacity	0.48	0.48	0.59	0.30	0.01
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	9.7
Lane LOS					A
Approach Delay (s)	0.0		0.0		9.7
Approach LOS					A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	67	0	2	69	5	0	1	1	4	0	0
Future Volume (Veh/h)	0	67	0	2	69	5	0	1	1	4	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	73	0	2	75	5	0	1	1	4	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	52	10	0	46	10	2	0			2		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	52	10	0	46	10	2	0			2		
tC, single (s)	7.1	6.5	6.2	7.6	6.5	6.2	4.1			4.3		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	4.0	4.0	3.3	2.2			2.4		
p0 queue free %	100	92	100	100	92	100	100			100		
cM capacity (veh/h)	884	882	1091	793	883	1089	1636			1482		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	73	82	2	4
Volume Left	0	2	0	4
Volume Right	0	5	1	0
cSH	882	891	1636	1482
Volume to Capacity	0.08	0.09	0.00	0.00
Queue Length 95th (ft)	7	8	0	0
Control Delay (s)	9.4	9.5	0.0	7.4
Lane LOS	A	A		A
Approach Delay (s)	9.4	9.5	0.0	7.4
Approach LOS	A	A		

Intersection Summary				
Average Delay	9.3			
Intersection Capacity Utilization	15.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	20	2	0	22	1
Future Volume (Veh/h)	0	20	2	0	22	1
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	22	2	0	24	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	51	2			2	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	51	2			2	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			99	
cM capacity (veh/h)	949	1082			1634	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	22	2	25
Volume Left	0	0	24
Volume Right	22	0	0
cSH	1082	1700	1634
Volume to Capacity	0.02	0.00	0.01
Queue Length 95th (ft)	2	0	1
Control Delay (s)	8.4	0.0	7.0
Lane LOS	A		A
Approach Delay (s)	8.4	0.0	7.0
Approach LOS	A		

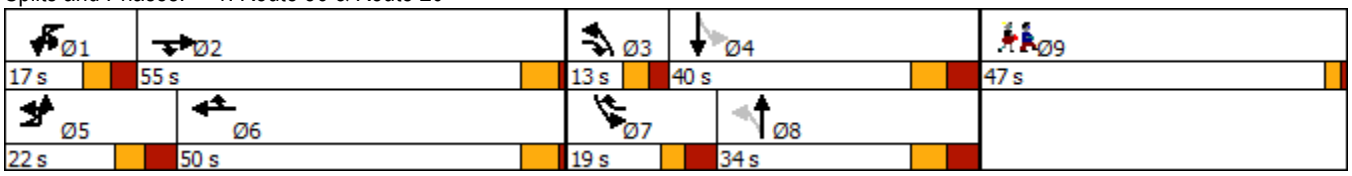
Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	40	1044	69	25	581	76	76	187	161	220	
Future Volume (vph)	40	1044	69	25	581	76	76	187	161	220	
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2 3	1	6	6 7	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2 3	1	6	6 7	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0		14.0	16.0		13.0	16.0	14.0	16.0	47.0
Total Split (s)	22.0	55.0		17.0	50.0		13.0	34.0	19.0	40.0	47.0
Total Split (%)	12.8%	32.0%		9.9%	29.1%		7.6%	19.8%	11.0%	23.3%	27%
Yellow Time (s)	4.0	5.0		3.5	5.0		3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0		3.5	1.0		2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0		7.0	6.0		6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None
Act Effct Green (s)	9.2	49.2	62.2	9.0	48.2	67.3	35.1	25.1	45.2	31.1	
Actuated g/C Ratio	0.08	0.41	0.51	0.07	0.40	0.55	0.29	0.21	0.37	0.26	
v/c Ratio	0.39	0.83	0.10	0.47	0.51	0.11	0.28	0.74	0.58	0.74	
Control Delay	65.0	39.3	1.8	68.2	30.4	2.2	28.8	60.1	36.2	54.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.0	39.3	1.8	68.2	30.4	2.2	28.8	60.1	36.2	54.4	
LOS	E	D	A	E	C	A	C	E	D	D	
Approach Delay		38.0			30.2			52.5		47.8	
Approach LOS		D			C			D		D	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 121.3
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 39.3 Intersection LOS: D
Intersection Capacity Utilization 80.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	1135	75	57	632	83	83	260	175	307
v/c Ratio	0.39	0.83	0.10	0.47	0.51	0.11	0.28	0.74	0.58	0.74
Control Delay	65.0	39.3	1.8	68.2	30.4	2.2	28.8	60.1	36.2	54.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.0	39.3	1.8	68.2	30.4	2.2	28.8	60.1	36.2	54.4
Queue Length 50th (ft)	34	436	0	45	203	0	44	200	100	231
Queue Length 95th (ft)	72	532	14	91	273	18	81	#323	161	#362
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	168	1373	727	135	1239	730	295	351	303	415
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.83	0.10	0.42	0.51	0.11	0.28	0.74	0.58	0.74

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	40	1044	69	28	25	581	76	76	187	52	161	220
Future Volume (vph)	40	1044	69	28	25	581	76	76	187	52	161	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.97		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1452	3388	1322		1631	3116	1236	1678	1699		1544	1621
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.48	1.00		0.34	1.00
Satd. Flow (perm)	1452	3388	1322		1631	3116	1236	856	1699		550	1621
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	1135	75	30	27	632	83	83	203	57	175	239
RTOR Reduction (vph)	0	0	37	0	0	0	38	0	0	0	0	0
Lane Group Flow (vph)	43	1135	38	0	57	632	45	83	260	0	175	307
Heavy Vehicles (%)	16%	3%	14%	0%	7%	12%	22%	4%	5%	3%	13%	8%
Turn Type	Prot	NA	pt+ov	Prot	Prot	NA	pt+ov	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2 3	1	1	6	6 7	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	7.6	49.3	62.3		7.5	48.2	66.2	32.1	25.1		43.1	31.1
Effective Green, g (s)	7.6	49.3	62.3		7.5	48.2	66.2	32.1	25.1		43.1	31.1
Actuated g/C Ratio	0.06	0.40	0.51		0.06	0.39	0.54	0.26	0.20		0.35	0.25
Clearance Time (s)	8.0	6.0			7.0	6.0		6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	89	1359	670		99	1222	665	270	346		289	410
v/s Ratio Prot	0.03	c0.34	0.03		c0.03	0.20	0.04	0.02	0.15		c0.06	c0.19
v/s Ratio Perm								0.06			0.15	
v/c Ratio	0.48	0.84	0.06		0.58	0.52	0.07	0.31	0.75		0.61	0.75
Uniform Delay, d1	55.8	33.1	15.4		56.2	28.5	13.6	35.4	46.0		30.1	42.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.1	4.6	0.0		7.9	0.4	0.0	0.6	8.9		3.6	7.3
Delay (s)	59.8	37.7	15.4		64.0	28.8	13.6	36.0	54.9		33.7	49.6
Level of Service	E	D	B		E	C	B	D	D		C	D
Approach Delay (s)		37.2				29.8			50.3			43.8
Approach LOS		D				C			D			D

Intersection Summary

HCM 2000 Control Delay	37.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	122.9	Sum of lost time (s)	33.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



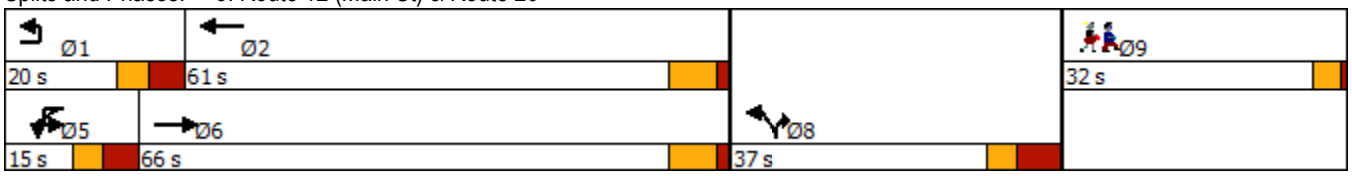
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	63
Future Volume (vph)	63
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	68
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	15%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	6	1171	100	697	68	291	
Future Volume (vph)	6	1171	100	697	68	291	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	20.0	66.0	15.0	61.0	37.0	37.0	32.0
Total Split (%)	13.3%	44.0%	10.0%	40.7%	24.7%	24.7%	21%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.1	54.6	7.6	67.1	15.5	15.5	
Actuated g/C Ratio	0.07	0.54	0.08	0.67	0.15	0.15	
v/c Ratio	0.06	0.73	0.54	0.35	0.71	0.49	
Control Delay	49.3	21.0	55.7	9.3	44.8	10.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	49.3	21.0	55.7	9.3	44.8	10.3	
LOS	D	C	E	A	D	B	
Approach Delay		21.1		16.2	28.0		
Approach LOS		C		B	C		

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 100.9
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 20.5
Intersection LOS: C
Intersection Capacity Utilization 70.6%
ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	7	1315	132	758	200	190
v/c Ratio	0.06	0.73	0.54	0.35	0.71	0.49
Control Delay	49.3	21.0	55.7	9.3	44.8	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	21.0	55.7	9.3	44.8	10.3
Queue Length 50th (ft)	4	317	42	90	92	0
Queue Length 95th (ft)	20	464	81	217	176	63
Internal Link Dist (ft)		640		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	218	1959	246	2163	479	551
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.67	0.54	0.35	0.42	0.34

Intersection Summary

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	6	1171	39	21	100	697	68	291
Future Volume (vph)	6	1171	39	21	100	697	68	291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12
Total Lost time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95			0.97	0.95	1.00	0.95
Frt	1.00	1.00			1.00	1.00	0.91	0.85
Flt Protected	0.95	1.00			0.95	1.00	0.98	1.00
Satd. Flow (prot)	1745	3326			3285	3252	1559	1461
Flt Permitted	0.95	1.00			0.95	1.00	0.98	1.00
Satd. Flow (perm)	1745	3326			3285	3252	1559	1461
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	1273	42	23	109	758	74	316
RTOR Reduction (vph)	0	1	0	0	0	0	43	162
Lane Group Flow (vph)	7	1314	0	0	132	758	157	28
Heavy Vehicles (%)	0%	4%	17%	0%	8%	11%	14%	5%
Turn Type	Prot	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	1	6		5	5	2	8	8
Permitted Phases								
Actuated Green, G (s)	1.3	60.8			7.6	67.1	15.5	15.5
Effective Green, g (s)	1.3	60.8			7.6	67.1	15.5	15.5
Actuated g/C Ratio	0.01	0.57			0.07	0.63	0.14	0.14
Clearance Time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	21	1891			233	2041	226	211
v/s Ratio Prot	0.00	c0.39			c0.04	c0.23	c0.10	0.02
v/s Ratio Perm								
v/c Ratio	0.33	0.69			0.57	0.37	0.70	0.13
Uniform Delay, d1	52.4	16.4			48.1	9.7	43.5	39.8
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	9.1	1.1			3.1	0.1	9.0	0.3
Delay (s)	61.5	17.6			51.2	9.8	52.4	40.1
Level of Service	E	B			D	A	D	D
Approach Delay (s)		17.8				15.9	46.4	
Approach LOS		B				B	D	

Intersection Summary

HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	106.9	Sum of lost time (s)	27.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

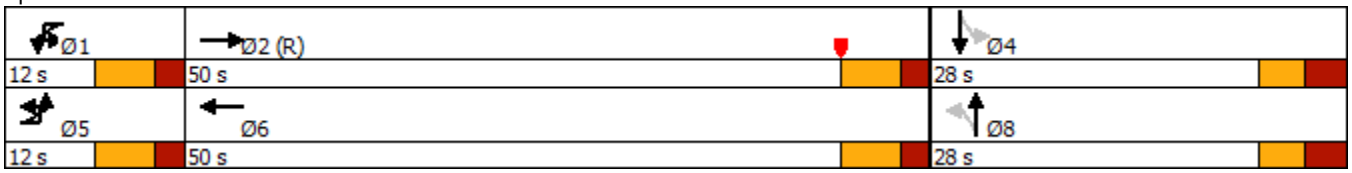
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	14	1434	4	798	8	1	101	0
Future Volume (vph)	14	1434	4	798	8	1	101	0
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	12.0	50.0	12.0	50.0	28.0	28.0	28.0	28.0
Total Split (%)	13.3%	55.6%	13.3%	55.6%	31.1%	31.1%	31.1%	31.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.5	63.6	6.6	63.6	12.7	12.7	12.7	12.7
Actuated g/C Ratio	0.07	0.71	0.07	0.71	0.14	0.14	0.14	0.14
v/c Ratio	0.22	0.65	0.22	0.41	0.04	0.07	0.66	0.03
Control Delay	43.0	13.6	53.3	3.4	30.5	15.2	54.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	13.6	53.3	3.4	30.5	15.2	54.2	0.2
LOS	D	B	D	A	C	B	D	A
Approach Delay		14.1		4.8		20.5		49.3
Approach LOS		B		A		C		D

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 84 (93%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 12.5 Intersection LOS: B
Intersection Capacity Utilization 62.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	1568	27	931	9	17	110	11
v/c Ratio	0.22	0.65	0.22	0.41	0.04	0.07	0.66	0.03
Control Delay	43.0	13.6	53.3	3.4	30.5	15.2	54.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	13.6	53.3	3.4	30.5	15.2	54.2	0.2
Queue Length 50th (ft)	15	197	17	32	4	1	60	0
Queue Length 95th (ft)	41	#583	m34	39	17	18	107	0
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	130	2426	123	2270	348	388	288	475
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.65	0.22	0.41	0.03	0.04	0.38	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	14	1434	8	21	4	798	59	8	1	15	101
Future Volume (vph)	12	14	1434	8	21	4	798	59	8	1	15	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Lane Util. Factor		1.00	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	1.00			1.00	0.99		1.00	0.86		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1805	3436			1681	3206		1805	1541		1504
Flt Permitted		0.95	1.00			0.95	1.00		0.75	1.00		0.75
Satd. Flow (perm)		1805	3436			1681	3206		1426	1541		1182
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	15	1559	9	23	4	867	64	9	1	16	110
RTOR Reduction (vph)	0	0	0	0	0	0	4	0	0	14	0	0
Lane Group Flow (vph)	0	28	1568	0	0	27	927	0	9	3	0	110
Confl. Peds. (#/hr)				2		2						
Heavy Vehicles (%)	0%	0%	5%	0%	0%	50%	12%	4%	0%	100%	0%	20%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Perm	NA		Perm
Protected Phases	5	5	2		1	1	6			8		
Permitted Phases									8			4
Actuated Green, G (s)		2.9	57.5			3.0	57.6		11.5	11.5		11.5
Effective Green, g (s)		2.9	57.5			3.0	57.6		11.5	11.5		11.5
Actuated g/C Ratio		0.03	0.64			0.03	0.64		0.13	0.13		0.13
Clearance Time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Vehicle Extension (s)		2.0	2.0			2.0	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)		58	2195			56	2051		182	196		151
v/s Ratio Prot		0.02	c0.46			c0.02	0.29			0.00		
v/s Ratio Perm									0.01			c0.09
v/c Ratio		0.48	0.71			0.48	0.45		0.05	0.02		0.73
Uniform Delay, d1		42.8	10.8			42.7	8.2		34.5	34.3		37.7
Progression Factor		1.00	1.00			1.27	0.33		1.00	1.00		1.00
Incremental Delay, d2		2.3	2.0			2.1	0.6		0.0	0.0		13.8
Delay (s)		45.1	12.8			56.2	3.4		34.5	34.3		51.5
Level of Service		D	B			E	A		C	C		D
Approach Delay (s)			13.4				4.8			34.4		
Approach LOS			B				A			C		

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	10
Future Volume (vph)	0	10
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.85	
Flt Protected	1.00	
Satd. Flow (prot)	1346	
Flt Permitted	1.00	
Satd. Flow (perm)	1346	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	0	11
RTOR Reduction (vph)	10	0
Lane Group Flow (vph)	1	0
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	0%	20%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	11.5	
Effective Green, g (s)	11.5	
Actuated g/C Ratio	0.13	
Clearance Time (s)	6.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	171	
v/s Ratio Prot	0.00	
v/s Ratio Perm		
v/c Ratio	0.01	
Uniform Delay, d1	34.3	
Progression Factor	1.00	
Incremental Delay, d2	0.0	
Delay (s)	34.3	
Level of Service	C	
Approach Delay (s)	50.0	
Approach LOS	D	

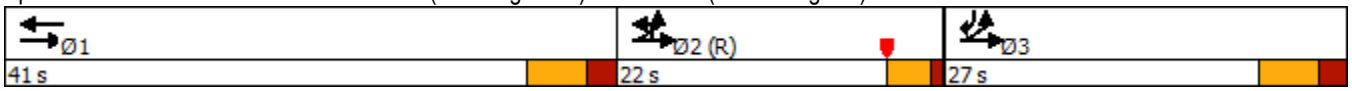
Intersection Summary

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	17	529	1003	598	15	297
Future Volume (vph)	17	529	1003	598	15	297
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	6.0			10.0		6.0
Minimum Split (s)	10.0			20.0		20.0
Total Split (s)	22.0			41.0		27.0
Total Split (%)	24.4%			45.6%		30.0%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	18.0	43.5	90.0	36.5	90.0	19.5
Actuated g/C Ratio	0.20	0.48	1.00	0.41	1.00	0.22
v/c Ratio	0.06	0.36	0.31	0.48	0.01	0.59
Control Delay	30.7	9.0	0.2	21.7	0.0	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	9.0	0.2	21.7	0.0	36.1
LOS	C	A	A	C	A	D
Approach Delay			3.5	21.2		
Approach LOS			A	C		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 11.9 Intersection LOS: B
Intersection Capacity Utilization 45.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	18	575	1090	650	16	323
v/c Ratio	0.06	0.36	0.31	0.48	0.01	0.59
Control Delay	30.7	9.0	0.2	21.7	0.0	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	9.0	0.2	21.7	0.0	36.1
Queue Length 50th (ft)	8	110	0	145	0	92
Queue Length 95th (ft)	m11	19	0	196	0	139
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	322	1651	3433	1344	1509	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.35	0.32	0.48	0.01	0.55

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	17	529	1003	598	15	0	297
Future Volume (vph)	17	529	1003	598	15	0	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1612	3303	3471	3312	1509		2538
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1612	3303	3471	3312	1509		2538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	575	1090	650	16	0	323
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	575	1090	650	16	0	323
Heavy Vehicles (%)	12%	6%	4%	9%	7%	0%	12%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	18.0	41.5	90.0	36.5	90.0		19.5
Effective Green, g (s)	18.0	41.5	86.0	36.5	90.0		19.5
Actuated g/C Ratio	0.20	0.46	0.96	0.41	1.00		0.22
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	322	1523	3316	1343	1509		549
v/s Ratio Prot	0.01	c0.17	0.31	c0.20			c0.13
v/s Ratio Perm					0.01		
v/c Ratio	0.06	0.38	0.33	0.48	0.01		0.59
Uniform Delay, d1	29.1	15.8	0.1	19.8	0.0		31.6
Progression Factor	1.03	0.59	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.3	0.0	0.0	1.3	0.0		1.0
Delay (s)	30.3	9.3	0.1	21.0	0.0		32.7
Level of Service	C	A	A	C	A		C
Approach Delay (s)			3.6	20.5		32.7	
Approach LOS			A	C		C	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

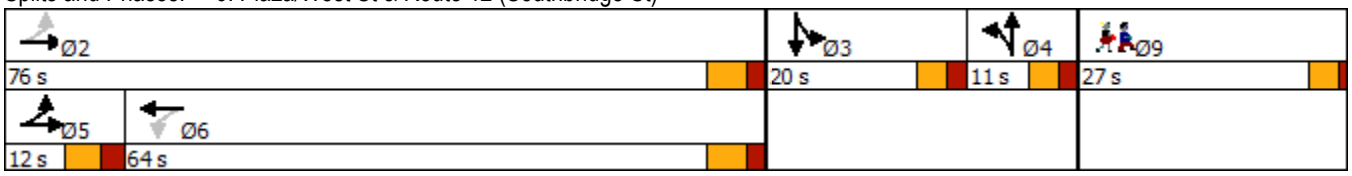
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	36	558	3	326	3	625	2		
Future Volume (vph)	36	558	3	326	3	625	2		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		64.0	64.0	11.0	20.0	20.0	76.0	27.0
Total Split (%)	9.0%		47.8%	47.8%	8.2%	14.9%	14.9%	57%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		31.6		18.4	5.6	16.4	16.4		
Actuated g/C Ratio		0.49		0.29	0.09	0.25	0.25		
v/c Ratio		0.46		0.73	0.05	0.87	0.85		
Control Delay		13.5		19.0	31.7	49.4	47.0		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		13.5		19.0	31.7	49.4	47.0		
LOS		B		B	C	D	D		
Approach Delay		13.5		19.0	31.7		48.2		
Approach LOS		B		B	C		D		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 64.4
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 27.3 Intersection LOS: C
Intersection Capacity Utilization 75.2% ICU Level of Service D
Analysis Period (min) 15

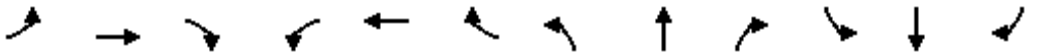
Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	646	717	6	360	350
v/c Ratio	0.46	0.73	0.05	0.87	0.85
Control Delay	13.5	19.0	31.7	49.4	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	19.0	31.7	49.4	47.0
Queue Length 50th (ft)	58	67	1	109	105
Queue Length 95th (ft)	220	224	16	#581	#569
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	2612	2604	157	415	413
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.25	0.28	0.04	0.87	0.85

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	558	0	3	326	331	0	3	3	625	2	27
Future Volume (vph)	36	558	0	3	326	331	0	3	3	625	2	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.92			0.93		1.00	0.99	
Flt Protected		1.00			1.00			1.00		0.95	0.96	
Satd. Flow (prot)		3384			2995			1521		1633	1616	
Flt Permitted		0.81			0.95			1.00		0.95	0.96	
Satd. Flow (perm)		2749			2851			1521		1633	1616	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	607	0	3	354	360	0	3	3	679	2	29
RTOR Reduction (vph)	0	0	0	0	176	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	646	0	0	541	0	0	3	0	360	348	0
Heavy Vehicles (%)	12%	6%	0%	0%	12%	11%	0%	0%	33%	5%	50%	8%
Turn Type	pm+pt	NA		Perm	NA			NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		31.5			18.9			0.7		16.4	16.4	
Effective Green, g (s)		31.5			18.9			0.7		16.4	16.4	
Actuated g/C Ratio		0.44			0.27			0.01		0.23	0.23	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1273			755			14		375	371	
v/s Ratio Prot		c0.05						c0.00		c0.22	0.22	
v/s Ratio Perm		0.18			c0.19							
v/c Ratio		0.51			0.72			0.22		0.96	0.94	
Uniform Delay, d1		14.3			23.8			35.0		27.1	26.9	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.3			3.2			2.8		35.4	30.5	
Delay (s)		14.6			27.0			37.8		62.5	57.4	
Level of Service		B			C			D		E	E	
Approach Delay (s)		14.6			27.0			37.8			60.0	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	71.3	Sum of lost time (s)	26.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

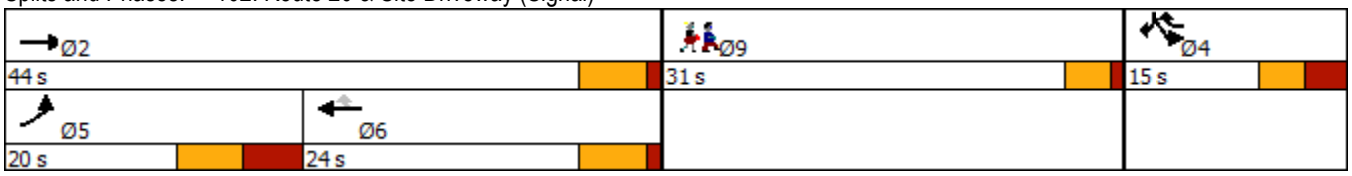
c Critical Lane Group

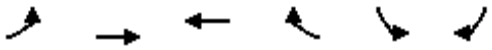
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	182	1036	570	111	180	103	
Future Volume (vph)	182	1036	570	111	180	103	
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot	
Protected Phases	5	2	6	4	4	4	9
Permitted Phases				6			
Detector Phase	5	2	6	4	4	4	
Switch Phase							
Minimum Initial (s)	7.0	10.0	10.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.5	15.5	15.5	13.0	13.0	13.0	31.0
Total Split (s)	20.0	44.0	24.0	15.0	15.0	15.0	31.0
Total Split (%)	22.2%	48.9%	26.7%	16.7%	16.7%	16.7%	34%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	1.0	1.0	3.0	3.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	5.5	5.5	6.0	6.0	6.0	
Lead/Lag	Lead		Lag				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	None	Min	Min	None	None	None	None
Act Effct Green (s)	11.2	36.8	17.1	31.7	9.0	9.0	
Actuated g/C Ratio	0.20	0.64	0.30	0.55	0.16	0.16	
v/c Ratio	0.57	0.51	0.64	0.13	0.71	0.45	
Control Delay	28.8	6.3	20.9	1.9	40.3	29.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	28.8	6.3	20.9	1.9	40.3	29.3	
LOS	C	A	C	A	D	C	
Approach Delay		9.7	17.8		36.3		
Approach LOS		A	B		D		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 57.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 15.7
Intersection LOS: B
Intersection Capacity Utilization 52.5%
ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 102: Route 20 & Site Driveway (Signal)





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	198	1126	620	121	196	112
v/c Ratio	0.57	0.51	0.64	0.13	0.71	0.45
Control Delay	28.8	6.3	20.9	1.9	40.3	29.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	6.3	20.9	1.9	40.3	29.3
Queue Length 50th (ft)	64	88	96	0	67	37
Queue Length 95th (ft)	122	124	144	17	#155	79
Internal Link Dist (ft)		1269	1551		642	
Turn Bay Length (ft)	475			300	200	
Base Capacity (vph)	355	2333	1050	927	278	248
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.48	0.59	0.13	0.71	0.45

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	182	1036	570	111	180	103
Future Volume (vph)	182	1036	570	111	180	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	5.5	5.5	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3471	3252	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3471	3252	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	198	1126	620	121	196	112
RTOR Reduction (vph)	0	0	0	66	0	0
Lane Group Flow (vph)	198	1126	620	55	196	112
Heavy Vehicles (%)	2%	4%	11%	2%	2%	2%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	5	2	6	4	4	4
Permitted Phases				6		
Actuated Green, G (s)	11.2	36.8	17.1	26.1	9.0	9.0
Effective Green, g (s)	11.2	36.8	17.1	26.1	9.0	9.0
Actuated g/C Ratio	0.20	0.64	0.30	0.46	0.16	0.16
Clearance Time (s)	8.5	5.5	5.5	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	345	2229	970	721	278	248
v/s Ratio Prot	0.11	c0.32	c0.19	0.01	c0.11	0.07
v/s Ratio Perm				0.02		
v/c Ratio	0.57	0.51	0.64	0.08	0.71	0.45
Uniform Delay, d1	20.9	5.4	17.4	8.8	22.9	21.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3	0.2	1.4	0.0	7.9	1.3
Delay (s)	23.2	5.6	18.8	8.8	30.8	23.2
Level of Service	C	A	B	A	C	C
Approach Delay (s)		8.2	17.2		28.0	
Approach LOS		A	B		C	

Intersection Summary

HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	57.3	Sum of lost time (s)	24.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	99	0	1	49	4	0	1	3	5	0	0
Future Volume (Veh/h)	0	99	0	1	49	4	0	1	3	5	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	108	0	1	53	4	0	1	3	5	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					948							
pX, platoon unblocked												
vC, conflicting volume	57			108			165	167	108	168	165	55
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	57			108			165	167	108	168	165	55
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.3	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.7	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	100
cM capacity (veh/h)	1560			1495			804	729	951	753	731	1018

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	108	58	4	5
Volume Left	0	1	0	5
Volume Right	0	4	3	0
cSH	1560	1495	884	753
Volume to Capacity	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.1	9.1	9.8
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.1	9.1	9.8
Approach LOS			A	A

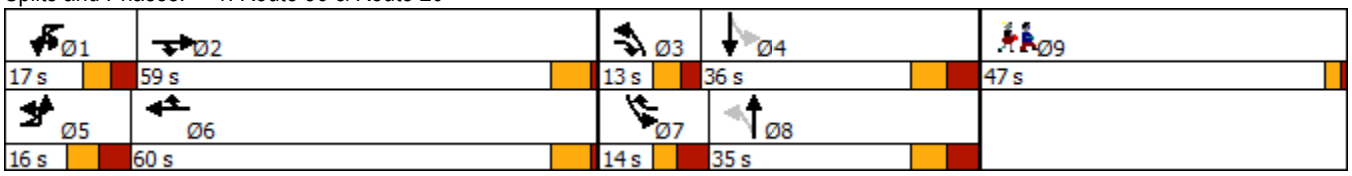
Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	16.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	75	741	99	44	1318	173	122	242	110	286	
Future Volume (vph)	75	741	99	44	1318	173	122	242	110	286	
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2 3	1	6	6 7	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2 3	1	6	6 7	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0		14.0	16.0		13.0	16.0	14.0	16.0	47.0
Total Split (s)	16.0	59.0		17.0	60.0		13.0	35.0	14.0	36.0	47.0
Total Split (%)	9.3%	34.3%		9.9%	34.9%		7.6%	20.3%	8.1%	20.9%	27%
Yellow Time (s)	4.0	5.0		3.5	5.0		3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0		3.5	1.0		2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0		7.0	6.0		6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None
Act Effct Green (s)	8.1	54.5	67.7	9.5	54.9	69.1	36.6	26.4	36.6	27.4	
Actuated g/C Ratio	0.06	0.41	0.50	0.07	0.41	0.51	0.27	0.20	0.27	0.20	
v/c Ratio	0.86	0.59	0.14	0.59	1.04	0.24	0.92	0.86	0.60	1.09	
Control Delay	121.9	35.9	5.1	82.5	72.6	10.5	95.5	75.5	52.5	121.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	121.9	35.9	5.1	82.5	72.6	10.5	95.5	75.5	52.5	121.7	
LOS	F	D	A	F	E	B	F	E	D	F	
Approach Delay		39.6			66.2			81.7		105.4	
Approach LOS		D			E			F		F	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 134.4
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 66.2 Intersection LOS: E
Intersection Capacity Utilization 92.6% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	805	108	70	1433	188	133	296	120	388
v/c Ratio	0.86	0.59	0.14	0.59	1.04	0.24	0.92	0.86	0.60	1.09
Control Delay	121.9	35.9	5.1	82.5	72.6	10.5	95.5	75.5	52.5	121.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.9	35.9	5.1	82.5	72.6	10.5	95.5	75.5	52.5	121.7
Queue Length 50th (ft)	67	254	0	55	590	30	76	230	69	~335
Queue Length 95th (ft)	#229	519	43	#166	#1245	123	#279	#583	#213	#804
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	95	1373	798	127	1383	783	145	346	199	357
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.59	0.14	0.55	1.04	0.24	0.92	0.86	0.60	1.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	75	741	99	20	44	1318	173	122	242	30	110	286
Future Volume (vph)	75	741	99	20	44	1318	173	122	242	30	110	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.98		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1589	3388	1478		1685	3388	1422	1646	1763		1662	1751
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.15	1.00		0.29	1.00
Satd. Flow (perm)	1589	3388	1478		1685	3388	1422	263	1763		508	1751
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	805	108	22	48	1433	188	133	263	33	120	311
RTOR Reduction (vph)	0	0	54	0	0	0	54	0	0	0	0	0
Lane Group Flow (vph)	82	805	54	0	70	1433	134	133	296	0	120	388
Heavy Vehicles (%)	6%	3%	2%	0%	0%	3%	6%	6%	2%	6%	5%	1%
Turn Type	Prot	NA	pt+ov	Prot	Prot	NA	pt+ov	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2 3	1	1	6	6 7	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	8.1	54.5	67.6		9.5	54.9	68.0	33.5	26.4		34.5	27.4
Effective Green, g (s)	8.1	54.5	67.6		9.5	54.9	68.0	33.5	26.4		34.5	27.4
Actuated g/C Ratio	0.06	0.40	0.50		0.07	0.40	0.50	0.25	0.19		0.25	0.20
Clearance Time (s)	8.0	6.0			7.0	6.0		6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	94	1353	732		117	1363	708	136	341		188	351
v/s Ratio Prot	c0.05	0.24	0.04		0.04	c0.42	0.09	c0.05	0.17		0.03	c0.22
v/s Ratio Perm								0.19			0.13	
v/c Ratio	0.87	0.59	0.07		0.60	1.05	0.19	0.98	0.87		0.64	1.11
Uniform Delay, d1	63.6	32.3	18.0		61.6	40.8	18.9	47.7	53.3		43.0	54.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	53.6	0.7	0.0		8.0	39.1	0.1	69.7	20.1		6.9	79.5
Delay (s)	117.2	33.0	18.0		69.6	79.8	19.1	117.3	73.4		50.0	134.0
Level of Service	F	C	B		E	E	B	F	E		D	F
Approach Delay (s)		38.3				72.7			87.0			114.2
Approach LOS		D				E			F			F

Intersection Summary			
HCM 2000 Control Delay	70.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	136.4	Sum of lost time (s)	33.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

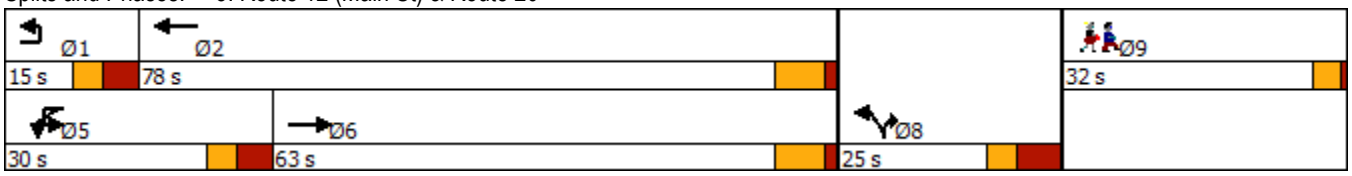
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	71
Future Volume (vph)	71
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	77
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	5%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	17	947	611	1422	106	295	
Future Volume (vph)	17	947	611	1422	106	295	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	15.0	63.0	30.0	78.0	25.0	25.0	32.0
Total Split (%)	10.0%	42.0%	20.0%	52.0%	16.7%	16.7%	21%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.2	43.2	22.6	67.9	16.6	16.6	
Actuated g/C Ratio	0.07	0.41	0.21	0.64	0.16	0.16	
v/c Ratio	0.15	0.80	0.94	0.69	0.78	0.51	
Control Delay	52.8	32.1	64.1	15.1	58.2	10.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.8	32.1	64.1	15.1	58.2	10.8	
LOS	D	C	E	B	E	B	
Approach Delay		32.4		30.4	35.2		
Approach LOS		C		C	D		

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 105.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 31.6
Intersection LOS: C
Intersection Capacity Utilization 78.2%
ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	18	1107	701	1546	224	212
v/c Ratio	0.15	0.80	0.94	0.69	0.78	0.51
Control Delay	52.8	32.1	64.1	15.1	58.2	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	32.1	64.1	15.1	58.2	10.8
Queue Length 50th (ft)	12	336	240	263	129	0
Queue Length 95th (ft)	38	415	#422	503	#291	74
Internal Link Dist (ft)		643		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	124	1793	743	2383	289	417
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.62	0.94	0.65	0.78	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	17	947	72	34	611	1422	106	295
Future Volume (vph)	17	947	72	34	611	1422	106	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12
Total Lost time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95			0.97	0.95	1.00	0.95
Frt	1.00	0.99			1.00	1.00	0.93	0.85
Flt Protected	0.95	1.00			0.95	1.00	0.97	1.00
Satd. Flow (prot)	1745	3359			3469	3505	1700	1519
Flt Permitted	0.95	1.00			0.95	1.00	0.97	1.00
Satd. Flow (perm)	1745	3359			3469	3505	1700	1519
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	1029	78	37	664	1546	115	321
RTOR Reduction (vph)	0	3	0	0	0	0	22	180
Lane Group Flow (vph)	18	1104	0	0	701	1546	202	32
Heavy Vehicles (%)	0%	3%	0%	0%	1%	3%	1%	1%
Turn Type	Prot	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	1	6		5	5	2	8	8
Permitted Phases								
Actuated Green, G (s)	2.8	48.1			22.6	67.9	16.6	16.6
Effective Green, g (s)	2.8	48.1			22.6	67.9	16.6	16.6
Actuated g/C Ratio	0.03	0.44			0.20	0.62	0.15	0.15
Clearance Time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	44	1464			710	2157	255	228
v/s Ratio Prot	0.01	0.33			c0.20	c0.44	c0.12	0.02
v/s Ratio Perm								
v/c Ratio	0.41	0.75			0.99	0.72	0.79	0.14
Uniform Delay, d1	52.9	26.1			43.7	14.6	45.2	40.7
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	2.3			30.3	1.2	15.4	0.3
Delay (s)	59.0	28.4			74.0	15.7	60.5	40.9
Level of Service	E	C			E	B	E	D
Approach Delay (s)		28.9				33.9	51.0	
Approach LOS		C				C	D	

Intersection Summary

HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.3	Sum of lost time (s)	27.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

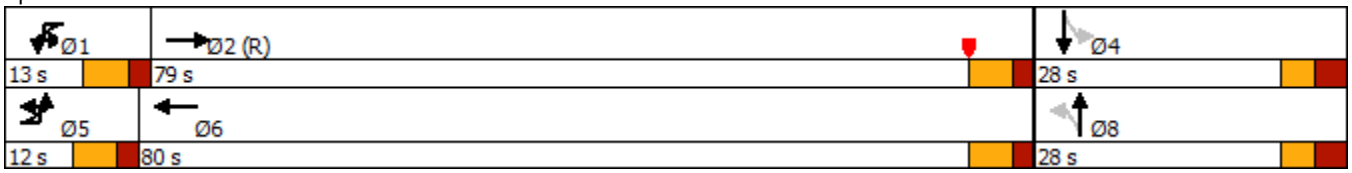
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	1215	10	2024	8	2	91	1
Future Volume (vph)	10	1215	10	2024	8	2	91	1
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	12.0	79.0	13.0	80.0	28.0	28.0	28.0	28.0
Total Split (%)	10.0%	65.8%	10.8%	66.7%	23.3%	23.3%	23.3%	23.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.7	83.4	8.2	87.4	12.7	12.7	12.7	12.7
Actuated g/C Ratio	0.06	0.70	0.07	0.73	0.11	0.11	0.11	0.11
v/c Ratio	0.25	0.54	0.46	0.91	0.06	0.08	0.66	0.15
Control Delay	60.3	11.5	63.8	12.2	46.0	24.2	71.0	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	11.5	63.8	12.2	46.0	24.2	71.0	18.0
LOS	E	B	E	B	D	C	E	B
Approach Delay		12.4		13.5		32.7		59.0
Approach LOS		B		B		C		E

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 14 (12%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 14.7 Intersection LOS: B
Intersection Capacity Utilization 81.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	24	1324	57	2324	9	14	99	29
v/c Ratio	0.25	0.54	0.46	0.91	0.06	0.08	0.66	0.15
Control Delay	60.3	11.5	63.8	12.2	46.0	24.2	71.0	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	11.5	63.8	12.2	46.0	24.2	71.0	18.0
Queue Length 50th (ft)	18	256	42	476	6	1	75	1
Queue Length 95th (ft)	46	387	m49	#1164	22	21	128	29
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	96	2436	127	2557	256	313	260	305
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.54	0.45	0.91	0.04	0.04	0.38	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	10	1215	3	42	10	2024	114	8	2	11	91
Future Volume (vph)	12	10	1215	3	42	10	2024	114	8	2	11	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Lane Util. Factor		1.00	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	1.00			1.00	0.99		1.00	0.87		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1726	3504			1805	3510		1802	1656		1805
Flt Permitted		0.95	1.00			0.95	1.00		0.74	1.00		0.75
Satd. Flow (perm)		1726	3504			1805	3510		1401	1656		1422
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	11	1321	3	46	11	2200	124	9	2	12	99
RTOR Reduction (vph)	0	0	0	0	0	0	3	0	0	11	0	0
Lane Group Flow (vph)	0	24	1324	0	0	57	2321	0	9	3	0	99
Confl. Peds. (#/hr)		1		1		1		1	1			
Heavy Vehicles (%)	0%	10%	3%	0%	0%	0%	2%	0%	0%	0%	0%	0%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Perm	NA		Perm
Protected Phases	5	5	2		1	1	6			8		
Permitted Phases									8			4
Actuated Green, G (s)		4.3	82.3			7.0	85.0		12.7	12.7		12.7
Effective Green, g (s)		4.3	82.3			7.0	85.0		12.7	12.7		12.7
Actuated g/C Ratio		0.04	0.69			0.06	0.71		0.11	0.11		0.11
Clearance Time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Vehicle Extension (s)		2.0	2.0			2.0	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)		61	2403			105	2486		148	175		150
v/s Ratio Prot		0.01	0.38			c0.03	c0.66			0.00		
v/s Ratio Perm									0.01			c0.07
v/c Ratio		0.39	0.55			0.54	0.93		0.06	0.02		0.66
Uniform Delay, d1		56.6	9.5			54.9	15.1		48.3	48.1		51.6
Progression Factor		1.00	1.00			1.08	0.45		1.00	1.00		1.00
Incremental Delay, d2		1.5	0.9			1.5	4.3		0.1	0.0		8.1
Delay (s)		58.1	10.4			60.9	11.2		48.3	48.1		59.7
Level of Service		E	B			E	B		D	D		E
Approach Delay (s)			11.3				12.4			48.2		
Approach LOS			B				B			D		

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1	26
Future Volume (vph)	1	26
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1544	
Flt Permitted	1.00	
Satd. Flow (perm)	1544	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	1	28
RTOR Reduction (vph)	25	0
Lane Group Flow (vph)	4	0
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	0%	4%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	12.7	
Effective Green, g (s)	12.7	
Actuated g/C Ratio	0.11	
Clearance Time (s)	6.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	163	
v/s Ratio Prot	0.00	
v/s Ratio Perm		
v/c Ratio	0.02	
Uniform Delay, d1	48.1	
Progression Factor	1.00	
Incremental Delay, d2	0.0	
Delay (s)	48.1	
Level of Service	D	
Approach Delay (s)	57.1	
Approach LOS	E	

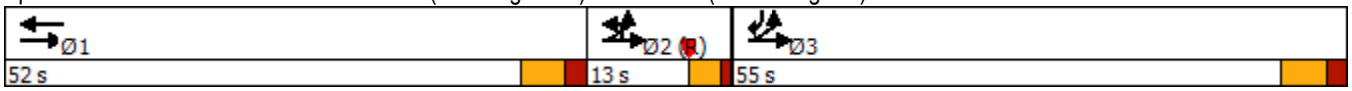
Intersection Summary

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	44	455	874	1134	16	936
Future Volume (vph)	44	455	874	1134	16	936
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	6.0			10.0		6.0
Minimum Split (s)	10.0			20.0		20.0
Total Split (s)	13.0			52.0		55.0
Total Split (%)	10.8%			43.3%		45.8%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	9.0	63.3	120.0	46.7	120.0	48.3
Actuated g/C Ratio	0.08	0.53	1.00	0.39	1.00	0.40
v/c Ratio	0.36	0.27	0.27	0.90	0.01	0.91
Control Delay	52.6	13.5	0.2	45.3	0.0	46.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	13.5	0.2	45.3	0.0	46.2
LOS	D	B	A	D	A	D
Approach Delay			6.3	44.7		
Approach LOS			A	D		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 29.9 Intersection LOS: C
Intersection Capacity Utilization 82.4% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	48	495	950	1233	17	1017
v/c Ratio	0.36	0.27	0.27	0.90	0.01	0.91
Control Delay	52.6	13.5	0.2	45.3	0.0	46.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	13.5	0.2	45.3	0.0	46.2
Queue Length 50th (ft)	37	125	0	473	0	410
Queue Length 95th (ft)	m63	125	0	#612	0	#553
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	135	1849	3490	1363	1329	1138
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.27	0.27	0.90	0.01	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	44	455	874	1134	16	0	936
Future Volume (vph)	44	455	874	1134	16	0	936
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1805	3467	3505	3505	1329		2787
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1805	3467	3505	3505	1329		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	495	950	1233	17	0	1017
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	48	495	950	1233	17	0	1017
Confl. Bikes (#/hr)					1		
Heavy Vehicles (%)	0%	1%	3%	3%	20%	0%	2%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	9.0	61.3	120.0	46.7	120.0		48.3
Effective Green, g (s)	9.0	61.3	116.0	46.7	120.0		48.3
Actuated g/C Ratio	0.08	0.51	0.97	0.39	1.00		0.40
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	135	1771	3388	1364	1329		1121
v/s Ratio Prot	0.03	0.14	c0.27	c0.35			c0.36
v/s Ratio Perm					0.01		
v/c Ratio	0.36	0.28	0.28	0.90	0.01		0.91
Uniform Delay, d1	52.7	16.7	0.1	34.5	0.0		33.7
Progression Factor	0.87	0.85	1.00	1.00	1.00		1.00
Incremental Delay, d2	6.2	0.0	0.0	10.1	0.0		10.3
Delay (s)	52.0	14.2	0.1	44.6	0.0		44.1
Level of Service	D	B	A	D	A		D
Approach Delay (s)			6.4	44.0		44.1	
Approach LOS			A	D		D	

Intersection Summary

HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

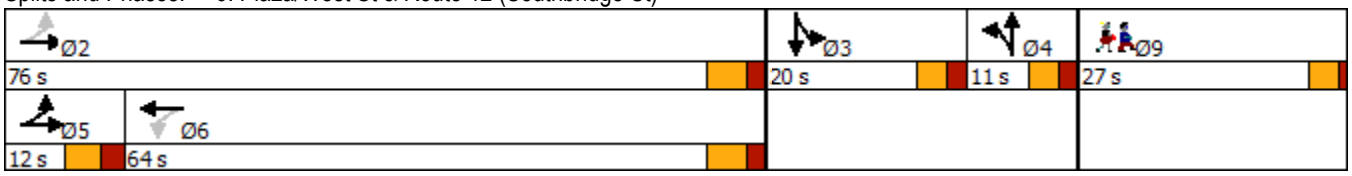
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	47	519	19	977	5	350	1		
Future Volume (vph)	47	519	19	977	5	350	1		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		64.0	64.0	11.0	20.0	20.0	76.0	27.0
Total Split (%)	9.0%		47.8%	47.8%	8.2%	14.9%	14.9%	57%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		70.2		58.2	5.4	15.0	15.0		
Actuated g/C Ratio		0.69		0.57	0.05	0.15	0.15		
v/c Ratio		0.39		0.93	0.24	0.85	0.83		
Control Delay		7.6		30.7	32.4	73.9	70.8		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		7.6		30.7	32.4	73.9	70.8		
LOS		A		C	C	E	E		
Approach Delay		7.6		30.7	32.4		72.4		
Approach LOS		A		C	C		E		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 102.4
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 31.8 Intersection LOS: C
Intersection Capacity Utilization 86.1% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	615	1713	25	205	204
v/c Ratio	0.39	0.93	0.24	0.85	0.83
Control Delay	7.6	30.7	32.4	73.9	70.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	30.7	32.4	73.9	70.8
Queue Length 50th (ft)	82	535	5	145	141
Queue Length 95th (ft)	111	#748	33	#289	#283
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	1575	1837	117	242	245
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.93	0.21	0.85	0.83

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	519	0	19	977	580	3	5	16	350	1	26
Future Volume (vph)	47	519	0	19	977	580	3	5	16	350	1	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.94			0.91		1.00	0.98	
Flt Protected		1.00			1.00			0.99		0.95	0.96	
Satd. Flow (prot)		3505			3343			1715		1649	1639	
Flt Permitted		0.62			0.94			0.99		0.95	0.96	
Satd. Flow (perm)		2186			3151			1715		1649	1639	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	564	0	21	1062	630	3	5	17	380	1	28
RTOR Reduction (vph)	0	0	0	0	49	0	0	16	0	0	4	0
Lane Group Flow (vph)	0	615	0	0	1664	0	0	9	0	205	200	0
Heavy Vehicles (%)	9%	2%	0%	0%	2%	2%	0%	0%	0%	4%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		70.2			58.2			3.2		15.0	15.0	
Effective Green, g (s)		70.2			58.2			3.2		15.0	15.0	
Actuated g/C Ratio		0.67			0.56			0.03		0.14	0.14	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1545			1756			52		236	235	
v/s Ratio Prot		c0.02						c0.00		c0.12	0.12	
v/s Ratio Perm		0.24			c0.53							
v/c Ratio		0.40			0.95			0.16		0.87	0.85	
Uniform Delay, d1		7.6			21.7			49.3		43.7	43.6	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.2			11.3			0.5		26.2	23.0	
Delay (s)		7.8			33.0			49.8		69.9	66.6	
Level of Service		A			C			D		E	E	
Approach Delay (s)		7.8			33.0			49.8			68.3	
Approach LOS		A			C			D			E	

Intersection Summary

HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	104.4	Sum of lost time (s)	26.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

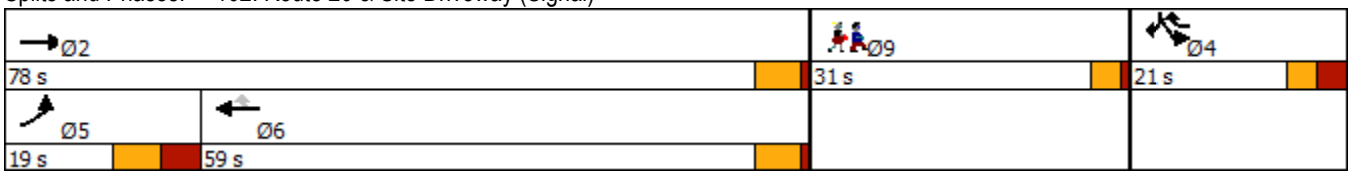
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	112	844	1410	146	192	131	
Future Volume (vph)	112	844	1410	146	192	131	
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot	
Protected Phases	5	2	6	4	4	4	9
Permitted Phases				6			
Detector Phase	5	2	6	4	4	4	
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	7.0	7.0	7.0	5.0
Minimum Split (s)	13.5	15.5	15.5	13.0	13.0	13.0	31.0
Total Split (s)	19.0	78.0	59.0	21.0	21.0	21.0	31.0
Total Split (%)	14.6%	60.0%	45.4%	16.2%	16.2%	16.2%	24%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	1.0	1.0	3.0	3.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	5.5	5.5	6.0	6.0	6.0	
Lead/Lag	Lead		Lag				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	None	Min	Min	None	None	None	None
Act Effct Green (s)	10.3	72.3	53.5	74.0	15.0	15.0	
Actuated g/C Ratio	0.10	0.73	0.54	0.75	0.15	0.15	
v/c Ratio	0.66	0.36	0.81	0.13	0.78	0.59	
Control Delay	60.7	5.3	22.8	0.9	61.3	50.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.7	5.3	22.8	0.9	61.3	50.3	
LOS	E	A	C	A	E	D	
Approach Delay		11.8	20.7		56.9		
Approach LOS		B	C		E		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 98.8
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 21.8
Intersection LOS: C
Intersection Capacity Utilization 72.5%
ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 102: Route 20 & Site Driveway (Signal)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	122	917	1533	159	209	142
v/c Ratio	0.66	0.36	0.81	0.13	0.78	0.59
Control Delay	60.7	5.3	22.8	0.9	61.3	50.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	5.3	22.8	0.9	61.3	50.3
Queue Length 50th (ft)	75	93	393	1	128	84
Queue Length 95th (ft)	#152	119	492	15	#242	149
Internal Link Dist (ft)		1269	1548		690	
Turn Bay Length (ft)	475			300	200	
Base Capacity (vph)	187	2570	1897	1222	268	239
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.36	0.81	0.13	0.78	0.59

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	112	844	1410	146	192	131
Future Volume (vph)	112	844	1410	146	192	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	5.5	5.5	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3505	3505	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3505	3505	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	917	1533	159	209	142
RTOR Reduction (vph)	0	0	0	46	0	0
Lane Group Flow (vph)	122	917	1533	113	209	142
Heavy Vehicles (%)	2%	3%	3%	2%	2%	2%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	5	2	6	4	4	4
Permitted Phases				6		
Actuated Green, G (s)	10.3	72.3	53.5	68.5	15.0	15.0
Effective Green, g (s)	10.3	72.3	53.5	68.5	15.0	15.0
Actuated g/C Ratio	0.10	0.73	0.54	0.69	0.15	0.15
Clearance Time (s)	8.5	5.5	5.5	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	184	2564	1897	1097	268	240
v/s Ratio Prot	c0.07	0.26	c0.44	0.02	c0.12	0.09
v/s Ratio Perm				0.06		
v/c Ratio	0.66	0.36	0.81	0.10	0.78	0.59
Uniform Delay, d1	42.6	4.8	18.5	5.0	40.3	39.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.7	0.1	2.6	0.0	13.4	3.9
Delay (s)	51.2	4.9	21.1	5.0	53.7	42.9
Level of Service	D	A	C	A	D	D
Approach Delay (s)		10.3	19.6		49.3	
Approach LOS		B	B		D	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	98.8	Sum of lost time (s)	24.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	68	0	1	103	6	0	0	1	3	0	0
Future Volume (Veh/h)	2	68	0	1	103	6	0	0	1	3	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	74	0	1	112	7	0	0	1	3	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					948							
pX, platoon unblocked												
vC, conflicting volume	119			74			196	199	74	196	196	116
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	119			74			196	199	74	196	196	116
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1482			1538			767	699	993	765	702	942

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	76	120	1	3
Volume Left	2	1	0	3
Volume Right	0	7	1	0
cSH	1482	1538	993	765
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.2	0.1	8.6	9.7
Lane LOS	A	A	A	A
Approach Delay (s)	0.2	0.1	8.6	9.7
Approach LOS			A	A

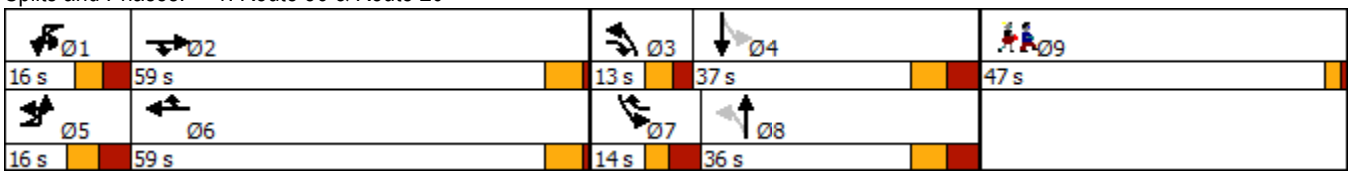
Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	16.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	57	1154	94	49	980	151	131	202	122	206	
Future Volume (vph)	57	1154	94	49	980	151	131	202	122	206	
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2 3	1	6	6 7	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2 3	1	6	6 7	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0		14.0	16.0		13.0	16.0	14.0	16.0	47.0
Total Split (s)	16.0	59.0		16.0	59.0		13.0	36.0	14.0	37.0	47.0
Total Split (%)	9.3%	34.3%		9.3%	34.3%		7.6%	20.9%	8.1%	21.5%	27%
Yellow Time (s)	4.0	5.0		3.5	5.0		3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0		3.5	1.0		2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0		7.0	6.0		6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None
Act Effct Green (s)	7.9	53.0	66.0	8.8	52.8	66.9	37.0	27.0	37.0	28.0	
Actuated g/C Ratio	0.06	0.42	0.53	0.07	0.42	0.54	0.30	0.22	0.30	0.22	
v/c Ratio	0.58	0.86	0.12	0.58	0.74	0.20	0.50	0.73	0.51	0.70	
Control Delay	78.8	40.1	2.7	76.2	33.9	6.1	37.2	58.2	38.3	55.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	78.8	40.1	2.7	76.2	33.9	6.1	37.2	58.2	38.3	55.1	
LOS	E	D	A	E	C	A	D	E	D	E	
Approach Delay		39.1			32.6			51.1		49.7	
Approach LOS		D			C			D		D	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 124.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 39.4
Intersection LOS: D
Intersection Capacity Utilization 82.6%
ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	1254	102	69	1065	164	142	280	133	276
v/c Ratio	0.58	0.86	0.12	0.58	0.74	0.20	0.50	0.73	0.51	0.70
Control Delay	78.8	40.1	2.7	76.2	33.9	6.1	37.2	58.2	38.3	55.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.8	40.1	2.7	76.2	33.9	6.1	37.2	58.2	38.3	55.1
Queue Length 50th (ft)	50	477	0	55	373	21	81	213	76	207
Queue Length 95th (ft)	#109	578	25	#113	456	56	133	#319	128	307
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	107	1453	839	121	1453	830	282	382	259	396
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.86	0.12	0.57	0.73	0.20	0.50	0.73	0.51	0.70

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	57	1154	94	15	49	980	151	131	202	55	122	206
Future Volume (vph)	57	1154	94	15	49	980	151	131	202	55	122	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.97		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1685	3421	1492		1685	3421	1478	1728	1764		1711	1764
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.43	1.00		0.38	1.00
Satd. Flow (perm)	1685	3421	1492		1685	3421	1478	773	1764		680	1764
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	1254	102	16	53	1065	164	142	220	60	133	224
RTOR Reduction (vph)	0	0	48	0	0	0	51	0	0	0	0	0
Lane Group Flow (vph)	62	1254	54	0	69	1065	113	142	280	0	133	276
Heavy Vehicles (%)	0%	2%	1%	0%	0%	2%	2%	1%	1%	0%	2%	1%
Turn Type	Prot	NA	pt+ov	Prot	Prot	NA	pt+ov	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2 3	1	1	6	6 7	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	7.9	53.0	66.0		8.8	52.9	65.9	34.0	27.0		35.0	28.0
Effective Green, g (s)	7.9	53.0	66.0		8.8	52.9	65.9	34.0	27.0		35.0	28.0
Actuated g/C Ratio	0.06	0.42	0.53		0.07	0.42	0.53	0.27	0.22		0.28	0.22
Clearance Time (s)	8.0	6.0			7.0	6.0		6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	106	1452	789		118	1450	780	264	381		248	395
v/s Ratio Prot	0.04	c0.37	0.04		c0.04	0.31	0.08	c0.03	c0.16		0.03	0.16
v/s Ratio Perm								0.12			0.12	
v/c Ratio	0.58	0.86	0.07		0.58	0.73	0.14	0.54	0.73		0.54	0.70
Uniform Delay, d1	56.9	32.6	14.4		56.2	30.1	15.1	37.2	45.6		36.1	44.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	8.0	5.6	0.0		7.2	2.0	0.1	2.1	7.2		2.2	5.3
Delay (s)	64.8	38.2	14.4		63.4	32.0	15.1	39.3	52.8		38.3	49.8
Level of Service	E	D	B		E	C	B	D	D		D	D
Approach Delay (s)		37.7				31.6			48.2			46.1
Approach LOS		D				C			D			D

Intersection Summary

HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	124.8	Sum of lost time (s)	33.0
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

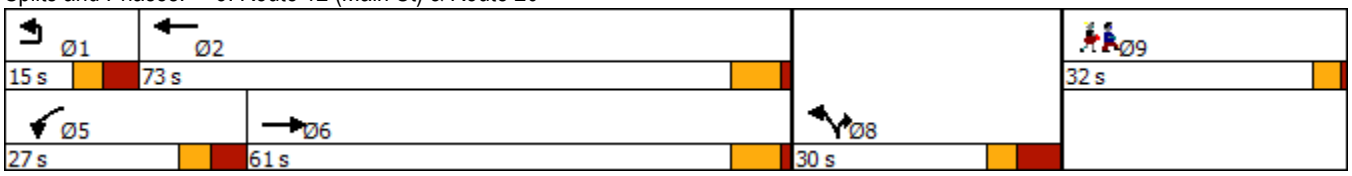
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	48
Future Volume (vph)	48
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	52
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	23	1225	449	1104	104	373	
Future Volume (vph)	23	1225	449	1104	104	373	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	15.0	61.0	27.0	73.0	30.0	30.0	32.0
Total Split (%)	10.0%	40.7%	18.0%	48.7%	20.0%	20.0%	21%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.2	54.0	19.5	72.1	21.3	21.3	
Actuated g/C Ratio	0.06	0.46	0.17	0.61	0.18	0.18	
v/c Ratio	0.24	0.91	0.85	0.55	0.79	0.52	
Control Delay	58.3	39.2	62.9	15.8	57.2	9.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.3	39.2	62.9	15.8	57.2	9.3	
LOS	E	D	E	B	E	A	
Approach Delay		39.5		29.4	34.0		
Approach LOS		D		C	C		

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 117.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 34.1
Intersection LOS: C
Intersection Capacity Utilization 81.6%
ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	25	1412	488	1200	267	251
v/c Ratio	0.24	0.91	0.85	0.55	0.79	0.52
Control Delay	58.3	39.2	62.9	15.8	57.2	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	39.2	62.9	15.8	57.2	9.3
Queue Length 50th (ft)	18	511	188	302	169	0
Queue Length 95th (ft)	47	#641	#272	373	#298	76
Internal Link Dist (ft)		640		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	110	1558	573	2166	341	484
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.91	0.85	0.55	0.78	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	23	1225	74	449	1104	104	373
Future Volume (vph)	23	1225	74	449	1104	104	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12
Total Lost time (s)	7.5	7.0		7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95		0.97	0.95	1.00	0.95
Frt	1.00	0.99		1.00	1.00	0.91	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	1745	3392		3467	3539	1700	1534
Flt Permitted	0.95	1.00		0.95	1.00	0.98	1.00
Satd. Flow (perm)	1745	3392		3467	3539	1700	1534
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	1332	80	488	1200	113	405
RTOR Reduction (vph)	0	3	0	0	0	31	207
Lane Group Flow (vph)	25	1409	0	488	1200	236	44
Heavy Vehicles (%)	0%	2%	2%	1%	2%	0%	0%
Turn Type	Prot	NA		Prot	NA	Prot	Prot
Protected Phases	1	6		5	2	8	8
Permitted Phases							
Actuated Green, G (s)	4.4	57.0		19.5	72.1	21.3	21.3
Effective Green, g (s)	4.4	57.0		19.5	72.1	21.3	21.3
Actuated g/C Ratio	0.04	0.47		0.16	0.60	0.18	0.18
Clearance Time (s)	7.5	7.0		7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	63	1600		559	2112	299	270
v/s Ratio Prot	0.01	c0.42		c0.14	0.34	c0.14	0.03
v/s Ratio Perm							
v/c Ratio	0.40	0.88		0.87	0.57	0.79	0.16
Uniform Delay, d1	56.9	28.8		49.4	14.9	47.6	42.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	6.0		14.1	0.4	12.9	0.3
Delay (s)	61.0	34.9		63.5	15.2	60.5	42.5
Level of Service	E	C		E	B	E	D
Approach Delay (s)		35.3			29.2	51.8	
Approach LOS		D			C	D	

Intersection Summary

HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.8	Sum of lost time (s)	27.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

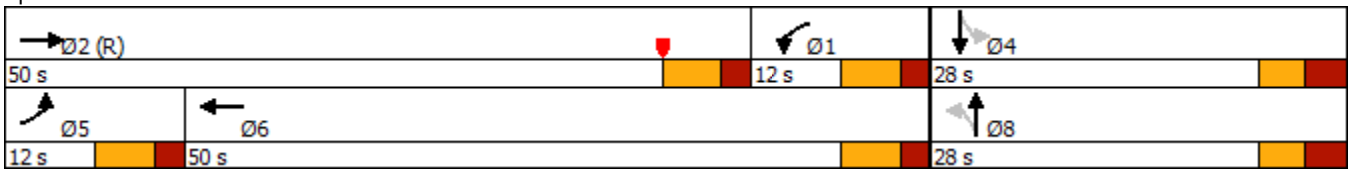
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	11	1606	19	1617	12	0	97	1
Future Volume (vph)	11	1606	19	1617	12	0	97	1
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	12.0	50.0	12.0	50.0	28.0	28.0	28.0	28.0
Total Split (%)	13.3%	55.6%	13.3%	55.6%	31.1%	31.1%	31.1%	31.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.1	65.5	6.0	67.8	11.3	11.3	11.3	11.3
Actuated g/C Ratio	0.07	0.73	0.07	0.75	0.13	0.13	0.13	0.13
v/c Ratio	0.10	0.68	0.17	0.69	0.07	0.06	0.61	0.04
Control Delay	41.3	12.8	32.1	5.3	32.9	0.3	51.4	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	12.8	32.1	5.3	32.9	0.3	51.4	19.7
LOS	D	B	C	A	C	A	D	B
Approach Delay		13.0		5.6		13.2		49.2
Approach LOS		B		A		B		D

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 2 (2%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 10.4
Intersection LOS: B
Intersection Capacity Utilization 69.3%
ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	1761	21	1846	13	20	105	8
v/c Ratio	0.10	0.68	0.17	0.69	0.07	0.06	0.61	0.04
Control Delay	41.3	12.8	32.1	5.3	32.9	0.3	51.4	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	12.8	32.1	5.3	32.9	0.3	51.4	19.7
Queue Length 50th (ft)	7	222	12	17	7	0	57	1
Queue Length 95th (ft)	24	#600	m15	#683	22	0	104	12
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	122	2573	120	2666	349	510	335	408
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.68	0.17	0.69	0.04	0.04	0.31	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1606	14	19	1617	81	12	0	18	97	1	6
Future Volume (vph)	11	1606	14	19	1617	81	12	0	18	97	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3535		1805	3535		1805	1524		1752	1651	
Flt Permitted	0.95	1.00		0.95	1.00		0.75	1.00		0.74	1.00	
Satd. Flow (perm)	1805	3535		1805	3535		1430	1524		1373	1651	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	1746	15	21	1758	88	13	0	20	105	1	7
RTOR Reduction (vph)	0	0	0	0	3	0	0	18	0	0	6	0
Lane Group Flow (vph)	12	1761	0	21	1843	0	13	2	0	105	2	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	9%	0%	0%	6%	3%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.3	58.3		3.6	60.6		10.1	10.1		10.1	10.1	
Effective Green, g (s)	1.3	58.3		3.6	60.6		10.1	10.1		10.1	10.1	
Actuated g/C Ratio	0.01	0.65		0.04	0.67		0.11	0.11		0.11	0.11	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	26	2289		72	2380		160	171		154	185	
v/s Ratio Prot	0.01	c0.50		0.01	c0.52			0.00			0.00	
v/s Ratio Perm							0.01			c0.08		
v/c Ratio	0.46	0.77		0.29	0.77		0.08	0.01		0.68	0.01	
Uniform Delay, d1	44.0	11.1		42.0	10.0		35.8	35.5		38.4	35.5	
Progression Factor	1.00	1.00		0.75	0.32		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	2.6		0.5	1.6		0.1	0.0		9.5	0.0	
Delay (s)	48.7	13.7		32.0	4.8		35.9	35.5		47.9	35.5	
Level of Service	D	B		C	A		D	D		D	D	
Approach Delay (s)		13.9			5.1			35.7			47.0	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

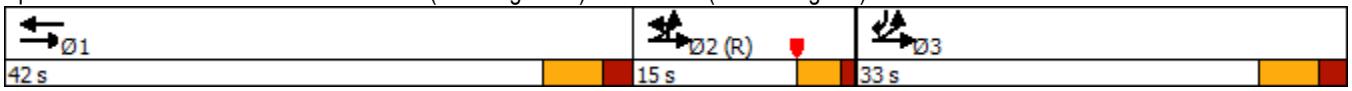
c Critical Lane Group

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	45	593	1161	1053	21	585
Future Volume (vph)	45	593	1161	1053	21	585
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	15.0			42.0		33.0
Total Split (%)	16.7%			46.7%		36.7%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	11.0	43.6	90.0	36.4	90.0	26.6
Actuated g/C Ratio	0.12	0.48	1.00	0.40	1.00	0.30
v/c Ratio	0.22	0.38	0.35	0.79	0.01	0.77
Control Delay	40.2	8.0	0.2	28.6	0.0	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.2	8.0	0.2	28.6	0.0	36.3
LOS	D	A	A	C	A	D
Approach Delay			3.8	28.0		
Approach LOS			A	C		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 16.8 Intersection LOS: B
Intersection Capacity Utilization 71.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	49	645	1262	1145	23	636
v/c Ratio	0.22	0.38	0.35	0.79	0.01	0.77
Control Delay	40.2	8.0	0.2	28.6	0.0	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.2	8.0	0.2	28.6	0.0	36.3
Queue Length 50th (ft)	21	92	0	295	0	185
Queue Length 95th (ft)	m35	29	0	379	0	256
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	220	1694	3542	1445	1538	836
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.38	0.36	0.79	0.01	0.76

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	45	593	1161	1053	21	0	585
Future Volume (vph)	45	593	1161	1053	21	0	585
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1805	3467	3574	3574	1538		2787
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1805	3467	3574	3574	1538		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	645	1262	1145	23	0	636
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	49	645	1262	1145	23	0	636
Heavy Vehicles (%)	0%	1%	1%	1%	5%	2%	2%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	11.0	41.6	90.0	36.4	90.0		26.6
Effective Green, g (s)	11.0	41.6	86.0	36.4	90.0		26.6
Actuated g/C Ratio	0.12	0.46	0.96	0.40	1.00		0.30
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	220	1602	3415	1445	1538		823
v/s Ratio Prot	0.03	c0.19	0.35	c0.32			c0.23
v/s Ratio Perm					0.01		
v/c Ratio	0.22	0.40	0.37	0.79	0.01		0.77
Uniform Delay, d1	35.6	16.0	0.1	23.5	0.0		28.9
Progression Factor	1.06	0.51	1.00	1.00	1.00		1.00
Incremental Delay, d2	1.8	0.0	0.0	4.5	0.0		4.1
Delay (s)	39.6	8.2	0.2	28.0	0.0		33.1
Level of Service	D	A	A	C	A		C
Approach Delay (s)			3.8	27.5		33.1	
Approach LOS			A	C		C	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

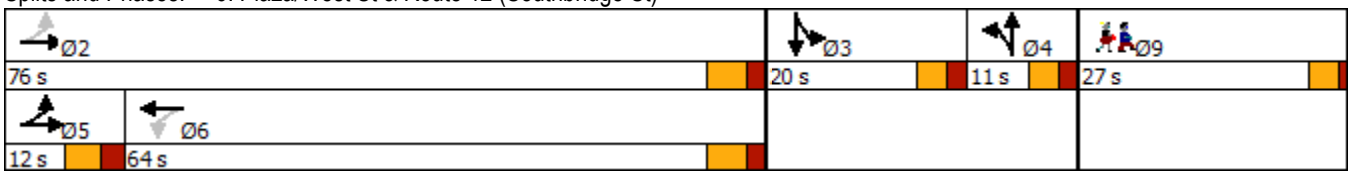
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	39	568	21	711	4	354	2		
Future Volume (vph)	39	568	21	711	4	354	2		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		64.0	64.0	11.0	20.0	20.0	76.0	27.0
Total Split (%)	9.0%		47.8%	47.8%	8.2%	14.9%	14.9%	57%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		50.8		38.4	5.5	15.4	15.4		
Actuated g/C Ratio		0.59		0.45	0.06	0.18	0.18		
v/c Ratio		0.40		0.81	0.36	0.71	0.69		
Control Delay		9.6		23.8	27.6	50.7	48.8		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		9.6		23.8	27.6	50.7	48.8		
LOS		A		C	C	D	D		
Approach Delay		9.6		23.8	27.6		49.8		
Approach LOS		A		C	C		D		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 85.4
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 24.6 Intersection LOS: C
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	667	1183	51	216	213
v/c Ratio	0.40	0.81	0.36	0.71	0.69
Control Delay	9.6	23.8	27.6	50.7	48.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	23.8	27.6	50.7	48.8
Queue Length 50th (ft)	91	271	8	120	114
Queue Length 95th (ft)	122	355	47	#281	#271
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	2256	2225	154	306	307
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.30	0.53	0.33	0.71	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	568	7	21	711	356	9	4	34	354	2	39
Future Volume (vph)	39	568	7	21	711	356	9	4	34	354	2	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.95			0.90		1.00	0.97	
Flt Protected		1.00			1.00			0.99		0.95	0.96	
Satd. Flow (prot)		3559			3385			1661		1698	1672	
Flt Permitted		0.75			0.93			0.99		0.95	0.96	
Satd. Flow (perm)		2682			3159			1661		1698	1672	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	617	8	23	773	387	10	4	37	385	2	42
RTOR Reduction (vph)	0	0	0	0	43	0	0	35	0	0	6	0
Lane Group Flow (vph)	0	667	0	0	1140	0	0	16	0	216	207	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	3%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		50.8			38.6			4.2		15.4	15.4	
Effective Green, g (s)		50.8			38.6			4.2		15.4	15.4	
Actuated g/C Ratio		0.59			0.45			0.05		0.18	0.18	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1639			1411			80		302	298	
v/s Ratio Prot		c0.03						c0.01		c0.13	0.12	
v/s Ratio Perm		0.21			c0.36							
v/c Ratio		0.41			0.81			0.20		0.72	0.70	
Uniform Delay, d1		9.6			20.7			39.5		33.4	33.3	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.2			3.5			0.4		6.6	5.6	
Delay (s)		9.8			24.2			39.9		40.0	38.9	
Level of Service		A			C			D		D	D	
Approach Delay (s)		9.8			24.2			39.9			39.4	
Approach LOS		A			C			D			D	

Intersection Summary

HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	86.4	Sum of lost time (s)	26.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

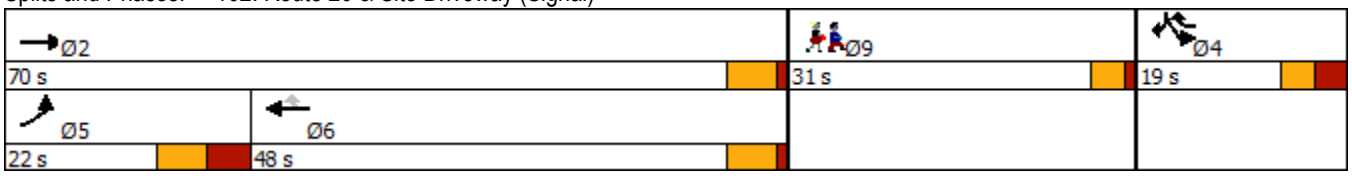
c Critical Lane Group

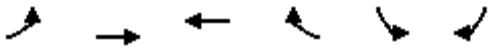
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	176	1145	1065	167	177	155	
Future Volume (vph)	176	1145	1065	167	177	155	
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot	
Protected Phases	5	2	6	4	4	4	9
Permitted Phases				6			
Detector Phase	5	2	6	4	4	4	
Switch Phase							
Minimum Initial (s)	7.0	10.0	10.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.5	15.5	15.5	13.0	13.0	13.0	31.0
Total Split (s)	22.0	70.0	48.0	19.0	19.0	19.0	31.0
Total Split (%)	18.3%	58.3%	40.0%	15.8%	15.8%	15.8%	26%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	1.0	1.0	3.0	3.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	5.5	5.5	6.0	6.0	6.0	
Lead/Lag	Lead		Lag				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	None	Min	Min	None	None	None	None
Act Effct Green (s)	13.5	57.1	35.1	53.7	13.1	13.1	
Actuated g/C Ratio	0.17	0.70	0.43	0.66	0.16	0.16	
v/c Ratio	0.64	0.50	0.76	0.16	0.67	0.65	
Control Delay	44.8	6.4	23.4	1.1	46.7	47.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.8	6.4	23.4	1.1	46.7	47.4	
LOS	D	A	C	A	D	D	
Approach Delay		11.5	20.4		47.0		
Approach LOS		B	C		D		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 81.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 19.4
Intersection LOS: B
Intersection Capacity Utilization 65.7%
ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 102: Route 20 & Site Driveway (Signal)





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	191	1245	1158	182	192	168
v/c Ratio	0.64	0.50	0.76	0.16	0.67	0.65
Control Delay	44.8	6.4	23.4	1.1	46.7	47.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	6.4	23.4	1.1	46.7	47.4
Queue Length 50th (ft)	93	130	255	0	95	82
Queue Length 95th (ft)	#195	166	328	18	#202	#184
Internal Link Dist (ft)		1269	1551		642	
Turn Bay Length (ft)	475			300	200	
Base Capacity (vph)	300	2809	1850	1123	288	258
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.44	0.63	0.16	0.67	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	176	1145	1065	167	177	155
Future Volume (vph)	176	1145	1065	167	177	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	5.5	5.5	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	3539	3539	1615	1805	1615
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	3539	3539	1615	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	191	1245	1158	182	192	168
RTOR Reduction (vph)	0	0	0	75	0	0
Lane Group Flow (vph)	191	1245	1158	107	192	168
Heavy Vehicles (%)	0%	2%	2%	0%	0%	0%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	5	2	6	4	4	4
Permitted Phases				6		
Actuated Green, G (s)	13.5	57.0	35.0	48.1	13.1	13.1
Effective Green, g (s)	13.5	57.0	35.0	48.1	13.1	13.1
Actuated g/C Ratio	0.17	0.70	0.43	0.59	0.16	0.16
Clearance Time (s)	8.5	5.5	5.5	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	298	2472	1517	951	289	259
v/s Ratio Prot	0.11	c0.35	c0.33	0.02	c0.11	0.10
v/s Ratio Perm				0.05		
v/c Ratio	0.64	0.50	0.76	0.11	0.66	0.65
Uniform Delay, d1	31.8	5.7	19.8	7.4	32.2	32.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7	0.2	2.3	0.1	5.7	5.5
Delay (s)	36.4	5.9	22.1	7.4	37.8	37.6
Level of Service	D	A	C	A	D	D
Approach Delay (s)		9.9	20.1		37.7	
Approach LOS		A	C		D	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	81.6	Sum of lost time (s)	24.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	67	0	2	69	5	0	1	1	4	0	0
Future Volume (Veh/h)	0	67	0	2	69	5	0	1	1	4	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	73	0	2	75	5	0	1	1	4	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					948							
pX, platoon unblocked												
vC, conflicting volume	80			73			154	157	73	156	154	78
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	80			73			154	157	73	156	154	78
tC, single (s)	4.1			4.6			7.1	7.5	6.2	7.3	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.7			3.5	4.9	3.3	3.7	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	100
cM capacity (veh/h)	1531			1271			816	587	995	758	740	989

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	73	82	2	4
Volume Left	0	2	0	4
Volume Right	0	5	1	0
cSH	1531	1271	739	758
Volume to Capacity	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.0	0.2	9.9	9.8
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.2	9.9	9.8
Approach LOS			A	A

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	15.6%	ICU Level of Service	A	
Analysis Period (min)	15			

MERGE ANALYSIS WORKSHEETS

HCS7 Freeway Merge Report

Project Information			
Analyst	GPI	Date	5/31/2022
Agency		Analysis Year	2022 Existing
Jurisdiction		Time Analyzed	Weekday AM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	300	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Final Capacity Adjustment Factor (CAF)	0.968	0.968
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	383	261
Peak Hour Factor (PHF)	0.87	0.73
Total Trucks, %	5.00	12.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.952	0.893
Flow Rate (vi),pc/h	462	400
Capacity (c), pc/h	4356	1936
Volume-to-Capacity Ratio (v/c)	0.20	0.21

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.330
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	43.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	43.9
Flow in Lanes 1 and 2 (v12), pc/h	462	Ramp Junction Speed (S), mi/h	43.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	862	Average Density (D), pc/mi/ln	10.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.1

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HCS7 Freeway Merge Report

Project Information			
Analyst	GPI	Date	5/31/2022
Agency		Analysis Year	2022 Existing
Jurisdiction		Time Analyzed	Weekday PM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	300	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Final Capacity Adjustment Factor (CAF)	0.968	0.968
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	783	501
Peak Hour Factor (PHF)	0.97	0.96
Total Trucks, %	2.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.980	0.962
Flow Rate (vi),pc/h	824	542
Capacity (c), pc/h	4356	1936
Volume-to-Capacity Ratio (v/c)	0.31	0.28

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.336
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	43.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	43.9
Flow in Lanes 1 and 2 (v12), pc/h	824	Ramp Junction Speed (S), mi/h	43.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	1366	Average Density (D), pc/mi/ln	15.8
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.0

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HCS7 Freeway Merge Report

Project Information

Analyst	GPI	Date	5/31/2022
Agency		Analysis Year	2022 Existing
Jurisdiction		Time Analyzed	Saturday Midday Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	300	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Final Capacity Adjustment Factor (CAF)	0.968	0.968
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	816	273
Peak Hour Factor (PHF)	0.97	0.86
Total Trucks, %	1.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.990	0.980
Flow Rate (vi),pc/h	850	324
Capacity (c), pc/h	4356	1936
Volume-to-Capacity Ratio (v/c)	0.27	0.17

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.334
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	43.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	43.9
Flow in Lanes 1 and 2 (v12), pc/h	850	Ramp Junction Speed (S), mi/h	43.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	1174	Average Density (D), pc/mi/ln	13.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.6

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HCS7 Freeway Merge Report

Project Information			
Analyst	GPI	Date	5/31/2022
Agency		Analysis Year	2030 No-Build
Jurisdiction		Time Analyzed	Weekday AM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	300	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Final Capacity Adjustment Factor (CAF)	0.968	0.968
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	415	283
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	5.00	12.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.952	0.893
Flow Rate (vi),pc/h	464	337
Capacity (c), pc/h	4356	1936
Volume-to-Capacity Ratio (v/c)	0.18	0.17

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.330
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	43.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	43.9
Flow in Lanes 1 and 2 (v12), pc/h	464	Ramp Junction Speed (S), mi/h	43.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	801	Average Density (D), pc/mi/ln	9.2
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.6

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HCS7 Freeway Merge Report

Project Information			
Analyst	GPI	Date	5/31/2022
Agency		Analysis Year	2030 No-Build
Jurisdiction		Time Analyzed	Weekday PM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	300	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Final Capacity Adjustment Factor (CAF)	0.968	0.968
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	848	543
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	2.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.980	0.962
Flow Rate (vi),pc/h	921	600
Capacity (c), pc/h	4356	1936
Volume-to-Capacity Ratio (v/c)	0.35	0.31

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.339
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	43.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	43.9
Flow in Lanes 1 and 2 (v12), pc/h	921	Ramp Junction Speed (S), mi/h	43.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	1521	Average Density (D), pc/mi/ln	17.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.1

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HCS7 Freeway Merge Report

Project Information			
Analyst	GPI	Date	5/31/2022
Agency		Analysis Year	2030 No-Build
Jurisdiction		Time Analyzed	Saturday Midday Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	300	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Final Capacity Adjustment Factor (CAF)	0.968	0.968
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	884	319
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	1.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.990	0.980
Flow Rate (vi),pc/h	950	346
Capacity (c), pc/h	4356	1936
Volume-to-Capacity Ratio (v/c)	0.30	0.18

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.335
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	43.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	43.9
Flow in Lanes 1 and 2 (v12), pc/h	950	Ramp Junction Speed (S), mi/h	43.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	1296	Average Density (D), pc/mi/ln	15.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	15.5

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HCS7 Freeway Merge Report

Project Information

Analyst	GPI	Date	11/27/2023
Agency		Analysis Year	2030 Build
Jurisdiction		Time Analyzed	Weekday AM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	300	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Final Capacity Adjustment Factor (CAF)	0.968	0.968
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	450	317
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	5.00	12.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.952	0.893
Flow Rate (vi),pc/h	503	378
Capacity (c), pc/h	4356	1936
Volume-to-Capacity Ratio (v/c)	0.20	0.20

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.330
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	43.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	43.9
Flow in Lanes 1 and 2 (v12), pc/h	503	Ramp Junction Speed (S), mi/h	43.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	881	Average Density (D), pc/mi/ln	10.2
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.2

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HCS7 Freeway Merge Report

Project Information

Analyst	GPI	Date	11/27/2023
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Jurisdiction		Time Analyzed	Weekday PM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	300	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

	Freeway	Ramp
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Final Capacity Adjustment Factor (CAF)	0.968	0.968
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

	Freeway	Ramp
Demand Volume (Vi)	891	589
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	2.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.980	0.962
Flow Rate (vi),pc/h	967	651
Capacity (c), pc/h	4356	1936
Volume-to-Capacity Ratio (v/c)	0.37	0.34

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.341
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	43.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	43.9
Flow in Lanes 1 and 2 (v12), pc/h	967	Ramp Junction Speed (S), mi/h	43.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	1618	Average Density (D), pc/mi/ln	18.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.9

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HCS7 Freeway Merge Report

Project Information

Analyst	GPI	Date	11/27/2023
Agency		Analysis Year	2030 Build
Jurisdiction		Time Analyzed	Saturday Midday Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	300	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Final Capacity Adjustment Factor (CAF)	0.968	0.968
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	924	335
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	1.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.990	0.980
Flow Rate (vi),pc/h	993	364
Capacity (c), pc/h	4356	1936
Volume-to-Capacity Ratio (v/c)	0.31	0.19

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.336
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	43.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	43.9
Flow in Lanes 1 and 2 (v12), pc/h	993	Ramp Junction Speed (S), mi/h	43.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	1357	Average Density (D), pc/mi/ln	15.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.0

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WEAVE ANALYSIS WORKSHEETS

HCS7 Freeway Weaving Report

Project Information

Analyst	GPI	Date	5/31/2022
Agency		Analysis Year	2022 Existing
Jurisdiction		Time Analyzed	Weekday AM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	550	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	4.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	507	101	0	392
Peak Hour Factor (PHF)	0.95	0.86	0.94	0.95
Total Trucks, %	6.00	12.00	0.00	9.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.893	1.000	0.917
Flow Rate (v_i), pc/h	566	132	0	450
Weaving Flow Rate (v_w), pc/h	582	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	566	Density-Based Capacity (c_{IWL}), pc/h/ln		1637
Total Flow Rate (v), pc/h	1148	Demand Flow-Based Capacity (c_{IW}), pc/h		4734
Volume Ratio (VR)	0.507	Weaving Segment Capacity (c_W), veh/h		3036
Minimum Lane Change Rate (LC_{MIN}), lc/h	582	Adjusted Weaving Area Capacity, pc/h		3169
Maximum Weaving Length (L_{MAX}), ft	7908	Volume-to-Capacity Ratio (v/c)		0.36

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	125	Average Weaving Speed (S_W), mi/h	37.7
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	29	Average Non-Weaving Speed (S_{NW}), mi/h	37.0
Weaving Lane Change Rate (LC_W), lc/h	671	Average Speed (S), mi/h	37.4
Weaving Lane Change Rate (LC_{All}), lc/h	700	Density (D), pc/mi/ln	15.3
Weaving Intensity Factor (W)	0.273	Level of Service (LOS)	B

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HCS7 Freeway Weaving Report

Project Information

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Agency		Analysis Year	2022 Existing
Jurisdiction		Time Analyzed	Weekday PM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	550	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	4.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	659	188	0	254
Peak Hour Factor (PHF)	0.96	0.95	0.94	0.96
Total Trucks, %	3.00	3.00	0.00	3.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.971	0.971	1.000	0.971
Flow Rate (v_i), pc/h	707	204	0	272
Weaving Flow Rate (v_w), pc/h	476	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	707	Density-Based Capacity (c_{IWL}), pc/h/ln		1729
Total Flow Rate (v), pc/h	1183	Demand Flow-Based Capacity (c_{IW}), pc/h		5970
Volume Ratio (VR)	0.402	Weaving Segment Capacity (c_W), veh/h		3358
Minimum Lane Change Rate (LC_{MIN}), lc/h	476	Adjusted Weaving Area Capacity, pc/h		3348
Maximum Weaving Length (L_{MAX}), ft	6704	Volume-to-Capacity Ratio (v/c)		0.35

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	156	Average Weaving Speed (S_W), mi/h	38.1
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	59	Average Non-Weaving Speed (S_{NW}), mi/h	37.6
Weaving Lane Change Rate (LC_W), lc/h	565	Average Speed (S), mi/h	37.8
Weaving Lane Change Rate (LC_{All}), lc/h	624	Density (D), pc/mi/ln	15.6
Weaving Intensity Factor (W)	0.250	Level of Service (LOS)	B

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HCS7 Freeway Weaving Report

Project Information

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Jurisdiction		Time Analyzed	Saturday Midday Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	550	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	4.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	695	90	0	216
Peak Hour Factor (PHF)	0.91	0.83	0.94	0.91
Total Trucks, %	1.00	4.00	0.00	3.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.990	0.962	1.000	0.971
Flow Rate (v_i), pc/h	771	113	0	244
Weaving Flow Rate (v_w), pc/h	357	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	771	Density-Based Capacity (c_{IWL}), pc/h/ln		1802
Total Flow Rate (v), pc/h	1128	Demand Flow-Based Capacity (c_{IW}), pc/h		7595
Volume Ratio (VR)	0.316	Weaving Segment Capacity (c_W), veh/h		3544
Minimum Lane Change Rate (LC_{MIN}), lc/h	357	Adjusted Weaving Area Capacity, pc/h		3489
Maximum Weaving Length (L_{MAX}), ft	5756	Volume-to-Capacity Ratio (v/c)		0.32

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	170	Average Weaving Speed (S_W), mi/h	38.8
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	72	Average Non-Weaving Speed (S_{NW}), mi/h	38.6
Weaving Lane Change Rate (LC_W), lc/h	446	Average Speed (S), mi/h	38.7
Weaving Lane Change Rate (LC_{All}), lc/h	518	Density (D), pc/mi/ln	14.6
Weaving Intensity Factor (W)	0.216	Level of Service (LOS)	B

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Project Information

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Jurisdiction		Time Analyzed	Weekday AM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	550	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	4.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	549	109	0	424
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	6.00	12.00	0.00	9.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.893	1.000	0.917
Flow Rate (v_i), pc/h	619	130	0	492
Weaving Flow Rate (v_w), pc/h	622	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	619	Density-Based Capacity (c_{IWL}), pc/h/ln		1642
Total Flow Rate (v), pc/h	1241	Demand Flow-Based Capacity (c_{IW}), pc/h		4790
Volume Ratio (VR)	0.501	Weaving Segment Capacity (c_W), veh/h		3046
Minimum Lane Change Rate (LC_{MIN}), lc/h	622	Adjusted Weaving Area Capacity, pc/h		3180
Maximum Weaving Length (L_{MAX}), ft	7838	Volume-to-Capacity Ratio (v/c)		0.39

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	136	Average Weaving Speed (S_W), mi/h	37.4
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	40	Average Non-Weaving Speed (S_{NW}), mi/h	36.4
Weaving Lane Change Rate (LC_W), lc/h	711	Average Speed (S), mi/h	36.9
Weaving Lane Change Rate (LC_{All}), lc/h	751	Density (D), pc/mi/ln	16.8
Weaving Intensity Factor (W)	0.289	Level of Service (LOS)	B

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HCS7 Freeway Weaving Report

Project Information

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Jurisdiction		Time Analyzed	Weekday PM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	550	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	4.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	714	204	0	275
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	3.00	3.00	0.00	3.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.971	0.971	1.000	0.971
Flow Rate (v_i), pc/h	782	224	0	301
Weaving Flow Rate (v_w), pc/h	525	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	782	Density-Based Capacity (c_{IWL}), pc/h/ln		1729
Total Flow Rate (v), pc/h	1307	Demand Flow-Based Capacity (c_{IW}), pc/h		5970
Volume Ratio (VR)	0.402	Weaving Segment Capacity (c_W), veh/h		3358
Minimum Lane Change Rate (LC_{MIN}), lc/h	525	Adjusted Weaving Area Capacity, pc/h		3348
Maximum Weaving Length (L_{MAX}), ft	6704	Volume-to-Capacity Ratio (v/c)		0.39

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	172	Average Weaving Speed (S_W), mi/h	37.8
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	74	Average Non-Weaving Speed (S_{NW}), mi/h	37.0
Weaving Lane Change Rate (LC_W), lc/h	614	Average Speed (S), mi/h	37.3
Weaving Lane Change Rate (LC_{All}), lc/h	688	Density (D), pc/mi/ln	17.5
Weaving Intensity Factor (W)	0.270	Level of Service (LOS)	B

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Project Description	The Reserve	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	550	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	4.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	753	97	0	234
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	1.00	4.00	0.00	3.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.990	0.962	1.000	0.971
Flow Rate (v_i), pc/h	809	107	0	256
Weaving Flow Rate (v_w), pc/h	363	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	809	Density-Based Capacity (c_{IWL}), pc/h/ln		1807
Total Flow Rate (v), pc/h	1172	Demand Flow-Based Capacity (c_{IW}), pc/h		7742
Volume Ratio (VR)	0.310	Weaving Segment Capacity (c_W), veh/h		3554
Minimum Lane Change Rate (LC_{MIN}), lc/h	363	Adjusted Weaving Area Capacity, pc/h		3498
Maximum Weaving Length (L_{MAX}), ft	5691	Volume-to-Capacity Ratio (v/c)		0.34

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	178	Average Weaving Speed (S_W), mi/h	38.7
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	80	Average Non-Weaving Speed (S_{NW}), mi/h	38.5
Weaving Lane Change Rate (LC_W), lc/h	452	Average Speed (S), mi/h	38.6
Weaving Lane Change Rate (LC_{All}), lc/h	532	Density (D), pc/mi/ln	15.2
Weaving Intensity Factor (W)	0.220	Level of Service (LOS)	B

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HCS7 Freeway Weaving Report

Project Information

Analyst	GPI	Date	11/27/2023
Agency		Analysis Year	2030 Build
Jurisdiction		Time Analyzed	Weekday AM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	550	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	4.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	598	109	0	480
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	6.00	12.00	0.00	9.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.893	1.000	0.917
Flow Rate (v_i), pc/h	675	130	0	557
Weaving Flow Rate (v_w), pc/h	687	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	675	Density-Based Capacity (c_{IWL}), pc/h/ln		1640
Total Flow Rate (v), pc/h	1362	Demand Flow-Based Capacity (c_{IW}), pc/h		4762
Volume Ratio (VR)	0.504	Weaving Segment Capacity (c_W), veh/h		3043
Minimum Lane Change Rate (LC_{MIN}), lc/h	687	Adjusted Weaving Area Capacity, pc/h		3176
Maximum Weaving Length (L_{MAX}), ft	7873	Volume-to-Capacity Ratio (v/c)		0.43

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	148	Average Weaving Speed (S_W), mi/h	37.0
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	52	Average Non-Weaving Speed (S_{NW}), mi/h	35.7
Weaving Lane Change Rate (LC_W), lc/h	776	Average Speed (S), mi/h	36.3
Weaving Lane Change Rate (LC_{All}), lc/h	828	Density (D), pc/mi/ln	18.8
Weaving Intensity Factor (W)	0.312	Level of Service (LOS)	B

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HCS7 Freeway Weaving Report

Project Information

Analyst	GPI	Date	11/27/2023
Agency		Analysis Year	2030 Build
Jurisdiction		Time Analyzed	Weekday PM Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	550	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	4.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	755	204	0	318
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	3.00	3.00	0.00	3.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.971	0.971	1.000	0.971
Flow Rate (v_i), pc/h	827	224	0	348
Weaving Flow Rate (v_w), pc/h	572	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	827	Density-Based Capacity (c_{IWL}), pc/h/ln		1723
Total Flow Rate (v), pc/h	1399	Demand Flow-Based Capacity (c_{IW}), pc/h		5868
Volume Ratio (VR)	0.409	Weaving Segment Capacity (c_W), veh/h		3346
Minimum Lane Change Rate (LC_{MIN}), lc/h	572	Adjusted Weaving Area Capacity, pc/h		3336
Maximum Weaving Length (L_{MAX}), ft	6782	Volume-to-Capacity Ratio (v/c)		0.42

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	182	Average Weaving Speed (S_W), mi/h	37.5
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	83	Average Non-Weaving Speed (S_{NW}), mi/h	36.4
Weaving Lane Change Rate (LC_W), lc/h	661	Average Speed (S), mi/h	36.8
Weaving Lane Change Rate (LC_{All}), lc/h	744	Density (D), pc/mi/ln	19.0
Weaving Intensity Factor (W)	0.287	Level of Service (LOS)	B

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HCS7 Freeway Weaving Report

Project Information

Analyst	GPI	Date	11/27/2023
Agency		Analysis Year	2030 Build
Jurisdiction		Time Analyzed	Saturday Midday Peak Hour
Project Description	The Reserve	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	550	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	4.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	790	97	0	271
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	1.00	4.00	0.00	3.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.990	0.962	1.000	0.971
Flow Rate (v_i), pc/h	849	107	0	297
Weaving Flow Rate (v_w), pc/h	404	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	849	Density-Based Capacity (c_{IWL}), pc/h/ln		1797
Total Flow Rate (v), pc/h	1253	Demand Flow-Based Capacity (c_{IW}), pc/h		7453
Volume Ratio (VR)	0.322	Weaving Segment Capacity (c_W), veh/h		3533
Minimum Lane Change Rate (LC_{MIN}), lc/h	404	Adjusted Weaving Area Capacity, pc/h		3479
Maximum Weaving Length (L_{MAX}), ft	5821	Volume-to-Capacity Ratio (v/c)		0.36

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	187	Average Weaving Speed (S_W), mi/h	38.4
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	88	Average Non-Weaving Speed (S_{NW}), mi/h	38.0
Weaving Lane Change Rate (LC_W), lc/h	493	Average Speed (S), mi/h	38.1
Weaving Lane Change Rate (LC_{All}), lc/h	581	Density (D), pc/mi/ln	16.4
Weaving Intensity Factor (W)	0.236	Level of Service (LOS)	B

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SIGNAL WARRANT ANALYSIS WORKSHEET

Traffic Control Signal Warrant Analyses

(Based on MUTCD-2009 Edition)

Intersection:	Route 20 at Western Site Driveway				
Pop. <10,000? (Y/N)	N	Count Date:	1/19/2023	Analysis Date:	11/08/24
Speed (in mph):	45 mph	Analysis Year:	2028 Build	Analyst:	SET
		Adjustment Factor:	1	Raw counts	

	Is Major?* (Y/N)	#Lanes* (one way)
EB	Y	2
WB	Y	2
NB		
SB	N	2

Major Lanes: 2 — Enter the higher number of lanes for the major street approach

Minor Lanes: 2 — Enter the number of lanes for the minor street approach you want to analyze

*Note: If intersection is a "T" intersection, leave cells blank for the non-existent approach

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	76	1,395	0	0	681	60	0	0	0	130	0	54
8:00	87	1,638	0	0	557	74	0	0	0	117	0	61
9:00	86	1,375	0	0	563	79	0	0	0	108	0	64
10:00	98	1,374	0	0	605	91	0	0	0	107	0	74
11:00	129	1,390	0	0	712	119	0	0	0	151	0	100
12:00	155	831	0	0	776	140	0	0	0	168	0	126
13:00	131	793	0	0	894	118	0	0	0	144	0	114
14:00	117	836	0	0	1,068	110	0	0	0	148	0	108
15:00	122	814	0	0	1,368	126	0	0	0	146	0	108
16:00	122	742	0	0	1,501	134	0	0	0	167	0	108
17:00	128	685	0	0	1,357	150	0	0	0	188	0	114
18:00	111	449	0	0	886	128	0	0	0	131	0	100
19:00	90	226	0	0	584	102	0	0	0	103	0	86

Time	Σ EB	Σ WB	Σ NB	Σ SB	Σ Major	Σ Minor	Σ Max Minor	W1 A	W1 B	W1combo	W2	W3
7:00	1471	741	0	184	2212	184	184	Y	Y	Y	Y	Y
8:00	1725	631	0	178	2356	178	178	Y	Y	Y	Y	Y
9:00	1461	642	0	172	2103	172	172	Y	Y	Y	Y	Y
10:00	1472	696	0	181	2168	181	181	Y	Y	Y	Y	Y
11:00	1519	831	0	251	2350	251	251	Y	Y	Y	Y	Y
12:00	986	916	0	294	1902	294	294	Y	Y	Y	Y	Y
13:00	924	1012	0	258	1936	258	258	Y	Y	Y	Y	Y
14:00	953	1178	0	256	2132	256	256	Y	Y	Y	Y	Y
15:00	936	1494	0	254	2431	254	254	Y	Y	Y	Y	Y
16:00	864	1635	0	275	2498	275	275	Y	Y	Y	Y	Y
17:00	813	1507	0	302	2321	302	302	Y	Y	Y	Y	Y
18:00	560	1014	0	231	1574	231	231	Y	Y	Y	Y	Y
19:00	316	686	0	189	1002	189	189	Y	Y	Y	Y	Y
								13 of 8	**13 of 8**	**13 of 8**	**13 of 4**	**13 of 1**

Warrant Analyses

Warrant 1: Condition A Minimum Vehicular Volume Warrant is Met
Warrant 1: Condition B Interruption of Continuous Traffic Warrant is Met
Warrant 1: Combination of Warrants 1A and 1B is Met
Warrant 2: Four-Hour Warrant is Met
Warrant 3: One-Hour Warrant is Met

Raw Counts

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,264	0	0	617	0	0	0	0	0	0	0
8:00	0	1,484	0	0	505	0	0	0	0	0	0	0
9:00	0	1,246	0	0	510	0	0	0	0	0	0	0
10:00	0	1,245	0	0	548	0	0	0	0	0	0	0
11:00	0	1,260	0	0	645	0	0	0	0	0	0	0
12:00	0	753	0	0	703	0	0	0	0	0	0	0
13:00	0	719	0	0	810	0	0	0	0	0	0	0
14:00	0	758	0	0	968	0	0	0	0	0	0	0
15:00	0	738	0	0	1,240	0	0	0	0	0	0	0
16:00	0	672	0	0	1,360	0	0	0	0	0	0	0
17:00	0	621	0	0	1,230	0	0	0	0	0	0	0
18:00	0	407	0	0	803	0	0	0	0	0	0	0
19:00	0	205	0	0	529	0	0	0	0	0	0	0

ATR from January 19, 2023 on Southbridge Road (Route 20) near #176 (Oxford Auburn Sales)

Seasonal Adjustment to Average Month Conditions = 5.0%

Seasonally Adjusted Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,327	0	0	648	0	0	0	0	0	0	0
8:00	0	1,558	0	0	530	0	0	0	0	0	0	0
9:00	0	1,308	0	0	536	0	0	0	0	0	0	0
10:00	0	1,307	0	0	575	0	0	0	0	0	0	0
11:00	0	1,323	0	0	677	0	0	0	0	0	0	0
12:00	0	791	0	0	738	0	0	0	0	0	0	0
13:00	0	755	0	0	851	0	0	0	0	0	0	0
14:00	0	796	0	0	1,016	0	0	0	0	0	0	0
15:00	0	775	0	0	1,302	0	0	0	0	0	0	0
16:00	0	706	0	0	1,428	0	0	0	0	0	0	0
17:00	0	652	0	0	1,292	0	0	0	0	0	0	0
18:00	0	427	0	0	843	0	0	0	0	0	0	0
19:00	0	215	0	0	555	0	0	0	0	0	0	0

January 2023 U3 Seasonal Adjustment Factor = 1.05

Historical Growth Rate = 5.1% (full occupancy expected in 2028, counts performed in 2023)

Historic Growth Rate Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,395	0	0	681	0	0	0	0	0	0	0
8:00	0	1,638	0	0	557	0	0	0	0	0	0	0
9:00	0	1,375	0	0	563	0	0	0	0	0	0	0
10:00	0	1,374	0	0	605	0	0	0	0	0	0	0
11:00	0	1,390	0	0	712	0	0	0	0	0	0	0
12:00	0	831	0	0	776	0	0	0	0	0	0	0
13:00	0	793	0	0	894	0	0	0	0	0	0	0
14:00	0	836	0	0	1,068	0	0	0	0	0	0	0
15:00	0	814	0	0	1,368	0	0	0	0	0	0	0
16:00	0	742	0	0	1,501	0	0	0	0	0	0	0
17:00	0	685	0	0	1,357	0	0	0	0	0	0	0
18:00	0	449	0	0	886	0	0	0	0	0	0	0
19:00	0	226	0	0	584	0	0	0	0	0	0	0

No-Build Adjusted Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,395	0	0	681	0	0	0	0	0	0	0
8:00	0	1,638	0	0	557	0	0	0	0	0	0	0
9:00	0	1,375	0	0	563	0	0	0	0	0	0	0
10:00	0	1,374	0	0	605	0	0	0	0	0	0	0
11:00	0	1,390	0	0	712	0	0	0	0	0	0	0
12:00	0	831	0	0	776	0	0	0	0	0	0	0
13:00	0	793	0	0	894	0	0	0	0	0	0	0
14:00	0	836	0	0	1,068	0	0	0	0	0	0	0
15:00	0	814	0	0	1,368	0	0	0	0	0	0	0
16:00	0	742	0	0	1,501	0	0	0	0	0	0	0
17:00	0	685	0	0	1,357	0	0	0	0	0	0	0
18:00	0	449	0	0	886	0	0	0	0	0	0	0
19:00	0	226	0	0	584	0	0	0	0	0	0	0

Details on following page

Site Generated Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	76	0	0	0	0	60	0	0	0	130	0	54
8:00	87	0	0	0	0	74	0	0	0	117	0	61
9:00	86	0	0	0	0	79	0	0	0	108	0	64
10:00	98	0	0	0	0	91	0	0	0	107	0	74
11:00	129	0	0	0	0	119	0	0	0	151	0	100
12:00	155	0	0	0	0	140	0	0	0	168	0	126
13:00	131	0	0	0	0	118	0	0	0	144	0	114
14:00	117	0	0	0	0	110	0	0	0	148	0	108
15:00	122	0	0	0	0	126	0	0	0	146	0	108
16:00	122	0	0	0	0	134	0	0	0	167	0	108
17:00	128	0	0	0	0	150	0	0	0	188	0	114
18:00	111	0	0	0	0	128	0	0	0	131	0	100
19:00	90	0	0	0	0	102	0	0	0	103	0	86

Build Adjusted Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	76	1,395	0	0	681	60	0	0	0	130	0	54
8:00	87	1,638	0	0	557	74	0	0	0	117	0	61
9:00	86	1,375	0	0	563	79	0	0	0	108	0	64
10:00	98	1,374	0	0	605	91	0	0	0	107	0	74
11:00	129	1,390	0	0	712	119	0	0	0	151	0	100
12:00	155	831	0	0	776	140	0	0	0	168	0	126
13:00	131	793	0	0	894	118	0	0	0	144	0	114
14:00	117	836	0	0	1,068	110	0	0	0	148	0	108
15:00	122	814	0	0	1,368	126	0	0	0	146	0	108
16:00	122	742	0	0	1,501	134	0	0	0	167	0	108
17:00	128	685	0	0	1,357	150	0	0	0	188	0	114
18:00	111	449	0	0	886	128	0	0	0	131	0	100
19:00	90	226	0	0	584	102	0	0	0	103	0	86

ASHWORTH COMMONS						ASHWORTH HILLS			
RETAIL/GAS/RESTAURANT ENTERING TRAFFIC		RETAIL/GAS/RESTAURANT EXITING TRAFFIC		OFFICE ENTERING	OFFICE EXITING	ASHWORTH HILLS ENTERING TRAFFIC		ASHWORTH HILLS EXITING TRAFFIC	
FROM WEST (EBL)	FROM EAST (WBR)	TO WEST (SBR)	TO EAST (SBL)	FROM WEST (EBL)	TO EAST (SBL)	FROM WEST (EBL)	FROM EAST (WBR)	TO WEST (SBR)	TO EAST (SBL)
61	49	50	41	14	6	1	11	4	83
70	58	58	48	16	11	1	16	3	58
78	63	62	50	7	14	1	16	2	44
91	74	73	60	6	20	1	17	1	27
121	99	98	81	7	35	1	20	2	35
143	117	124	102	11	35	1	23	2	31
120	99	112	92	10	22	1	19	2	30
107	87	106	87	9	23	1	23	2	38
112	92	106	87	8	29	2	34	2	30
114	93	106	87	6	48	2	41	2	32
121	99	112	92	4	53	3	51	2	43
107	87	98	81	2	9	2	41	2	41
87	72	84	68	1	7	2	30	2	28
55%	45%	55%	45%	25%	75%	5%	45%	5%	45%
100%		100%							

*Office - only includes lefts in and lefts out
Right turns expected to use eastern driveway

*Ashworth Hills - only includes traffic expected to enter via Route 20 (not Ashworth Drive)

OCCUPANCY	
100%	Ashworth Commons

OCCUPANCY	
100%	Ashworth Hills

Ashworth Commons
Retail

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	820		
Land Use	Shopping Center (>150k)		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	24		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.1%	0.1%	0.1%
1:00 - 2:00 AM	0.1%	0.1%	0.1%
2:00 - 3:00 AM	0.1%	0.1%	0.1%
3:00 - 4:00 AM	0.1%	0.1%	0.1%
4:00 - 5:00 AM	0.1%	0.1%	0.1%
5:00 - 6:00 AM	0.4%	0.4%	0.5%
6:00 - 7:00 AM	0.6%	0.8%	0.5%
7:00 - 8:00 AM	1.5%	1.9%	1.2%
8:00 - 9:00 AM	2.3%	2.8%	1.8%
9:00 - 10:00 AM	3.9%	4.8%	3.0%
10:00 - 11:00 AM	5.9%	6.8%	5.0%
11:00 - 12:00 PM	7.5%	8.2%	7.0%
12:00 - 1:00 PM	8.9%	9.3%	8.5%
1:00 - 2:00 PM	8.5%	8.4%	8.6%
2:00 - 3:00 PM	7.9%	7.5%	8.2%
3:00 - 4:00 PM	7.9%	7.8%	8.1%
4:00 - 5:00 PM	8.3%	8.3%	8.3%
5:00 - 6:00 PM	8.5%	8.4%	8.5%
6:00 - 7:00 PM	7.4%	7.4%	7.5%
7:00 - 8:00 PM	6.5%	6.3%	6.6%
8:00 - 9:00 PM	5.1%	4.1%	6.1%
9:00 - 10:00 PM	3.1%	1.8%	4.4%
10:00 - 11:00 PM	3.6%	3.2%	4.0%
11:00 - 12:00 AM	1.8%	1.6%	2.1%

* Not enough data for LUC 821
(Shopping Center [40-150k])

1,193	1,168
Entering	Exiting
1	1
1	1
1	1
1	1
1	1
5	5
10	5
22	14
34	21
57	35
81	59
97	81
111	99
100	100
90	96
93	94
99	97
101	99
88	87
75	78
49	71
21	52
38	47
19	24
1,195	1,169

Ashworth Commons
Gas Station

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	945		
Land Use	Convenience Store/Gas Station		
Subcategory	GFA (4-10k)		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	5		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	1.3%	1.2%	1.3%
1:00 - 2:00 AM	0.8%	0.8%	0.9%
2:00 - 3:00 AM	0.6%	0.6%	0.6%
3:00 - 4:00 AM	0.8%	0.8%	0.7%
4:00 - 5:00 AM	1.5%	1.6%	1.5%
5:00 - 6:00 AM	3.1%	3.1%	3.0%
6:00 - 7:00 AM	4.6%	4.7%	4.5%
7:00 - 8:00 AM	5.9%	6.0%	5.9%
8:00 - 9:00 AM	6.5%	6.5%	6.4%
9:00 - 10:00 AM	5.7%	5.6%	5.7%
10:00 - 11:00 AM	5.3%	5.3%	5.3%
11:00 - 12:00 PM	5.8%	5.8%	5.7%
12:00 - 1:00 PM	6.6%	6.6%	6.6%
1:00 - 2:00 PM	6.1%	6.2%	5.9%
2:00 - 3:00 PM	6.1%	6.0%	6.2%
3:00 - 4:00 PM	6.8%	6.8%	6.8%
4:00 - 5:00 PM	6.4%	6.3%	6.5%
5:00 - 6:00 PM	6.8%	6.7%	6.9%
6:00 - 7:00 PM	5.4%	5.3%	5.4%
7:00 - 8:00 PM	4.0%	3.9%	4.0%
8:00 - 9:00 PM	3.4%	3.4%	3.4%
9:00 - 10:00 PM	2.7%	2.8%	2.7%
10:00 - 11:00 PM	2.1%	2.1%	2.1%
11:00 - 12:00 AM	1.9%	1.9%	2.0%

1,101	1,078
Entering	Exiting
13	14
9	10
7	7
9	8
17	16
34	32
52	48
66	63
72	69
62	62
58	57
64	62
73	71
68	64
66	67
75	73
70	70
74	75
58	58
43	43
37	36
31	29
23	22
21	21
1,102	1,077

Ashworth Commons
Restaurant

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	934		
Land Use	Fast-Food Restaurant with Drive-Through Window		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	53		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.8%	0.8%	0.8%
1:00 - 2:00 AM	0.4%	0.4%	0.5%
2:00 - 3:00 AM	0.3%	0.3%	0.3%
3:00 - 4:00 AM	0.3%	0.2%	0.3%
4:00 - 5:00 AM	0.3%	0.3%	0.3%
5:00 - 6:00 AM	0.7%	0.8%	0.7%
6:00 - 7:00 AM	2.1%	2.3%	1.9%
7:00 - 8:00 AM	3.3%	3.4%	3.1%
8:00 - 9:00 AM	3.5%	3.5%	3.4%
9:00 - 10:00 AM	3.3%	3.4%	3.3%
10:00 - 11:00 AM	3.8%	4.0%	3.7%
11:00 - 12:00 PM	8.4%	9.1%	7.7%
12:00 - 1:00 PM	11.9%	11.9%	12.0%
1:00 - 2:00 PM	8.3%	7.9%	8.7%
2:00 - 3:00 PM	6.2%	5.9%	6.5%
3:00 - 4:00 PM	5.7%	5.7%	5.7%
4:00 - 5:00 PM	5.7%	5.9%	5.6%
5:00 - 6:00 PM	6.7%	6.9%	6.5%
6:00 - 7:00 PM	7.4%	7.4%	7.4%
7:00 - 8:00 PM	6.5%	6.3%	6.6%
8:00 - 9:00 PM	5.7%	5.6%	5.8%
9:00 - 10:00 PM	4.4%	4.1%	4.6%
10:00 - 11:00 PM	2.7%	2.5%	2.9%
11:00 - 12:00 AM	1.6%	1.4%	1.8%

643	464
Entering	Exiting
5	4
2	2
2	2
2	1
2	1
5	3
15	9
22	14
22	16
22	15
26	17
59	36
76	56
51	40
38	30
36	26
38	26
45	30
48	34
41	31
36	27
26	21
16	13
9	8
644	462

Ashworth Commons
Office

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	710		
Land Use	General Office Building		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	11		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.1%	0.2%	0.1%
1:00 - 2:00 AM	0.0%	0.0%	0.1%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.1%	0.0%	0.1%
4:00 - 5:00 AM	0.2%	0.2%	0.2%
5:00 - 6:00 AM	0.3%	0.4%	0.1%
6:00 - 7:00 AM	2.6%	4.8%	0.5%
7:00 - 8:00 AM	7.8%	13.6%	2.0%
8:00 - 9:00 AM	8.9%	14.3%	3.4%
9:00 - 10:00 AM	5.3%	6.3%	4.4%
10:00 - 11:00 AM	5.7%	5.5%	6.0%
11:00 - 12:00 PM	8.1%	6.0%	10.3%
12:00 - 1:00 PM	10.2%	10.2%	10.1%
1:00 - 2:00 PM	7.8%	9.0%	6.6%
2:00 - 3:00 PM	7.4%	8.3%	6.5%
3:00 - 4:00 PM	7.8%	7.3%	8.4%
4:00 - 5:00 PM	10.3%	5.4%	15.2%
5:00 - 6:00 PM	9.9%	4.0%	15.8%
6:00 - 7:00 PM	2.1%	1.7%	2.6%
7:00 - 8:00 PM	1.6%	0.9%	2.3%
8:00 - 9:00 PM	1.0%	0.7%	1.3%
9:00 - 10:00 PM	1.1%	0.5%	1.6%
10:00 - 11:00 PM	1.2%	0.3%	2.1%
11:00 - 12:00 AM	0.3%	0.4%	0.2%

total office	601	601
	88%	88%
external	428	437
	377	385

Entering	Exiting
1	0
0	0
0	0
0	0
1	1
2	1
18	2
51	8
54	13
24	17
21	23
23	40
38	39
34	26
31	25
28	32
20	59
15	61
6	10
4	9
3	5
2	6
1	8
2	1
379	386

Ashworth Commons
Office

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	712		
Land Use	Small Office Building		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	22		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.0%	0.0%	0.0%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.0%	0.0%	0.0%
5:00 - 6:00 AM	0.0%	0.0%	0.0%
6:00 - 7:00 AM	0.0%	0.0%	0.0%
7:00 - 8:00 AM	3.6%	6.8%	0.4%
8:00 - 9:00 AM	9.5%	15.0%	3.9%
9:00 - 10:00 AM	6.9%	9.5%	4.3%
10:00 - 11:00 AM	7.4%	8.4%	6.4%
11:00 - 12:00 PM	10.5%	8.2%	12.8%
12:00 - 1:00 PM	12.6%	10.9%	14.2%
1:00 - 2:00 PM	7.6%	8.6%	6.6%
2:00 - 3:00 PM	9.6%	9.7%	9.5%
3:00 - 4:00 PM	10.8%	10.3%	11.3%
4:00 - 5:00 PM	8.1%	7.2%	9.1%
5:00 - 6:00 PM	11.2%	4.7%	17.7%
6:00 - 7:00 PM	2.2%	0.6%	3.7%
7:00 - 8:00 PM	0.0%	0.0%	0.0%
8:00 - 9:00 PM	0.0%	0.0%	0.0%
9:00 - 10:00 PM	0.0%	0.0%	0.0%
10:00 - 11:00 PM	0.0%	0.0%	0.0%
11:00 - 12:00 AM	0.0%	0.0%	0.0%

total office	601	601
	12%	12%
external	428	437
	51	52

Entering	Exiting
0	0
0	0
0	0
0	0
0	0
0	0
0	0
3	0
8	2
5	2
4	3
4	7
6	7
4	3
5	5
5	6
4	5
2	9
0	2
0	0
0	0
0	0
0	0
0	0
50	51

Ashworth Hills

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	215		
Land Use	Single-Family Attached Housing		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	7		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.5%	0.7%	0.3%
1:00 - 2:00 AM	0.2%	0.4%	0.1%
2:00 - 3:00 AM	0.3%	0.2%	0.3%
3:00 - 4:00 AM	0.3%	0.3%	0.4%
4:00 - 5:00 AM	0.7%	0.4%	1.0%
5:00 - 6:00 AM	1.4%	0.1%	2.6%
6:00 - 7:00 AM	3.5%	1.1%	5.8%
7:00 - 8:00 AM	7.9%	2.7%	13.2%
8:00 - 9:00 AM	6.6%	3.8%	9.3%
9:00 - 10:00 AM	5.3%	3.7%	6.9%
10:00 - 11:00 AM	4.1%	4.0%	4.3%
11:00 - 12:00 PM	5.3%	4.8%	5.7%
12:00 - 1:00 PM	5.2%	5.4%	5.1%
1:00 - 2:00 PM	4.7%	4.5%	4.8%
2:00 - 3:00 PM	5.8%	5.5%	6.0%
3:00 - 4:00 PM	6.5%	8.2%	4.8%
4:00 - 5:00 PM	7.5%	9.8%	5.1%
5:00 - 6:00 PM	9.4%	12.1%	6.8%
6:00 - 7:00 PM	8.2%	9.8%	6.6%
7:00 - 8:00 PM	5.9%	7.3%	4.5%
8:00 - 9:00 PM	4.7%	5.9%	3.5%
9:00 - 10:00 PM	3.0%	4.8%	1.3%
10:00 - 11:00 PM	2.0%	3.0%	1.1%
11:00 - 12:00 AM	0.9%	1.5%	0.4%

442	660
Entering	Exiting
3	2
2	1
1	2
1	2
2	7
1	17
5	39
12	87
17	61
17	46
18	28
21	37
24	33
20	32
24	40
36	32
43	34
54	45
43	43
32	30
26	23
21	9
13	7
6	3
442	660

ICE STAGE 1 ANALYSIS

MassDOT Intersection Control Evaluation (ICE) Applicability Checklist

Project Name	The Reserve
MassDOT District	District 3
Project No. (if known)	
City/Town	Oxford, MA / Auburn, MA
Submitted By	Greenman-Pedersen, Inc. (GPI)
Agency/Company	Eastland Partners, Inc.
Email	blippman@gpinet.com
Date	11/15/2024

Step 1) Check if the project is exempt from ICE by answering the questions below. Select Yes/No in the drop-down provided for each question.

Did the project receive a written waiver from the State Traffic Engineer?	No
Has the project been reviewed through the MEPA process and has a Section 61 Finding with specific mitigation requirements?	No
Is the project muncipally-led?	No
Is the project entirely on locally-maintained roadways?	No
Are Federal Highway Administration (FHWA) funds used?	No
Is the project being designed by MassDOT or consultants under contract with MassDOT?	No
Will the project be advertised by MassDOT?	No
Is the project fully funded through Chapter 90 or a MassDOT grant program?	No

Proceed to Step 2.

Step 2) Answer the questions below to check each project intersection for ICE applicability. Select the appropriate answer in the gray drop-down box provided for each question.

Intersection #	Intersection*	Do all minor street approaches to the intersection have an AADT less than 1,000 vehicles per day?	Did the intersection receive a written waiver from the State Traffic Engineer?	Is this a new intersection being created?	Are any leg(s) being added to the intersection?	Are any through, left-turn, channelized turn, or bypass lanes being added to the intersection (adding lanes does not include reallocation of existing pavement/travel lanes)?	Is the traffic control at part or all of the intersection changing (e.g., adding or removing signal, stop, or yield control)?	Is the intersection a high-crash location (except when the scope of work is limited to maintenance or resurfacing)? **	Is ICE required?
1	US-20 (Southbridge Road) at West Site Driveway	No	No	Yes	Yes	Yes	Yes	No	YES
2	US-20 (Southbridge Road) at East Site Driveway	Yes	No	Yes	Yes	Yes	Yes	No	NO
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									

* For the purpose of the ICE Procedure, all major driveways are considered intersections.

**For the purpose of the ICE Procedure, a high-crash location is defined as an intersection within a cluster for the most recent period shown on the MassDOT Interactive Crash Cluster Map (https://gis.massdot.state.ma.us/topcrashlocations/). Note that a high-crash location is defined differently for purposes of Road Safety Audits. Ramp terminals and rotary intersections are not included on MassDOT's Interactive Crash Cluster Map. If an intersection is a ramp terminal or rotary, MassDOT Traffic Safety should be contacted (TrafficSafetyAnalysis@dot.state.ma.us) to determine whether the location is a high crash location or not.

Notes if applicable (use intersection number):

Intersections 1 & 2: Minor street AADT estimated based on expected site trip generation; see attached pages from "Traffic Impact and Access Study for Submission with Final Enviornmental Impact Report EEA #15912 (2024)" for reference.

Version 1.5 Effective July 10, 2024

MassDOT Intersection Control Evaluation (ICE) Stage 1: Screening

massDOT

Project Name	The Reserve
Project Number (If known)	
MassDOT District	District 3
City/Town	Oxford, MA / Auburn, MA
Major Street	US-20 (Southbridge Road)
Minor Street	West Site Driveway
Existing Control Type	New Intersection
Submitted By	Greenman-Pedersen, Inc. (GPI)
Agency/Company	Eastland Partners, Inc.
Email	blippman@gpinet.com
Date	11/15/24
Latitude	42.168550
Longitude	71.885330

Project Setting *(Describe the area surrounding the intersection)*

The proposed T-intersection is intended to serve as the primary access point between US-20 (Southbridge Road), an east-west 4-lane urban principal arterial, and The Reserve residential development located to the north of US-20. In the vicinity of the future intersection, US-20 is abutted by commercial & residential properties to the south, residential properties to the northwest of the proposed intersection, and the site being developed to the northeast of the proposed intersection. The area along US-20 in the vicinity of the proposed intersection is zoned for General Business by the Town of Oxford, and vehicular traffic is currently the predominant mode of travel along US-20 near this location. US-20 is posted for 45 MPH in both directions in the vicinity of the proposed intersection.

Project Need/Opportunity *(What is the catalyst for this project and intended outcomes?)*

A proposed multi-use development, The Reserve, is to be located north of US-20 (Southbridge Road) in Oxford & Auburn, MA on a 249-acre site that is currently undeveloped. The Reserve is divided into 4 separate projects, including a commercial development, Ashworth Commons. Access & egress to Ashworth Commons will be provided via two driveways on US-20. US-20 is a state highway & therefore requires an access permit from MassDOT. The proposed project is expected to generate more than 3,000 additional vehicle trips per day.

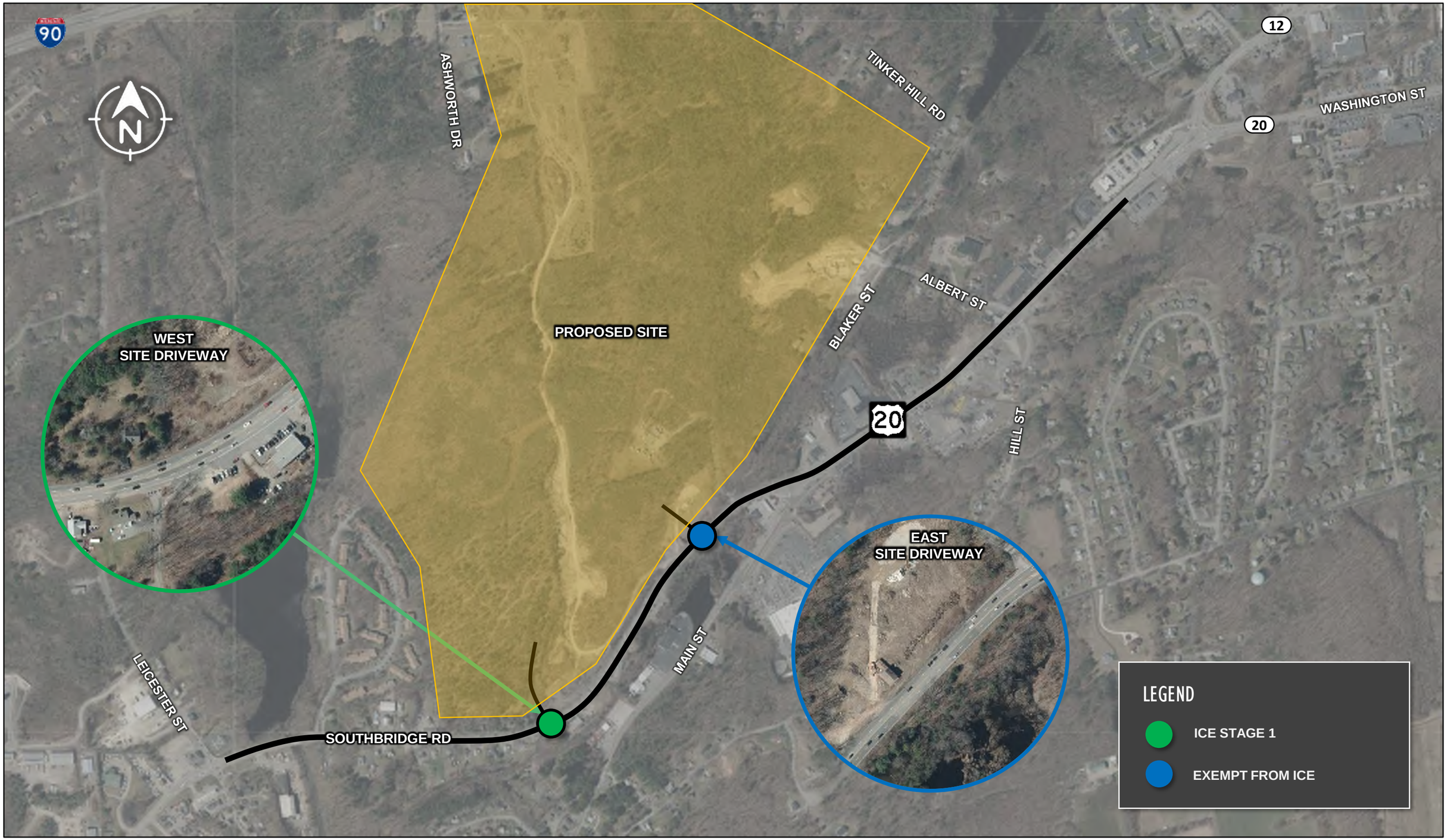
Multimodal Context *(Describe pedestrian, bicycle, and transit activity in the area)*

There are no designated pedestrian or bicycle facilities along the existing east & west US-20 approaches in the vicinity of the proposed intersection. US-20 in the vicinity of the future intersection is designated by the Central Massachusetts Regional Planning Commission (CMRPC) as exhibiting "Medium" Potential for Walkable Trips & Everyday Biking. The proposed intersection is within the service area of the Worcester Regional Transit Authority (WRTA), which provides bus transit service along US-20 via Route 29 ('Southbridge - Charlton') at 2 nearby stops: 3099 & 3059, located approximately 60' & 290' west of the proposed intersection, respectively.

Link to intersection location

COULD THE CONTROL STRATEGY:

Control Strategy	... address the project need in a balanced manner and in scale with the project?	... improve safety performance in terms of reducing severe crashes?	... incorporate safety, convenience, and accessibility for pedestrians and/or cyclists?	... improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	... appear viable given the site constraints & location context (e.g., ROW, cultural impacts)?	... appear viable with respect to other project factors (e.g., environmental, utility impacts)?	**VIABLE CONTROL STRATEGY?**	Decision Justification	MassDOT Comments
Two-Way Stop Control (TWSC)	Yes	No	No	Yes	Yes	Yes	No	TWSC configuration would preserve US-20 operations, but would result in failing operations for the southbound exiting movements during 2030 peak hour conditions, per CAP-X analysis. All volume-related MUTCD signal warrants were met (attached).	
All-Way Stop Control (AWSC)	Yes	No	Yes	No	Yes	Yes	No	AWSC configuration would result in overall failing operations for the all entering traffic movements during 2030 peak hour conditions, per CAP-X analysis, and is not suited for an urban principal arterial with a posted speed of 45 MPH such as US-20.	
Signalized Control	Yes	No	Yes	No	Yes	Yes	Yes	Signalized operations provide adequate capacity for all traffic movements during 2030 peak hour conditions, per both TIAS report and CAP-X analysis; allows safe gaps for SB traffic to cross/merge onto US-20, and meets all volume-related MUTCD signal warrants (attached).	
Roundabout	Yes	Yes	Yes	No	No	Yes	No	Roundabout with 2x2 or 2x1 circulating lanes (150'-220' inscribed diameter, per MassDOT Roundabout Guidelines) needed for acceptable operations in 2030 peak hour per CAP-X; would require substantial reconstruction of US-20 to avoid ROW impacts.	
Median U-Turn (MUT)	No	No	Yes	No	No	Yes	No	MUT with U-turn junctions offset 660' downstream from the 'main' intersection (per *AASHTO Green Book* guidelines, Section 9.9.4) is not viable due to excessive impacts to residential properties & buildings directly abutting roadway south of US-20.	
Partial Median U-Turn (PMUT)	No	No	Yes	No	No	Yes	No	PMUT with U-turn junctions offset 660' downstream from the 'main' intersection (per *AASHTO Green Book* guidelines, Section 9.9.4) is not viable due to excessive impacts to residential properties & buildings directly abutting roadway south of US-20.	
Restricted Crossing U-Turn (RCUT) Signalized	No	No	Yes	No	No	Yes	No	RCUT with signalized U-turn junctions offset 1,320' downstream from 'main' intersection (per *Access Management Manual*, Table 9-11) is not viable due to excessive ROW and access impacts to residential properties & buildings directly abutting roadway south of US-20.	
Restricted Crossing U-Turn (RCUT) Unsignalized	No	No	No	Yes	No	Yes	No	RCUT with unsignalized U-turn junction is not viable due to failing operations during 2030 peak hour conditions, per CAP-X analysis, lack of safe merge gaps for U-turn movements onto US-20, and excessive ROW impacts.	
Jughandle	No	No	No	No	No	Yes	No	Jughandle configuration is not viable due to excessive required impacts to the Oxford Auto Sales property & building across from the site driveway.	
Displaced Left-Turn (DLT)	No	No	Yes	No	No	No	No	DLT configurations typically require minimum 100'-wide footprint; encroachments beyond the existing 60' ROW along US-20 are not warranted given the relatively low EBL traffic volumes entering the site from US-20.	
Continuous Green Tee	Yes	No	No	No	No	Yes	No	CGT configuration would provide adquate capacity for all traffic movements during 2030 peak hour conditions, but requires additional widening of US-20 & subsequent ROW/access impacts to abutting residential properties & buildings to accommodate a SBL merge lane.	
Quadrant Roadway	No	No	No	No	No	No	No	Quadrant Roadway configurations with bypass connections between intersection approaches are only suitable for intersections of 2 roadways of similar classification & traffic volumes.	
Other									



GPI
Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887
THE RESERVE – OXFORD/AUBURN, MA

PROJECT INTERSECTIONS

Minor Street AADT Calculations

Intersection / Movement		Weekday PHV (vph) AM	Weekday PHV (vph) PM	Weekday K-Factor[1] (%)	Weekday ADT (vpd)		Saturday PHV (vph)	Saturday K-Factor[2] (%)	Saturday ADT (vpd)		Estimated AADT (vpd)	Minor Street AADT < 1,000 vpd?
US-20 (Southbridge Road) at West Site Driveway	EBL	182	112	= 861 / 9,824 = 8.76%	= 182 / 8.76% = 2,077	6,573	176	= 871 / 12,114 = 7.19%	= 176 / 7.19% = 2,448	9,389	= (6,573*5 + 9,389*2) / 7 = **7,378 vpd**	No
	WBR	111	146		= 111 / 8.76% = 1,267		167		= 167 / 7.19% = 2,323			
	SBL	180	192		= 180 / 8.76% = 2,054		177		= 177 / 7.19% = 2,462			
	SBR	103	131		= 103 / 8.76% = 1,175		155		= 155 / 7.19% = 2,156			
US-20 (Southbridge Road) at East Site Driveway	WBR	90	18	= 861 / 9,824 = 8.76%	= 90 / 8.76% = 1,027	1,027	12	= 871 / 12,114 = 7.19%	= 12 / 7.19% = 167	223	= (1,027*5 + 223*2) / 7 = **797 vpd**	Yes
	SBR	0	29		= 0 / 8.76% = 0		4		= 4 / 7.19% = 56			

[1] Weekday AM Peak Hour Trips as a percentage of the Weekday Daily Trips

[2] Saturday Midday Peak Hour Trips as a percentage of the Saturday Daily Trips

Source: *Traffic Impact and Access Study for Submission with Final Enviornmental Impact Report EEA #15912* (2024)

Trip Generation Calculations (11th Edition)

	The Reserve	Auburn Condos			Auburn Condos	Ashworth Hills	Ashworth Commons					Ashworth Commons	TOTAL
	LUC 220	LUC 215	LUC 215	Total	LUC 215	LUC 215	LUC 821	LUC 945	LUC 934	LUC 710/712	Total	LUC 821, 945, 934, 710/712	
Weekday Daily		Albert St Ext	Blaker St										
Enter	1,076	22	7	29	29	442	1,193	1,101	643	428	3,365	3,365	4,912
Exit	1,076	22	7	29	29	660	1,168	1,078	464	437	3,147	3,147	4,912
Total	2,152	44	14	58	58	1,102	2,361	2,179	1,107	865	6,512	6,512	9,824
Weekday AM													
Enter	30	1	0	1	1	37	48	145	53	120	366	366	434
Exit	93	2	1	3	3	95	28	135	71	2	236	236	427
Total	123	3	1	4	4	132	76	280	124	122	602	602	861
Weekday PM													
Enter	101	2	1	3	3	43	88	95	47	23	253	253	400
Exit	59	2	0	2	2	36	92	96	31	115	334	334	431
Total	160	4	1	5	5	79	180	191	78	138	587	587	831
Saturday Daily													
Enter	737	26	9	35	35	1,193	1,702	1,449	872	69	4,092	4,092	6,057
Exit	737	26	9	35	35	1,295	1,500	1,277	1,130	83	3,990	3,990	6,057
Total	1,474	52	18	70	70	2,488	3,202	2,726	2,002	152	8,082	8,082	12,114
Saturday Midday													
Enter	68	2	0	2	2	44	130	103	83	17	333	333	447
Exit	65	2	1	3	3	42	107	88	103	16	314	314	424
Total	133	4	1	5	5	86	237	191	186	33	647	647	871

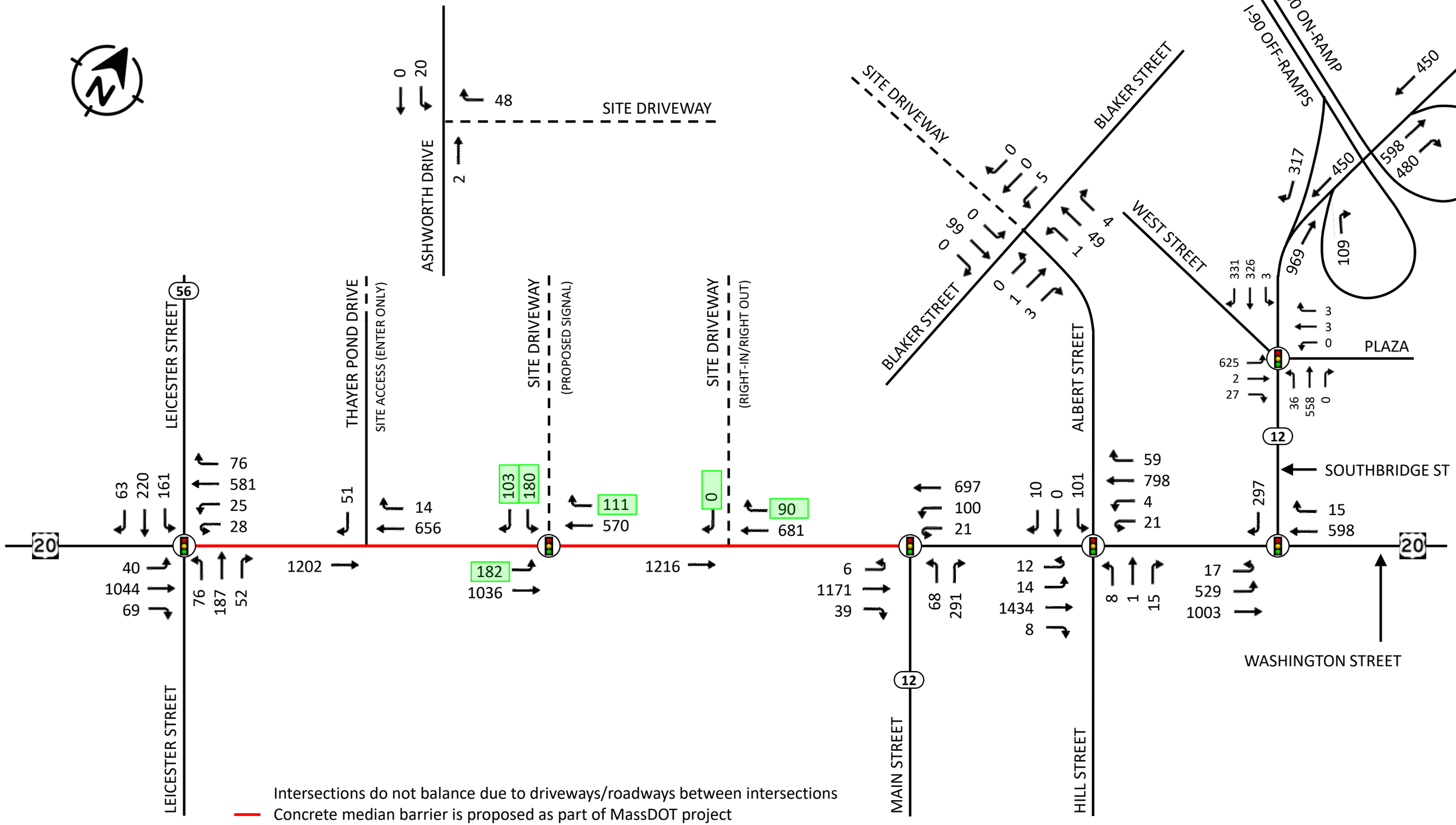
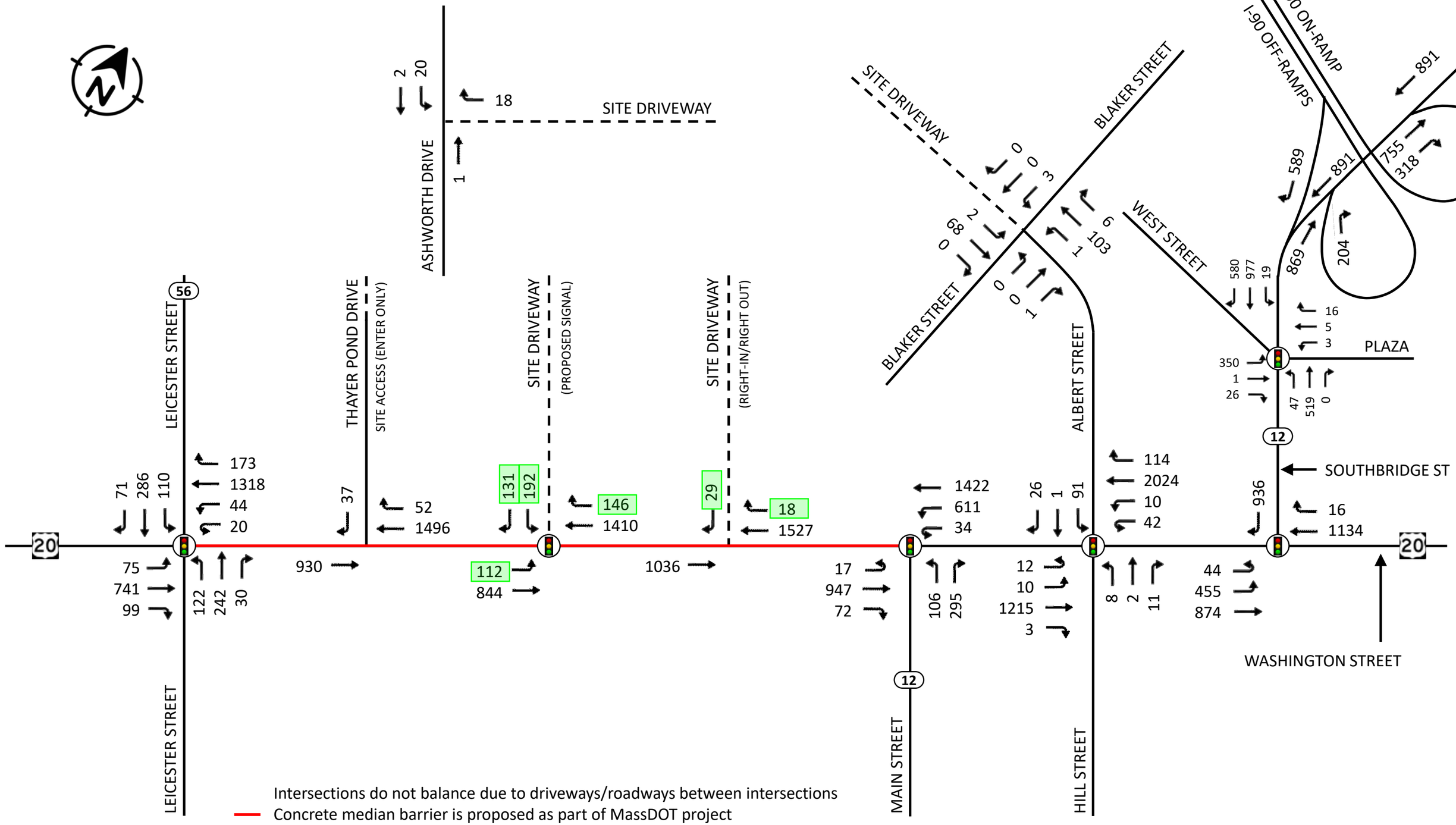


FIGURE 18

2030 BUILD WITH MITIGATION TRAFFIC VOLUMES
WEEKDAY AM PEAK HOUR



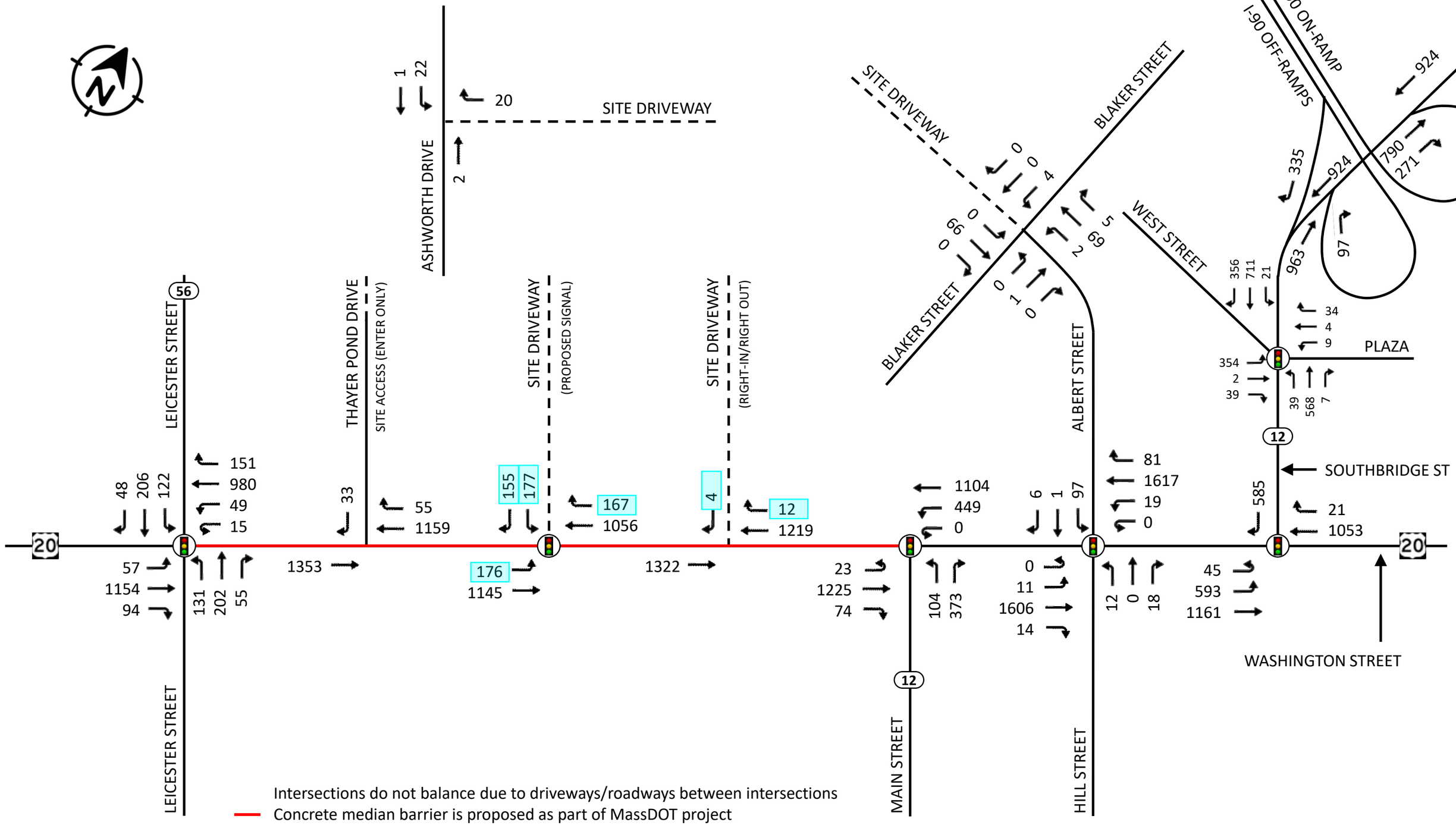
Intersections do not balance due to driveways/roadways between intersections

Concrete median barrier is proposed as part of MassDOT project

FIGURE 19

2030 BUILD WITH MITIGATION TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

GPI
Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887
THE RESERVE – OXFORD/AUBURN, MA



Intersections do not balance due to driveways/roadways between intersections

Concrete median barrier is proposed as part of MassDOT project

FIGURE 20

2030 BUILD WITH MITIGATION TRAFFIC VOLUMES SATURDAY MIDDAY PEAK HOUR

GPI
Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887

Traffic Control Signal Warrant Analyses

(Based on MUTCD-2009 Edition)

Intersection:	Route 20 at Western Site Driveway				
Pop. <10,000? (Y/N)	N	Count Date:	1/19/2023	Analysis Date:	11/08/24
Speed (in mph):	45 mph	Analysis Year:	2028 Build	Analyst:	SET
		Adjustment Factor:	1	Raw counts	

	Is Major?* (Y/N)	#Lanes* (one way)
EB	Y	2
WB	Y	2
NB		
SB	N	2

Major Lanes: 2 — Enter the higher number of lanes for the major street approach

Minor Lanes: 2 — Enter the number of lanes for the minor street approach you want to analyze

*Note: If intersection is a "T" intersection, leave cells blank for the non-existent approach

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	76	1,395	0	0	681	60	0	0	0	130	0	54
8:00	87	1,638	0	0	557	74	0	0	0	117	0	61
9:00	86	1,375	0	0	563	79	0	0	0	108	0	64
10:00	98	1,374	0	0	605	91	0	0	0	107	0	74
11:00	129	1,390	0	0	712	119	0	0	0	151	0	100
12:00	155	831	0	0	776	140	0	0	0	168	0	126
13:00	131	793	0	0	894	118	0	0	0	144	0	114
14:00	117	836	0	0	1,068	110	0	0	0	148	0	108
15:00	122	814	0	0	1,368	126	0	0	0	146	0	108
16:00	122	742	0	0	1,501	134	0	0	0	167	0	108
17:00	128	685	0	0	1,357	150	0	0	0	188	0	114
18:00	111	449	0	0	886	128	0	0	0	131	0	100
19:00	90	226	0	0	584	102	0	0	0	103	0	86

Time	Σ EB	Σ WB	Σ NB	Σ SB	Σ Major	Σ Minor	Σ Max Minor	W1 A	W1 B	W1combo	W2	W3
7:00	1471	741	0	184	2212	184	184	Y	Y	Y	Y	Y
8:00	1725	631	0	178	2356	178	178	Y	Y	Y	Y	Y
9:00	1461	642	0	172	2103	172	172	Y	Y	Y	Y	Y
10:00	1472	696	0	181	2168	181	181	Y	Y	Y	Y	Y
11:00	1519	831	0	251	2350	251	251	Y	Y	Y	Y	Y
12:00	986	916	0	294	1902	294	294	Y	Y	Y	Y	Y
13:00	924	1012	0	258	1936	258	258	Y	Y	Y	Y	Y
14:00	953	1178	0	256	2132	256	256	Y	Y	Y	Y	Y
15:00	936	1494	0	254	2431	254	254	Y	Y	Y	Y	Y
16:00	864	1635	0	275	2498	275	275	Y	Y	Y	Y	Y
17:00	813	1507	0	302	2321	302	302	Y	Y	Y	Y	Y
18:00	560	1014	0	231	1574	231	231	Y	Y	Y	Y	Y
19:00	316	686	0	189	1002	189	189	Y	Y	Y	Y	Y
								13 of 8	**13 of 8**	**13 of 8**	**13 of 4**	**13 of 1**

Warrant Analyses

Warrant 1: Condition A Minimum Vehicular Volume Warrant is Met
Warrant 1: Condition B Interruption of Continuous Traffic Warrant is Met
Warrant 1: Combination of Warrants 1A and 1B is Met
Warrant 2: Four-Hour Warrant is Met
Warrant 3: One-Hour Warrant is Met

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	The Reserve
Project Number:	NEX-2020145.00
Location:	Auburn, MA / Oxford, MA
Date:	2030 Weekday AM Peak Hour
Number of Intersection Legs:	3
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	182	1036	0	3.70%	0.00%
Westbound	0	1	570	111	9.52%	0.00%
Southbound	0	180	0	103	2.00%	0.00%
Northbound	0	0	0	0	0.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
Multimodal Activity Level		**Low**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800 (Urban), 1650 (Rural)**	**1800**
	3-phase signal	**Suggested = 1750 (Urban), 1600 (Rural)**	**1750**
	4-phase signal	**Suggested = 1700 (Urban), 1550 (Rural)**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		0	1	0		1	1	0		0	2	0		0	2	0
Two-Way Stop Control	E-W		0	0	0		1	1	0		1	2	0		1	2	1
All-Way Stop Control	FULL		0	0	0		0	2	0		1	2	0		0	2	1
Continuous Green T	N						1		1		1	2				2	1
Partial Displaced Left Turn	E-W		1	2	1		1	2	1		1	2	0		1	2	1
Signalized Restricted Crossing U-Turn	E-W				1				1	1	1	2	0	1	1	2	1
Unsignalized Restricted Crossing U-Turn	E-W				1				1	1	1	2	0	1	1	2	1

Number of Lanes for Grade Separated Intersections

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			
Traffic Signal	FULL									835	0.48	0.48	Good	Excellent
Two-Way Stop Control	E-W									--	5.22	5.22	Good	Fair
All-Way Stop Control	FULL									2299	1.53	1.53	Excellent	Excellent
Continuous Green T	W									199	0.11	0.11	Good	Excellent
	N									705	0.40	0.40	Good	Excellent
	E									195	0.11	0.11	Good	Excellent
	S									538	0.31	0.31	Good	Excellent
Partial Displaced Left Turn	E-W					630	0.35	511	0.28	731	0.42	0.42	Good	Excellent
Signalized Restricted Crossing U-Turn	E-W	652	0.36	630	0.35	374	0.21	862	0.48			0.48	Excellent	Excellent
Unsignalized Restricted Crossing U-Turn	E-W	624	0.67	1258	0.00	747	0.00	1263	0.45			0.67	Excellent	Excellent

Results for Grade Separated Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Zone 6 (Raised)		Overall v/c Ratio	Ped	Bicycle
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3			
1 X 1	0.40			1.11			0.00			0.66			1.11	Good	Excellent
1NS X 2EW	0.35			0.52	0.55		0.00			0.31	0.33		0.55	Good	Excellent
2 X 2	0.24	0.13		0.31	0.33		0.00	0.00		0.52	0.55		0.55	Good	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	The Reserve
Project Number:	NEX-2020145.00
Location:	Auburn, MA / Oxford, MA
Date:	2030 Weekday PM Peak Hour
Number of Intersection Legs:	3
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	112	844	0	2.88%	0.00%
Westbound	0	1	1410	146	2.90%	0.00%
Southbound	0	192	0	131	2.00%	0.00%
Northbound	0	0	0	0	0.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
Multimodal Activity Level		**Low**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800 (Urban), 1650 (Rural)**	**1800**
	3-phase signal	**Suggested = 1750 (Urban), 1600 (Rural)**	**1750**
	4-phase signal	**Suggested = 1700 (Urban), 1550 (Rural)**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		0	1	0		1	1	0		0	2	0		0	2	0
Two-Way Stop Control	E-W		0	0	0		1	1	0		1	2	0		1	2	1
All-Way Stop Control	FULL		0	0	0		0	2	0		1	2	0		0	2	1
Continuous Green T	N						1		1		1	2				2	1
Partial Displaced Left Turn	E-W		1	2	1		1	2	1		1	2	0		1	2	1
Signalized Restricted Crossing U-Turn	E-W				1				1	1	1	2	0	1	1	2	1
Unsignalized Restricted Crossing U-Turn	E-W				1				1	1	1	2	0	1	1	2	1

Number of Lanes for Grade Separated Intersections

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			
Traffic Signal	FULL									1018	0.58	0.58	Good	Excellent
Two-Way Stop Control	E-W									--	12.86	12.86	Good	Fair
All-Way Stop Control	FULL									2915	1.94	1.94	Excellent	Excellent
Continuous Green T	W									121	0.07	0.07	Good	Excellent
	N									1053	0.60	0.60	Good	Excellent
	E									207	0.12	0.12	Good	Excellent
	S									435	0.25	0.25	Good	Excellent
Partial Displaced Left Turn	E-W					533	0.30	847	0.47	932	0.53	0.53	Good	Excellent
Signalized Restricted Crossing U-Turn	E-W	1114	0.62	533	0.30	801	0.45	737	0.41			0.62	Excellent	Excellent
Unsignalized Restricted Crossing U-Turn	E-W	1451	2.75	1064	0.00	1602	0.00	983	0.35			2.75	Excellent	Excellent

Results for Grade Separated Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Zone 6 (Raised)		Overall v/c Ratio	Ped	Bicycle
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3			
1 X 1	1.05			0.87			0.00			1.31			1.31	Good	Excellent
1NS X 2EW	0.80			0.41	0.43		0.00			0.62	0.66		0.80	Good	Excellent
2 X 2	0.55	0.32		0.62	0.66		0.00	0.00		0.41	0.43		0.66	Good	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	The Reserve
Project Number:	NEX-2020145.00
Location:	Auburn, MA / Oxford, MA
Date:	2030 Saturday Midday Peak Hour
Number of Intersection Legs:	3
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	176	1145	0	1.73%	0.00%
Westbound	0	1	1056	167	1.73%	0.00%
Southbound	0	177	0	155	0.00%	0.00%
Northbound	0	0	0	0	0.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor	**Suggested = 2.00**	2.00
Multimodal Activity Level	**Low**	
Critical Lane Volume Threshold – 2-phase signal	**Suggested = 1800 (Urban), 1650 (Rural)**	**1800**
Critical Lane Volume Threshold – 3-phase signal	**Suggested = 1750 (Urban), 1600 (Rural)**	**1750**
Critical Lane Volume Threshold – 4-phase signal	**Suggested = 1700 (Urban), 1550 (Rural)**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		0	1	0		1	1	0		0	2	0		0	2	0
Two-Way Stop Control	E-W		0	0	0		1	1	0		1	2	0		1	2	1
All-Way Stop Control	FULL		0	0	0		0	2	0		1	2	0		0	2	1
Continuous Green T	N						1		1		1	2				2	1
Partial Displaced Left Turn	E-W		1	2	1		1	2	1		1	2	0		1	2	1
Signalized Restricted Crossing U-Turn	E-W				1				1	1	1	2	0	1	1	2	1
Unsignalized Restricted Crossing U-Turn	E-W				1				1	1	1	2	0	1	1	2	1

Number of Lanes for Grade Separated Intersections

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			
Traffic Signal	FULL									868	0.50	0.50	Good	Excellent
Two-Way Stop Control	E-W									--	12.82	12.82	Good	Fair
All-Way Stop Control	FULL									2921	1.95	1.95	Excellent	Excellent
Continuous Green T	W									188	0.11	0.11	Good	Excellent
	N									912	0.52	0.52	Good	Excellent
	E									187	0.11	0.11	Good	Excellent
	S									584	0.33	0.33	Good	Excellent
Partial Displaced Left Turn	E-W					672	0.37	725	0.40	769	0.44	0.44	Good	Excellent
Signalized Restricted Crossing U-Turn	E-W	928	0.52	672	0.37	623	0.35	893	0.50			0.52	Excellent	Excellent
Unsignalized Restricted Crossing U-Turn	E-W	1074	1.52	1342	0.00	1245	0.00	1344	0.43			1.52	Excellent	Excellent

Results for Grade Separated Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Zone 6 (Raised)		Overall v/c Ratio	Ped	Bicycle
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

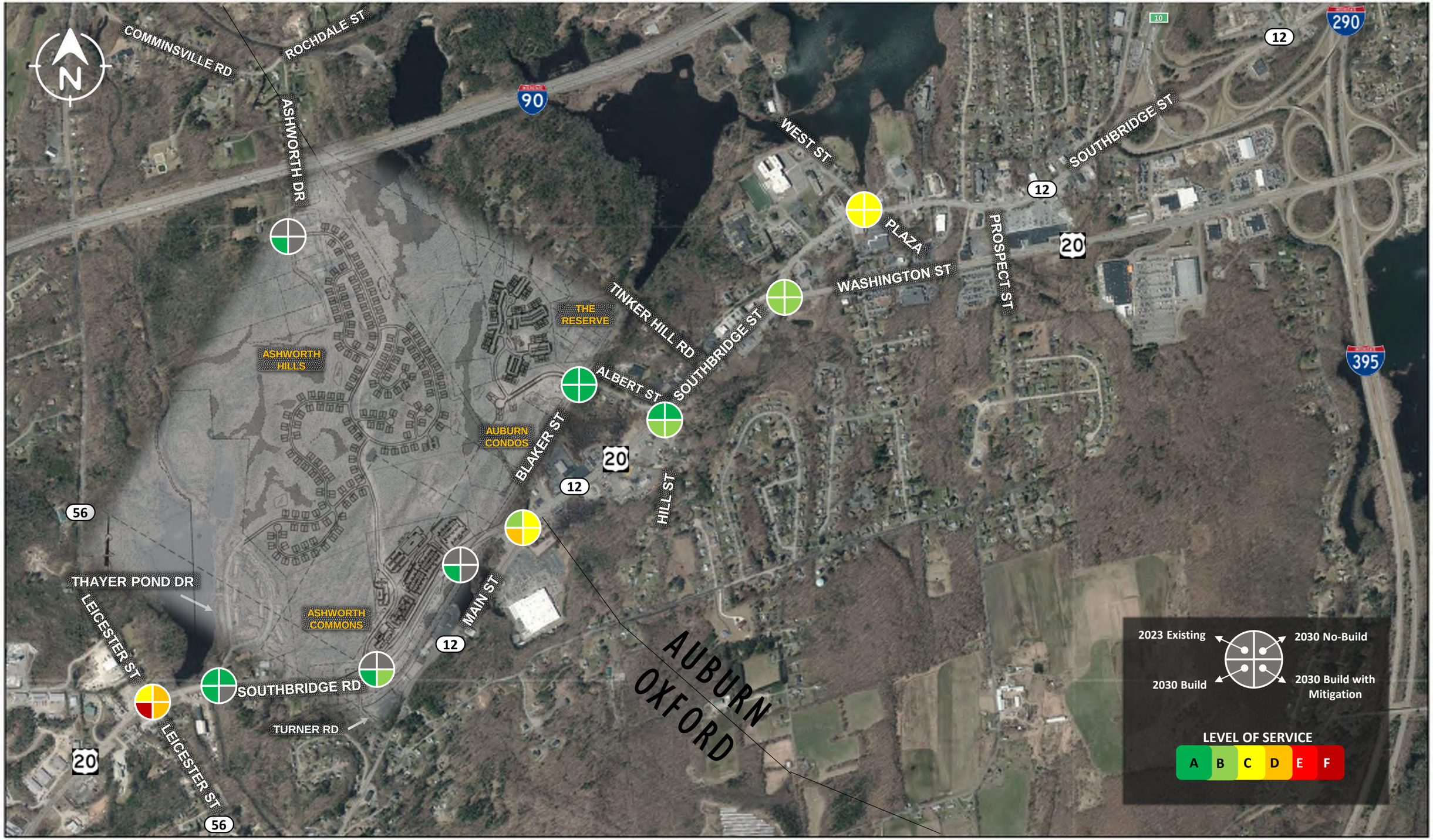
Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3			
1 X 1	0.72			1.17			0.00			1.08			1.17	Good	Excellent
1NS X 2EW	0.58			0.55	0.58		0.00			0.51	0.54		0.58	Good	Excellent
2 X 2	0.35	0.27		0.51	0.54		0.00	0.00		0.55	0.58		0.58	Good	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

LOS & QUEUE GRAPHICS (FIGURE A-8 THROUGH A-17)



Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887

THE RESERVE – OXFORD/AUBURN, MA

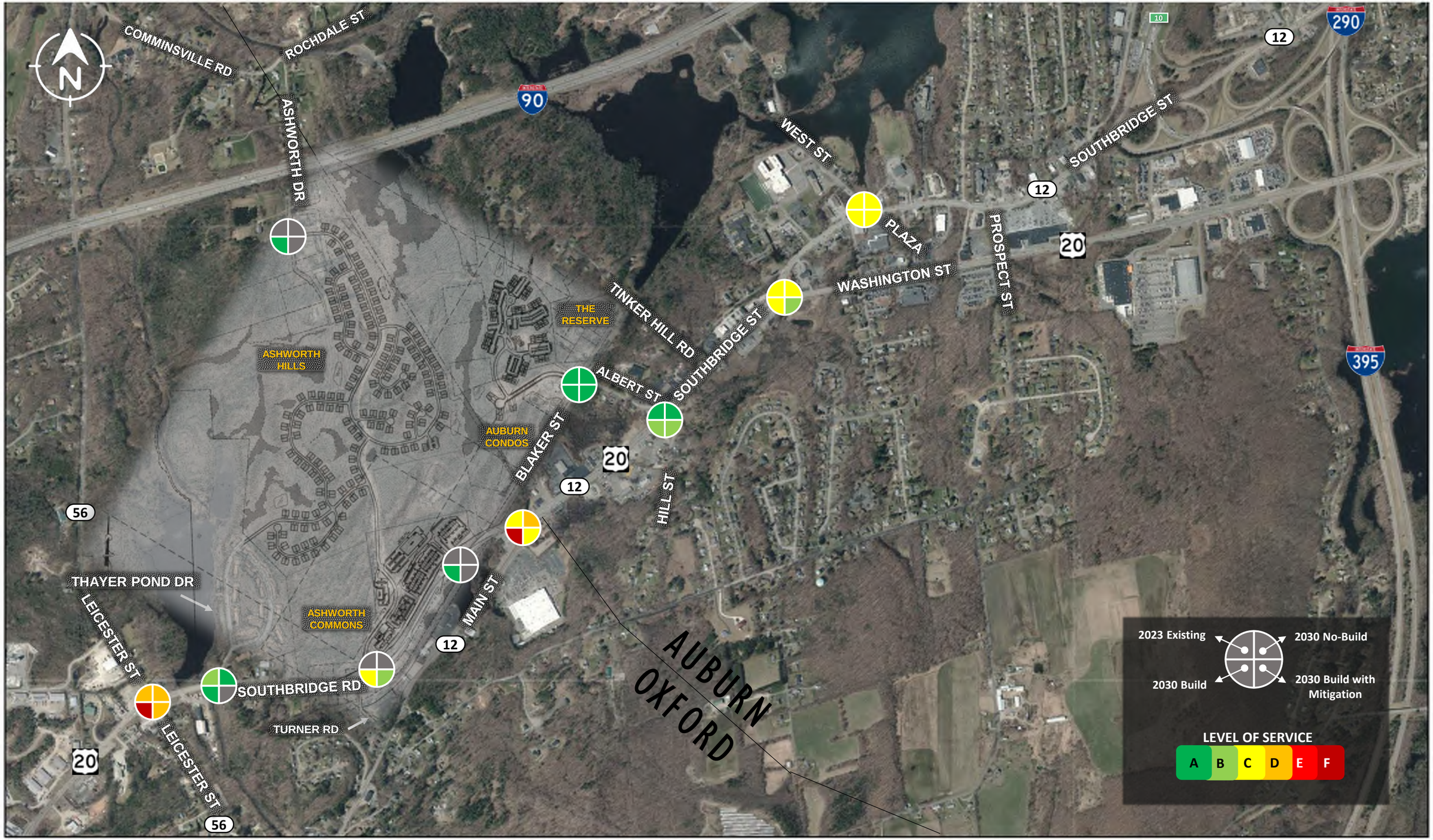
FIGURE A-8 – WEEKDAY AM LEVEL OF SERVICE



Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887

THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-9 – WEEKDAY PM LEVEL OF SERVICE



GPI
Greenman-Pedersen, Inc. || 181 Ballardvale Street, Suite 202, Wilmington, MA 01887
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-10 – SATURDAY MIDDAY LEVEL OF SERVICE

Route 20 / Route 56



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-11A – EXISTING WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 56



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-11B – NO-BUILD WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 56



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-11C – BUILD WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 56



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-11D – BUILD-MIT WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 56



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-11E – EXISTING WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 56



GPI

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THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-11F – NO-BUILD WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 56



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-11G – BUILD WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 56



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THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-11H – BUILD-MIT WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 56



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THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-III – EXISTING SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 56



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THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-11J – NO-BUILD SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 56



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-11K – BUILD SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 56



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-11L – BUILD-MIT SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 56

Route 20 / Route 12 (Main Street)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-12A – EXISTING WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-12B – NO-BUILD WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-12C – BUILD WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-12D – BUILD-MIT WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-12E – EXISTING WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-12F – NO-BUILD WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-12G – BUILD WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-12H – BUILD-MIT WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-121 – EXISTING SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-12J – NO-BUILD SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-12K – BUILD SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-12L – BUILD-MIT SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (MAIN STREET)

Route 20 / Hill Street / Albert Street



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-13A – EXISTING WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-13B – NO-BUILD WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-13C – BUILD WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-13D – BUILD-MIT WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-13E – EXISTING WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-13F – NO-BUILD WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-13G – BUILD WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-13H – BUILD-MIT WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-131 – EXISTING SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-13J – NO-BUILD SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-13K – BUILD SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-13L – BUILD-MIT SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / HILL STREET / ALBERT STREET

Route 20 / Route 12 (Southbridge Street)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-14A – EXISTING WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-14B – NO-BUILD WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-14C – BUILD WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-14D – BUILD-MIT WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-14E – EXISTING WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-14F – NO-BUILD WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-14G – BUILD WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-14H – BUILD-MIT WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-141 – EXISTING SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-14J – NO-BUILD SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-14K – BUILD SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-14L – BUILD-MIT SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / ROUTE 12 (SOUTHBRIDGE STREET)

Route 12 (Southbridge Street) / West Street / Plaza Driveway



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-15A – EXISTING WEEKDAY AM QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-15B – NO-BUILD WEEKDAY AM QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-15C – BUILD WEEKDAY AM QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-15D – BUILD-MIT WEEKDAY AM QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-15E – EXISTING WEEKDAY PM QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-15F – NO-BUILD WEEKDAY PM QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-15G – BUILD WEEKDAY PM QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-15H – BUILD-MIT WEEKDAY PM QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-151 – EXISTING SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-15J – NO-BUILD SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-15K – BUILD SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-15L – BUILD-MIT SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 12 (SOUTHBRIDGE STREET) / WEST STREET

Route 20 / Western Site Driveway



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-16A – BUILD WEEKDAY AM QUEUE LENGTHS
ROUTE 20 / SITE DRIVEWAY



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-16B – BUILD WEEKDAY PM QUEUE LENGTHS
ROUTE 20 / SITE DRIVEWAY



GPI

Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-16C – BUILD SATURDAY MIDDAY QUEUE LENGTHS
ROUTE 20 / SITE DRIVEWAY

N

LEGEND:

PROPOSED MASSDOT IMPROVEMENT PROJECT NO. 602659

PROPOSED CHANGES

EXISTING CONDITIONS

ROUTE 20
(SOUTHBRIDGE ROAD)

SITE DRIVEWAY

TURNER ROAD
(NO ACCESS TO ROUTE 20)

PROP. FULL DEPTH WIDENING

PROP. STATE LAYOUT

PROP. 20' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 8.0' SHARED USE PATH

PROP. 5.0' SIDEWALK

PROP. DETECTION ZONE (TYP.)

PROP. 10' TRAFFIC SIGNAL POST, BASE & FOUNDATION (TYP.)

PROP. TRAFFIC CONTROLLER CABINET

PROP. 35' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. IMPACT ATTENUATOR (TYP.)

PROP. 45' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 25' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 12"x12" PULL BOX (TYP.)

PROP. 3" CONDUIT (TYP.)

PROP. PEDESTRIAN SIGNAL (TYP.)

RELOCATE DRIVEWAY

PROP. DOUBLE FACED GUARDRAIL

PROP. 5.5' SIDEWALK

RELOCATE PROP. MEDIAN TO PROVIDE LEFT-TURN LANE

PC +38.35

PCC +94.96

PT +25.51

PC +56.88

RIP-RAP

EOP

WELL

VENT

#167 #168 #170 #171

1932 SHILO

1133 1134 1135 1136 1137 1138 1139 1140 1141 1142 1143 1144 1145

NO TURNS

Figure 16D - Build with Mitigation
Weekday AM Queue Lengths
Route 20 / Site Driveway

0 40 100 160

SCALE: 1" = 40'

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GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street, Suite 202
Wilmington, MA 01887

PREPARED FOR
EASTLAND PARTNERS, INC.
4 CHARLESVIEW ROAD,
SUITE 1
HOPEDALE, MA

SIGNALIZED DRIVEWAY
PROPOSED SITE DRIVE AT ROUTE 20
OXFORD, MA

REVISIONS

NO.	REVISION	DATE
1	EIR COMMENTS	12/20/23

11/17/20

DRAWN/DESIGN BY	CHECKED BY
DPE	HLM/JRN

CONCEPT PLAN

SCALE: 1"=40'

2020145.00

FIGURE 14A

N

LEGEND:

PROPOSED MASSDOT IMPROVEMENT PROJECT NO. 602659

PROPOSED CHANGES

EXISTING CONDITIONS

ROUTE 20
(SOUTHBRIDGE ROAD)

SITE DRIVEWAY

TURNER ROAD
(NO ACCESS TO ROUTE 20)

PROP. FULL DEPTH WIDENING

PROP. STATE LAYOUT

PROP. 20' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 8.0' SHARED USE PATH

PROP. 5.0' SIDEWALK

PROP. DETECTION ZONE (TYP.)

PROP. 10' TRAFFIC SIGNAL POST, BASE & FOUNDATION (TYP.)

PROP. TRAFFIC CONTROLLER CABINET

PROP. 35' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. IMPACT ATTENUATOR (TYP.)

PROP. 45' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 25' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 12"x12" PULL BOX (TYP.)

PROP. 3" CONDUIT (TYP.)

PROP. PEDESTRIAN SIGNAL (TYP.)

PROP. DOUBLE FACED GUARDRAIL

PROP. 5.5' SIDEWALK

RELOCATE DRIVEWAY

RELOCATE PROP. MEDIAN TO PROVIDE LEFT-TURN LANE

PC +38.35

PCC +39.96

PT +25.51

PC +36.88

RIP-RAP

EOP

#167 #168 #170 #171

WELL

VENT

Figure 16E - Build with Mitigation
Weekday PM Queue Lengths
Route 20 / Site Driveway

0 40 100 160

SCALE: 1" = 40'

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Wilmington, MA 01887

PREPARED FOR
EASTLAND PARTNERS, INC.
4 CHARLESVIEW ROAD,
SUITE 1
HOPEDALE, MA

SIGNALIZED DRIVEWAY
PROPOSED SITE DRIVE AT ROUTE 20
OXFORD, MA

REVISIONS

NO.	REVISION	DATE
1	EIR COMMENTS	12/20/23

11/17/20

DRAWN/DESIGN BY	CHECKED BY
DPE	HLM/JRN

CONCEPT PLAN

SCALE: 1"=40'

2020145.00

FIGURE 14A

N

LEGEND:

PROPOSED MASSDOT IMPROVEMENT PROJECT NO. 602659

PROPOSED CHANGES

EXISTING CONDITIONS

SITE DRIVEWAY

ROUTE 20 (SOUTHBRIDGE ROAD)

PROP. GUY WIRES (2) (BY OTHERS)

PROP. 8.0' SHARED USE PATH

REMOVE UP AND GUY WIRES (BY OTHERS)

300' (25' QUEUE + 275' DECEL LENGTH

PROP. STATE LAYOUT

PROP. 5.5' SIDEWALK

R&R UP W/GUY WIRES (2) (BY OTHERS)

RIP-RAP

EOP

1932 S.H.L.O.

#176

#180

PC +94.96

PT +83.96

PC +36.35

PT +04.05

PC +75.69

PT +54.78

PC +00.09

PT +33.33

0 40 100 160

SCALE: 1" = 40'

Figure 16F - Build with Mitigation
Weekday PM Queue Lengths
Route 20 / Site Driveway

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Greenman-Pedersen, Inc.
181 Ballardvale Street, Suite 202
Wilmington, MA 01887

PREPARED FOR
EASTLAND PARTNERS, INC.
4 CHARLESVIEW ROAD,
SUITE 1
HOPEDALE, MA

SIGNALIZED DRIVEWAY
PROPOSED SITE DRIVE AT ROUTE 20
OXFORD, MA

REVISIONS

NO.	REVISION	DATE
1	EIR COMMENTS	12/20/23

11/17/20

DRAWN/DESIGN BY: DPE
CHECKED BY: HLM/JRN

CONCEPT PLAN

SCALE: 1"=40'

2020145.00

FIGURE 14B

N

LEGEND:

PROPOSED MASSDOT IMPROVEMENT PROJECT NO. 602659

PROPOSED CHANGES

EXISTING CONDITIONS

ROUTE 20
(SOUTHBRIDGE ROAD)

SITE DRIVEWAY

TURNER ROAD
(NO ACCESS TO ROUTE 20)

PROP. FULL DEPTH WIDENING

PROP. STATE LAYOUT

PROP. 20' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 8.0' SHARED USE PATH

PROP. 5.0' SIDEWALK

PROP. DETECTION ZONE (TYP.)

PROP. 10' TRAFFIC SIGNAL POST, BASE & FOUNDATION (TYP.)

PROP. TRAFFIC CONTROLLER CABINET

PROP. 35' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. IMPACT ATTENUATOR (TYP.)

PROP. 45' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 25' MAST ARM ASSEMBLY, BASE & FOUNDATION

PROP. 12"x12" PULL BOX (TYP.)

PROP. 3" CONDUIT (TYP.)

PROP. PEDESTRIAN SIGNAL (TYP.)

RELOCATE DRIVEWAY

PROP. DOUBLE FACED GUARDRAIL

PROP. 5.5' SIDEWALK

RELOCATE PROP. MEDIAN TO PROVIDE LEFT-TURN LANE

RIP-RAP

EOP

PC +38.35

PCC +94.96

PT +25.51

PC +56.88

#167 #168 #170 #171

WELL

VENT

Figure 16G - Build with Mitigation
Saturday Midday Queue Lengths
Route 20 / Site Driveway

0 40 100 160

SCALE: 1" = 40'

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GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street, Suite 202
Wilmington, MA 01887

PREPARED FOR
EASTLAND PARTNERS, INC.
4 CHARLESVIEW ROAD,
SUITE 1
HOPEDALE, MA

SIGNALIZED DRIVEWAY
PROPOSED SITE DRIVE AT ROUTE 20
OXFORD, MA

REVISIONS

NO.	REVISION	DATE
1	EIR COMMENTS	12/20/23

11/17/20

DRAWN/DESIGN BY: DPE
CHECKED BY: HLM/JRN

CONCEPT PLAN

SCALE: 1"=40'

2020145.00

FIGURE 14A

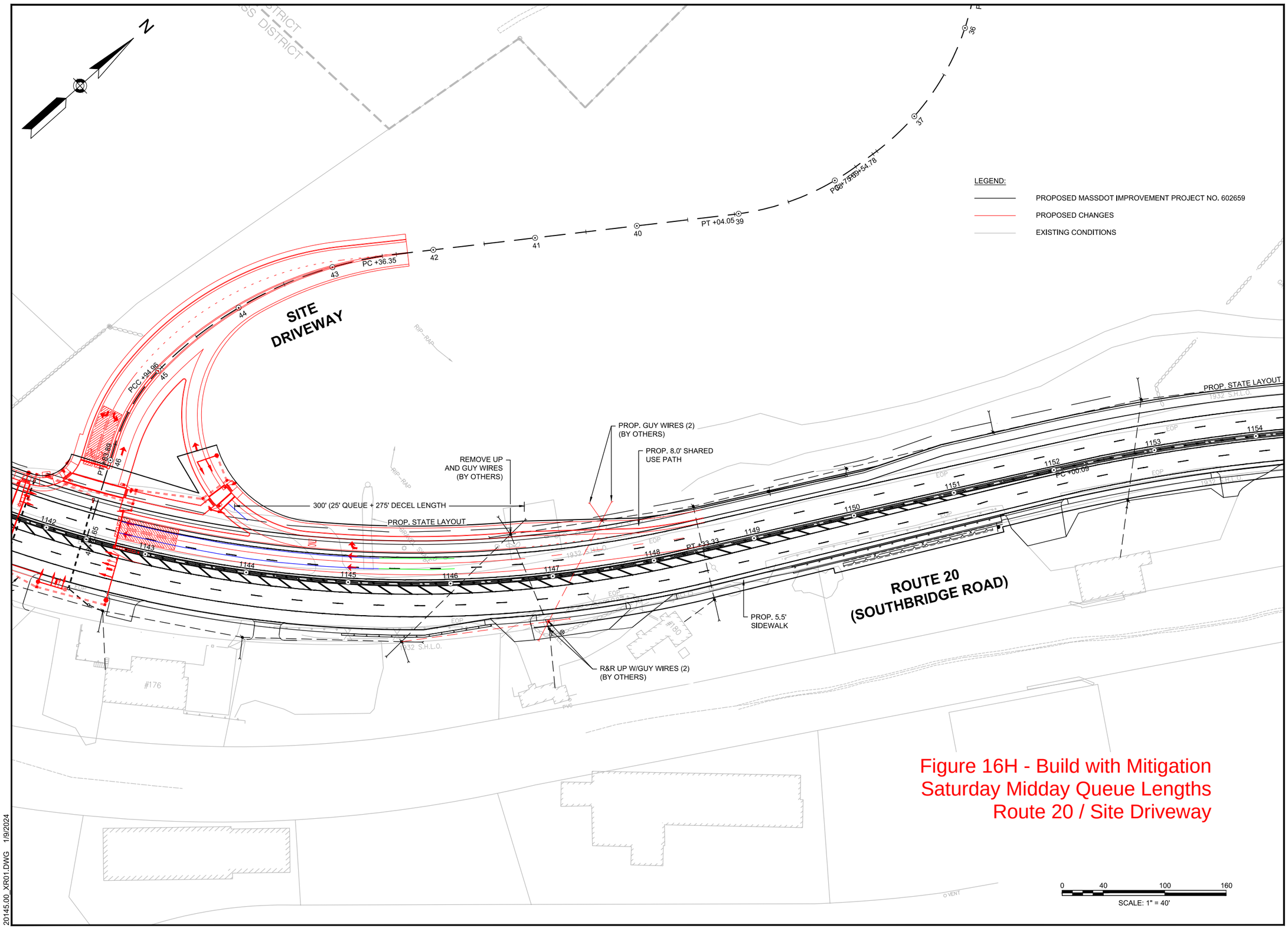


Figure 16H - Build with Mitigation
Saturday Midday Queue Lengths
Route 20 / Site Driveway

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181 Ballardvale Street, Suite 202
Wilmington, MA 01887

PREPARED FOR
EASTLAND PARTNERS, INC.
4 CHARLESVIEW ROAD,
SUITE 1
HOPEDALE, MA

SIGNALIZED DRIVEWAY
PROPOSED SITE DRIVE AT ROUTE 20
OXFORD, MA

REVISIONS

NO.	REVISION	DATE
1	EIR COMMENTS	12/20/23

11/17/20

DRAWN/DESIGN BY	CHECKED BY
DPE	HLM/JRN

CONCEPT PLAN

SCALE: 1"=40'

2020145.00

FIGURE 14B

Unsignalized Intersections



GPI Greenman-Pedersen, Inc.
THE RESERVE – OXFORD/AUBURN, MA

FIGURE A-17 – BUILD WEEKDAY AM/PM/SAT QUEUE LENGTHS
UNSIGNALIZED INTERSECTIONS

PHASE I & II ANALYSIS

Traffic Control Signal Warrant Analyses

(Based on MUTCD-2009 Edition)

Intersection:	Route 20 at Western Site Driveway				
Pop. <10,000? (Y/N)	N	Count Date:	1/19/2023	Analysis Date:	11/08/24
Speed (in mph):	45 mph	Analysis Year:	2026 Phase I Build	Analyst:	SET
		Adjustment Factor:	1	Raw counts	

	Is Major?* (Y/N)	#Lanes* (one way)
EB	Y	2
WB	Y	2
NB		
SB	N	2

Major Lanes: 2 — Enter the higher number of lanes for the major street approach

Minor Lanes: 2 — Enter the number of lanes for the minor street approach you want to analyze

*Note: If intersection is a "T" intersection, leave cells blank for the non-existent approach

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,367	0	0	667	2	0	0	0	14	0	1
8:00	0	1,605	0	0	546	3	0	0	0	10	0	1
9:00	0	1,348	0	0	552	3	0	0	0	7	0	0
10:00	0	1,347	0	0	593	3	0	0	0	5	0	0
11:00	0	1,363	0	0	698	3	0	0	0	6	0	0
12:00	0	815	0	0	761	4	0	0	0	5	0	0
13:00	0	778	0	0	876	3	0	0	0	5	0	0
14:00	0	820	0	0	1,047	4	0	0	0	6	0	0
15:00	0	798	0	0	1,341	6	0	0	0	5	0	0
16:00	0	727	0	0	1,471	7	0	0	0	5	0	0
17:00	1	672	0	0	1,331	9	0	0	0	7	0	0
18:00	0	440	0	0	869	7	0	0	0	7	0	0
19:00	0	222	0	0	572	5	0	0	0	5	0	0

Time	Σ EB	Σ WB	Σ NB	Σ SB	Σ Major	Σ Minor	Σ Max Minor	W1 A	W1 B	W1combo	W2	W3
7:00	1368	669	0	15	2037	15	15	N	N	N	N	N
8:00	1606	549	0	10	2155	10	10	N	N	N	N	N
9:00	1348	554	0	8	1903	8	8	N	N	N	N	N
10:00	1347	596	0	5	1943	5	5	N	N	N	N	N
11:00	1363	701	0	6	2064	6	6	N	N	N	N	N
12:00	815	764	0	6	1579	6	6	N	N	N	N	N
13:00	778	879	0	5	1657	5	5	N	N	N	N	N
14:00	820	1051	0	7	1871	7	7	N	N	N	N	N
15:00	799	1347	0	5	2146	5	5	N	N	N	N	N
16:00	727	1478	0	6	2205	6	6	N	N	N	N	N
17:00	672	1339	0	8	2011	8	8	N	N	N	N	N
18:00	441	876	0	7	1316	7	7	N	N	N	N	N
19:00	222	577	0	5	799	5	5	N	N	N	N	N
								0 of 8	0 of 8	0 of 8	0 of 4	0 of 1

Warrant Analyses

Warrant 1: Condition A Minimum Vehicular Volume Warrant is Not Met
Warrant 1: Condition B Interruption of Continuous Traffic Warrant is Not Met
Warrant 1: Combination of Warrants 1A and 1B is Not Met
Warrant 2: Four-Hour Warrant is Not Met
Warrant 3: One-Hour Warrant is Not Met

Raw Counts

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,264	0	0	617	0	0	0	0	0	0	0
8:00	0	1,484	0	0	505	0	0	0	0	0	0	0
9:00	0	1,246	0	0	510	0	0	0	0	0	0	0
10:00	0	1,245	0	0	548	0	0	0	0	0	0	0
11:00	0	1,260	0	0	645	0	0	0	0	0	0	0
12:00	0	753	0	0	703	0	0	0	0	0	0	0
13:00	0	719	0	0	810	0	0	0	0	0	0	0
14:00	0	758	0	0	968	0	0	0	0	0	0	0
15:00	0	738	0	0	1,240	0	0	0	0	0	0	0
16:00	0	672	0	0	1,360	0	0	0	0	0	0	0
17:00	0	621	0	0	1,230	0	0	0	0	0	0	0
18:00	0	407	0	0	803	0	0	0	0	0	0	0
19:00	0	205	0	0	529	0	0	0	0	0	0	0

ATR from January 19, 2023 on Southbridge Road (Route 20) near #176 (Oxford Auburn Sales)

Seasonal Adjustment to Average Month Conditions = 5.0%

Seasonally Adjusted Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,327	0	0	648	0	0	0	0	0	0	0
8:00	0	1,558	0	0	530	0	0	0	0	0	0	0
9:00	0	1,308	0	0	536	0	0	0	0	0	0	0
10:00	0	1,307	0	0	575	0	0	0	0	0	0	0
11:00	0	1,323	0	0	677	0	0	0	0	0	0	0
12:00	0	791	0	0	738	0	0	0	0	0	0	0
13:00	0	755	0	0	851	0	0	0	0	0	0	0
14:00	0	796	0	0	1,016	0	0	0	0	0	0	0
15:00	0	775	0	0	1,302	0	0	0	0	0	0	0
16:00	0	706	0	0	1,428	0	0	0	0	0	0	0
17:00	0	652	0	0	1,292	0	0	0	0	0	0	0
18:00	0	427	0	0	843	0	0	0	0	0	0	0
19:00	0	215	0	0	555	0	0	0	0	0	0	0

January 2023 U3 Seasonal Adjustment Factor = 1.05

Historical Growth Rate = 3.0% (2026 phase condition, counts performed in 2023)

Historic Growth Rate Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,367	0	0	667	0	0	0	0	0	0	0
8:00	0	1,605	0	0	546	0	0	0	0	0	0	0
9:00	0	1,348	0	0	552	0	0	0	0	0	0	0
10:00	0	1,347	0	0	593	0	0	0	0	0	0	0
11:00	0	1,363	0	0	698	0	0	0	0	0	0	0
12:00	0	815	0	0	761	0	0	0	0	0	0	0
13:00	0	778	0	0	876	0	0	0	0	0	0	0
14:00	0	820	0	0	1,047	0	0	0	0	0	0	0
15:00	0	798	0	0	1,341	0	0	0	0	0	0	0
16:00	0	727	0	0	1,471	0	0	0	0	0	0	0
17:00	0	672	0	0	1,331	0	0	0	0	0	0	0
18:00	0	440	0	0	869	0	0	0	0	0	0	0
19:00	0	222	0	0	572	0	0	0	0	0	0	0

No-Build Adjusted Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,367	0	0	667	0	0	0	0	0	0	0
8:00	0	1,605	0	0	546	0	0	0	0	0	0	0
9:00	0	1,348	0	0	552	0	0	0	0	0	0	0
10:00	0	1,347	0	0	593	0	0	0	0	0	0	0
11:00	0	1,363	0	0	698	0	0	0	0	0	0	0
12:00	0	815	0	0	761	0	0	0	0	0	0	0
13:00	0	778	0	0	876	0	0	0	0	0	0	0
14:00	0	820	0	0	1,047	0	0	0	0	0	0	0
15:00	0	798	0	0	1,341	0	0	0	0	0	0	0
16:00	0	727	0	0	1,471	0	0	0	0	0	0	0
17:00	0	672	0	0	1,331	0	0	0	0	0	0	0
18:00	0	440	0	0	869	0	0	0	0	0	0	0
19:00	0	222	0	0	572	0	0	0	0	0	0	0

Details on following page

Site Generated Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	0	0	0	0	2	0	0	0	14	0	1
8:00	0	0	0	0	0	3	0	0	0	10	0	1
9:00	0	0	0	0	0	3	0	0	0	7	0	0
10:00	0	0	0	0	0	3	0	0	0	5	0	0
11:00	0	0	0	0	0	3	0	0	0	6	0	0
12:00	0	0	0	0	0	4	0	0	0	5	0	0
13:00	0	0	0	0	0	3	0	0	0	5	0	0
14:00	0	0	0	0	0	4	0	0	0	6	0	0
15:00	0	0	0	0	0	6	0	0	0	5	0	0
16:00	0	0	0	0	0	7	0	0	0	5	0	0
17:00	1	0	0	0	0	9	0	0	0	7	0	0
18:00	0	0	0	0	0	7	0	0	0	7	0	0
19:00	0	0	0	0	0	5	0	0	0	5	0	0

Build Adjusted Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,367	0	0	667	2	0	0	0	14	0	1
8:00	0	1,605	0	0	546	3	0	0	0	10	0	1
9:00	0	1,348	0	0	552	3	0	0	0	7	0	0
10:00	0	1,347	0	0	593	3	0	0	0	5	0	0
11:00	0	1,363	0	0	698	3	0	0	0	6	0	0
12:00	0	815	0	0	761	4	0	0	0	5	0	0
13:00	0	778	0	0	876	3	0	0	0	5	0	0
14:00	0	820	0	0	1,047	4	0	0	0	6	0	0
15:00	0	798	0	0	1,341	6	0	0	0	5	0	0
16:00	0	727	0	0	1,471	7	0	0	0	5	0	0
17:00	1	672	0	0	1,331	9	0	0	0	7	0	0
18:00	0	440	0	0	869	7	0	0	0	7	0	0
19:00	0	222	0	0	572	5	0	0	0	5	0	0

ASHWORTH COMMONS						ASHWORTH HILLS			
RETAIL/GAS/RESTAURANT ENTERING TRAFFIC		RETAIL/GAS/RESTAURANT EXITING TRAFFIC		OFFICE ENTERING	OFFICE EXITING	ASHWORTH HILLS ENTERING TRAFFIC		ASHWORTH HILLS EXITING TRAFFIC	
FROM WEST (EBL)	FROM EAST (WBR)	TO WEST (SBR)	TO EAST (SBL)	FROM WEST (EBL)	TO EAST (SBL)	FROM WEST (EBL)	FROM EAST (WBR)	TO WEST (SBR)	TO EAST (SBL)
61	49	50	41	14	6	1	11	4	83
70	58	58	48	16	11	1	16	3	58
78	63	62	50	7	14	1	16	2	44
91	74	73	60	6	20	1	17	1	27
121	99	98	81	7	35	1	20	2	35
143	117	124	102	11	35	1	23	2	31
120	99	112	92	10	22	1	19	2	30
107	87	106	87	9	23	1	23	2	38
112	92	106	87	8	29	2	34	2	30
114	93	106	87	6	48	2	41	2	32
121	99	112	92	4	53	3	51	2	43
107	87	98	81	2	9	2	41	2	41
87	72	84	68	1	7	2	30	2	28
55%	45%	55%	45%	25%	75%	5%	45%	5%	45%
100%		100%							

*Office - only includes lefts in and lefts out
Right turns expected to use eastern driveway

*Ashworth Hills - only includes traffic expected to enter via Route 20 (not Ashworth Drive)

OCCUPANCY	
0%	Ashworth Commons

OCCUPANCY	
17%	Ashworth Hills

Ashworth Commons
Retail

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	820		
Land Use	Shopping Center (>150k)		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	24		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.1%	0.1%	0.1%
1:00 - 2:00 AM	0.1%	0.1%	0.1%
2:00 - 3:00 AM	0.1%	0.1%	0.1%
3:00 - 4:00 AM	0.1%	0.1%	0.1%
4:00 - 5:00 AM	0.1%	0.1%	0.1%
5:00 - 6:00 AM	0.4%	0.4%	0.5%
6:00 - 7:00 AM	0.6%	0.8%	0.5%
7:00 - 8:00 AM	1.5%	1.9%	1.2%
8:00 - 9:00 AM	2.3%	2.8%	1.8%
9:00 - 10:00 AM	3.9%	4.8%	3.0%
10:00 - 11:00 AM	5.9%	6.8%	5.0%
11:00 - 12:00 PM	7.5%	8.2%	7.0%
12:00 - 1:00 PM	8.9%	9.3%	8.5%
1:00 - 2:00 PM	8.5%	8.4%	8.6%
2:00 - 3:00 PM	7.9%	7.5%	8.2%
3:00 - 4:00 PM	7.9%	7.8%	8.1%
4:00 - 5:00 PM	8.3%	8.3%	8.3%
5:00 - 6:00 PM	8.5%	8.4%	8.5%
6:00 - 7:00 PM	7.4%	7.4%	7.5%
7:00 - 8:00 PM	6.5%	6.3%	6.6%
8:00 - 9:00 PM	5.1%	4.1%	6.1%
9:00 - 10:00 PM	3.1%	1.8%	4.4%
10:00 - 11:00 PM	3.6%	3.2%	4.0%
11:00 - 12:00 AM	1.8%	1.6%	2.1%

* Not enough data for LUC 821
(Shopping Center [40-150k])

1,193	1,168
Entering	Exiting
1	1
1	1
1	1
1	1
1	1
5	5
10	5
22	14
34	21
57	35
81	59
97	81
111	99
100	100
90	96
93	94
99	97
101	99
88	87
75	78
49	71
21	52
38	47
19	24
1,195	1,169

Ashworth Commons
Gas Station

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	945		
Land Use	Convenience Store/Gas Station		
Subcategory	GFA (4-10k)		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	5		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	1.3%	1.2%	1.3%
1:00 - 2:00 AM	0.8%	0.8%	0.9%
2:00 - 3:00 AM	0.6%	0.6%	0.6%
3:00 - 4:00 AM	0.8%	0.8%	0.7%
4:00 - 5:00 AM	1.5%	1.6%	1.5%
5:00 - 6:00 AM	3.1%	3.1%	3.0%
6:00 - 7:00 AM	4.6%	4.7%	4.5%
7:00 - 8:00 AM	5.9%	6.0%	5.9%
8:00 - 9:00 AM	6.5%	6.5%	6.4%
9:00 - 10:00 AM	5.7%	5.6%	5.7%
10:00 - 11:00 AM	5.3%	5.3%	5.3%
11:00 - 12:00 PM	5.8%	5.8%	5.7%
12:00 - 1:00 PM	6.6%	6.6%	6.6%
1:00 - 2:00 PM	6.1%	6.2%	5.9%
2:00 - 3:00 PM	6.1%	6.0%	6.2%
3:00 - 4:00 PM	6.8%	6.8%	6.8%
4:00 - 5:00 PM	6.4%	6.3%	6.5%
5:00 - 6:00 PM	6.8%	6.7%	6.9%
6:00 - 7:00 PM	5.4%	5.3%	5.4%
7:00 - 8:00 PM	4.0%	3.9%	4.0%
8:00 - 9:00 PM	3.4%	3.4%	3.4%
9:00 - 10:00 PM	2.7%	2.8%	2.7%
10:00 - 11:00 PM	2.1%	2.1%	2.1%
11:00 - 12:00 AM	1.9%	1.9%	2.0%

1,101	1,078
Entering	Exiting
13	14
9	10
7	7
9	8
17	16
34	32
52	48
66	63
72	69
62	62
58	57
64	62
73	71
68	64
66	67
75	73
70	70
74	75
58	58
43	43
37	36
31	29
23	22
21	21
1,102	1,077

Ashworth Commons
Restaurant

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	934		
Land Use	Fast-Food Restaurant with Drive-Through Window		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	53		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.8%	0.8%	0.8%
1:00 - 2:00 AM	0.4%	0.4%	0.5%
2:00 - 3:00 AM	0.3%	0.3%	0.3%
3:00 - 4:00 AM	0.3%	0.2%	0.3%
4:00 - 5:00 AM	0.3%	0.3%	0.3%
5:00 - 6:00 AM	0.7%	0.8%	0.7%
6:00 - 7:00 AM	2.1%	2.3%	1.9%
7:00 - 8:00 AM	3.3%	3.4%	3.1%
8:00 - 9:00 AM	3.5%	3.5%	3.4%
9:00 - 10:00 AM	3.3%	3.4%	3.3%
10:00 - 11:00 AM	3.8%	4.0%	3.7%
11:00 - 12:00 PM	8.4%	9.1%	7.7%
12:00 - 1:00 PM	11.9%	11.9%	12.0%
1:00 - 2:00 PM	8.3%	7.9%	8.7%
2:00 - 3:00 PM	6.2%	5.9%	6.5%
3:00 - 4:00 PM	5.7%	5.7%	5.7%
4:00 - 5:00 PM	5.7%	5.9%	5.6%
5:00 - 6:00 PM	6.7%	6.9%	6.5%
6:00 - 7:00 PM	7.4%	7.4%	7.4%
7:00 - 8:00 PM	6.5%	6.3%	6.6%
8:00 - 9:00 PM	5.7%	5.6%	5.8%
9:00 - 10:00 PM	4.4%	4.1%	4.6%
10:00 - 11:00 PM	2.7%	2.5%	2.9%
11:00 - 12:00 AM	1.6%	1.4%	1.8%

643	464
Entering	Exiting
5	4
2	2
2	2
2	1
2	1
5	3
15	9
22	14
22	16
22	15
26	17
59	36
76	56
51	40
38	30
36	26
38	26
45	30
48	34
41	31
36	27
26	21
16	13
9	8
644	462

Ashworth Commons
Office

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	710		
Land Use	General Office Building		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	11		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.1%	0.2%	0.1%
1:00 - 2:00 AM	0.0%	0.0%	0.1%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.1%	0.0%	0.1%
4:00 - 5:00 AM	0.2%	0.2%	0.2%
5:00 - 6:00 AM	0.3%	0.4%	0.1%
6:00 - 7:00 AM	2.6%	4.8%	0.5%
7:00 - 8:00 AM	7.8%	13.6%	2.0%
8:00 - 9:00 AM	8.9%	14.3%	3.4%
9:00 - 10:00 AM	5.3%	6.3%	4.4%
10:00 - 11:00 AM	5.7%	5.5%	6.0%
11:00 - 12:00 PM	8.1%	6.0%	10.3%
12:00 - 1:00 PM	10.2%	10.2%	10.1%
1:00 - 2:00 PM	7.8%	9.0%	6.6%
2:00 - 3:00 PM	7.4%	8.3%	6.5%
3:00 - 4:00 PM	7.8%	7.3%	8.4%
4:00 - 5:00 PM	10.3%	5.4%	15.2%
5:00 - 6:00 PM	9.9%	4.0%	15.8%
6:00 - 7:00 PM	2.1%	1.7%	2.6%
7:00 - 8:00 PM	1.6%	0.9%	2.3%
8:00 - 9:00 PM	1.0%	0.7%	1.3%
9:00 - 10:00 PM	1.1%	0.5%	1.6%
10:00 - 11:00 PM	1.2%	0.3%	2.1%
11:00 - 12:00 AM	0.3%	0.4%	0.2%

total office	601	601
	88%	88%
external	428	437
	377	385

Entering	Exiting
1	0
0	0
0	0
0	0
1	1
2	1
18	2
51	8
54	13
24	17
21	23
23	40
38	39
34	26
31	25
28	32
20	59
15	61
6	10
4	9
3	5
2	6
1	8
2	1
379	386

Ashworth Commons
Office

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	712		
Land Use	Small Office Building		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	22		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.0%	0.0%	0.0%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.0%	0.0%	0.0%
5:00 - 6:00 AM	0.0%	0.0%	0.0%
6:00 - 7:00 AM	0.0%	0.0%	0.0%
7:00 - 8:00 AM	3.6%	6.8%	0.4%
8:00 - 9:00 AM	9.5%	15.0%	3.9%
9:00 - 10:00 AM	6.9%	9.5%	4.3%
10:00 - 11:00 AM	7.4%	8.4%	6.4%
11:00 - 12:00 PM	10.5%	8.2%	12.8%
12:00 - 1:00 PM	12.6%	10.9%	14.2%
1:00 - 2:00 PM	7.6%	8.6%	6.6%
2:00 - 3:00 PM	9.6%	9.7%	9.5%
3:00 - 4:00 PM	10.8%	10.3%	11.3%
4:00 - 5:00 PM	8.1%	7.2%	9.1%
5:00 - 6:00 PM	11.2%	4.7%	17.7%
6:00 - 7:00 PM	2.2%	0.6%	3.7%
7:00 - 8:00 PM	0.0%	0.0%	0.0%
8:00 - 9:00 PM	0.0%	0.0%	0.0%
9:00 - 10:00 PM	0.0%	0.0%	0.0%
10:00 - 11:00 PM	0.0%	0.0%	0.0%
11:00 - 12:00 AM	0.0%	0.0%	0.0%

total office	601	601
	12%	12%
external	428	437
	51	52

Entering	Exiting
0	0
0	0
0	0
0	0
0	0
0	0
0	0
3	0
8	2
5	2
4	3
4	7
6	7
4	3
5	5
5	6
4	5
2	9
0	2
0	0
0	0
0	0
0	0
0	0
50	51

Ashworth Hills

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	215		
Land Use	Single-Family Attached Housing		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	7		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.5%	0.7%	0.3%
1:00 - 2:00 AM	0.2%	0.4%	0.1%
2:00 - 3:00 AM	0.3%	0.2%	0.3%
3:00 - 4:00 AM	0.3%	0.3%	0.4%
4:00 - 5:00 AM	0.7%	0.4%	1.0%
5:00 - 6:00 AM	1.4%	0.1%	2.6%
6:00 - 7:00 AM	3.5%	1.1%	5.8%
7:00 - 8:00 AM	7.9%	2.7%	13.2%
8:00 - 9:00 AM	6.6%	3.8%	9.3%
9:00 - 10:00 AM	5.3%	3.7%	6.9%
10:00 - 11:00 AM	4.1%	4.0%	4.3%
11:00 - 12:00 PM	5.3%	4.8%	5.7%
12:00 - 1:00 PM	5.2%	5.4%	5.1%
1:00 - 2:00 PM	4.7%	4.5%	4.8%
2:00 - 3:00 PM	5.8%	5.5%	6.0%
3:00 - 4:00 PM	6.5%	8.2%	4.8%
4:00 - 5:00 PM	7.5%	9.8%	5.1%
5:00 - 6:00 PM	9.4%	12.1%	6.8%
6:00 - 7:00 PM	8.2%	9.8%	6.6%
7:00 - 8:00 PM	5.9%	7.3%	4.5%
8:00 - 9:00 PM	4.7%	5.9%	3.5%
9:00 - 10:00 PM	3.0%	4.8%	1.3%
10:00 - 11:00 PM	2.0%	3.0%	1.1%
11:00 - 12:00 AM	0.9%	1.5%	0.4%

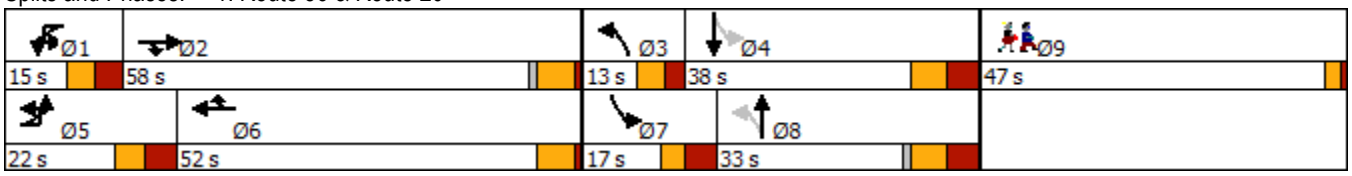
442	660
Entering	Exiting
3	2
2	1
1	2
1	2
2	7
1	17
5	39
12	87
17	61
17	46
18	28
21	37
24	33
20	32
24	40
36	32
43	34
54	45
43	43
32	30
26	23
21	9
13	7
6	3
442	660

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	40	996	69	16	553	63	76	184	140	212	
Future Volume (vph)	40	996	69	16	553	63	76	184	140	212	
Turn Type	Prot	NA	Prot	Prot	NA	Prot	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2	1	6	6	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2	1	6	6	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0	16.0	14.0	16.0	16.0	13.0	16.0	14.0	16.0	47.0
Total Split (s)	22.0	58.0	58.0	15.0	52.0	52.0	13.0	33.0	17.0	38.0	47.0
Total Split (%)	12.8%	33.7%	33.7%	8.7%	30.2%	30.2%	7.6%	19.2%	9.9%	22.1%	27%
Yellow Time (s)	4.0	5.0	5.0	3.5	5.0	5.0	3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0	1.0	3.5	1.0	1.0	2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0	6.0	7.0	6.0	6.0	6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	9.2	52.0	52.0	7.8	52.6	52.6	35.0	25.0	41.0	29.0	
Actuated g/C Ratio	0.07	0.42	0.42	0.06	0.42	0.42	0.28	0.20	0.33	0.23	
v/c Ratio	0.40	0.76	0.12	0.53	0.45	0.11	0.31	0.69	0.54	0.79	
Control Delay	65.0	35.0	0.4	75.1	28.0	0.4	30.5	57.5	36.9	60.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.0	35.0	0.4	75.1	28.0	0.4	30.5	57.5	36.9	60.5	
LOS	E	C	A	E	C	A	C	E	D	E	
Approach Delay		33.9			29.0			50.5		52.6	
Approach LOS		C			C			D		D	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 123.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 37.7 Intersection LOS: D
Intersection Capacity Utilization 77.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	1083	75	55	601	68	83	239	152	298
v/c Ratio	0.40	0.76	0.12	0.53	0.45	0.11	0.31	0.69	0.54	0.79
Control Delay	65.0	35.0	0.4	75.1	28.0	0.4	30.5	57.5	36.9	60.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.0	35.0	0.4	75.1	28.0	0.4	30.5	57.5	36.9	60.5
Queue Length 50th (ft)	34	384	0	44	185	0	44	179	87	226
Queue Length 95th (ft)	71	471	0	#93	251	0	82	272	143	#361
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	163	1450	646	106	1323	605	268	346	284	379
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.75	0.12	0.52	0.45	0.11	0.31	0.69	0.54	0.79

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	40	996	69	35	16	553	63	76	184	36	140	212
Future Volume (vph)	40	996	69	35	16	553	63	76	184	36	140	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.98		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1452	3388	1322		1649	3116	1236	1678	1712		1544	1618
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.44	1.00		0.39	1.00
Satd. Flow (perm)	1452	3388	1322		1649	3116	1236	771	1712		637	1618
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	1083	75	38	17	601	68	83	200	39	152	230
RTOR Reduction (vph)	0	0	43	0	0	0	39	0	0	0	0	0
Lane Group Flow (vph)	43	1083	32	0	55	601	29	83	239	0	152	298
Heavy Vehicles (%)	16%	3%	14%	0%	7%	12%	22%	4%	5%	3%	13%	8%
Turn Type	Prot	NA	Prot	Prot	Prot	NA	Prot	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2	1	1	6	6	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	7.8	53.6	53.6		7.8	52.6	52.6	32.0	25.0		39.0	29.0
Effective Green, g (s)	7.8	53.6	53.6		7.8	52.6	52.6	32.0	25.0		39.0	29.0
Actuated g/C Ratio	0.06	0.43	0.43		0.06	0.42	0.42	0.26	0.20		0.31	0.23
Clearance Time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	90	1448	565		102	1307	518	247	341		270	374
v/s Ratio Prot	0.03	c0.32	0.02		c0.03	0.19	0.02	0.02	0.14		c0.04	c0.18
v/s Ratio Perm								0.07			0.13	
v/c Ratio	0.48	0.75	0.06		0.54	0.46	0.06	0.34	0.70		0.56	0.80
Uniform Delay, d1	56.8	30.2	21.1		57.1	26.2	21.6	36.8	46.7		33.5	45.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.0	2.2	0.0		5.4	0.3	0.0	0.8	6.4		2.7	11.2
Delay (s)	60.8	32.4	21.1		62.5	26.4	21.7	37.6	53.1		36.2	56.6
Level of Service	E	C	C		E	C	C	D	D		D	E
Approach Delay (s)		32.7				28.7			49.1			49.7
Approach LOS		C				C			D			D

Intersection Summary

HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	125.4	Sum of lost time (s)	33.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	63
Future Volume (vph)	63
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	68
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	15%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1124	613	14	0	51
Future Volume (Veh/h)	0	1124	613	14	0	51
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1222	666	15	0	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.74	
vC, conflicting volume	681				1284	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	681				674	340
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	921				289	661

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	611	611	444	237	55
Volume Left	0	0	0	0	0
Volume Right	0	0	0	15	55
cSH	1700	1700	1700	1700	661
Volume to Capacity	0.36	0.36	0.26	0.14	0.08
Queue Length 95th (ft)	0	0	0	0	7
Control Delay (s)	0.0	0.0	0.0	0.0	10.9
Lane LOS					B
Approach Delay (s)	0.0		0.0		10.9
Approach LOS					B

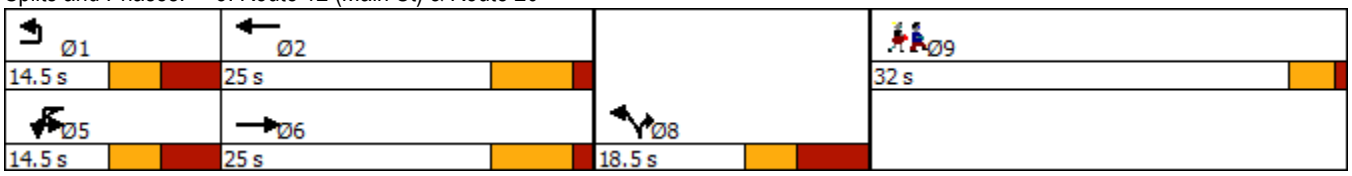
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	6	1113	100	594	25	291	
Future Volume (vph)	6	1113	100	594	25	291	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	14.5	25.0	14.5	25.0	18.5	18.5	32.0
Total Split (%)	16.1%	27.8%	16.1%	27.8%	20.6%	20.6%	36%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.1	18.3	7.1	26.6	7.9	7.9	
Actuated g/C Ratio	0.13	0.35	0.13	0.50	0.15	0.15	
v/c Ratio	0.03	1.07	0.30	0.39	0.49	0.47	
Control Delay	22.5	68.9	24.7	10.5	11.9	9.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	22.5	68.9	24.7	10.5	11.9	9.3	
LOS	C	E	C	B	B	A	
Approach Delay		68.7		12.9	10.6		
Approach LOS		E		B	B		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 52.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 41.9 Intersection LOS: D
Intersection Capacity Utilization 68.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	7	1233	132	646	172	171
v/c Ratio	0.03	1.07	0.30	0.39	0.49	0.47
Control Delay	22.5	68.9	24.7	10.5	11.9	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	68.9	24.7	10.5	11.9	9.3
Queue Length 50th (ft)	2	~257	20	48	8	0
Queue Length 95th (ft)	12	#402	44	149	53	45
Internal Link Dist (ft)		640		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	234	1156	442	1636	414	418
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	1.07	0.30	0.39	0.42	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	6	1113	21	21	100	594	25	291
Future Volume (vph)	6	1113	21	21	100	594	25	291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12
Total Lost time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95			0.97	0.95	1.00	0.95
Frt	1.00	1.00			1.00	1.00	0.87	0.85
Flt Protected	0.95	1.00			0.95	1.00	0.99	1.00
Satd. Flow (prot)	1745	3338			3285	3252	1548	1461
Flt Permitted	0.95	1.00			0.95	1.00	0.99	1.00
Satd. Flow (perm)	1745	3338			3285	3252	1548	1461
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	1210	23	23	109	646	27	316
RTOR Reduction (vph)	0	1	0	0	0	0	126	148
Lane Group Flow (vph)	7	1232	0	0	132	646	46	23
Heavy Vehicles (%)	0%	4%	17%	0%	8%	11%	14%	5%
Turn Type	Prot	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	1	6		5	5	2	8	8
Permitted Phases								
Actuated Green, G (s)	1.3	22.6			5.3	26.6	7.9	7.9
Effective Green, g (s)	1.3	22.6			5.3	26.6	7.9	7.9
Actuated g/C Ratio	0.02	0.38			0.09	0.45	0.13	0.13
Clearance Time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	38	1282			296	1471	207	196
v/s Ratio Prot	0.00	c0.37			c0.04	c0.20	c0.03	0.02
v/s Ratio Perm								
v/c Ratio	0.18	0.96			0.45	0.44	0.22	0.12
Uniform Delay, d1	28.2	17.7			25.4	11.0	22.7	22.4
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3	16.6			1.1	0.2	0.6	0.3
Delay (s)	30.6	34.3			26.4	11.2	23.3	22.7
Level of Service	C	C			C	B	C	C
Approach Delay (s)		34.2				13.8	23.0	
Approach LOS		C				B	C	

Intersection Summary

HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	58.8	Sum of lost time (s)	27.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

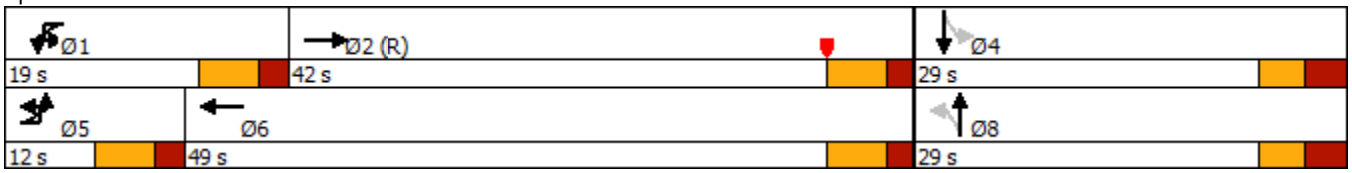
c Critical Lane Group

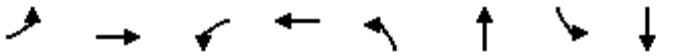
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	14	1376	4	695	8	1	101	0
Future Volume (vph)	14	1376	4	695	8	1	101	0
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	12.0	42.0	19.0	49.0	29.0	29.0	29.0	29.0
Total Split (%)	13.3%	46.7%	21.1%	54.4%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.5	63.5	6.6	63.6	12.7	12.7	12.7	12.7
Actuated g/C Ratio	0.07	0.71	0.07	0.71	0.14	0.14	0.14	0.14
v/c Ratio	0.22	0.62	0.22	0.36	0.04	0.07	0.66	0.03
Control Delay	43.0	13.0	48.6	12.8	30.5	15.2	54.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	13.0	48.6	12.8	30.5	15.2	54.1	0.1
LOS	D	B	D	B	C	B	D	A
Approach Delay		13.5		13.9		20.5		49.2
Approach LOS		B		B		C		D

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 30 (33%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 15.4 Intersection LOS: B
Intersection Capacity Utilization 60.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	1505	27	819	9	17	110	11
v/c Ratio	0.22	0.62	0.22	0.36	0.04	0.07	0.66	0.03
Control Delay	43.0	13.0	48.6	12.8	30.5	15.2	54.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	13.0	48.6	12.8	30.5	15.2	54.1	0.1
Queue Length 50th (ft)	15	183	17	85	4	1	60	0
Queue Length 95th (ft)	41	#497	m32	104	17	18	107	0
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	130	2425	242	2266	364	405	301	518
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.62	0.11	0.36	0.02	0.04	0.37	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	14	1376	8	21	4	695	59	8	1	15	101
Future Volume (vph)	12	14	1376	8	21	4	695	59	8	1	15	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Lane Util. Factor		1.00	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	1.00			1.00	0.99		1.00	0.86		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1805	3436			1681	3203		1805	1541		1504
Flt Permitted		0.95	1.00			0.95	1.00		0.75	1.00		0.75
Satd. Flow (perm)		1805	3436			1681	3203		1426	1541		1182
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	15	1496	9	23	4	755	64	9	1	16	110
RTOR Reduction (vph)	0	0	0	0	0	0	5	0	0	14	0	0
Lane Group Flow (vph)	0	28	1505	0	0	27	814	0	9	3	0	110
Confl. Peds. (#/hr)				2		2						
Heavy Vehicles (%)	0%	0%	5%	0%	0%	50%	12%	4%	0%	100%	0%	20%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Perm	NA		Perm
Protected Phases	5	5	2		1	1	6			8		
Permitted Phases									8			4
Actuated Green, G (s)		2.9	57.5			3.0	57.6		11.5	11.5		11.5
Effective Green, g (s)		2.9	57.5			3.0	57.6		11.5	11.5		11.5
Actuated g/C Ratio		0.03	0.64			0.03	0.64		0.13	0.13		0.13
Clearance Time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Vehicle Extension (s)		2.0	2.0			2.0	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)		58	2195			56	2049		182	196		151
v/s Ratio Prot		0.02	c0.44			c0.02	0.25			0.00		
v/s Ratio Perm									0.01			c0.09
v/c Ratio		0.48	0.69			0.48	0.40		0.05	0.02		0.73
Uniform Delay, d1		42.8	10.4			42.7	7.8		34.5	34.3		37.7
Progression Factor		1.00	1.00			1.14	1.46		1.00	1.00		1.00
Incremental Delay, d2		2.3	1.8			2.2	0.5		0.0	0.0		13.8
Delay (s)		45.1	12.2			50.9	11.9		34.5	34.3		51.5
Level of Service		D	B			D	B		C	C		D
Approach Delay (s)			12.8				13.2			34.4		
Approach LOS			B				B			C		

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	10
Future Volume (vph)	0	10
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.85	
Flt Protected	1.00	
Satd. Flow (prot)	1346	
Flt Permitted	1.00	
Satd. Flow (perm)	1346	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	0	11
RTOR Reduction (vph)	10	0
Lane Group Flow (vph)	1	0
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	0%	20%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	11.5	
Effective Green, g (s)	11.5	
Actuated g/C Ratio	0.13	
Clearance Time (s)	6.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	171	
v/s Ratio Prot	0.00	
v/s Ratio Perm		
v/c Ratio	0.01	
Uniform Delay, d1	34.3	
Progression Factor	1.00	
Incremental Delay, d2	0.0	
Delay (s)	34.3	
Level of Service	C	
Approach Delay (s)	50.0	
Approach LOS	D	

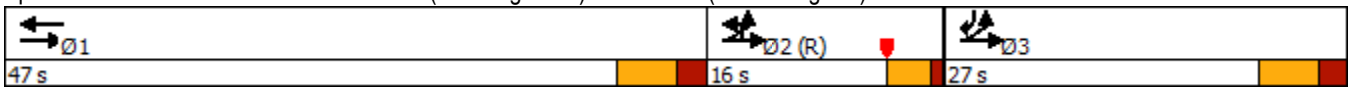
Intersection Summary

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	17	508	966	534	15	258
Future Volume (vph)	17	508	966	534	15	258
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	16.0			47.0		27.0
Total Split (%)	17.8%			52.2%		30.0%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	12.0	36.6	90.0	43.4	90.0	18.6
Actuated g/C Ratio	0.13	0.41	1.00	0.48	1.00	0.21
v/c Ratio	0.08	0.41	0.30	0.36	0.01	0.53
Control Delay	42.3	22.7	0.2	16.0	0.0	35.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	22.7	0.2	16.0	0.0	35.3
LOS	D	C	A	B	A	D
Approach Delay			8.3	15.6		
Approach LOS			A	B		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 13.1 Intersection LOS: B
Intersection Capacity Utilization 45.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	18	552	1050	580	16	280
v/c Ratio	0.08	0.41	0.30	0.36	0.01	0.53
Control Delay	42.3	22.7	0.2	16.0	0.0	35.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	22.7	0.2	16.0	0.0	35.3
Queue Length 50th (ft)	10	73	0	110	0	78
Queue Length 95th (ft)	m19	175	0	152	0	121
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	214	1431	3450	1596	1509	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.39	0.30	0.36	0.01	0.47

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	17	508	966	534	15	0	258
Future Volume (vph)	17	508	966	534	15	0	258
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1612	3303	3471	3312	1509		2538
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1612	3303	3471	3312	1509		2538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	552	1050	580	16	0	280
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	552	1050	580	16	0	280
Heavy Vehicles (%)	12%	6%	4%	9%	7%	0%	12%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	12.0	34.6	90.0	43.4	90.0		18.6
Effective Green, g (s)	12.0	34.6	86.0	43.4	90.0		18.6
Actuated g/C Ratio	0.13	0.38	0.96	0.48	1.00		0.21
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	214	1269	3316	1597	1509		524
v/s Ratio Prot	0.01	c0.17	0.30	c0.18			c0.11
v/s Ratio Perm					0.01		
v/c Ratio	0.08	0.43	0.32	0.36	0.01		0.53
Uniform Delay, d1	34.2	20.5	0.1	14.6	0.0		31.8
Progression Factor	1.20	1.17	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.6	0.1	0.0	0.6	0.0		0.5
Delay (s)	41.8	24.0	0.1	15.3	0.0		32.4
Level of Service	D	C	A	B	A		C
Approach Delay (s)			8.7	14.9		32.4	
Approach LOS			A	B		C	

Intersection Summary

HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

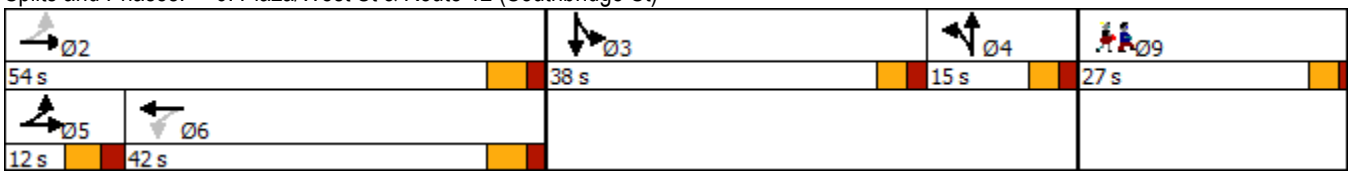
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	36	537	3	287	3	601	2		
Future Volume (vph)	36	537	3	287	3	601	2		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		34.3		20.8	5.7	23.1	23.1		
Actuated g/C Ratio		0.46		0.28	0.08	0.31	0.31		
v/c Ratio		0.47		0.70	0.05	0.68	0.67		
Control Delay		17.9		22.5	38.3	33.8	33.2		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		17.9		22.5	38.3	33.8	33.2		
LOS		B		C	D	C	C		
Approach Delay		17.9		22.5	38.3		33.5		
Approach LOS		B		C	D		C		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 74.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 24.9 Intersection LOS: C
Intersection Capacity Utilization 72.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	623	664	6	346	338
v/c Ratio	0.47	0.70	0.05	0.68	0.67
Control Delay	17.9	22.5	38.3	33.8	33.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	22.5	38.3	33.8	33.2
Queue Length 50th (ft)	75	80	1	114	110
Queue Length 95th (ft)	270	260	17	#458	#443
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	2061	1641	233	816	809
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.30	0.40	0.03	0.42	0.42

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	537	0	3	287	321	0	3	3	601	2	27
Future Volume (vph)	36	537	0	3	287	321	0	3	3	601	2	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.92			0.93		1.00	0.99	
Flt Protected		1.00			1.00			1.00		0.95	0.96	
Satd. Flow (prot)		3383			2984			1521		1633	1615	
Flt Permitted		0.81			0.95			1.00		0.95	0.96	
Satd. Flow (perm)		2763			2841			1521		1633	1615	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	584	0	3	312	349	0	3	3	653	2	29
RTOR Reduction (vph)	0	0	0	0	149	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	623	0	0	515	0	0	3	0	346	336	0
Heavy Vehicles (%)	12%	6%	0%	0%	12%	11%	0%	0%	33%	5%	50%	8%
Turn Type	pm+pt	NA		Perm	NA			NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		34.3			21.6			0.7		23.1	23.1	
Effective Green, g (s)		34.3			21.6			0.7		23.1	23.1	
Actuated g/C Ratio		0.43			0.27			0.01		0.29	0.29	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1225			760			13		467	462	
v/s Ratio Prot		c0.04						c0.00		c0.21	0.21	
v/s Ratio Perm		0.17			c0.18							
v/c Ratio		0.51			0.68			0.23		0.74	0.73	
Uniform Delay, d1		17.0			26.4			39.7		26.1	26.0	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.3			2.4			3.3		5.5	4.8	
Delay (s)		17.4			28.9			43.1		31.6	30.8	
Level of Service		B			C			D		C	C	
Approach Delay (s)		17.4			28.9			43.1			31.2	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	80.7	Sum of lost time (s)	26.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1140	622	3	0	8
Future Volume (Veh/h)	0	1140	622	3	0	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1239	676	3	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	676				1297	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	676				1297	340
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	911				154	656

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	620	620	451	228	9
Volume Left	0	0	0	0	0
Volume Right	0	0	0	3	9
cSH	1700	1700	1700	1700	656
Volume to Capacity	0.36	0.36	0.27	0.13	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	10.6
Lane LOS					B
Approach Delay (s)	0.0		0.0		10.6
Approach LOS					B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	34.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Volume (veh/h)	0	1140	625	0	0	0
Future Volume (Veh/h)	0	1140	625	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1239	679	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			720			
pX, platoon unblocked	0.89				0.89	0.89
vC, conflicting volume	679				1298	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	386				1084	4
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1051				191	963

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	620	620	453	226	0
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.36	0.36	0.27	0.13	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					A
Approach Delay (s)	0.0		0.0		0.0
Approach LOS					A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	34.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	99	0	1	49	4	0	1	3	5	0	0
Future Volume (Veh/h)	0	99	0	1	49	4	0	1	3	5	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	108	0	1	53	4	0	1	3	5	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	43	14	0	66	12	2	0			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	43	14	0	66	12	2	0			4		
tC, single (s)	7.1	7.0	6.2	7.1	6.6	6.5	4.1			4.3		
tC, 2 stage (s)												
tF (s)	3.5	4.5	3.3	3.5	4.1	3.5	2.2			2.4		
p0 queue free %	100	86	100	100	94	100	100			100		
cM capacity (veh/h)	914	791	1091	832	862	1018	1636			1507		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	108	58	4	5
Volume Left	0	1	0	5
Volume Right	0	4	3	0
cSH	791	870	1636	1507
Volume to Capacity	0.14	0.07	0.00	0.00
Queue Length 95th (ft)	12	5	0	0
Control Delay (s)	10.3	9.4	0.0	7.4
Lane LOS	B	A		A
Approach Delay (s)	10.3	9.4	0.0	7.4
Approach LOS	B	A		

Intersection Summary				
Average Delay	9.7			
Intersection Capacity Utilization	16.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	2	0	3	0
Future Volume (Veh/h)	0	8	2	0	3	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	9	2	0	3	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	8	2			2	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	8	2			2	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	1011	1082			1620	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	9	2	3
Volume Left	0	0	3
Volume Right	9	0	0
cSH	1082	1700	1620
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.4	0.0	7.2
Lane LOS	A		A
Approach Delay (s)	8.4	0.0	7.2
Approach LOS	A		

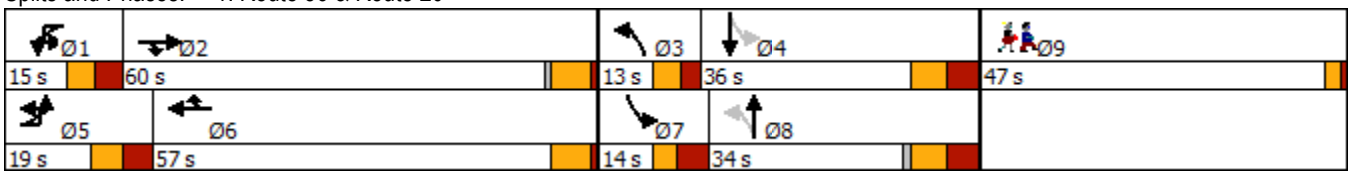
Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	75	705	99	29	1273	153	122	239	94	283	
Future Volume (vph)	75	705	99	29	1273	153	122	239	94	283	
Turn Type	Prot	NA	Prot	Prot	NA	Prot	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2	1	6	6	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2	1	6	6	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0	16.0	14.0	16.0	16.0	13.0	16.0	14.0	16.0	47.0
Total Split (s)	19.0	60.0	60.0	15.0	57.0	57.0	13.0	34.0	14.0	36.0	47.0
Total Split (%)	11.0%	34.9%	34.9%	8.7%	33.1%	33.1%	7.6%	19.8%	8.1%	20.9%	27%
Yellow Time (s)	4.0	5.0	5.0	3.5	5.0	5.0	3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0	1.0	3.5	1.0	1.0	2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0	6.0	7.0	6.0	6.0	6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	10.8	55.7	55.7	7.9	51.9	51.9	36.6	26.4	36.6	27.5	
Actuated g/C Ratio	0.08	0.42	0.42	0.06	0.39	0.39	0.27	0.20	0.27	0.21	
v/c Ratio	0.65	0.54	0.16	0.58	1.06	0.26	0.92	0.80	0.48	1.08	
Control Delay	84.5	33.8	2.7	86.1	80.4	9.2	95.7	69.8	47.2	118.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	84.5	33.8	2.7	86.1	80.4	9.2	95.7	69.8	47.2	118.1	
LOS	F	C	A	F	F	A	F	E	D	F	
Approach Delay		34.6			73.2			78.1		103.3	
Approach LOS		C			E			E		F	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 134
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 67.4 Intersection LOS: E
Intersection Capacity Utilization 91.2% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	766	108	57	1384	166	133	281	102	385
v/c Ratio	0.65	0.54	0.16	0.58	1.06	0.26	0.92	0.80	0.48	1.08
Control Delay	84.5	33.8	2.7	86.1	80.4	9.2	95.7	69.8	47.2	118.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.5	33.8	2.7	86.1	80.4	9.2	95.7	69.8	47.2	118.1
Queue Length 50th (ft)	65	231	0	45	~583	13	76	216	58	~330
Queue Length 95th (ft)	#197	480	21	#149	#1223	86	#279	#541	153	#800
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	132	1413	698	102	1311	636	144	350	213	358
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.54	0.15	0.56	1.06	0.26	0.92	0.80	0.48	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

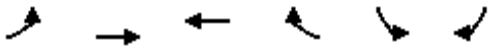
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	75	705	99	23	29	1273	153	122	239	19	94	283
Future Volume (vph)	75	705	99	23	29	1273	153	122	239	19	94	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1589	3388	1478		1685	3388	1422	1646	1775		1662	1750
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.15	1.00		0.32	1.00
Satd. Flow (perm)	1589	3388	1478		1685	3388	1422	262	1775		568	1750
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	766	108	25	32	1384	166	133	260	21	102	308
RTOR Reduction (vph)	0	0	64	0	0	0	87	0	0	0	0	0
Lane Group Flow (vph)	82	766	44	0	57	1384	79	133	281	0	102	385
Heavy Vehicles (%)	6%	3%	2%	0%	0%	3%	6%	6%	2%	6%	5%	1%
Turn Type	Prot	NA	Prot	Prot	Prot	NA	Prot	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2	1	1	6	6	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	10.8	55.8	55.8		7.9	51.9	51.9	33.6	26.5		34.6	27.5
Effective Green, g (s)	10.8	55.8	55.8		7.9	51.9	51.9	33.6	26.5		34.6	27.5
Actuated g/C Ratio	0.08	0.41	0.41		0.06	0.38	0.38	0.25	0.19		0.25	0.20
Clearance Time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	126	1388	605		97	1291	541	136	345		201	353
v/s Ratio Prot	c0.05	c0.23	0.03		0.03	c0.41	0.06	c0.05	0.16		0.03	c0.22
v/s Ratio Perm								0.19			0.10	
v/c Ratio	0.65	0.55	0.07		0.59	1.07	0.15	0.98	0.81		0.51	1.09
Uniform Delay, d1	60.9	30.7	24.5		62.6	42.1	27.6	47.4	52.5		41.0	54.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	11.4	0.5	0.1		8.8	46.8	0.1	69.7	13.7		2.0	74.4
Delay (s)	72.3	31.1	24.5		71.3	88.9	27.8	117.1	66.2		43.0	128.8
Level of Service	E	C	C		E	F	C	F	E		D	F
Approach Delay (s)		33.9				82.0			82.5			110.8
Approach LOS		C				F			F			F

Intersection Summary

HCM 2000 Control Delay	72.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	136.2	Sum of lost time (s)	33.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	71
Future Volume (vph)	71
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	77
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	5%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	870	1419	52	0	37
Future Volume (Veh/h)	0	870	1419	52	0	37
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	946	1542	57	0	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.83	
vC, conflicting volume	1599				2044	800
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1599				1849	800
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	88
cM capacity (veh/h)	415				56	332

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	473	473	1028	571	40
Volume Left	0	0	0	0	0
Volume Right	0	0	0	57	40
cSH	1700	1700	1700	1700	332
Volume to Capacity	0.28	0.28	0.60	0.34	0.12
Queue Length 95th (ft)	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	17.3
Lane LOS					C
Approach Delay (s)	0.0		0.0		17.3
Approach LOS					C

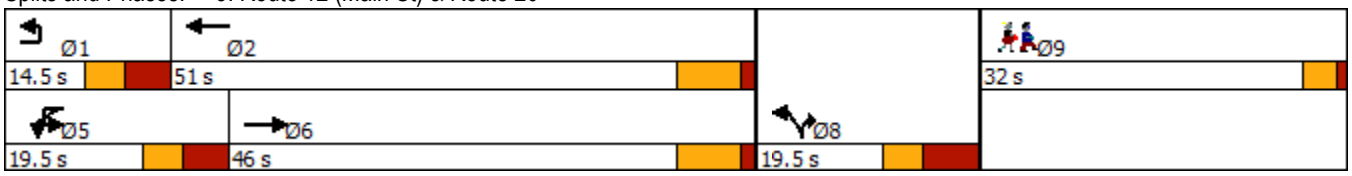
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	17	848	611	1361	87	295	
Future Volume (vph)	17	848	611	1361	87	295	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	14.5	46.0	19.5	51.0	19.5	19.5	32.0
Total Split (%)	12.4%	39.3%	16.7%	43.6%	16.7%	16.7%	27%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.0	29.6	12.1	46.6	11.0	11.0	
Actuated g/C Ratio	0.09	0.39	0.16	0.61	0.15	0.15	
v/c Ratio	0.11	0.72	1.27	0.69	0.76	0.51	
Control Delay	35.8	23.0	166.6	12.8	45.1	10.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.8	23.0	166.6	12.8	45.1	10.5	
LOS	D	C	F	B	D	B	
Approach Delay		23.2		62.3	28.3		
Approach LOS		C		E	C		

Intersection Summary

Cycle Length: 117
Actuated Cycle Length: 75.8
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 47.6 Intersection LOS: D
Intersection Capacity Utilization 74.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	18	956	701	1479	214	202
v/c Ratio	0.11	0.72	1.27	0.69	0.76	0.51
Control Delay	35.8	23.0	166.6	12.8	45.1	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.8	23.0	166.6	12.8	45.1	10.5
Queue Length 50th (ft)	8	194	~210	192	76	0
Queue Length 95th (ft)	29	256	#372	424	#212	63
Internal Link Dist (ft)		643		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	161	1745	551	2154	282	394
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.55	1.27	0.69	0.76	0.51

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	17	848	31	34	611	1361	87	295
Future Volume (vph)	17	848	31	34	611	1361	87	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12
Total Lost time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95			0.97	0.95	1.00	0.95
Frt	1.00	0.99			1.00	1.00	0.92	0.85
Flt Protected	0.95	1.00			0.95	1.00	0.98	1.00
Satd. Flow (prot)	1745	3373			3469	3505	1687	1519
Flt Permitted	0.95	1.00			0.95	1.00	0.98	1.00
Satd. Flow (perm)	1745	3373			3469	3505	1687	1519
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	922	34	37	664	1479	95	321
RTOR Reduction (vph)	0	2	0	0	0	0	37	175
Lane Group Flow (vph)	18	954	0	0	701	1479	177	27
Heavy Vehicles (%)	0%	3%	0%	0%	1%	3%	1%	1%
Turn Type	Prot	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	1	6		5	5	2	8	8
Permitted Phases								
Actuated Green, G (s)	1.2	35.7			12.1	46.6	11.0	11.0
Effective Green, g (s)	1.2	35.7			12.1	46.6	11.0	11.0
Actuated g/C Ratio	0.01	0.44			0.15	0.57	0.13	0.13
Clearance Time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	25	1472			513	1996	226	204
v/s Ratio Prot	0.01	0.28			c0.20	c0.42	c0.10	0.02
v/s Ratio Perm								
v/c Ratio	0.72	0.65			1.37	0.74	0.78	0.13
Uniform Delay, d1	40.1	18.1			34.9	13.1	34.2	31.2
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	67.0	1.0			177.1	1.5	16.0	0.3
Delay (s)	107.1	19.1			211.9	14.6	50.3	31.5
Level of Service	F	B			F	B	D	C
Approach Delay (s)		20.7				78.1	41.2	
Approach LOS		C				E	D	

Intersection Summary

HCM 2000 Control Delay	58.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	81.8	Sum of lost time (s)	27.0
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

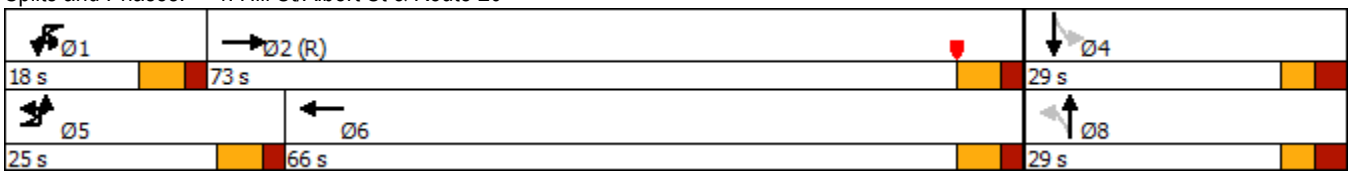
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	1116	10	1963	8	2	91	1
Future Volume (vph)	10	1116	10	1963	8	2	91	1
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	25.0	73.0	18.0	66.0	29.0	29.0	29.0	29.0
Total Split (%)	20.8%	60.8%	15.0%	55.0%	24.2%	24.2%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.7	83.2	8.4	87.3	12.7	12.7	12.7	12.7
Actuated g/C Ratio	0.06	0.69	0.07	0.73	0.11	0.11	0.11	0.11
v/c Ratio	0.25	0.50	0.45	0.88	0.06	0.08	0.66	0.15
Control Delay	60.2	11.0	58.3	30.1	46.0	24.2	71.0	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	11.0	58.3	30.1	46.0	24.2	71.0	18.0
LOS	E	B	E	C	D	C	E	B
Approach Delay		12.0		30.8		32.7		59.0
Approach LOS		B		C		C		E

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 25.5 Intersection LOS: C
Intersection Capacity Utilization 79.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	24	1216	57	2258	9	14	99	29
v/c Ratio	0.25	0.50	0.45	0.88	0.06	0.08	0.66	0.15
Control Delay	60.2	11.0	58.3	30.1	46.0	24.2	71.0	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	11.0	58.3	30.1	46.0	24.2	71.0	18.0
Queue Length 50th (ft)	18	224	42	952	6	1	75	1
Queue Length 95th (ft)	46	350	m52	m901	22	21	128	29
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	273	2431	180	2556	268	326	272	318
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.50	0.32	0.88	0.03	0.04	0.36	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	10	1116	3	42	10	1963	114	8	2	11	91
Future Volume (vph)	12	10	1116	3	42	10	1963	114	8	2	11	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Lane Util. Factor		1.00	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	1.00			1.00	0.99		1.00	0.87		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1726	3504			1805	3509		1802	1656		1805
Flt Permitted		0.95	1.00			0.95	1.00		0.74	1.00		0.75
Satd. Flow (perm)		1726	3504			1805	3509		1401	1656		1422
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	11	1213	3	46	11	2134	124	9	2	12	99
RTOR Reduction (vph)	0	0	0	0	0	0	2	0	0	11	0	0
Lane Group Flow (vph)	0	24	1216	0	0	57	2256	0	9	3	0	99
Confl. Peds. (#/hr)		1		1		1		1	1			
Heavy Vehicles (%)	0%	10%	3%	0%	0%	0%	2%	0%	0%	0%	0%	0%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Perm	NA		Perm
Protected Phases	5	5	2		1	1	6			8		
Permitted Phases									8			4
Actuated Green, G (s)		4.3	82.1			7.2	85.0		12.7	12.7		12.7
Effective Green, g (s)		4.3	82.1			7.2	85.0		12.7	12.7		12.7
Actuated g/C Ratio		0.04	0.68			0.06	0.71		0.11	0.11		0.11
Clearance Time (s)		6.0	6.0			6.0	6.0		6.0	6.0		6.0
Vehicle Extension (s)		2.0	2.0			2.0	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)		61	2397			108	2485		148	175		150
v/s Ratio Prot		0.01	0.35			c0.03	c0.64			0.00		
v/s Ratio Perm									0.01			c0.07
v/c Ratio		0.39	0.51			0.53	0.91		0.06	0.02		0.66
Uniform Delay, d1		56.6	9.2			54.7	14.3		48.3	48.1		51.6
Progression Factor		1.00	1.00			1.01	1.94		1.00	1.00		1.00
Incremental Delay, d2		1.5	0.8			0.8	2.6		0.1	0.0		8.1
Delay (s)		58.1	9.9			56.4	30.4		48.3	48.1		59.7
Level of Service		E	A			E	C		D	D		E
Approach Delay (s)			10.9				31.0			48.2		
Approach LOS			B				C			D		

Intersection Summary

HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1	26
Future Volume (vph)	1	26
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1544	
Flt Permitted	1.00	
Satd. Flow (perm)	1544	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	1	28
RTOR Reduction (vph)	25	0
Lane Group Flow (vph)	4	0
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	0%	4%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	12.7	
Effective Green, g (s)	12.7	
Actuated g/C Ratio	0.11	
Clearance Time (s)	6.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	163	
v/s Ratio Prot	0.00	
v/s Ratio Perm		
v/c Ratio	0.02	
Uniform Delay, d1	48.1	
Progression Factor	1.00	
Incremental Delay, d2	0.0	
Delay (s)	48.1	
Level of Service	D	
Approach Delay (s)	57.1	
Approach LOS	E	

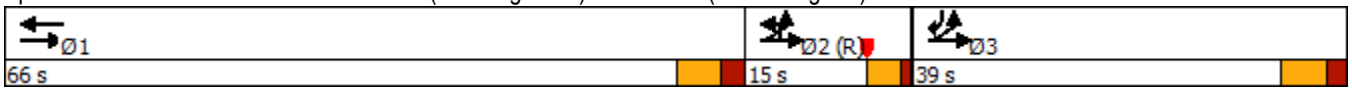
Intersection Summary

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	44	417	813	1092	16	917
Future Volume (vph)	44	417	813	1092	16	917
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	15.0			66.0		39.0
Total Split (%)	12.5%			55.0%		32.5%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	11.0	50.0	120.0	60.0	120.0	33.0
Actuated g/C Ratio	0.09	0.42	1.00	0.50	1.00	0.28
v/c Ratio	0.29	0.31	0.25	0.68	0.01	1.30
Control Delay	66.8	17.5	0.2	25.1	0.0	181.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.8	17.5	0.2	25.1	0.0	181.5
LOS	E	B	A	C	A	F
Approach Delay			8.1	24.8		
Approach LOS			A	C		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.30
Intersection Signal Delay: 61.9 Intersection LOS: E
Intersection Capacity Utilization 83.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	48	453	884	1187	17	997
v/c Ratio	0.29	0.31	0.25	0.68	0.01	1.30
Control Delay	66.8	17.5	0.2	25.1	0.0	181.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.8	17.5	0.2	25.1	0.0	181.5
Queue Length 50th (ft)	29	72	0	354	0	~561
Queue Length 95th (ft)	m74	81	0	432	0	#705
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	165	1444	3505	1752	1329	766
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.31	0.25	0.68	0.01	1.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	44	417	813	1092	16	0	917
Future Volume (vph)	44	417	813	1092	16	0	917
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1805	3467	3505	3505	1329		2787
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1805	3467	3505	3505	1329		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	453	884	1187	17	0	997
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	48	453	884	1187	17	0	997
Confl. Bikes (#/hr)					1		
Heavy Vehicles (%)	0%	1%	3%	3%	20%	0%	2%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	11.0	48.0	120.0	60.0	120.0		33.0
Effective Green, g (s)	11.0	48.0	116.0	60.0	120.0		33.0
Actuated g/C Ratio	0.09	0.40	0.97	0.50	1.00		0.28
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	165	1386	3388	1752	1329		766
v/s Ratio Prot	0.03	c0.13	0.25	c0.34			c0.36
v/s Ratio Perm					0.01		
v/c Ratio	0.29	0.33	0.26	0.68	0.01		1.30
Uniform Delay, d1	50.9	24.8	0.1	22.7	0.0		43.5
Progression Factor	1.22	0.72	1.00	1.00	1.00		1.00
Incremental Delay, d2	4.0	0.0	0.0	2.1	0.0		145.2
Delay (s)	66.0	17.9	0.1	24.8	0.0		188.7
Level of Service	E	B	A	C	A		F
Approach Delay (s)			8.2	24.5		188.7	
Approach LOS			A	C		F	

Intersection Summary			
HCM 2000 Control Delay	63.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

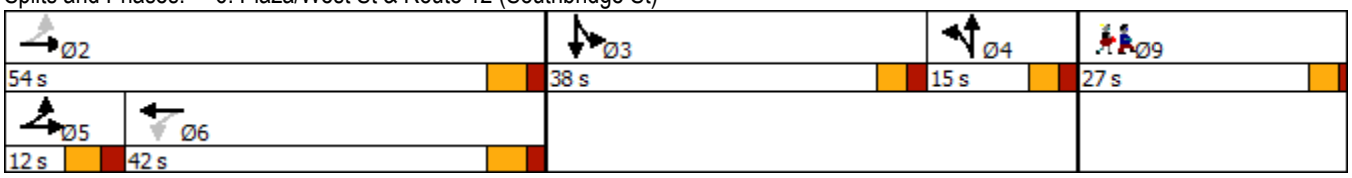
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	47	481	19	958	5	342	1		
Future Volume (vph)	47	481	19	958	5	342	1		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		48.7		36.5	5.5	14.2	14.2		
Actuated g/C Ratio		0.62		0.47	0.07	0.18	0.18		
v/c Ratio		0.40		1.11	0.18	0.67	0.66		
Control Delay		9.4		80.0	26.0	41.9	40.3		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		9.4		80.0	26.0	41.9	40.3		
LOS		A		E	C	D	D		
Approach Delay		9.4		80.0	26.0		41.1		
Approach LOS		A		E	C		D		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 78
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 58.6 Intersection LOS: E
Intersection Capacity Utilization 85.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	574	1682	25	201	200
v/c Ratio	0.40	1.11	0.18	0.67	0.66
Control Delay	9.4	80.0	26.0	41.9	40.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	80.0	26.0	41.9	40.3
Queue Length 50th (ft)	48	~439	4	88	85
Queue Length 95th (ft)	131	#800	29	182	177
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	1426	1522	237	707	706
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	1.11	0.11	0.28	0.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	481	0	19	958	570	3	5	16	342	1	26
Future Volume (vph)	47	481	0	19	958	570	3	5	16	342	1	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.94			0.91		1.00	0.98	
Flt Protected		1.00			1.00			0.99		0.95	0.96	
Satd. Flow (prot)		3502			3342			1715		1649	1639	
Flt Permitted		0.60			0.94			0.99		0.95	0.96	
Satd. Flow (perm)		2112			3154			1715		1649	1639	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	523	0	21	1041	620	3	5	17	372	1	28
RTOR Reduction (vph)	0	0	0	0	47	0	0	17	0	0	5	0
Lane Group Flow (vph)	0	574	0	0	1635	0	0	8	0	201	195	0
Heavy Vehicles (%)	9%	2%	0%	0%	2%	2%	0%	0%	0%	4%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		48.7			36.6			2.2		14.2	14.2	
Effective Green, g (s)		48.7			36.6			2.2		14.2	14.2	
Actuated g/C Ratio		0.60			0.45			0.03		0.18	0.18	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1372			1423			46		288	286	
v/s Ratio Prot		c0.03						c0.00		c0.12	0.12	
v/s Ratio Perm		0.22			c0.52							
v/c Ratio		0.42			1.15			0.18		0.70	0.68	
Uniform Delay, d1		8.6			22.2			38.6		31.4	31.3	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.2			75.6			0.7		5.8	5.3	
Delay (s)		8.9			97.9			39.3		37.3	36.6	
Level of Service		A			F			D		D	D	
Approach Delay (s)		8.9			97.9			39.3			36.9	
Approach LOS		A			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	69.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	81.1	Sum of lost time (s)	26.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Volume (veh/h)	0	896	1461	4	0	3
Future Volume (Veh/h)	0	896	1461	4	0	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	974	1588	4	0	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1588				2077	796
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1588				2077	796
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	410				46	330

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	487	487	1059	533	3
Volume Left	0	0	0	0	0
Volume Right	0	0	0	4	3
cSH	1700	1700	1700	1700	330
Volume to Capacity	0.29	0.29	0.62	0.31	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	16.0
Lane LOS					C
Approach Delay (s)	0.0		0.0		16.0
Approach LOS					C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	896	1465	0	0	0
Future Volume (Veh/h)	0	896	1465	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	974	1592	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			723			
pX, platoon unblocked	0.67				0.67	0.67
vC, conflicting volume	1592				2079	796
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	883				1615	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	515				64	721

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	487	487	1061	531	0
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.29	0.29	0.62	0.31	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					A
Approach Delay (s)	0.0		0.0		0.0
Approach LOS					A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	68	0	1	103	6	0	0	1	3	0	0
Future Volume (Veh/h)	2	68	0	1	103	6	0	0	1	3	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	74	0	1	112	7	0	0	1	3	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	70	7	0	44	6	0	0			1		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	70	7	0	44	6	0	0			1		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	92	100	100	87	99	100			100		
cM capacity (veh/h)	832	891	1091	902	891	1090	1636			1635		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	76	120	1	3
Volume Left	2	1	0	3
Volume Right	0	7	1	0
cSH	889	901	1636	1635
Volume to Capacity	0.09	0.13	0.00	0.00
Queue Length 95th (ft)	7	11	0	0
Control Delay (s)	9.4	9.6	0.0	7.2
Lane LOS	A	A		A
Approach Delay (s)	9.4	9.6	0.0	7.2
Approach LOS	A	A		

Intersection Summary				
Average Delay	9.5			
Intersection Capacity Utilization	16.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	3	1	0	3	2
Future Volume (Veh/h)	0	3	1	0	3	2
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	1	0	3	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	9	1			1	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	9	1			1	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	1010	1084			1622	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	3	1	5
Volume Left	0	0	3
Volume Right	3	0	0
cSH	1084	1700	1622
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	8.3	0.0	4.3
Lane LOS	A		A
Approach Delay (s)	8.3	0.0	4.3
Approach LOS	A		

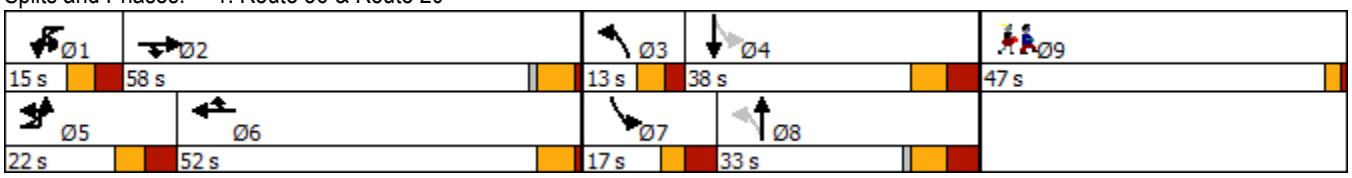
Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

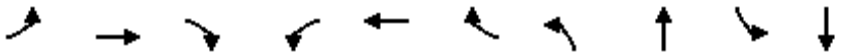
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	57	1101	94	34	933	129	131	199	97	203	
Future Volume (vph)	57	1101	94	34	933	129	131	199	97	203	
Turn Type	Prot	NA	Prot	Prot	NA	Prot	pm+pt	NA	pm+pt	NA	
Protected Phases	5	2	2	1	6	6	3	8	7	4	9
Permitted Phases							8		4		
Detector Phase	5	2	2	1	6	6	3	8	7	4	
Switch Phase											
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	15.0	16.0	16.0	14.0	16.0	16.0	13.0	16.0	14.0	16.0	47.0
Total Split (s)	22.0	58.0	58.0	15.0	52.0	52.0	13.0	33.0	17.0	38.0	47.0
Total Split (%)	12.8%	33.7%	33.7%	8.7%	30.2%	30.2%	7.6%	19.2%	9.9%	22.1%	27%
Yellow Time (s)	4.0	5.0	5.0	3.5	5.0	5.0	3.5	4.5	3.0	4.5	2.0
All-Red Time (s)	4.0	1.0	1.0	3.5	1.0	1.0	2.5	4.5	4.0	4.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	6.0	6.0	7.0	6.0	6.0	6.0	9.0	7.0	9.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	9.9	52.0	52.0	7.8	52.0	52.0	34.4	24.4	39.3	27.8	
Actuated g/C Ratio	0.08	0.42	0.42	0.06	0.42	0.42	0.28	0.20	0.32	0.23	
v/c Ratio	0.46	0.83	0.14	0.54	0.70	0.20	0.49	0.73	0.36	0.68	
Control Delay	64.4	37.4	1.8	75.2	33.8	4.8	36.1	59.5	31.6	53.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	64.4	37.4	1.8	75.2	33.8	4.8	36.1	59.5	31.6	53.2	
LOS	E	D	A	E	C	A	D	E	C	D	
Approach Delay		36.0			32.4			51.2		47.2	
Approach LOS		D			C			D		D	

Intersection Summary

Cycle Length: 172
Actuated Cycle Length: 122.7
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 37.8 Intersection LOS: D
Intersection Capacity Utilization 80.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Route 56 & Route 20





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	1197	102	58	1014	140	142	257	105	273
v/c Ratio	0.46	0.83	0.14	0.54	0.70	0.20	0.49	0.73	0.36	0.68
Control Delay	64.4	37.4	1.8	75.2	33.8	4.8	36.1	59.5	31.6	53.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.4	37.4	1.8	75.2	33.8	4.8	36.1	59.5	31.6	53.2
Queue Length 50th (ft)	48	437	0	46	357	0	78	194	58	200
Queue Length 95th (ft)	93	540	15	#98	466	43	130	#292	101	297
Internal Link Dist (ft)		1734			706			1474		1204
Turn Bay Length (ft)	500		220	200		220	225		215	
Base Capacity (vph)	192	1477	723	109	1449	707	291	362	297	416
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.81	0.14	0.53	0.70	0.20	0.49	0.71	0.35	0.66

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	57	1101	94	19	34	933	129	131	199	38	97	203
Future Volume (vph)	57	1101	94	19	34	933	129	131	199	38	97	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	10	11	10	11	11	11	11	11
Total Lost time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.98		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1685	3421	1492		1685	3421	1478	1728	1778		1711	1763
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.48	1.00		0.36	1.00
Satd. Flow (perm)	1685	3421	1492		1685	3421	1478	866	1778		649	1763
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	1197	102	21	37	1014	140	142	216	41	105	221
RTOR Reduction (vph)	0	0	58	0	0	0	81	0	0	0	0	0
Lane Group Flow (vph)	62	1197	44	0	58	1014	59	142	257	0	105	273
Heavy Vehicles (%)	0%	2%	1%	0%	0%	2%	2%	1%	1%	0%	2%	1%
Turn Type	Prot	NA	Prot	Prot	Prot	NA	Prot	pm+pt	NA		pm+pt	NA
Protected Phases	5	2	2	1	1	6	6	3	8		7	4
Permitted Phases								8			4	
Actuated Green, G (s)	8.5	53.7	53.7		7.8	52.0	52.0	31.4	24.4		37.4	27.9
Effective Green, g (s)	8.5	53.7	53.7		7.8	52.0	52.0	31.4	24.4		37.4	27.9
Actuated g/C Ratio	0.07	0.43	0.43		0.06	0.42	0.42	0.25	0.20		0.30	0.22
Clearance Time (s)	8.0	6.0	6.0		7.0	6.0	6.0	6.0	9.0		7.0	9.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	115	1476	644		105	1430	617	267	348		276	395
v/s Ratio Prot	c0.04	c0.35	0.03		0.03	0.30	0.04	c0.03	0.14		0.03	c0.15
v/s Ratio Perm								0.10			0.09	
v/c Ratio	0.54	0.81	0.07		0.55	0.71	0.09	0.53	0.74		0.38	0.69
Uniform Delay, d1	56.1	30.9	20.7		56.6	29.9	21.9	38.7	47.0		33.0	44.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.8	3.5	0.0		6.2	1.6	0.1	2.0	8.0		0.9	5.2
Delay (s)	60.9	34.4	20.7		62.8	31.6	22.0	40.7	55.0		33.8	49.4
Level of Service	E	C	C		E	C	C	D	D		C	D
Approach Delay (s)		34.6				32.0			49.9			45.1
Approach LOS		C				C			D			D

Intersection Summary

HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	124.4	Sum of lost time (s)	33.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	48
Future Volume (vph)	48
Ideal Flow (vphpl)	1900
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	52
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1262	1079	55	0	33
Future Volume (Veh/h)	0	1262	1079	55	0	33
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1372	1173	60	0	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		786				
pX, platoon unblocked					0.69	
vC, conflicting volume	1233				1889	616
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1233				1390	616
tC, single (s)	4.2				6.9	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	550				88	438

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	686	686	782	451	36
Volume Left	0	0	0	0	0
Volume Right	0	0	0	60	36
cSH	1700	1700	1700	1700	438
Volume to Capacity	0.40	0.40	0.46	0.27	0.08
Queue Length 95th (ft)	0	0	0	0	7
Control Delay (s)	0.0	0.0	0.0	0.0	14.0
Lane LOS					B
Approach Delay (s)	0.0		0.0		14.0
Approach LOS					B

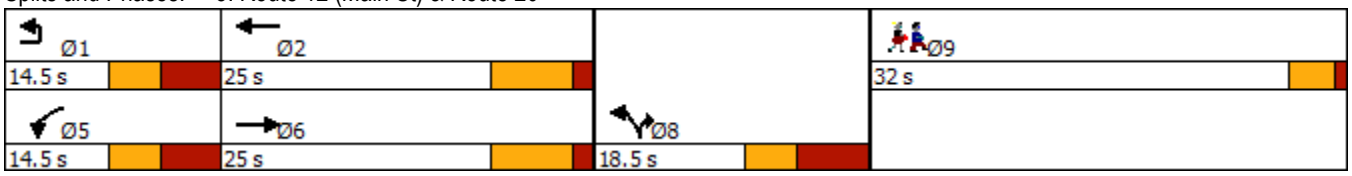
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	23	1154	449	1027	81	373	
Future Volume (vph)	23	1154	449	1027	81	373	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	14.5	25.0	14.5	25.0	18.5	18.5	32.0
Total Split (%)	16.1%	27.8%	16.1%	27.8%	20.6%	20.6%	36%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.0	18.0	7.0	29.6	10.0	10.0	
Actuated g/C Ratio	0.12	0.31	0.12	0.51	0.17	0.17	
v/c Ratio	0.12	1.24	1.17	0.62	0.70	0.52	
Control Delay	24.3	139.4	126.4	15.3	27.5	8.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	24.3	139.4	126.4	15.3	27.5	8.2	
LOS	C	F	F	B	C	A	
Approach Delay		137.3		49.1	18.0		
Approach LOS		F		D	B		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 58
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.24
Intersection Signal Delay: 79.0 Intersection LOS: E
Intersection Capacity Utilization 77.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	25	1312	488	1116	250	243
v/c Ratio	0.12	1.24	1.17	0.62	0.70	0.52
Control Delay	24.3	139.4	126.4	15.3	27.5	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	139.4	126.4	15.3	27.5	8.2
Queue Length 50th (ft)	8	~312	~107	116	54	0
Queue Length 95th (ft)	27	#431	#188	#333	#147	53
Internal Link Dist (ft)		640		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	210	1057	418	1806	359	465
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	1.24	1.17	0.62	0.70	0.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	23	1154	53	449	1027	81	373
Future Volume (vph)	23	1154	53	449	1027	81	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12
Total Lost time (s)	7.5	7.0		7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95		0.97	0.95	1.00	0.95
Frt	1.00	0.99		1.00	1.00	0.90	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	1745	3399		3467	3539	1686	1534
Flt Permitted	0.95	1.00		0.95	1.00	0.98	1.00
Satd. Flow (perm)	1745	3399		3467	3539	1686	1534
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	1254	58	488	1116	88	405
RTOR Reduction (vph)	0	3	0	0	0	70	205
Lane Group Flow (vph)	25	1309	0	488	1116	180	38
Heavy Vehicles (%)	0%	2%	2%	1%	2%	0%	0%
Turn Type	Prot	NA		Prot	NA	Prot	Prot
Protected Phases	1	6		5	2	8	8
Permitted Phases							
Actuated Green, G (s)	1.4	24.0		7.0	29.6	10.0	10.0
Effective Green, g (s)	1.4	24.0		7.0	29.6	10.0	10.0
Actuated g/C Ratio	0.02	0.38		0.11	0.46	0.16	0.16
Clearance Time (s)	7.5	7.0		7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	38	1274		379	1636	263	239
v/s Ratio Prot	0.01	c0.39		c0.14	c0.32	c0.11	0.02
v/s Ratio Perm							
v/c Ratio	0.66	1.03		1.29	0.68	0.68	0.16
Uniform Delay, d1	31.1	20.0		28.5	13.5	25.5	23.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	34.3	32.4		148.0	1.2	7.2	0.3
Delay (s)	65.3	52.4		176.5	14.7	32.7	23.7
Level of Service	E	D		F	B	C	C
Approach Delay (s)		52.7			63.9	28.2	
Approach LOS		D			E	C	

Intersection Summary

HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

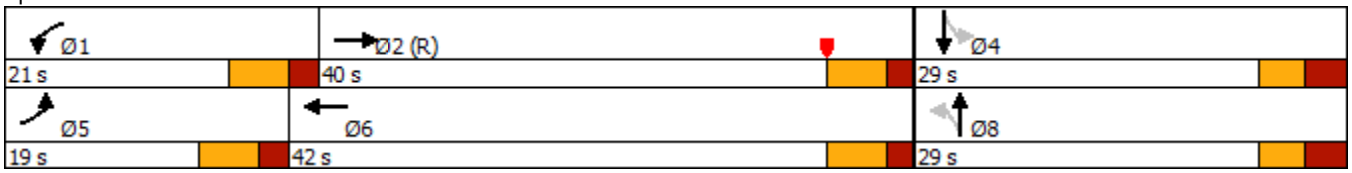
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	11	1535	19	1540	12	0	97	1
Future Volume (vph)	11	1535	19	1540	12	0	97	1
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	6.0	10.0	6.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	35.0	12.0	20.0	12.0	12.0	28.0	28.0
Total Split (s)	19.0	40.0	21.0	42.0	29.0	29.0	29.0	29.0
Total Split (%)	21.1%	44.4%	23.3%	46.7%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	Max	None	None	None	None
Act Effct Green (s)	6.1	65.2	6.3	67.8	11.3	11.3	11.3	11.3
Actuated g/C Ratio	0.07	0.72	0.07	0.75	0.13	0.13	0.13	0.13
v/c Ratio	0.10	0.66	0.17	0.66	0.07	0.04	0.61	0.04
Control Delay	41.3	12.4	28.0	13.1	32.9	0.2	51.4	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	12.4	28.0	13.1	32.9	0.2	51.4	19.7
LOS	D	B	C	B	C	A	D	B
Approach Delay		12.6		13.2		13.1		49.1
Approach LOS		B		B		B		D

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 53 (59%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 14.1
Intersection LOS: B
Intersection Capacity Utilization 67.2%
ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Hill St/Albert St & Route 20



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	1683	21	1762	13	20	105	8
v/c Ratio	0.10	0.66	0.17	0.66	0.07	0.04	0.61	0.04
Control Delay	41.3	12.4	28.0	13.1	32.9	0.2	51.4	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	12.4	28.0	13.1	32.9	0.2	51.4	19.7
Queue Length 50th (ft)	7	203	10	358	7	0	57	1
Queue Length 95th (ft)	24	#549	m13	m397	22	0	104	12
Internal Link Dist (ft)		1851		1732		879		868
Turn Bay Length (ft)	300		125		100		140	
Base Capacity (vph)	260	2561	300	2664	365	615	350	427
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.66	0.07	0.66	0.04	0.03	0.30	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1535	14	19	1540	81	12	0	18	97	1	6
Future Volume (vph)	11	1535	14	19	1540	81	12	0	18	97	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3535		1805	3534		1805	1524		1752	1651	
Flt Permitted	0.95	1.00		0.95	1.00		0.75	1.00		0.74	1.00	
Satd. Flow (perm)	1805	3535		1805	3534		1430	1524		1373	1651	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	1668	15	21	1674	88	13	0	20	105	1	7
RTOR Reduction (vph)	0	0	0	0	2	0	0	18	0	0	6	0
Lane Group Flow (vph)	12	1683	0	21	1760	0	13	2	0	105	2	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	9%	0%	0%	6%	3%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.3	59.2		2.7	60.6		10.1	10.1		10.1	10.1	
Effective Green, g (s)	1.3	59.2		2.7	60.6		10.1	10.1		10.1	10.1	
Actuated g/C Ratio	0.01	0.66		0.03	0.67		0.11	0.11		0.11	0.11	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	26	2325		54	2379		160	171		154	185	
v/s Ratio Prot	0.01	0.48		c0.01	c0.50			0.00			0.00	
v/s Ratio Perm							0.01			c0.08		
v/c Ratio	0.46	0.72		0.39	0.74		0.08	0.01		0.68	0.01	
Uniform Delay, d1	44.0	10.1		42.8	9.6		35.8	35.5		38.4	35.5	
Progression Factor	1.00	1.00		0.67	1.37		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	2.0		0.8	1.0		0.1	0.0		9.5	0.0	
Delay (s)	48.7	12.1		29.7	14.2		35.9	35.5		47.9	35.5	
Level of Service	D	B		C	B		D	D		D	D	
Approach Delay (s)		12.3			14.3			35.7			47.0	
Approach LOS		B			B			D			D	

Intersection Summary

HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		

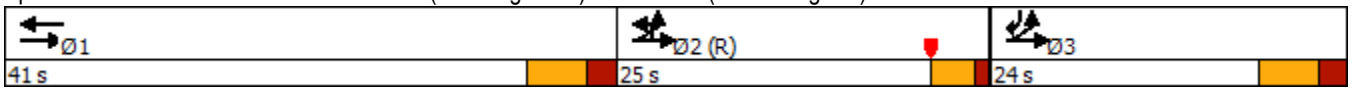
c Critical Lane Group

Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Configurations						
Traffic Volume (vph)	45	570	1113	1001	21	560
Future Volume (vph)	45	570	1113	1001	21	560
Turn Type	Prot	Prot	NA	NA	Free	Prot
Protected Phases	2	2 3	1 2 3	1		3
Permitted Phases					Free	
Detector Phase	2	2 3	1 2 3	1		3
Switch Phase						
Minimum Initial (s)	10.0			10.0		6.0
Minimum Split (s)	14.0			20.0		20.0
Total Split (s)	25.0			41.0		24.0
Total Split (%)	27.8%			45.6%		26.7%
Yellow Time (s)	3.0			4.0		4.0
All-Red Time (s)	1.0			2.0		2.0
Lost Time Adjust (s)	0.0			0.0		0.0
Total Lost Time (s)	4.0			6.0		6.0
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?	Yes			Yes		
Recall Mode	C-Max			Max		None
Act Effct Green (s)	21.0	45.0	90.0	35.0	90.0	18.0
Actuated g/C Ratio	0.23	0.50	1.00	0.39	1.00	0.20
v/c Ratio	0.12	0.36	0.34	0.78	0.01	1.09
Control Delay	21.7	18.5	0.2	29.1	0.0	101.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	18.5	0.2	29.1	0.0	101.8
LOS	C	B	A	C	A	F
Approach Delay			6.8	28.5		
Approach LOS			A	C		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow, Master Intersection
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 29.6 Intersection LOS: C
Intersection Capacity Utilization 68.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Route 20/Route 20 (Washington St) & Route 12 (Southbridge St)



Lane Group	EBU	EBL	EBT	WBT	WBR	SBR
Lane Group Flow (vph)	49	620	1210	1088	23	609
v/c Ratio	0.12	0.36	0.34	0.78	0.01	1.09
Control Delay	21.7	18.5	0.2	29.1	0.0	101.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	18.5	0.2	29.1	0.0	101.8
Queue Length 50th (ft)	25	136	0	280	0	~224
Queue Length 95th (ft)	m32	220	0	360	0	#339
Internal Link Dist (ft)			1732	5523		
Turn Bay Length (ft)	200	200			120	
Base Capacity (vph)	421	1733	3574	1389	1538	557
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.36	0.34	0.78	0.01	1.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	45	570	1113	1001	21	0	560
Future Volume (vph)	45	570	1113	1001	21	0	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0		6.0
Lane Util. Factor	1.00	0.97	0.95	0.95	1.00		0.88
Frt	1.00	1.00	1.00	1.00	0.85		0.85
Flt Protected	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1805	3467	3574	3574	1538		2787
Flt Permitted	0.95	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1805	3467	3574	3574	1538		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	620	1210	1088	23	0	609
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	49	620	1210	1088	23	0	609
Heavy Vehicles (%)	0%	1%	1%	1%	5%	2%	2%
Turn Type	Prot	Prot	NA	NA	Free		Prot
Protected Phases	2	2 3	1 2 3	1			3
Permitted Phases					Free		
Actuated Green, G (s)	21.0	43.0	90.0	35.0	90.0		18.0
Effective Green, g (s)	21.0	43.0	86.0	35.0	90.0		18.0
Actuated g/C Ratio	0.23	0.48	0.96	0.39	1.00		0.20
Clearance Time (s)	4.0			6.0			6.0
Vehicle Extension (s)	2.0			2.0			2.0
Lane Grp Cap (vph)	421	1656	3415	1389	1538		557
v/s Ratio Prot	0.03	c0.18	0.34	c0.30			c0.22
v/s Ratio Perm					0.01		
v/c Ratio	0.12	0.37	0.35	0.78	0.01		1.09
Uniform Delay, d1	27.2	14.9	0.1	24.2	0.0		36.0
Progression Factor	0.77	1.30	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.5	0.0	0.0	4.5	0.0		66.1
Delay (s)	21.4	19.5	0.2	28.6	0.0		102.1
Level of Service	C	B	A	C	A		F
Approach Delay (s)			7.1	28.1		102.1	
Approach LOS			A	C		F	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

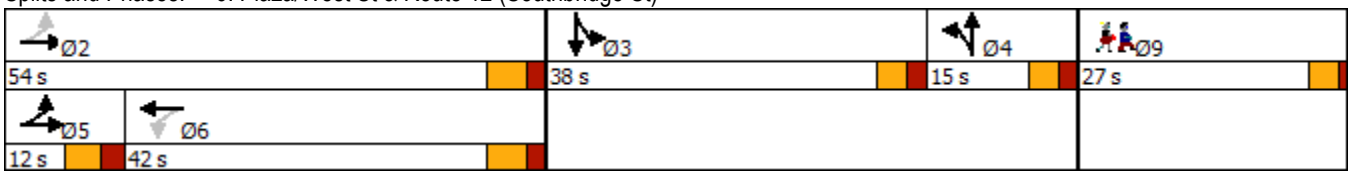
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø2	Ø9
Lane Configurations									
Traffic Volume (vph)	39	545	21	686	4	344	2		
Future Volume (vph)	39	545	21	686	4	344	2		
Turn Type	pm+pt	NA	Perm	NA	NA	Split	NA		
Protected Phases	5	2 5		6	4	3	3	2	9
Permitted Phases	2 5		6						
Detector Phase	5	2 5	6	6	4	3	3		
Switch Phase									
Minimum Initial (s)	6.0		10.0	10.0	5.0	5.0	5.0	10.0	6.0
Minimum Split (s)	12.0		16.0	16.0	11.0	11.0	11.0	16.0	27.0
Total Split (s)	12.0		42.0	42.0	15.0	38.0	38.0	54.0	27.0
Total Split (%)	9.0%		31.3%	31.3%	11.2%	28.4%	28.4%	40%	20%
Yellow Time (s)	3.5		4.0	4.0	3.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.5		2.0	2.0	2.0	2.0	2.0	2.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0		
Total Lost Time (s)				6.0	5.0	5.0	5.0		
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes		
Recall Mode	None		Min	Min	None	None	None	Min	None
Act Effct Green (s)		48.6		36.5	5.9	14.9	14.9		
Actuated g/C Ratio		0.58		0.44	0.07	0.18	0.18		
v/c Ratio		0.39		0.81	0.34	0.70	0.67		
Control Delay		11.2		26.7	24.7	45.4	42.2		
Queue Delay		0.0		0.0	0.0	0.0	0.0		
Total Delay		11.2		26.7	24.7	45.4	42.2		
LOS		B		C	C	D	D		
Approach Delay		11.2		26.7	24.7		43.8		
Approach LOS		B		C	C		D		

Intersection Summary

Cycle Length: 134
Actuated Cycle Length: 83.2
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 25.4 Intersection LOS: C
Intersection Capacity Utilization 72.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Plaza/West St & Route 12 (Southbridge St)



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	642	1143	51	213	205
v/c Ratio	0.39	0.81	0.34	0.70	0.67
Control Delay	11.2	26.7	24.7	45.4	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	26.7	24.7	45.4	42.2
Queue Length 50th (ft)	85	258	7	112	103
Queue Length 95th (ft)	155	#464	43	194	182
Internal Link Dist (ft)	1093	1225	435		1268
Turn Bay Length (ft)					
Base Capacity (vph)	1637	1417	234	682	675
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.81	0.22	0.31	0.30

Intersection Summary

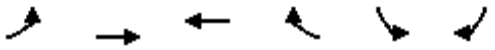
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	545	7	21	686	344	9	4	34	344	2	39
Future Volume (vph)	39	545	7	21	686	344	9	4	34	344	2	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		0.95	0.95	
Frt		1.00			0.95			0.90		1.00	0.97	
Flt Protected		1.00			1.00			0.99		0.95	0.96	
Satd. Flow (prot)		3559			3385			1661		1698	1670	
Flt Permitted		0.76			0.93			0.99		0.95	0.96	
Satd. Flow (perm)		2696			3159			1661		1698	1670	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	592	8	23	746	374	10	4	37	374	2	42
RTOR Reduction (vph)	0	0	0	0	34	0	0	35	0	0	7	0
Lane Group Flow (vph)	0	642	0	0	1109	0	0	16	0	213	198	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	3%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases	5	2 5			6		4	4		3	3	
Permitted Phases	2 5			6								
Actuated Green, G (s)		48.6			36.5			4.7		14.9	14.9	
Effective Green, g (s)		48.6			36.5			4.7		14.9	14.9	
Actuated g/C Ratio		0.58			0.43			0.06		0.18	0.18	
Clearance Time (s)					6.0			5.0		5.0	5.0	
Vehicle Extension (s)					3.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1618			1369			92		300	295	
v/s Ratio Prot		c0.03						c0.01		c0.13	0.12	
v/s Ratio Perm		0.20			c0.35							
v/c Ratio		0.40			0.81			0.17		0.71	0.67	
Uniform Delay, d1		9.8			20.8			37.9		32.6	32.4	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.2			3.7			0.3		6.2	4.4	
Delay (s)		9.9			24.6			38.2		38.8	36.8	
Level of Service		A			C			D		D	D	
Approach Delay (s)		9.9			24.6			38.2			37.8	
Approach LOS		A			C			D			D	

Intersection Summary

HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	84.2	Sum of lost time (s)	26.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

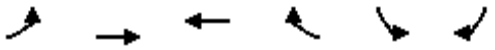
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1230	1127	4	0	4
Future Volume (Veh/h)	0	1230	1127	4	0	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1337	1225	4	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1225				1896	614
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1225				1896	614
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	576				63	439

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	668	668	817	412	4
Volume Left	0	0	0	0	0
Volume Right	0	0	0	4	4
cSH	1700	1700	1700	1700	439
Volume to Capacity	0.39	0.39	0.48	0.24	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	13.3
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.3
Approach LOS					B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1230	1131	0	0	0
Future Volume (Veh/h)	0	1230	1131	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1337	1229	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			720			
pX, platoon unblocked	0.74				0.74	0.74
vC, conflicting volume	1229				1898	614
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620				1518	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	722				83	812

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	668	668	819	410	0
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.39	0.39	0.48	0.24	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					A
Approach Delay (s)	0.0		0.0		0.0
Approach LOS					A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	67	0	2	69	5	0	1	1	4	0	0
Future Volume (Veh/h)	0	67	0	2	69	5	0	1	1	4	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	73	0	2	75	5	0	1	1	4	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	52	10	0	46	10	2	0			2		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	52	10	0	46	10	2	0			2		
tC, single (s)	7.1	6.5	6.2	7.6	6.5	6.2	4.1			4.3		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	4.0	4.0	3.3	2.2			2.4		
p0 queue free %	100	92	100	100	92	100	100			100		
cM capacity (veh/h)	884	882	1091	793	883	1089	1636			1482		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	73	82	2	4
Volume Left	0	2	0	4
Volume Right	0	5	1	0
cSH	882	891	1636	1482
Volume to Capacity	0.08	0.09	0.00	0.00
Queue Length 95th (ft)	7	8	0	0
Control Delay (s)	9.4	9.5	0.0	7.4
Lane LOS	A	A		A
Approach Delay (s)	9.4	9.5	0.0	7.4
Approach LOS	A	A		

Intersection Summary				
Average Delay	9.3			
Intersection Capacity Utilization	15.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	3	2	0	3	1
Future Volume (Veh/h)	0	3	2	0	3	1
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	2	0	3	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	9	2			2	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	9	2			2	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	1015	1082			1634	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	3	2	4
Volume Left	0	0	3
Volume Right	3	0	0
cSH	1082	1700	1634
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	8.3	0.0	5.4
Lane LOS	A		A
Approach Delay (s)	8.3	0.0	5.4
Approach LOS	A		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Traffic Control Signal Warrant Analyses

(Based on MUTCD-2009 Edition)

Intersection:	Route 20 at Western Site Driveway				
Pop. <10,000? (Y/N)	N	Count Date:	1/19/2023	Analysis Date:	11/08/24
Speed (in mph):	45 mph	Analysis Year:	2027 Phase II Build	Analyst:	SET
		Adjustment Factor:	1	Raw counts	

	Is Major?* (Y/N)	#Lanes* (one way)
EB	Y	2
WB	Y	2
NB		
SB	N	2

Major Lanes: 2 — Enter the higher number of lanes for the major street approach

Minor Lanes: 2 — Enter the number of lanes for the minor street approach you want to analyze

*Note: If intersection is a "T" intersection, leave cells blank for the non-existent approach

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	38	1,381	0	0	674	28	0	0	0	51	0	26
8:00	43	1,621	0	0	552	34	0	0	0	49	0	30
9:00	43	1,361	0	0	557	37	0	0	0	47	0	32
10:00	49	1,360	0	0	599	43	0	0	0	49	0	37
11:00	64	1,377	0	0	705	56	0	0	0	70	0	50
12:00	77	823	0	0	768	66	0	0	0	79	0	63
13:00	65	786	0	0	885	56	0	0	0	67	0	57
14:00	58	828	0	0	1,058	51	0	0	0	68	0	54
15:00	61	806	0	0	1,355	57	0	0	0	68	0	54
16:00	61	734	0	0	1,486	60	0	0	0	78	0	54
17:00	64	679	0	0	1,344	67	0	0	0	87	0	57
18:00	55	445	0	0	877	57	0	0	0	59	0	50
19:00	45	224	0	0	578	46	0	0	0	47	0	43

Time	Σ EB	Σ WB	Σ NB	Σ SB	Σ Major	Σ Minor	Σ Max Minor	W1 A	W1 B	W1combo	W2	W3
7:00	1419	702	0	78	2121	78	78	N	Y	N	N	N
8:00	1665	586	0	79	2251	79	79	N	Y	N	N	N
9:00	1404	594	0	78	1998	78	78	N	Y	N	N	N
10:00	1409	641	0	86	2051	86	86	N	Y	N	Y	N
11:00	1441	761	0	119	2202	119	119	N	Y	N	Y	Y
12:00	900	834	0	142	1734	142	142	Y	Y	N	Y	Y
13:00	851	941	0	124	1792	124	124	N	Y	N	Y	Y
14:00	887	1109	0	121	1995	121	121	N	Y	N	Y	Y
15:00	867	1412	0	122	2279	122	122	N	Y	N	Y	Y
16:00	795	1546	0	132	2341	132	132	N	Y	N	Y	Y
17:00	742	1410	0	144	2152	144	144	Y	Y	N	Y	Y
18:00	500	935	0	108	1434	108	108	N	Y	N	Y	Y
19:00	269	624	0	90	893	90	90	N	Y	N	Y	N
								2 of 8	**13 of 8**	**0 of 8**	**10 of 4**	**8 of 1**

Warrant Analyses

Warrant 1: Condition A Minimum Vehicular Volume Warrant is Not Met
Warrant 1: Condition B Interruption of Continuous Traffic Warrant is Met
Warrant 1: Combination of Warrants 1A and 1B is Not Met
Warrant 2: Four-Hour Warrant is Met
Warrant 3: One-Hour Warrant is Met

Raw Counts

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,264	0	0	617	0	0	0	0	0	0	0
8:00	0	1,484	0	0	505	0	0	0	0	0	0	0
9:00	0	1,246	0	0	510	0	0	0	0	0	0	0
10:00	0	1,245	0	0	548	0	0	0	0	0	0	0
11:00	0	1,260	0	0	645	0	0	0	0	0	0	0
12:00	0	753	0	0	703	0	0	0	0	0	0	0
13:00	0	719	0	0	810	0	0	0	0	0	0	0
14:00	0	758	0	0	968	0	0	0	0	0	0	0
15:00	0	738	0	0	1,240	0	0	0	0	0	0	0
16:00	0	672	0	0	1,360	0	0	0	0	0	0	0
17:00	0	621	0	0	1,230	0	0	0	0	0	0	0
18:00	0	407	0	0	803	0	0	0	0	0	0	0
19:00	0	205	0	0	529	0	0	0	0	0	0	0

ATR from January 19, 2023 on Southbridge Road (Route 20) near #176 (Oxford Auburn Sales)

Seasonal Adjustment to Average Month Conditions = 5.0%

Seasonally Adjusted Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,327	0	0	648	0	0	0	0	0	0	0
8:00	0	1,558	0	0	530	0	0	0	0	0	0	0
9:00	0	1,308	0	0	536	0	0	0	0	0	0	0
10:00	0	1,307	0	0	575	0	0	0	0	0	0	0
11:00	0	1,323	0	0	677	0	0	0	0	0	0	0
12:00	0	791	0	0	738	0	0	0	0	0	0	0
13:00	0	755	0	0	851	0	0	0	0	0	0	0
14:00	0	796	0	0	1,016	0	0	0	0	0	0	0
15:00	0	775	0	0	1,302	0	0	0	0	0	0	0
16:00	0	706	0	0	1,428	0	0	0	0	0	0	0
17:00	0	652	0	0	1,292	0	0	0	0	0	0	0
18:00	0	427	0	0	843	0	0	0	0	0	0	0
19:00	0	215	0	0	555	0	0	0	0	0	0	0

January 2023 U3 Seasonal Adjustment Factor = 1.05

Historical Growth Rate = 4.1% (2027 phase condition, counts performed in 2023)

Historic Growth Rate Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,381	0	0	674	0	0	0	0	0	0	0
8:00	0	1,621	0	0	552	0	0	0	0	0	0	0
9:00	0	1,361	0	0	557	0	0	0	0	0	0	0
10:00	0	1,360	0	0	599	0	0	0	0	0	0	0
11:00	0	1,377	0	0	705	0	0	0	0	0	0	0
12:00	0	823	0	0	768	0	0	0	0	0	0	0
13:00	0	786	0	0	885	0	0	0	0	0	0	0
14:00	0	828	0	0	1,058	0	0	0	0	0	0	0
15:00	0	806	0	0	1,355	0	0	0	0	0	0	0
16:00	0	734	0	0	1,486	0	0	0	0	0	0	0
17:00	0	679	0	0	1,344	0	0	0	0	0	0	0
18:00	0	445	0	0	877	0	0	0	0	0	0	0
19:00	0	224	0	0	578	0	0	0	0	0	0	0

No-Build Adjusted Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	0	1,381	0	0	674	0	0	0	0	0	0	0
8:00	0	1,621	0	0	552	0	0	0	0	0	0	0
9:00	0	1,361	0	0	557	0	0	0	0	0	0	0
10:00	0	1,360	0	0	599	0	0	0	0	0	0	0
11:00	0	1,377	0	0	705	0	0	0	0	0	0	0
12:00	0	823	0	0	768	0	0	0	0	0	0	0
13:00	0	786	0	0	885	0	0	0	0	0	0	0
14:00	0	828	0	0	1,058	0	0	0	0	0	0	0
15:00	0	806	0	0	1,355	0	0	0	0	0	0	0
16:00	0	734	0	0	1,486	0	0	0	0	0	0	0
17:00	0	679	0	0	1,344	0	0	0	0	0	0	0
18:00	0	445	0	0	877	0	0	0	0	0	0	0
19:00	0	224	0	0	578	0	0	0	0	0	0	0

Details on following page

Site Generated Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	38	0	0	0	0	28	0	0	0	51	0	26
8:00	43	0	0	0	0	34	0	0	0	49	0	30
9:00	43	0	0	0	0	37	0	0	0	47	0	32
10:00	49	0	0	0	0	43	0	0	0	49	0	37
11:00	64	0	0	0	0	56	0	0	0	70	0	50
12:00	77	0	0	0	0	66	0	0	0	79	0	63
13:00	65	0	0	0	0	56	0	0	0	67	0	57
14:00	58	0	0	0	0	51	0	0	0	68	0	54
15:00	61	0	0	0	0	57	0	0	0	68	0	54
16:00	61	0	0	0	0	60	0	0	0	78	0	54
17:00	64	0	0	0	0	67	0	0	0	87	0	57
18:00	55	0	0	0	0	57	0	0	0	59	0	50
19:00	45	0	0	0	0	46	0	0	0	47	0	43

Build Adjusted Volumes

Time	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT
7:00	38	1,381	0	0	674	28	0	0	0	51	0	26
8:00	43	1,621	0	0	552	34	0	0	0	49	0	30
9:00	43	1,361	0	0	557	37	0	0	0	47	0	32
10:00	49	1,360	0	0	599	43	0	0	0	49	0	37
11:00	64	1,377	0	0	705	56	0	0	0	70	0	50
12:00	77	823	0	0	768	66	0	0	0	79	0	63
13:00	65	786	0	0	885	56	0	0	0	67	0	57
14:00	58	828	0	0	1,058	51	0	0	0	68	0	54
15:00	61	806	0	0	1,355	57	0	0	0	68	0	54
16:00	61	734	0	0	1,486	60	0	0	0	78	0	54
17:00	64	679	0	0	1,344	67	0	0	0	87	0	57
18:00	55	445	0	0	877	57	0	0	0	59	0	50
19:00	45	224	0	0	578	46	0	0	0	47	0	43

ASHWORTH COMMONS						ASHWORTH HILLS			
RETAIL/GAS/RESTAURANT ENTERING TRAFFIC		RETAIL/GAS/RESTAURANT EXITING TRAFFIC		OFFICE ENTERING	OFFICE EXITING	ASHWORTH HILLS ENTERING TRAFFIC		ASHWORTH HILLS EXITING TRAFFIC	
FROM WEST (EBL)	FROM EAST (WBR)	TO WEST (SBR)	TO EAST (SBL)	FROM WEST (EBL)	TO EAST (SBL)	FROM WEST (EBL)	FROM EAST (WBR)	TO WEST (SBR)	TO EAST (SBL)
61	49	50	41	14	6	1	11	4	83
70	58	58	48	16	11	1	16	3	58
78	63	62	50	7	14	1	16	2	44
91	74	73	60	6	20	1	17	1	27
121	99	98	81	7	35	1	20	2	35
143	117	124	102	11	35	1	23	2	31
120	99	112	92	10	22	1	19	2	30
107	87	106	87	9	23	1	23	2	38
112	92	106	87	8	29	2	34	2	30
114	93	106	87	6	48	2	41	2	32
121	99	112	92	4	53	3	51	2	43
107	87	98	81	2	9	2	41	2	41
87	72	84	68	1	7	2	30	2	28
55%	45%	55%	45%	25%	75%	5%	45%	5%	45%
100%		100%							

*Office - only includes lefts in and lefts out
Right turns expected to use eastern driveway

*Ashworth Hills - only includes traffic expected to enter via Route 20 (not Ashworth Drive)

OCCUPANCY	
50%	Ashworth Commons

OCCUPANCY	
33%	Ashworth Hills

Ashworth Commons
Retail

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	820		
Land Use	Shopping Center (>150k)		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	24		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.1%	0.1%	0.1%
1:00 - 2:00 AM	0.1%	0.1%	0.1%
2:00 - 3:00 AM	0.1%	0.1%	0.1%
3:00 - 4:00 AM	0.1%	0.1%	0.1%
4:00 - 5:00 AM	0.1%	0.1%	0.1%
5:00 - 6:00 AM	0.4%	0.4%	0.5%
6:00 - 7:00 AM	0.6%	0.8%	0.5%
7:00 - 8:00 AM	1.5%	1.9%	1.2%
8:00 - 9:00 AM	2.3%	2.8%	1.8%
9:00 - 10:00 AM	3.9%	4.8%	3.0%
10:00 - 11:00 AM	5.9%	6.8%	5.0%
11:00 - 12:00 PM	7.5%	8.2%	7.0%
12:00 - 1:00 PM	8.9%	9.3%	8.5%
1:00 - 2:00 PM	8.5%	8.4%	8.6%
2:00 - 3:00 PM	7.9%	7.5%	8.2%
3:00 - 4:00 PM	7.9%	7.8%	8.1%
4:00 - 5:00 PM	8.3%	8.3%	8.3%
5:00 - 6:00 PM	8.5%	8.4%	8.5%
6:00 - 7:00 PM	7.4%	7.4%	7.5%
7:00 - 8:00 PM	6.5%	6.3%	6.6%
8:00 - 9:00 PM	5.1%	4.1%	6.1%
9:00 - 10:00 PM	3.1%	1.8%	4.4%
10:00 - 11:00 PM	3.6%	3.2%	4.0%
11:00 - 12:00 AM	1.8%	1.6%	2.1%

* Not enough data for LUC 821
(Shopping Center [40-150k])

1,193	1,168
Entering	Exiting
1	1
1	1
1	1
1	1
1	1
5	5
10	5
22	14
34	21
57	35
81	59
97	81
111	99
100	100
90	96
93	94
99	97
101	99
88	87
75	78
49	71
21	52
38	47
19	24
1,195	1,169

Ashworth Commons
Gas Station

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	945		
Land Use	Convenience Store/Gas Station		
Subcategory	GFA (4-10k)		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	5		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	1.3%	1.2%	1.3%
1:00 - 2:00 AM	0.8%	0.8%	0.9%
2:00 - 3:00 AM	0.6%	0.6%	0.6%
3:00 - 4:00 AM	0.8%	0.8%	0.7%
4:00 - 5:00 AM	1.5%	1.6%	1.5%
5:00 - 6:00 AM	3.1%	3.1%	3.0%
6:00 - 7:00 AM	4.6%	4.7%	4.5%
7:00 - 8:00 AM	5.9%	6.0%	5.9%
8:00 - 9:00 AM	6.5%	6.5%	6.4%
9:00 - 10:00 AM	5.7%	5.6%	5.7%
10:00 - 11:00 AM	5.3%	5.3%	5.3%
11:00 - 12:00 PM	5.8%	5.8%	5.7%
12:00 - 1:00 PM	6.6%	6.6%	6.6%
1:00 - 2:00 PM	6.1%	6.2%	5.9%
2:00 - 3:00 PM	6.1%	6.0%	6.2%
3:00 - 4:00 PM	6.8%	6.8%	6.8%
4:00 - 5:00 PM	6.4%	6.3%	6.5%
5:00 - 6:00 PM	6.8%	6.7%	6.9%
6:00 - 7:00 PM	5.4%	5.3%	5.4%
7:00 - 8:00 PM	4.0%	3.9%	4.0%
8:00 - 9:00 PM	3.4%	3.4%	3.4%
9:00 - 10:00 PM	2.7%	2.8%	2.7%
10:00 - 11:00 PM	2.1%	2.1%	2.1%
11:00 - 12:00 AM	1.9%	1.9%	2.0%

1,101	1,078
Entering	Exiting
13	14
9	10
7	7
9	8
17	16
34	32
52	48
66	63
72	69
62	62
58	57
64	62
73	71
68	64
66	67
75	73
70	70
74	75
58	58
43	43
37	36
31	29
23	22
21	21
1,102	1,077

Ashworth Commons
Restaurant

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	934		
Land Use	Fast-Food Restaurant with Drive-Through Window		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	53		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.8%	0.8%	0.8%
1:00 - 2:00 AM	0.4%	0.4%	0.5%
2:00 - 3:00 AM	0.3%	0.3%	0.3%
3:00 - 4:00 AM	0.3%	0.2%	0.3%
4:00 - 5:00 AM	0.3%	0.3%	0.3%
5:00 - 6:00 AM	0.7%	0.8%	0.7%
6:00 - 7:00 AM	2.1%	2.3%	1.9%
7:00 - 8:00 AM	3.3%	3.4%	3.1%
8:00 - 9:00 AM	3.5%	3.5%	3.4%
9:00 - 10:00 AM	3.3%	3.4%	3.3%
10:00 - 11:00 AM	3.8%	4.0%	3.7%
11:00 - 12:00 PM	8.4%	9.1%	7.7%
12:00 - 1:00 PM	11.9%	11.9%	12.0%
1:00 - 2:00 PM	8.3%	7.9%	8.7%
2:00 - 3:00 PM	6.2%	5.9%	6.5%
3:00 - 4:00 PM	5.7%	5.7%	5.7%
4:00 - 5:00 PM	5.7%	5.9%	5.6%
5:00 - 6:00 PM	6.7%	6.9%	6.5%
6:00 - 7:00 PM	7.4%	7.4%	7.4%
7:00 - 8:00 PM	6.5%	6.3%	6.6%
8:00 - 9:00 PM	5.7%	5.6%	5.8%
9:00 - 10:00 PM	4.4%	4.1%	4.6%
10:00 - 11:00 PM	2.7%	2.5%	2.9%
11:00 - 12:00 AM	1.6%	1.4%	1.8%

643	464
Entering	Exiting
5	4
2	2
2	2
2	1
2	1
5	3
15	9
22	14
22	16
22	15
26	17
59	36
76	56
51	40
38	30
36	26
38	26
45	30
48	34
41	31
36	27
26	21
16	13
9	8
644	462

Ashworth Commons
Office

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	710		
Land Use	General Office Building		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	11		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.1%	0.2%	0.1%
1:00 - 2:00 AM	0.0%	0.0%	0.1%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.1%	0.0%	0.1%
4:00 - 5:00 AM	0.2%	0.2%	0.2%
5:00 - 6:00 AM	0.3%	0.4%	0.1%
6:00 - 7:00 AM	2.6%	4.8%	0.5%
7:00 - 8:00 AM	7.8%	13.6%	2.0%
8:00 - 9:00 AM	8.9%	14.3%	3.4%
9:00 - 10:00 AM	5.3%	6.3%	4.4%
10:00 - 11:00 AM	5.7%	5.5%	6.0%
11:00 - 12:00 PM	8.1%	6.0%	10.3%
12:00 - 1:00 PM	10.2%	10.2%	10.1%
1:00 - 2:00 PM	7.8%	9.0%	6.6%
2:00 - 3:00 PM	7.4%	8.3%	6.5%
3:00 - 4:00 PM	7.8%	7.3%	8.4%
4:00 - 5:00 PM	10.3%	5.4%	15.2%
5:00 - 6:00 PM	9.9%	4.0%	15.8%
6:00 - 7:00 PM	2.1%	1.7%	2.6%
7:00 - 8:00 PM	1.6%	0.9%	2.3%
8:00 - 9:00 PM	1.0%	0.7%	1.3%
9:00 - 10:00 PM	1.1%	0.5%	1.6%
10:00 - 11:00 PM	1.2%	0.3%	2.1%
11:00 - 12:00 AM	0.3%	0.4%	0.2%

total office	601	601
	88%	88%
external	428	437
	377	385

Entering	Exiting
1	0
0	0
0	0
0	0
1	1
2	1
18	2
51	8
54	13
24	17
21	23
23	40
38	39
34	26
31	25
28	32
20	59
15	61
6	10
4	9
3	5
2	6
1	8
2	1
379	386

Ashworth Commons
Office

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	712		
Land Use	Small Office Building		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	22		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.0%	0.0%	0.0%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.0%	0.0%	0.0%
5:00 - 6:00 AM	0.0%	0.0%	0.0%
6:00 - 7:00 AM	0.0%	0.0%	0.0%
7:00 - 8:00 AM	3.6%	6.8%	0.4%
8:00 - 9:00 AM	9.5%	15.0%	3.9%
9:00 - 10:00 AM	6.9%	9.5%	4.3%
10:00 - 11:00 AM	7.4%	8.4%	6.4%
11:00 - 12:00 PM	10.5%	8.2%	12.8%
12:00 - 1:00 PM	12.6%	10.9%	14.2%
1:00 - 2:00 PM	7.6%	8.6%	6.6%
2:00 - 3:00 PM	9.6%	9.7%	9.5%
3:00 - 4:00 PM	10.8%	10.3%	11.3%
4:00 - 5:00 PM	8.1%	7.2%	9.1%
5:00 - 6:00 PM	11.2%	4.7%	17.7%
6:00 - 7:00 PM	2.2%	0.6%	3.7%
7:00 - 8:00 PM	0.0%	0.0%	0.0%
8:00 - 9:00 PM	0.0%	0.0%	0.0%
9:00 - 10:00 PM	0.0%	0.0%	0.0%
10:00 - 11:00 PM	0.0%	0.0%	0.0%
11:00 - 12:00 AM	0.0%	0.0%	0.0%

total office	601	601
	12%	12%
external	428	437
	51	52

Entering	Exiting
0	0
0	0
0	0
0	0
0	0
0	0
0	0
3	0
8	2
5	2
4	3
4	7
6	7
4	3
5	5
5	6
4	5
2	9
0	2
0	0
0	0
0	0
0	0
0	0
50	51

Ashworth Hills

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	215		
Land Use	Single-Family Attached Housing		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	7		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.5%	0.7%	0.3%
1:00 - 2:00 AM	0.2%	0.4%	0.1%
2:00 - 3:00 AM	0.3%	0.2%	0.3%
3:00 - 4:00 AM	0.3%	0.3%	0.4%
4:00 - 5:00 AM	0.7%	0.4%	1.0%
5:00 - 6:00 AM	1.4%	0.1%	2.6%
6:00 - 7:00 AM	3.5%	1.1%	5.8%
7:00 - 8:00 AM	7.9%	2.7%	13.2%
8:00 - 9:00 AM	6.6%	3.8%	9.3%
9:00 - 10:00 AM	5.3%	3.7%	6.9%
10:00 - 11:00 AM	4.1%	4.0%	4.3%
11:00 - 12:00 PM	5.3%	4.8%	5.7%
12:00 - 1:00 PM	5.2%	5.4%	5.1%
1:00 - 2:00 PM	4.7%	4.5%	4.8%
2:00 - 3:00 PM	5.8%	5.5%	6.0%
3:00 - 4:00 PM	6.5%	8.2%	4.8%
4:00 - 5:00 PM	7.5%	9.8%	5.1%
5:00 - 6:00 PM	9.4%	12.1%	6.8%
6:00 - 7:00 PM	8.2%	9.8%	6.6%
7:00 - 8:00 PM	5.9%	7.3%	4.5%
8:00 - 9:00 PM	4.7%	5.9%	3.5%
9:00 - 10:00 PM	3.0%	4.8%	1.3%
10:00 - 11:00 PM	2.0%	3.0%	1.1%
11:00 - 12:00 AM	0.9%	1.5%	0.4%

442	660
Entering	Exiting
3	2
2	1
1	2
1	2
2	7
1	17
5	39
12	87
17	61
17	46
18	28
21	37
24	33
20	32
24	40
36	32
43	34
54	45
43	43
32	30
26	23
21	9
13	7
6	3
442	660

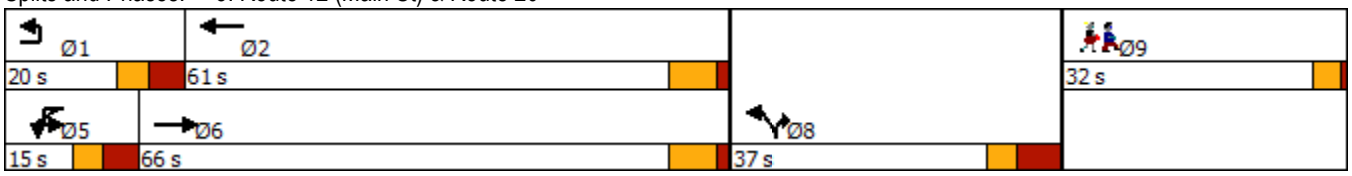
SUPPLEMENTAL ANALYSIS WORKSHEETS

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	6	1108	100	592	24	291	
Future Volume (vph)	6	1108	100	592	24	291	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	20.0	66.0	15.0	61.0	37.0	37.0	32.0
Total Split (%)	13.3%	44.0%	10.0%	40.7%	24.7%	24.7%	21%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.1	39.1	7.6	51.9	8.6	8.6	
Actuated g/C Ratio	0.09	0.50	0.10	0.66	0.11	0.11	
v/c Ratio	0.04	0.74	0.42	0.30	0.57	0.55	
Control Delay	38.8	18.8	40.6	7.1	17.8	13.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.8	18.8	40.6	7.1	17.8	13.4	
LOS	D	B	D	A	B	B	
Approach Delay		18.9		12.8	15.6		
Approach LOS		B		B	B		

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 78.7
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 16.4 Intersection LOS: B
Intersection Capacity Utilization 68.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	7	1225	132	643	171	171
v/c Ratio	0.04	0.74	0.42	0.30	0.57	0.55
Control Delay	38.8	18.8	40.6	7.1	17.8	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	18.8	40.6	7.1	17.8	13.4
Queue Length 50th (ft)	3	224	30	48	12	0
Queue Length 95th (ft)	18	340	70	145	75	61
Internal Link Dist (ft)		640		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	281	2540	317	2300	660	645
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.48	0.42	0.28	0.26	0.27

Intersection Summary

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	6	1108	19	21	100	592	24	291
Future Volume (vph)	6	1108	19	21	100	592	24	291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12
Total Lost time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95			0.97	0.95	1.00	0.95
Frt	1.00	1.00			1.00	1.00	0.87	0.85
Flt Protected	0.95	1.00			0.95	1.00	0.99	1.00
Satd. Flow (prot)	1745	3340			3285	3252	1547	1461
Flt Permitted	0.95	1.00			0.95	1.00	0.99	1.00
Satd. Flow (perm)	1745	3340			3285	3252	1547	1461
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	1204	21	23	109	643	26	316
RTOR Reduction (vph)	0	0	0	0	0	0	130	154
Lane Group Flow (vph)	7	1225	0	0	132	643	41	17
Heavy Vehicles (%)	0%	4%	17%	0%	8%	11%	14%	5%
Turn Type	Prot	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	1	6		5	5	2	8	8
Permitted Phases								
Actuated Green, G (s)	1.2	45.5			7.6	51.9	8.6	8.6
Effective Green, g (s)	1.2	45.5			7.6	51.9	8.6	8.6
Actuated g/C Ratio	0.01	0.54			0.09	0.61	0.10	0.10
Clearance Time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	24	1794			294	1992	157	148
v/s Ratio Prot	0.00	c0.37			c0.04	c0.20	c0.03	0.01
v/s Ratio Perm								
v/c Ratio	0.29	0.68			0.45	0.32	0.26	0.12
Uniform Delay, d1	41.3	14.3			36.6	7.9	35.1	34.6
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	6.7	1.1			1.1	0.1	0.9	0.4
Delay (s)	48.0	15.4			37.7	8.0	36.0	35.0
Level of Service	D	B			D	A	D	C
Approach Delay (s)		15.6				13.1	35.5	
Approach LOS		B				B	D	

Intersection Summary

HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	27.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

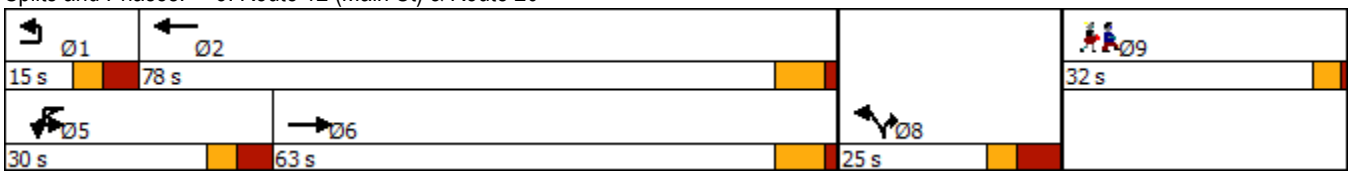
c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	17	846	611	1358	86	295	
Future Volume (vph)	17	846	611	1358	86	295	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	15.0	63.0	30.0	78.0	25.0	25.0	32.0
Total Split (%)	10.0%	42.0%	20.0%	52.0%	16.7%	16.7%	21%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.2	36.1	22.7	60.8	16.6	16.6	
Actuated g/C Ratio	0.07	0.37	0.23	0.62	0.17	0.17	
v/c Ratio	0.14	0.77	0.88	0.68	0.68	0.48	
Control Delay	49.2	31.7	51.7	15.6	45.7	10.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	49.2	31.7	51.7	15.6	45.7	10.1	
LOS	D	C	D	B	D	B	
Approach Delay		32.1		27.2	28.3		
Approach LOS		C		C	C		

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 98.5
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 28.7 Intersection LOS: C
Intersection Capacity Utilization 74.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	18	953	701	1476	212	202
v/c Ratio	0.14	0.77	0.88	0.68	0.68	0.48
Control Delay	49.2	31.7	51.7	15.6	45.7	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	31.7	51.7	15.6	45.7	10.1
Queue Length 50th (ft)	11	271	211	242	101	0
Queue Length 95th (ft)	37	341	#390	467	#239	70
Internal Link Dist (ft)		643		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	133	1932	797	2543	313	424
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.49	0.88	0.58	0.68	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	17	846	30	34	611	1358	86	295
Future Volume (vph)	17	846	30	34	611	1358	86	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12
Total Lost time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95			0.97	0.95	1.00	0.95
Frt	1.00	0.99			1.00	1.00	0.92	0.85
Flt Protected	0.95	1.00			0.95	1.00	0.98	1.00
Satd. Flow (prot)	1745	3374			3469	3505	1686	1519
Flt Permitted	0.95	1.00			0.95	1.00	0.98	1.00
Satd. Flow (perm)	1745	3374			3469	3505	1686	1519
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	920	33	37	664	1476	93	321
RTOR Reduction (vph)	0	2	0	0	0	0	29	169
Lane Group Flow (vph)	18	951	0	0	701	1476	183	33
Heavy Vehicles (%)	0%	3%	0%	0%	1%	3%	1%	1%
Turn Type	Prot	NA		Prot	Prot	NA	Prot	Prot
Protected Phases	1	6		5	5	2	8	8
Permitted Phases								
Actuated Green, G (s)	2.7	40.8			22.7	60.8	16.6	16.6
Effective Green, g (s)	2.7	40.8			22.7	60.8	16.6	16.6
Actuated g/C Ratio	0.03	0.40			0.22	0.59	0.16	0.16
Clearance Time (s)	7.5	7.0			7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	45	1335			763	2066	271	244
v/s Ratio Prot	0.01	0.28			c0.20	c0.42	c0.11	0.02
v/s Ratio Perm								
v/c Ratio	0.40	0.71			0.92	0.71	0.67	0.13
Uniform Delay, d1	49.4	26.2			39.3	15.0	40.7	37.1
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	5.7	1.8			15.9	1.2	6.5	0.2
Delay (s)	55.1	28.0			55.2	16.2	47.2	37.3
Level of Service	E	C			E	B	D	D
Approach Delay (s)		28.5				28.8	42.4	
Approach LOS		C				C	D	

Intersection Summary

HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	103.1	Sum of lost time (s)	27.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

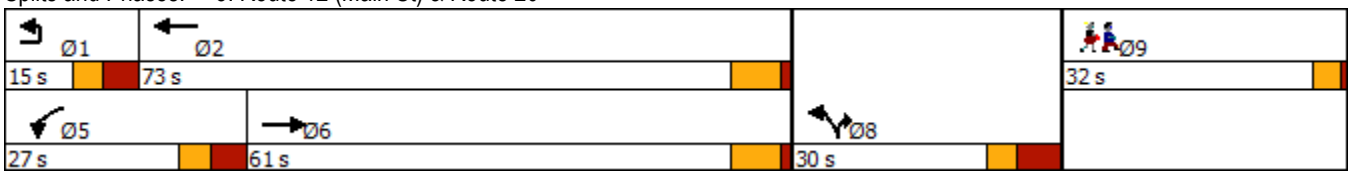
c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR	Ø9
Lane Configurations							
Traffic Volume (vph)	23	1151	449	1024	80	373	
Future Volume (vph)	23	1151	449	1024	80	373	
Turn Type	Prot	NA	Prot	NA	Prot	Prot	
Protected Phases	1	6	5	2	8	8	9
Permitted Phases							
Detector Phase	1	6	5	2	8	8	
Switch Phase							
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	5.0
Minimum Split (s)	14.5	17.0	14.5	17.0	15.5	15.5	32.0
Total Split (s)	15.0	61.0	27.0	73.0	30.0	30.0	32.0
Total Split (%)	10.0%	40.7%	18.0%	48.7%	20.0%	20.0%	21%
Yellow Time (s)	3.5	5.5	3.5	5.5	3.5	3.5	3.0
All-Red Time (s)	4.0	1.5	4.0	1.5	5.0	5.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.5	7.0	8.5	8.5	
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	Min	None	Min	None	None	None
Act Effct Green (s)	7.2	54.1	19.5	72.3	19.2	19.2	
Actuated g/C Ratio	0.06	0.47	0.17	0.62	0.17	0.17	
v/c Ratio	0.23	0.82	0.84	0.50	0.77	0.53	
Control Delay	58.0	32.5	60.7	14.5	53.0	9.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.0	32.5	60.7	14.5	53.0	9.8	
LOS	E	C	E	B	D	A	
Approach Delay		33.0		28.5	31.7		
Approach LOS		C		C	C		

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 115.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 30.7 Intersection LOS: C
Intersection Capacity Utilization 77.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Route 12 (Main St) & Route 20



Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	25	1308	488	1113	249	243
v/c Ratio	0.23	0.82	0.84	0.50	0.77	0.53
Control Delay	58.0	32.5	60.7	14.5	53.0	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	32.5	60.7	14.5	53.0	9.8
Queue Length 50th (ft)	18	448	187	269	143	0
Queue Length 95th (ft)	47	550	#272	335	#240	75
Internal Link Dist (ft)		640		1851	2202	
Turn Bay Length (ft)	550		440			
Base Capacity (vph)	113	1587	584	2210	355	483
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.82	0.84	0.50	0.70	0.50

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	23	1151	52	449	1024	80	373
Future Volume (vph)	23	1151	52	449	1024	80	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12
Total Lost time (s)	7.5	7.0		7.5	7.0	8.5	8.5
Lane Util. Factor	1.00	0.95		0.97	0.95	1.00	0.95
Frt	1.00	0.99		1.00	1.00	0.90	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	1745	3399		3467	3539	1685	1534
Flt Permitted	0.95	1.00		0.95	1.00	0.98	1.00
Satd. Flow (perm)	1745	3399		3467	3539	1685	1534
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	1251	57	488	1113	87	405
RTOR Reduction (vph)	0	2	0	0	0	44	204
Lane Group Flow (vph)	25	1306	0	488	1113	205	39
Heavy Vehicles (%)	0%	2%	2%	1%	2%	0%	0%
Turn Type	Prot	NA		Prot	NA	Prot	Prot
Protected Phases	1	6		5	2	8	8
Permitted Phases							
Actuated Green, G (s)	4.3	57.1		19.5	72.3	19.2	19.2
Effective Green, g (s)	4.3	57.1		19.5	72.3	19.2	19.2
Actuated g/C Ratio	0.04	0.48		0.16	0.61	0.16	0.16
Clearance Time (s)	7.5	7.0		7.5	7.0	8.5	8.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	63	1633		569	2153	272	247
v/s Ratio Prot	0.01	c0.38		c0.14	0.31	c0.12	0.03
v/s Ratio Perm							
v/c Ratio	0.40	0.80		0.86	0.52	0.76	0.16
Uniform Delay, d1	56.0	26.0		48.3	13.3	47.6	42.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	2.9		12.2	0.2	11.3	0.3
Delay (s)	60.1	28.9		60.5	13.5	58.8	43.2
Level of Service	E	C		E	B	E	D
Approach Delay (s)		29.5			27.8	51.1	
Approach LOS		C			C	D	

Intersection Summary

HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	118.8	Sum of lost time (s)	27.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group