
Traffic Impact and Access Study

.To: Mr. Matthew Ashley, P.E.
Project Manager
Bohler
352 Turnpike Road
Southborough, MA 01772

Reg: Proposed Apartment Building
98 Beacon Street
Worcester, Massachusetts

From: Shaun P. Kelly, Sr. Project Manager

Date: February 15, 2024
Project #: 23109

INTRODUCTION

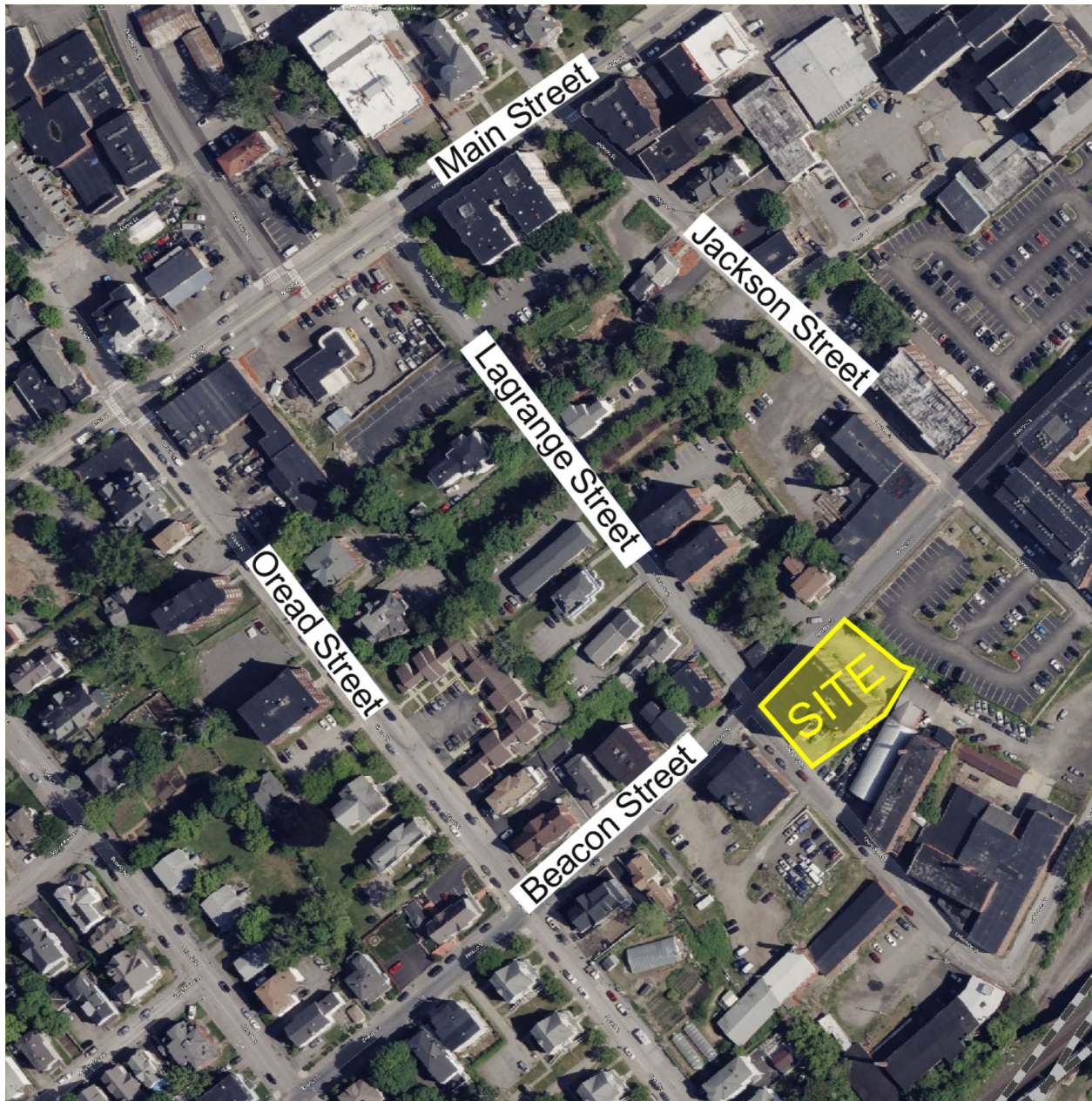
Chappell Engineering Associates, LLC (CEA) has conducted this Traffic Impact and Access Study for a proposed transit-oriented residential redevelopment project to be constructed at 98 Beacon Street in Worcester, Massachusetts. The site is currently occupied by a former industrial building that will be renovated to accommodate the fifty-eight (58) unit project, that will provide fifty-one (51) studio apartments and seven (7) one bedroom apartments.

The project site currently provides a single curb cut onto Beacon Street and a curb cut onto Lagrange Street that serves an existing loading area on the western side of the building. The project will provide a total of forty-nine (49) parking spaces, including seven (7) spaces on a lot immediately adjacent to the eastern side of the building, that would be accessed via a reconstructed curb cut onto Beacon Street, and forty-two (42) spaces provided in a separate parking lot on the opposite side of Lagrange Street, that will provide two separate curb cuts onto Lagrange Street. The building site is bordered by Beacon Street to the north, Lagrange Street to the west, and private properties to the east and south. The site location in relation to the surrounding roadway network is shown on Figure 1.

This report has been prepared to assess the safety of the proposed site driveways, estimate the increase in traffic as a result of site redevelopment, and evaluate the impact of this traffic on the adjacent streets and intersections. The project site is situated to take advantage of area public transportation services, including bus service that provides connections to Union Station. The proposed driveway intersections onto Beacon Street and Lagrange Street meet or exceed the

minimum required sight distances to ensure safe operation can be expected. It is recommended that any proposed landscaping, signs or fencing in the vicinity of the driveways be kept low (maximum 2 feet in height from street level) or set back sufficiently so as not to impede the available sight distances.

Figure 1
Site Location Map



The traffic to be generated by the proposed apartment building is expected to result in only minor increases in traffic on the adjacent roadway network. Without taking credit for trips that are expected to occur via alternative modes of travel, including public transportation, bicycle and walking trips, traffic-volume increases are expected to amount to only 20 vehicles per hour, or less on any given roadway segment in the vicinity of the site. These increases represent, on average, approximately one additional vehicle every three minutes during peak hours of roadway traffic. Smaller increases are expected during all other times of the day. The site driveways are expected to operate at acceptable levels of service, with vehicle queues that are not expected to exceed one vehicle.

It is recommended that a STOP sign (R1-1) and stop line be installed on the driveway approaches to both Beacon Street and Lagrange Street. The site driveways should be constructed in conformance with City of Worcester driveway design standards. It is also recommended that sidewalk be constructed along the eastern side of Lagrange Street adjacent to the existing building, in conjunction with the closure of the existing driveway and loading area, as well as a new painted crosswalk across Lagrange Street to accommodate pedestrian traffic between the building and parking lot on the opposite side of the corridor.

EXISTING CONDITIONS

Study Area

Evaluation of the traffic impacts associated with the proposed site redevelopment requires an evaluation of existing and projected traffic volumes, the volume of traffic expected to be generated by the project, and the impact that this traffic will have on the adjacent streets and nearby intersections. In preparing this study, the City of Worcester's Department of Transportation and Mobility (DTM) was consulted to identify an appropriate study area scope to evaluate the impacts of the project. Based on these discussions, the following intersections were analyzed and evaluated:

- Lagrange Street at Beacon Street
- Lagrange Street at Main Street

As documented in this report, the development is expected to have a negligible effect on traffic operations beyond this study area. The study area roadways and intersection are described below:

Beacon Street is a two-lane local roadway under City of Worcester jurisdiction that traverses the study area in a general east-west orientation between its western terminus at Boys and Girls Club Way and its eastern terminus at Madison Street. Sidewalk is provided along both sides of the corridor within the study area. On-street parking is provided along the northern side of the corridor, but prohibited along the southern side of the roadway, including adjacent to the project

site. The posted speed limit on Beacon Street is 25 miles per hour (mph). Land use along the corridor consists of a mix of residential, commercial and industrial uses. Illumination along the corridor is provided by way of overhead streetlights.

Lagrange Street is a two-lane local roadway under City of Worcester jurisdiction that traverses the study area in a general north-south orientation between its southern terminus at Jackson Street and its northern terminus at Main Street. Sidewalk is provided along both sides of the corridor, north of Beacon Street and along the western side of the corridor, south of Beacon Street. As discussed in subsequent sections of this report, in conjunction with the project, a new sidewalk is proposed along the eastern side of the corridor, adjacent to the project site. On-street parking is provided along the eastern side of the corridor, and prohibited along the western side of the corridor, north of Beacon Street. On-street parking is not restricted south of Beacon Street. The speed limit on Lagrange Street is not posted and therefore is assumed to be 25 mph. Land use along the corridor consists primarily of a mix of residential and former industrial uses. Illumination along the corridor is provided by way of overhead streetlights.

Beacon Street meets Lagrange Street from the east and west to form a four-way unsignalized intersection. All four intersection approaches provide a single general-purpose travel lane, with the northbound and southbound Lagrange Street approaches to this intersection operating under STOP-sign control. Sidewalk is provided along both sides of Beacon Street, and along both sides of Lagrange Street, north of Beacon Street. South of Beacon Street sidewalk is currently provided along the western side of Lagrange Street. On-street parking is provided on the northern side of Beacon Street and prohibited along the southern side of the corridor at this location. North of Beacon Street, on-street parking is provided along the eastern side of Lagrange Street and prohibited along the western side of the roadway. South of Beacon Street parking on Lagrange Street is unrestricted. Land use in the vicinity of this intersection consists of a mix of commercial and industrial uses. Illumination at this intersection is provided by way of overhead streetlights.

Lagrange Street meets Main Street from the south to form a three-way unsignalized intersection. All three intersection approaches provide a single general-purpose travel lane, with the northbound Lagrange Street approach to this intersection operating under STOP-sign control. On-street parking is provided on the eastern side of Lagrange Street and along both sides of Main Street in the vicinity of this intersection. Sidewalk is provided along both sides of Lagrange Street and Main Street at this location, with a painted crosswalk provided across the Lagrange Street northbound approach. Land use in the vicinity of this intersection consists primarily of a mix of commercial and residential uses. Illumination at this intersection is provided by way of overhead streetlights.

Traffic Volumes

Base traffic conditions within the study area were developed by conducting automatic traffic recorder (ATR) counts and manual turning movement counts (TMCs) in January 2024. Specifically, ATRs were conducted on Beacon Street and Lagrange Street, in the vicinity of the

project site, to collect traffic volumes over an extended period. In addition, manual TMCs and vehicle classification counts were also performed at each study area intersection. The raw traffic count data are provided in the Appendix. The TMCs were performed during the weekday AM (7:00 to 9:00 AM) and weekday PM (4:00 to 6:00 PM) peak periods, which typically represent the peak impact periods for residential developments. The count data indicates that in the vicinity of the site the weekday AM peak hour typically occurs from 8:00 to 9:00 AM and the weekday PM peak hour occurs from 5:00 to 6:00 PM.

To determine whether the count data should be adjusted to represent annual average month conditions, consistent with Massachusetts Department of Transportation (MassDOT) guidelines for traffic impact assessments, historical traffic volume data were obtained from MassDOT’s Weekday Seasonal Adjustment Factors for the latest year available. This document provides a monthly adjustment factor based on the roadway classification of the study roadways. Beacon Street and Lagrange Street are classified as urban local roadways (U7). This roadway classification shows that data for the month of January are approximately 1 percent lower than average month conditions. In accordance with MassDOT guidelines the collected data were adjusted upwards by 1 percent to reflect average month conditions. The MassDOT Seasonal Adjustment Factors are provided in the Appendix.

The MassDOT *Traffic and Safety Engineering 25% Design Submission Guidelines* were updated on May 31, 2022. These new directives note that traffic volume data collected after March 1, 2022, are no longer subject to any adjustments to represent pre-pandemic traffic volume conditions, except in areas where land use is predominantly office. Therefore, since the TMC data was collected in January 2024 and land use in the area is predominantly residential and industrial, COVID adjustments do not need to be applied to the data. The 2024 Existing peak hour traffic flow networks are shown graphically on Figure 2.

The daily and peak hour traffic flows are summarized in Table 1.

Table 1
Existing Traffic Volume Summary

Location	Daily Volume ^a	Peak Hour Volume ^b	K-Factor ^c	Directional Distribution ^d
Beacon Street, east of Lagrange Street	3,791	AM: 371	9.8%	56% EB
		PM: 307	8.1%	74% WB
Lagrange Street, south of Beacon Street	147	AM: 4	2.7%	50% NB
		PM: 7	4.8%	71% SB

^a In vehicles per day.

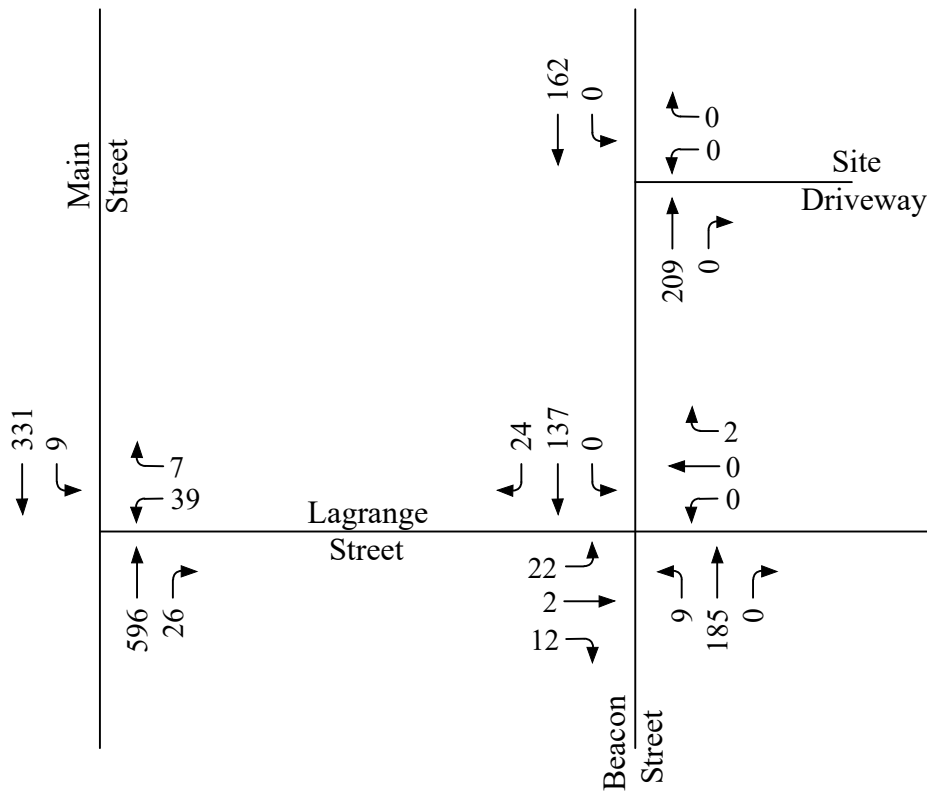
^b In vehicles per hour.

^c Percentage of daily traffic occurring during the peak hour.

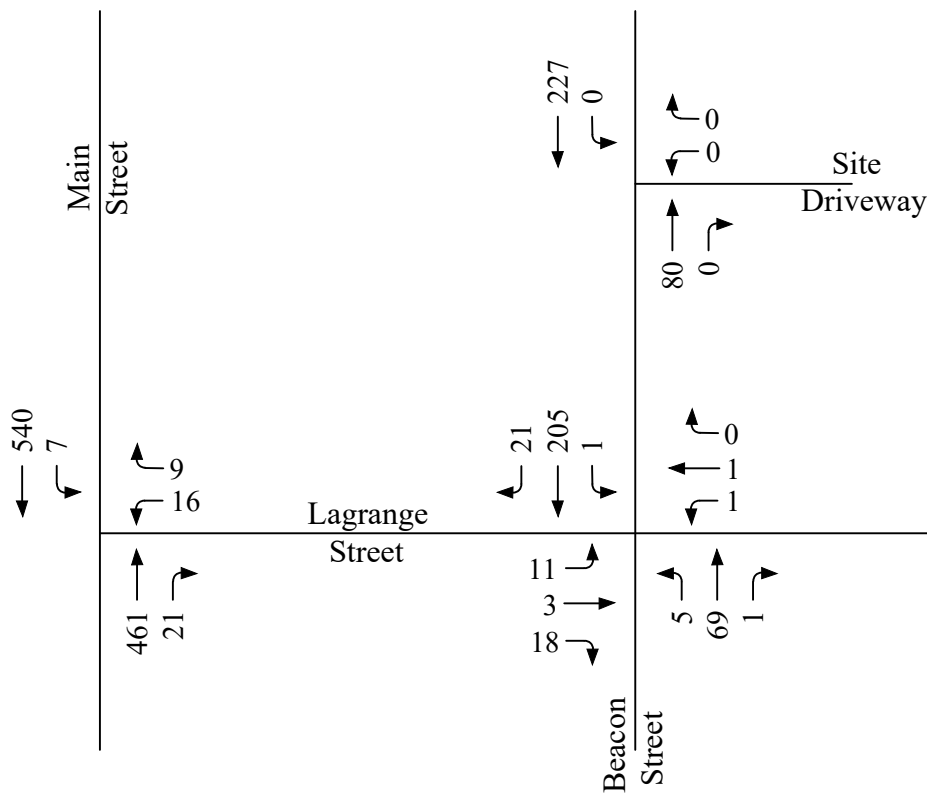
^d EB = eastbound; WB = westbound; NB = northbound; SB = southbound.

Figure 2
 2024 Existing
 Peak Hour Traffic Volumes

Weekday AM Peak Hour



Weekday PM Peak Hour



As summarized in Table 1, Beacon Street, in the vicinity of the project site currently accommodates approximately 3,800 vehicles per day (vpd), including approximately 370 vehicles per hour (vph) during the weekday AM peak, and approximately 310 vph during the weekday PM peak. Traffic volumes along Lagrange Street, south of Beacon Street, are relatively low, with approximately 150 vpd and peak hour traffic flows that range from 4 to 7 vph.

Motor Vehicle Crash Data

Crash data for the study area intersections were obtained from MassDOT for the period between 2015 and 2019, the latest five years of available data, excluding 2020 when traffic volumes were impacted by COVID. A summary of the MassDOT crash data is provided in Table 2. In addition to the summary, crash occurrence should also be compared to the volume of traffic through a particular intersection to determine any significance. Accordingly, a motor vehicle crash rate was calculated for the intersection and compared with the statewide and district-wide (District 3) averages. An intersection crash rate is a measure of the frequency of crashes compared to the volume of traffic through an intersection and is presented in crashes per million entering vehicles (crashes/mev). For unsignalized intersections, the statewide average crash rate is 0.57 crashes/mev and the district-wide crash rate is 0.61 crashes/mev. A comparison of the calculated crash rate to the statewide and district-wide averages can be used to establish the significance of crash occurrence and whether or not potential safety problems exist. The crash rate worksheets are provided in the Appendix.

Table 2
Motor Vehicle Crash Summary

Location	Number of Accidents			Severity ^a			Accident Type ^b						% During Wet/Icy Conditions
	Total	Avg./Year	Crash Rate ^c	PD	PI	NR	CM	RE	SV	SS	HO	UNK	
Main Street at Lagrange Street	16	3.2	0.67	9	3	4	3	6	1	4	0	2	19%
Beacon Street at Lagrange Street	8	1.6	0.89	3	2	3	1	1	0	4	1	1	25%

Source: MassDOT Traffic Operations Safety Management System – 2015 through 2019 data.

^a PD = property damage only; PI = personal injury; NR = not reported/unknown.

^b CM = cross movement/angle; RE = rear end; SV = single vehicle; SS = sideswipe; HO = head on; UNK = Unknown.

^c Measured in crashes per million entering vehicles.

As summarized in Table 2, the intersection of Main Street with Lagrange Street experienced 16 crashes over the five-year period, averaging just over three crashes per year. Of the 16 total

collisions, nine resulted in property damage only and three involved non-fatal injuries. The severity of the four remaining crashes was not reported. The majority of reported collisions involved rear-end crashes. The calculated crash rate of 0.67 is slightly higher than both the statewide and district wide averages for unsignalized intersections.

The intersection of Beacon Street with Lagrange Street experienced 8 crashes over the five-year period, averaging just over one and a half crashes per year. Of the 8 total collisions, three resulted in property damage only and two involved non-fatal injuries. The severity of the three remaining crashes was not reported. The majority of reported collisions involved sideswipe crashes. The calculated crash rate of 0.89 exceeds both the statewide and district wide averages for unsignalized intersections.

As discussed in subsequent sections of this report, in conjunction with the project a number of transportation improvement measures are proposed in the immediate vicinity of this intersection to enhance future safety, including the construction of new sidewalk along the eastern side of Lagrange Street and installation of a new crosswalk across the Lagrange Street northbound approach to this intersection.

Roadway Segment Safety Analysis

As requested by the City's DTM, a roadway segment safety analyses was also conducted for the segments of Beacon Street, between Jackson Street and Oread Street, and along Lagrange Street, south of Beacon Street over the last five years of MassDOT data. Based on these analyses, the roadway segment crash rates amount to 0.71 crashes/mev for this segment of Beacon Street and 0.21 crashes/mev for this segment of Lagrange Street. These roadway segment crash rates fall well below MassDOT's 2.50 crashes/mev average crash rate for local urban roadways. Roadway segment crash rate calculations are provided in the Appendix of this report.

Vehicle Speeds

Speed measurements were conducted along Beacon Street and Lagrange Street adjacent to the site in conjunction with the ATR counts conducted along these corridors. The results of the speed measurements are summarized in Table 3.

Table 3
Observed Travel Speeds ^a

Location/Direction	Posted Speed Limit	Average Speed	85 th Percentile Speed ^b
Beacon Street			
Adjacent to the Site:			
Eastbound	25	19	22
Westbound	25	21	25
Lagrange Street			
Adjacent to the Site:			
Northbound	25	17	22
Southbound	25	17	21

^a In miles per hour (mph).

^b Speed at, or below which 85 percent of all observed vehicles travel.

As shown, the average travel speeds along Beacon Street adjacent to the site driveway were approximately 4 to 6 mph lower than the posted speed limit. The 85th percentile speeds were recorded to be 22 mph in the eastbound direction and 25 mph in the westbound direction. As such the 85th percentile westbound travel speed, and higher 25 mph eastbound speed limit were utilized for the determination of required sight distances in both directions.

The average speed limit along Lagrange Street was determined to be 17 mph in both directions, with 85th percentile speeds of 22 mph in the northbound direction and 21 mph in the southbound direction. As such, the higher 25 mph posted speed limit was utilized for the determination of required sight distances.

SIGHT DISTANCE

To ensure safe access and egress are provided at the proposed site driveway location, sight distances have been evaluated at the proposed site driveway intersections with Beacon Street and Lagrange Street to determine if the available sight distances for vehicles exiting the proposed parking lots meet or exceed the minimum distances required for approaching vehicles to safely stop. 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

¹A *Policy on Geometric Design of Highways and Streets*; American Association of State Highway and Transportation Officials (AASHTO); 2004.

of 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 percent, grade correction factors are applied. It is noted that ISD is typically measured 14.5 feet back from the edge of travel way. At the proposed Beacon Street site driveway location, the presence of the existing building on site requires that motorists pull forward to approximately 10 feet from the edge of travel way to view traffic arriving from the west. Additionally, the sight distances along Lagrange Street at the proposed driveway locations reflect the removal of the existing retaining wall in conjunction with the construction of the proposed parking lot.

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. However, the ISD 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 intersection sight distances at the proposed driveway location were measured and compared to minimum requirements as established by AASHTO and are shown in Table 4.

Table 4
Sight Distance Summary

Location/Direction	Sight Distance (feet)		
	Measured	Minimum Required (SSD) ^a	Desirable (ISD) ^b
Beacon Street at Site Driveway:			
East of intersection	260	155	280
West of intersection	>500	155	240
Lagrange Street at North Site Driveway:			
North of intersection	>250	155	240
South of intersection	>250	155	280
Lagrange Street at South Site Driveway:			
North of intersection	>250	155	240
South of intersection	>200	155	280

^a Values based on AASHTO SSD requirements for the posted speed limit of 25 mph on both Beacon Street and Lagrange Street.

^b Values based on AASHTO ISD requirements for a speed of 25 mph for Beacon Street and Lagrange Street.

As shown in Table 4, the proposed site driveway intersections with Beacon Street and Lagrange Street provide the minimum required sight distances in both directions to allow for safe access to the site. To ensure that minimum required sight distances are maintained at the site driveway intersections, it is recommended that any proposed landscaping, fencing, or signs in the vicinity of the driveways be kept low (maximum 2 feet in height from street level) or set back sufficiently so as not to impede the available sight distances.

Public Transportation

Public transportation services are provided within the study area by the Worcester Regional Transit Authority (WRTA). Specifically, the WRTA provides bus service along the Main Street corridor, within a three minute walking distance of the project site via Lagrange Street. The following bus routes provide service within the study area:

- **WRTA Bus Route 19 – Webster Square – Clark University via Main Street** – this bus route provides service between Union Station, City Hall, Clark University and the Webster Square Plaza. Weekday service is provided starting at 5:30 AM and ending at 10:46 PM,

with approximate 15 to 30 minute headways during peak hours. Less frequent service is also provided on Saturday and Sunday.

- ***WRTA Bus Route 27 – Auburn Mall via Main Street*** – this bus route provides service between Union Station, City Hall, Clark University, the Webster Square Plaza and the Auburn Mall. Weekday service is provided starting at 5:45 AM and ending at 9:46 PM, with approximate 30 minute headways during peak hours. Less frequent service is also provided on Saturday and Sunday.
- ***WRTA Bus Route 33 – Spencer – Brookfield via Main Street and Route 9*** – this bus route provides service between Union Station, City Hall, Clark University, Webster Square Plaza, Leicester Center, East Brookfield and Brookfield. Weekday service is provided starting at 4:50 AM and ending at 7:53PM, with approximate one-hour headways during peak hours. Weekend service is not provided along this route.

Current maps and schedules can be found on the WRTA website at www.therta.com, and are included in the Appendix of this report.

Existing Pedestrian and Bicycle Accommodation

Within the study area sidewalk is generally provided along both sides of all study area roadways, including Beacon Street, Main Street and Lagrange Street, north of Beacon Street. Along Lagrange Street, south of Beacon Street, sidewalk is currently only provided along the western side of the corridor. In conjunction with the project, new sidewalk is proposed along the eastern side of the corridor, adjacent to the existing building, as well as a new painted crosswalk across Lagrange Street at its intersection with Beacon Street to accommodate pedestrian traffic between the Lagrange Street parking lot and residential building.

FUTURE CONDITIONS

Traffic Growth

Future traffic conditions were projected to the year 2031, representing a 7-year design horizon consistent with state requirements for traffic impact analysis. To project traffic conditions within this design horizon, two components of traffic growth were considered. First, an annual average traffic growth rate was determined to account for general population growth and smaller development projects (i.e. residential subdivisions) that may impact traffic in the site vicinity. Based on historical traffic volume information from a MassDOT count station on Southbridge Street, less than a mile from the project site (Station No. 3975), traffic volumes have generally decreased based on the last five years of available data. To provide a conservative assessment, a

one-percent per year background growth rate was used to bring the 2024 Existing volumes to 2031 (7-year growth) before the planned development volumes were added.

Second, any planned or approved specific developments in the area that would generate a significant volume of traffic on study area roadways within the next seven years were included. Based on discussions with the City of Worcester's Executive Office of Economic Development, the following development projects were identified:

- ***Proposed Residential Redevelopment - 30-55 Lagrange Street*** – this project entails the redevelopment of a four former light industrial building located at 30-55 Lagrange Street in order to accommodate 63 units of multi-family housing. The traffic to be generated by this project was taken from the traffic assessment² prepared for the project and distributed onto the local roadway network based on U.S. Census Journey to Work distribution patterns as described in subsequent sections of this report.
- ***Clark University Residence Hall Redevelopment - Main Street/Hawthorne Street*** – this project entails the razing of existing dormitory buildings on the Clark University campus, and the construction of a new 6-story 161,881 sf dormitory building that will house approximately 500 students. Based on the project application form submitted to the City of Worcester Division of Planning & Regulatory Services, the project is not expected to result in a material change in the nature of Clark's educational use or result in a notable change to student enrollment. As such that project is not expected to result in a material change to traffic in and around the campus. It is assumed that any minor increases in traffic associated with this project would be captured through the application of the aforementioned background growth rate.

Lastly, based on consultation with the City of Worcester Department of Public Works, the City plans to convert the nearby Jackson Street corridor to one-way traffic flow within the study area, which could result in the diversion of a portion of the corridor's existing traffic to LaGrange Street. Based on discussions with DTM during the transportation scoping meeting for this project, one third of the current traffic on Jackson Street was redistributed to Lagrange Street during peak hours.

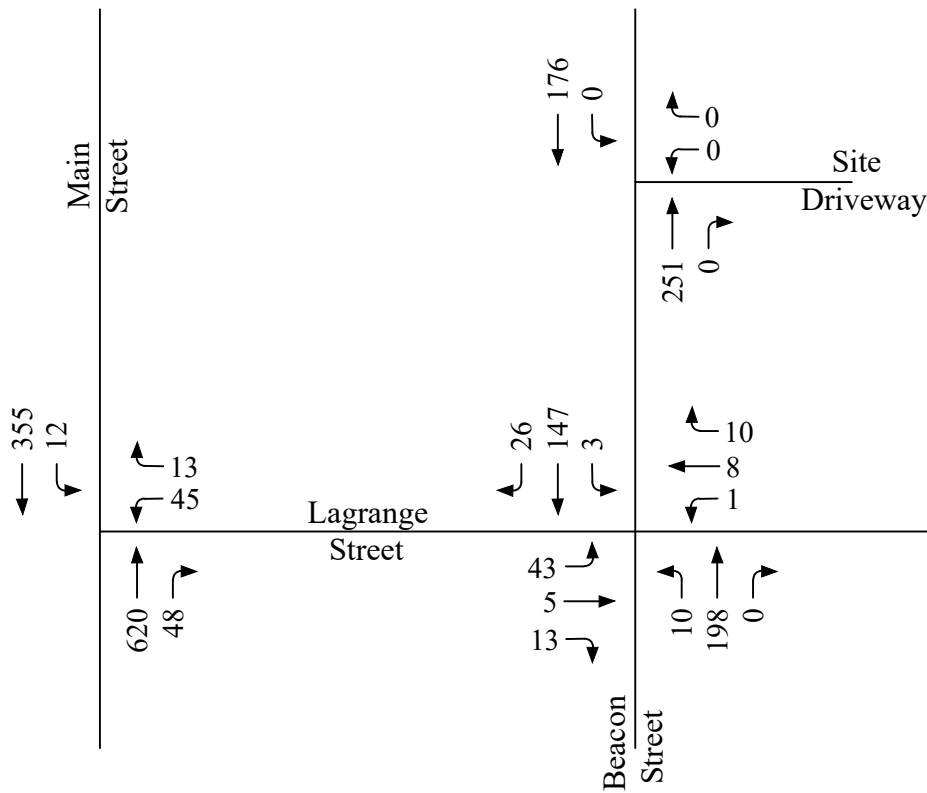
No-Build Conditions

The 2031 No-Build networks were accordingly developed by applying a compounded 1.0 percent annual growth rate (7.2 percent over seven years) to the existing adjacent street volumes and by adding the traffic from the previously mentioned background developments, as well as redistributed traffic from Jackson Street. The 2031 No-Build peak-hour traffic-flow networks are shown on Figure 3.

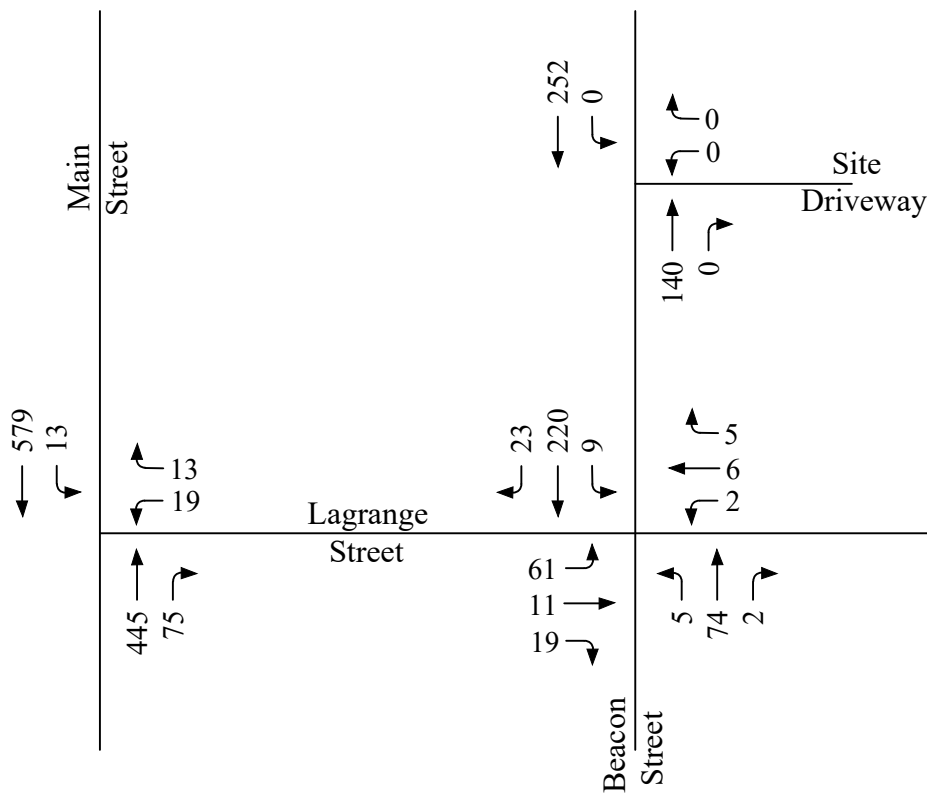
² *Trip Generation Assessment, Proposed Mixed-Use Redevelopment, 30-55 Lagrange Street, Worcester, Massachusetts*; prepared for Bohler Engineering, Inc; prepared by VAI; August 19, 2021

Figure 3
 2031 No Build
 Peak Hour Traffic Volumes

Weekday AM Peak Hour



Weekday PM Peak Hour



Trip Generation

The traffic to be generated by the proposed multi-family housing development project was estimated using the Institute of Transportation Engineering (ITE) *Trip Generation Manual*.³ As proposed, fifty-eight (58) multifamily housing units are to be located within the existing four-story building. Accordingly, Land Use Code 221 (Multifamily Housing, Mid-Rise) was used in estimating the traffic generation characteristics of the project, as shown in Table 5. The trip generation calculations are provided in the Appendix.

As summarized in Table 5, the proposed redevelopment project is expected to generate 264 vehicle trips (132 entering and 132 exiting) on a typical weekday, including 21 vehicle trips (5 entering and 16 exiting) during the weekday AM peak hour and 23 vehicle trips (14 entering and 9 exiting) during the weekday PM peak hour.

It is noted that these projections are likely conservative as they do not take credit for alternative modes of transportation that are likely to be utilized by a percentage of residents of the project, including public transportation, bicycling, and walking trips. As previously noted, bus service is provided by the WRTA within a three minute walking distance from the site. However, in an effort to provide a conservative assessment of project impacts, no reductions to the trip generation estimates have been applied to account for non-automotive modes of travel by residents and guests of the project.

Table 5
Trip Generation Summary ^a

<u>Time Period</u>	<u>Proposed Apartment Units ^b</u>
Weekday Daily	264
Weekday AM Peak Hour	
Enter	5
Exit	16
Total	21
Weekday PM Peak Hour	
Enter	14
Exit	9
Total	23

^a ITE Land Use Code 221 (Multifamily Housing - Mid-Rise).

^b Based on 58 dwelling units.

³ *Trip Generation Manual, 11th Edition*; Institute of Transportation Engineers; Washington, DC; 2021.

Of further note, the ITE has specified the long-term effects of the COVID-19 pandemic on trip generation and how it relates to various land uses. Specifically, for residential uses, it is expected that *“the proportion of the overall labor force that will be permitted to and will choose to work from home is expected to remain higher than it was pre-pandemic. This shift will likely result in an overall reduction in weekday peak period commuting trips. Individuals working from home may also experience shifts in trip patterns resulting in home-based trips being spread more broadly throughout the day”*. Based on this information, the trip generation of the site will likely be lower than estimated in Table 5 and therefore this study provides a conservative assessment.

Trip Distribution

As the development is residential, the U.S. Census Bureau’s Journey to Work data were utilized to develop the trip distribution patterns for project-related traffic. Specifically, data for the workplace location of those living in the City of Worcester were used to estimate the expected trip distribution of the project-generated trips. Based on this data and a review of available travel routes, it is expected that 45 percent of the new residential site traffic will be to and from the east on Beacon Street; 30 percent to and from Main Street to the east; 15 percent to and from Main Street to the west; and 10 percent to and from Beacon Street to the west. U.S. Census Bureau’s Journey to Work data are included in the Appendix.

Build Conditions

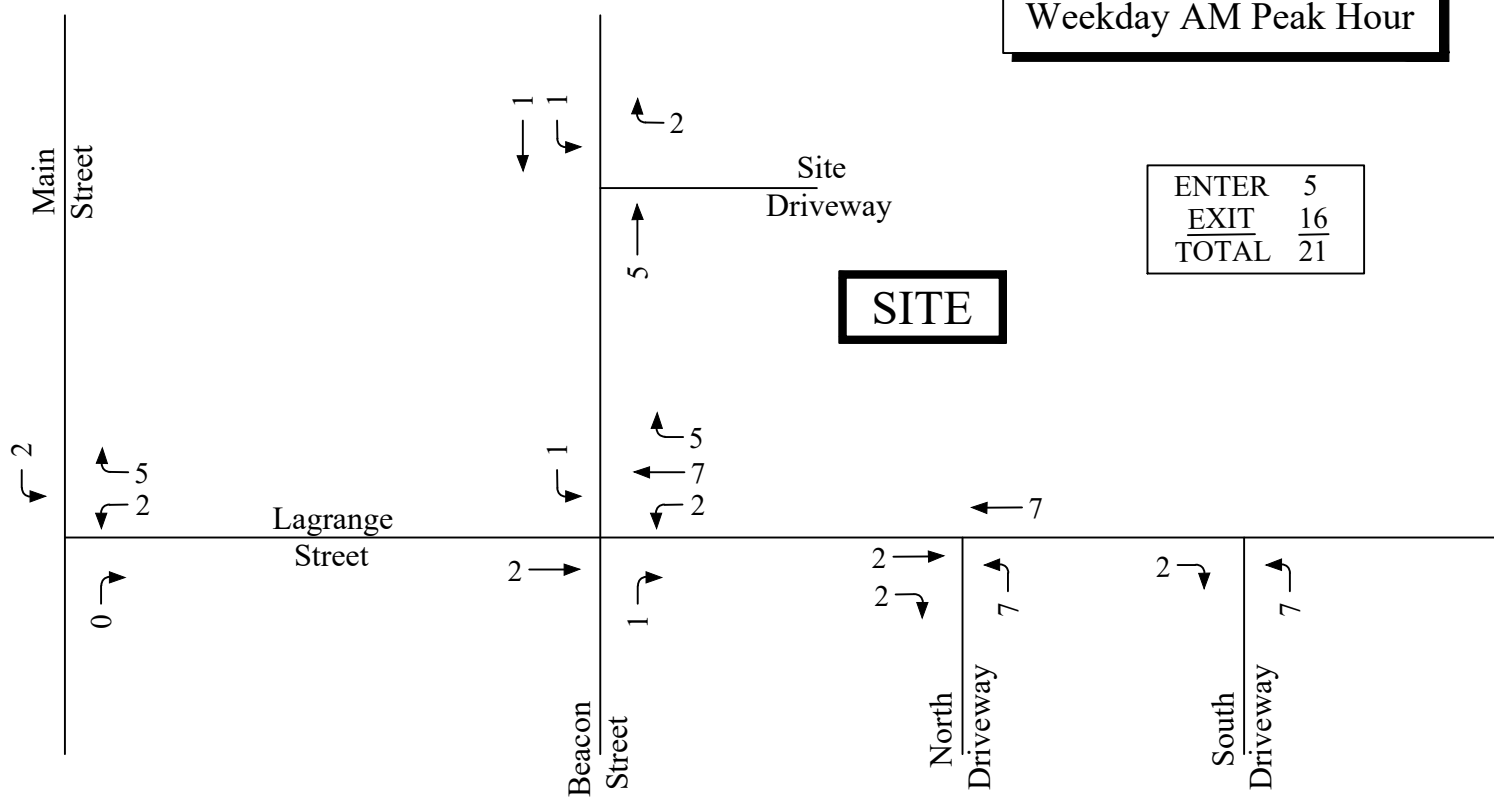
Based on the above traffic generation and distribution estimates, the traffic volumes generated by the project were assigned to the roadway network as shown on Figure 4 and were added to the 2031 No-Build traffic volumes to develop the 2031 Build traffic volumes. The 2031 Build traffic volume networks are graphically depicted on Figure 5.

Traffic Increases

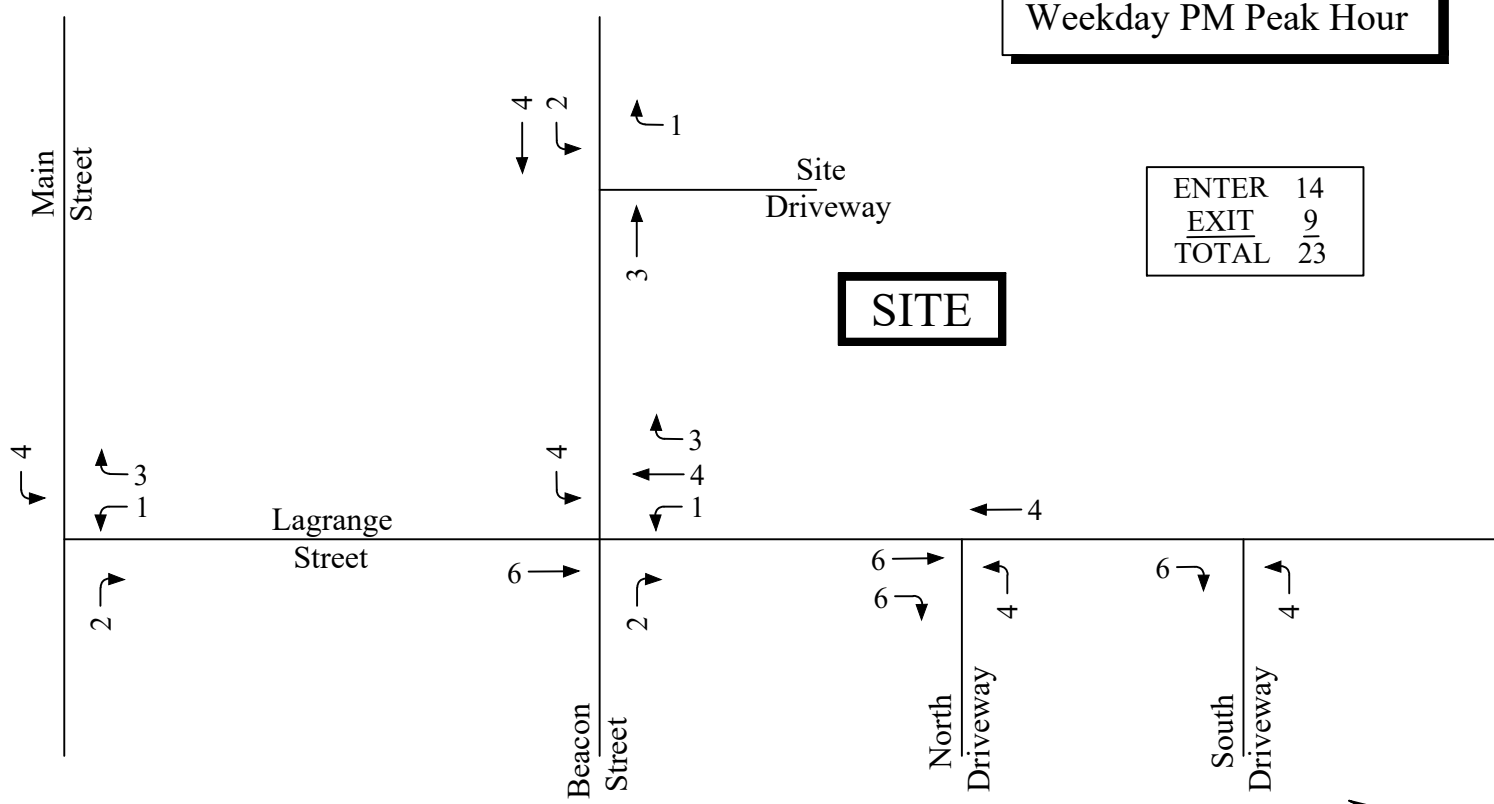
The proposed project will result in only minor increases in traffic on the study area roadways. Without taking credit for trips using alternative modes of transportation, traffic-volume increases are expected to be greatest along the segment of Lagrange Street, between the parking lot driveways and Beacon Street, where an additional 16 to 20 vehicles are expected during peak hours. These increases represent, on average, approximately one additional vehicle every three to four minutes. Traffic increases along Beacon Street are expected in the range of three to ten additional vehicles per hour, or one additional vehicle every six to twenty minutes during peak hours. Smaller increases are expected during all other times of the day.

Figure 4
 Site Generated
 Peak Hour Traffic Volumes

Weekday AM Peak Hour



Weekday PM Peak Hour



Site Access and On-Site Circulation

The site currently provides a driveway onto Beacon Street, immediately east of the existing building, as well as a driveway onto Lagrange Street that provides access to an existing loading dock on the western side of the building. As part of the site redevelopment, the existing driveway onto Beacon Street will be reconstructed in accordance with City design guidelines and provide access to seven (7) parking spaces. The driveway to the loading area off Lagrange Street will be eliminated, with new curbing and sidewalk constructed along the site's Lagrange Street frontage. The proposed parking lot off Lagrange Street would provide two separate driveways, each providing access to twenty-one parking spaces, for a total of forty-two (42) spaces.

It is recommended that the proposed site access driveways provide a minimum of 24-feet in width in order to accommodate a 12-foot entering and 12-foot exiting travel lane. All three driveway approaches should be placed under STOP-sign control with a painted stop line provided. Entering and exiting traffic flows should be separated by a painted double-yellow centerline.

To enhance pedestrian connectivity between the Lagrange Street parking lot and the residential building, a new crosswalk is also proposed across the Lagrange Street northbound approach.

Parking Demand

The project proposes 58 residential units, all of which will be either studio or one-bedroom apartments. Based on data published by the ITE in the *Parking Generation*⁴ manual for mid-rise multifamily housing (Land Use Code 221, "Dense Multi-Use Urban - Not Close to Rail Transit" category for 58 total residential units) the average peak parking demand for the facility will amount to 39 spaces. Given that 49 parking spaces will be provided, the proposed parking supply exceeds the anticipated peak demand for the project.

CAPACITY ANALYSIS

Level-of-service (LOS) analyses were conducted at the study area intersections under existing and projected volume conditions to determine the effect that the additional site-generated traffic will have on traffic operations. The capacity analysis methodology is based on the concepts and procedures in the *Highway Capacity Manual*⁵ (HCM) and is described in the Appendix. 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). The queue length is a function of the capacity of the movement and the movement's degree of saturation. The level-of-service and queue results are

⁴ *Parking Demand Manual, 6th Edition*, ITE, Washington, DC; 2023.

⁵ *Highway Capacity Manual 2010*; Transportation Research Board; Washington, DC; 2010.

presented in Table 6 and are discussed below. All analysis worksheets are provided in the Appendix.

Table 6
Level-of-Service Analysis Summary

Location/Peak Hour Movement	2024 Existing				2031 No-Build				2031 Build			
	v/c ^a	Delay ^b	LOS ^c	Queue ^d	v/c	Delay	LOS	Queue	v/c	Delay	LOS	Queue
Beacon Street at Lagrange Street												
<i>Weekday AM Peak</i>												
EB All	0.01	0.4	A	0	0.01	0.4	A	0	0.01	0.4	A	0
WB All	0.00	0.0	A	0	0.00	0.1	A	0	0.00	0.2	A	0
NB All	0.01	9.9	A	0	0.07	12.4	B	0	0.13	13.3	B	25
SB All	0.08	12.5	B	0	0.16	15.0	C	25	0.17	15.7	C	25
<i>Weekday PM Peak</i>												
EB All	0.00	0.5	A	0	0.00	0.5	A	0	0.00	0.5	A	0
WB All	0.00	0.0	A	0	0.00	0.0	A	0	0.01	0.4	A	0
NB All	0.01	11.3	B	0	0.01	11.3	B	0	0.07	11.1	B	0
SB All	0.07	10.6	B	0	0.07	10.6	B	0	0.28	13.9	C	25
Main Street at Lagrange Street												
<i>Weekday AM Peak</i>												
EB All	0.00	0.0	A	0	0.00	0.0	A	0	0.00	0.0	A	0
WB All	0.01	0.2	A	0	0.02	0.3	A	0	0.02	0.3	A	0
NB All	0.27	23.6	C	25	0.37	27.7	D	50	0.41	28.4	D	50
<i>Weekday PM Peak</i>												
EB All	0.00	0.0	A	0	0.00	0.0	A	0	0.00	0.0	A	0
WB All	0.01	0.1	A	0	0.01	0.2	A	0	0.02	0.2	A	0
NB All	0.12	18.9	C	0	0.16	20.4	C	25	0.17	20.4	C	25
Beacon Street at Site Driveway												
<i>Weekday AM Peak</i>												
WB All	--	--	--	--	--	--	--	--	0.00	0.0	A	0
NB All	--	--	--	--	--	--	--	--	0.00	9.7	A	0
<i>Weekday PM Peak</i>												
WB All	--	--	--	--	--	--	--	--	0.00	0.1	A	0
NB All	--	--	--	--	--	--	--	--	0.00	9.0	A	0

^a Volume-to-capacity ratio.

^b Average control delay (sec./vehicle).

^c Level of service.

^d 95th percentile queue in feet, assuming 25 feet/vehicle.

Table 6 (Continued)
Level-of-Service Analysis Summary

Location/Peak Hour Movement	2024 Existing				2031 No-Build				2031 Build			
	v/c ^a	Delay ^b	LOS ^c	Queue ^d	v/c	Delay	LOS	Queue	v/c	Delay	LOS	Queue
Lagrange Street at North Site Driveway												
<i>Weekday AM Peak</i>												
EB All	--	--	--	--	--	--	--	--	0.00	8.7	A	0
NB All	--	--	--	--	--	--	--	--	0.00	0.0	A	0
<i>Weekday PM Peak</i>												
EB All	--	--	--	--	--	--	--	--	0.01	8.8	A	0
NB All	--	--	--	--	--	--	--	--	0.00	0.0	A	0
Lagrange Street at South Site Driveway												
<i>Weekday AM Peak</i>												
EB All	--	--	--	--	--	--	--	--	0.00	8.7	A	0
NB All	--	--	--	--	--	--	--	--	0.00	0.0	A	0
SB All												
<i>Weekday PM Peak</i>												
EB All	--	--	--	--	--	--	--	--	0.00	8.7	A	0
NB All	--	--	--	--	--	--	--	--	0.00	0.0	A	0

^a Volume-to-capacity ratio.

^b Average control delay (sec./vehicle).

^c Level of service.

^d 95th percentile queue in feet, assuming 25 feet/vehicle.

As shown in Table 6, under 2024 Existing conditions, all movements at the intersection of Beacon Street with Lagrange Street currently operate at LOS B or better during both the weekday AM and weekday PM peak hours. Under future 2031 No-Build conditions, all movements are projected to operate at LOS C or better during both peak periods. Under future 2031 Build conditions, all movements are projected to continue to operate at LOS C or better, with approach delays increasing by approximately 3 seconds or less. In all instances maximum queues are expected to extend only 1 vehicle or less during peak hours.

Under 2024 Existing conditions, all movements at the intersection of Main Street with Lagrange Street currently operate at LOS C or better during both the weekday AM and weekday PM peak hours. Under future 2031 No-Build conditions, all movements are projected to operate at LOS D or better during both peak periods. Under future 2031 Build conditions, all movements are projected to continue to operate at LOS D or better, with approach delays increasing by less than 1 second per vehicle as compared to No-Build conditions. In all instances maximum queues are expected to extend only 2 vehicles or less during peak hours.

Under future 2031 Build conditions, all site driveways onto Beacon Street and Lagrange Street are projected to operate at LOS A, with minimal queuing, amounting to less than 1 vehicle on average, projected on the driveway approaches during both peak periods.

TRANSPORTATION DEMAND MANAGEMENT MEASURES

The neighborhood of the project site is transit oriented in nature, with WRTA bus service provided within a three minute walking distance of the project site. All three bus routes provide connections to Union Station, where additional bus route connections, commuter rail and Amtrak service are available. Within walking distance, there are various destinations, including restaurants, retail stores, personal services and other various businesses along the Main Street corridor. The proponent is committed to implementing a number of Transportation Demand Management (TDM) measures in an effort to minimize the dependency on the private automobile and promote healthy living.

Pedestrian Linkages – Sidewalks are generally provided along both sides of all roadways that provide access to the project site. In conjunction with the redevelopment of the project, an existing curb cut and loading area on the western side of the building will be eliminated, with new curbing and sidewalk constructed along this segment of Lagrange Street to enhance the pedestrian realm. Additionally, a new pedestrian crosswalk is proposed across the northern terminus of Lagrange Street at Beacon Street, to enhance pedestrian connectivity and safety for residents walking between the Lagrange Street parking area and residential building.

Bicycle Accommodations – Safe and secure bicycle storage is proposed for residents of the development on the with the proposed building.

Electric Vehicle Charging Stations – To encourage cleaner modes of transportation, the proponent will install 4 electric vehicle charging stations within the parking areas.

Transportation Coordinator – A Transportation Coordinator will be designated who will provide new residents with information relative to pedestrian, bicycle, and transit services as part of an orientation packet.

CONCLUSIONS

Existing and future conditions at the study area intersections have been described and analyzed with respect to traffic operations and the impact of the proposed residential development. Conclusions of this effort and recommendations are presented below.

- The site is currently occupied by a vacant four-story former industrial building. Access to the site is currently provided via a curb cut off Beacon Street and a curb cut off Lagrange Street that provides access to the building's loading dock.
- As proposed, the building will be renovated to accommodate a 58-unit apartment development, which will consist of 51 studio and 7 one-bedroom apartments. In conjunction with the project the Beacon Street driveway will be reconstructed, with the Lagrange driveway closed.
- Parking for the project will be provided at two separate locations, a small parking lot immediately east of the building that will provide seven (7) parking spaces, as well as a new parking lot on the opposite side of Lagrange Street, that will provide forty-two (42) spaces for a total of forty-nine (49) spaces.
- In conjunction with the project, a new sidewalk will be constructed along the eastern side of Lagrange Street, adjacent to the site. Additionally, a new crosswalk will be installed across the northbound Lagrange Street approach to Beacon Street, to enhance pedestrian connectivity and safety.
- The majority of motor vehicle collisions within the study area resulted in property damage only, though it is noted that the calculated crash rates at the study intersections exceed the statewide and district-wide averages for unsignalized intersections.
- The minimum required sight distances are met in both directions at the proposed site driveway location on Beacon Street, as well as the two driveway locations that will serve the proposed parking lot off Lagrange Street.
- Future traffic conditions were projected to the year 2031, representing a 7-year design horizon consistent with state requirements for traffic impact analysis. Future No-Build conditions were developed by applying an annual traffic growth rate to the existing adjacent street volumes along with adding the traffic generated by other approved projects.
- The project is expected to generate 264 weekday daily vehicle trips (132 entering and 132 exiting) of which 21 vehicle trips (5 entering and 16 exiting) would occur during the weekday AM peak hour and 23 vehicle trips (14 entering and 9 exiting) would occur during the weekday PM peak hour. Smaller increases in site traffic are expected during all other times of the day. These projections likely conservative as they take no reduction for trips that would occur via alternative modes of transportation, including public transportation, bicycling, and walking trips.

- The ITE has specified the long-term effects of the COVID-19 pandemic on trip generation and how it relates to various land uses. Specifically, for residential uses, it is expected that *“the proportion of the overall labor force that will be permitted to and will choose to work from home is expected to remain higher than it was pre-pandemic. This shift will likely result in an overall reduction in weekday peak period commuting trips”*. Based on this information, the trip generation of the site will likely be lower than estimated in this report.
- The site driveways are expected to operate at level of service A during the weekday AM and PM peak hours with 95th percentile vehicle queues not expected to exceed one vehicle.
- The project proposes 58 residential units with 51 studios and 7 one-bedroom apartments. Based on data published by the ITE in the *Parking Generation* manual for mid-rise multifamily housing (Land Use Code 221, “Dense Multi-Use Urban - Not Close to Rail Transit”) the average peak parking demand for the facility will amount to 39 spaces. Given that 49 parking spaces are proposed, an adequate supply of parking can be expected.
- Traffic operations analyses indicate the projected increases in traffic along study area roadways are not expected to result in adverse impacts to traffic operations. All movements at the study area intersections are expected to operate at acceptable levels of service under future No-Build and Build conditions, with minimal increases to future delays predicted as compared to No-Build conditions.
- The proponent is committed to implementing a number of TDM measures to reduce the impacts of the project, including pedestrian enhancements, provision of secure bicycle storage and EV charging stations on-site.

APPENDIX

Traffic Count Data
Seasonal/Historical Adjustment Data
Motor Vehicle Crash Data
Public Transportation Information
Trip Generation and Parking Demand Worksheets
Trip Distribution Calculations
Capacity Analysis Worksheets

Traffic Count Data

LaGrange Street
s/o Beacon Street
City, State: Worcester, MA
Client: Chappell/ S. Kelly
Site Code: 23109



PRECISION
DATA
INDUSTRIES, LLC

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

PDI File # 249815 ATR-A

Count Date: Wednesday, January 31, 2024
Direction: NB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	0	0	0	0
5:30 AM	0	0	0	0
5:45 AM	0	0	0	0
6:00 AM	0	0	0	0
6:15 AM	0	0	0	0
6:30 AM	0	0	0	0
6:45 AM	1	0	0	1
7:00 AM	0	0	0	0
7:15 AM	1	0	0	1
7:30 AM	3	0	0	3
7:45 AM	1	0	0	1
8:00 AM	2	0	0	2
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	1	0	0	1
9:00 AM	0	0	0	0
9:15 AM	1	0	0	1
9:30 AM	0	0	0	0
9:45 AM	1	0	0	1
10:00 AM	1	0	0	1
10:15 AM	0	0	0	0
10:30 AM	0	0	0	0
10:45 AM	1	0	0	1
11:00 AM	1	0	0	1
11:15 AM	1	0	0	1
11:30 AM	3	0	0	3
11:45 AM	1	0	0	1

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	4	0	0	4
12:15 PM	1	0	0	1
12:30 PM	1	0	0	1
12:45 PM	1	0	0	1
1:00 PM	0	0	0	0
1:15 PM	1	0	0	1
1:30 PM	1	0	0	1
1:45 PM	1	0	0	1
2:00 PM	0	0	0	0
2:15 PM	0	0	0	0
2:30 PM	0	0	0	0
2:45 PM	0	0	0	0
3:00 PM	2	0	0	2
3:15 PM	0	0	0	0
3:30 PM	0	0	0	0
3:45 PM	2	0	0	2
4:00 PM	2	0	0	2
4:15 PM	2	0	0	2
4:30 PM	4	1	0	5
4:45 PM	2	0	0	2
5:00 PM	1	0	0	1
5:15 PM	2	0	0	2
5:30 PM	1	0	0	1
5:45 PM	1	0	0	1
6:00 PM	1	0	0	1
6:15 PM	0	0	0	0
6:30 PM	0	0	0	0
6:45 PM	1	0	0	1
7:00 PM	0	0	0	0
7:15 PM	1	0	0	1
7:30 PM	0	0	0	0
7:45 PM	0	0	0	0
8:00 PM	0	0	0	0
8:15 PM	2	0	0	2
8:30 PM	0	0	0	0
8:45 PM	0	0	0	0
9:00 PM	0	0	0	0
9:15 PM	1	0	0	1
9:30 PM	0	0	0	0
9:45 PM	2	0	0	2
10:00 PM	1	0	0	1
10:15 PM	2	0	0	2
10:30 PM	0	0	0	0
10:45 PM	0	0	0	0
11:00 PM	0	0	0	0
11:15 PM	0	0	0	0
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0

AM Total 19 0 0 19
Percentage 100.00% 0.00% 0.00%
AM Peak 7:15 AM 12:00 AM 12:00 AM 7:15 AM
Volume 7 0 0 7

PM Total 40 1 0 41
Percentage 97.56% 2.44% 0.00%
PM Peak 3:45 PM 3:45 PM 12:00 PM 3:45 PM
Volume 10 1 0 11

Day Total 59 1 0 60
Percentage 98.33% 1.67% 0.00%

LaGrange Street
s/o Beacon Street
City, State: Worcester, MA
Client: Chappell/ S. Kelly
Site Code: 23109



PRECISION
DATA
INDUSTRIES, LLC

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

PDI File # 249815 ATR-A

Count Date: Wednesday, January 31, 2024
Direction: SB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	0	0	0	0
5:30 AM	0	0	0	0
5:45 AM	0	0	0	0
6:00 AM	0	0	0	0
6:15 AM	1	0	0	1
6:30 AM	0	0	0	0
6:45 AM	2	0	0	2
7:00 AM	2	0	0	2
7:15 AM	1	0	0	1
7:30 AM	3	0	0	3
7:45 AM	1	0	0	1
8:00 AM	4	0	0	4
8:15 AM	1	0	0	1
8:30 AM	3	0	0	3
8:45 AM	2	0	0	2
9:00 AM	1	0	0	1
9:15 AM	1	0	0	1
9:30 AM	1	0	0	1
9:45 AM	1	0	0	1
10:00 AM	0	0	0	0
10:15 AM	1	0	0	1
10:30 AM	1	0	0	1
10:45 AM	2	0	0	2
11:00 AM	0	0	0	0
11:15 AM	1	0	0	1
11:30 AM	0	0	0	0
11:45 AM	2	0	0	2

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	4	0	0	4
12:15 PM	2	0	0	2
12:30 PM	2	0	0	2
12:45 PM	0	0	0	0
1:00 PM	5	0	0	5
1:15 PM	1	0	0	1
1:30 PM	0	0	0	0
1:45 PM	3	0	0	3
2:00 PM	1	0	0	1
2:15 PM	1	0	0	1
2:30 PM	2	0	0	2
2:45 PM	0	0	0	0
3:00 PM	0	0	0	0
3:15 PM	2	0	0	2
3:30 PM	1	0	0	1
3:45 PM	2	0	0	2
4:00 PM	0	0	0	0
4:15 PM	5	0	0	5
4:30 PM	2	0	0	2
4:45 PM	3	0	0	3
5:00 PM	1	0	0	1
5:15 PM	0	0	0	0
5:30 PM	4	0	0	4
5:45 PM	2	0	0	2
6:00 PM	1	0	0	1
6:15 PM	1	0	0	1
6:30 PM	0	0	0	0
6:45 PM	0	0	0	0
7:00 PM	0	0	0	0
7:15 PM	0	0	0	0
7:30 PM	0	0	0	0
7:45 PM	0	0	0	0
8:00 PM	0	0	0	0
8:15 PM	1	0	0	1
8:30 PM	0	0	0	0
8:45 PM	0	0	0	0
9:00 PM	1	0	0	1
9:15 PM	2	0	0	2
9:30 PM	0	0	0	0
9:45 PM	1	0	0	1
10:00 PM	2	0	0	2
10:15 PM	0	0	0	0
10:30 PM	1	0	0	1
10:45 PM	0	0	0	0
11:00 PM	0	0	0	0
11:15 PM	0	0	0	0
11:30 PM	0	0	0	0
11:45 PM	2	0	0	2

AM Total 31 0 0 31
Percentage 100.00% 0.00% 0.00%
AM Peak 8:00 AM 12:00 AM 12:00 AM 8:00 AM
Volume 10 0 0 10

PM Total 55 0 0 55
Percentage 100.00% 0.00% 0.00%
PM Peak 4:15 PM 12:00 PM 12:00 PM 4:15 PM
Volume 11 0 0 11

Day Total 86 0 0 86
Percentage 100.00% 0.00% 0.00%

LaGrange Street
south of Beacon Street
City, State: Worcester, MA
Client: Chappell/ S. Kelly
Site Code: 23109



PDI File #: 249815 AR-A (Speed)

Count Date
Wednesday, January 31, 2024

Speed (60-minute)

NB																
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	0	0	0	0	0	0	0	0	0	0	0.0	0.0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
6:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	14.0	14.0
7:00 AM	1	5	1	0	0	0	0	0	0	0	0	0	0	7	19.1	17.3
8:00 AM	1	1	1	0	0	0	0	0	0	0	0	0	0	3	19.1	16.3
9:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	2	19.9	15.0
10:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	10.0	10.0
11:00 AM	3	2	1	0	0	0	0	0	0	0	0	0	0	6	18.8	15.5
12:00 PM	1	6	0	0	0	0	0	0	0	0	0	0	0	7	17.2	15.4
1:00 PM	2	1	1	0	0	0	0	0	0	0	0	0	0	4	19.4	15.5
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
3:00 PM	2	2	0	0	0	0	0	0	0	0	0	0	0	4	17.2	13.8
4:00 PM	4	2	3	0	0	0	0	0	0	0	0	0	0	9	22.4	15.4
5:00 PM	1	1	1	0	0	0	0	0	0	0	0	0	0	3	19.2	16.0
6:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18.0	18.0
7:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	25.0	25.0
8:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	2	26.7	26.0
9:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	2	34.3	28.0
10:00 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	2	22.8	20.0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
Total	18	23	10	3	0	1	0	0	0	0	0	0	0	55	21.9	16.7
Percent	32.73%	41.82%	18.18%	5.45%	0.00%	1.82%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			

AM Peak	11:00 AM	7:00 AM	7:00 AM												7:00 AM
Volume	3	5	1	0	0	0	0	0	0	0	0	0	0	0	7
PM Peak	4:00 PM	12:00 PM	4:00 PM	8:00 PM		9:00 PM									4:00 PM
Volume	4	6	3	2	0	1	0	0	0	0	0	0	0	9	

15th Percentile:	12.0 MPH	Average Speed:	16.7 MPH	Posted Speed Limit:	20 MPH
50th Percentile:	16.0 MPH	10 MPH Pace:	12 to 21 MPH	Number of Vehicles > 20 MPH:	11
85th Percentile:	21.9 MPH	Number in Pace:	38	Percent of Vehicles > 20 MPH:	20.0%
95th Percentile:	25.0 MPH	Percent in Pace:	69.1%		

LaGrange Street
south of Beacon Street
City, State: Worcester, MA
Client: Chappell/ S. Kelly
Site Code: 23109



PDI File #: 249815 AR-A (Speed)

Count Date
Wednesday, January 31, 2024

Speed (60-minute)

SB																
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	0	0	0	0	0	0	0	0	0	0	0.0	0.0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
6:00 AM	1	1	1	0	0	0	0	0	0	0	0	0	0	3	19.4	16.0
7:00 AM	2	3	0	0	0	0	0	0	0	0	0	0	0	5	18.4	15.0
8:00 AM	4	2	3	0	0	0	0	0	0	0	0	0	0	9	20.8	15.7
9:00 AM	1	2	2	0	0	0	0	0	0	0	0	0	0	5	20.0	16.8
10:00 AM	2	1	1	0	0	0	0	0	0	0	0	0	0	4	18.7	16.0
11:00 AM	1	2	0	0	0	0	0	0	0	0	0	0	0	3	16.7	14.3
12:00 PM	1	4	2	0	0	0	0	0	0	0	0	0	0	7	20.2	17.1
1:00 PM	3	5	1	0	0	0	0	0	0	0	0	0	0	9	18.8	15.1
2:00 PM	1	2	2	0	0	0	0	0	0	0	0	0	0	5	20.4	17.2
3:00 PM	1	1	0	0	1	1	0	0	0	0	0	0	0	4	33.2	23.3
4:00 PM	1	4	3	0	0	0	0	0	0	0	0	0	0	8	21.0	17.5
5:00 PM	1	4	1	0	0	0	0	0	0	0	0	0	0	6	19.8	17.8
6:00 PM	4	1	0	0	0	0	0	0	0	0	0	0	0	5	15.6	12.8
7:00 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	2	16.0	13.5
8:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	2	29.3	27.5
9:00 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	4	32.1	24.8
10:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	24.7	24.0
11:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16.0	16.0
Total	24	35	18	2	4	1	0	0	0	0	0	0	0	84	21.0	17.2
Percent	28.57%	41.67%	21.43%	2.38%	4.76%	1.19%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			

AM Peak	8:00 AM	7:00 AM	8:00 AM											8:00 AM	
Volume	4	3	3	0	0	0	0	0	0	0	0	0	0	0	9
PM Peak	6:00 PM	1:00 PM	4:00 PM	8:00 PM	9:00 PM	3:00 PM								1:00 PM	
Volume	4	5	3	1	2	1	0	0	0	0	0	0	0	9	

15th Percentile:	13.0 MPH	Average Speed:	17.2 MPH	Posted Speed Limit:	20 MPH
50th Percentile:	17.0 MPH	10 MPH Pace:	13 to 22 MPH	Number of Vehicles > 20 MPH:	16
85th Percentile:	21.0 MPH	Number in Pace:	64	Percent of Vehicles > 20 MPH:	19.0%
95th Percentile:	29.3 MPH	Percent in Pace:	76.2%		

LaGrange Street
 south of Beacon Street
 City, State: Worcester, MA
 Client: Chappell/ S. Kelly
 Site Code: 23109



PDI File #: 249815 AR-A (Speed)

Count Date
 Wednesday, January 31, 2024

Speed (60-minute)

Combined NB and SB

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	0	0	0	0	0	0	0	0	0	0	0.0	0.0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
6:00 AM	2	1	1	0	0	0	0	0	0	0	0	0	0	4	19.1	15.5
7:00 AM	3	8	1	0	0	0	0	0	0	0	0	0	0	12	19.0	16.3
8:00 AM	5	3	4	0	0	0	0	0	0	0	0	0	0	12	20.4	15.8
9:00 AM	2	2	3	0	0	0	0	0	0	0	0	0	0	7	20.2	16.3
10:00 AM	3	1	1	0	0	0	0	0	0	0	0	0	0	5	18.2	14.8
11:00 AM	4	4	1	0	0	0	0	0	0	0	0	0	0	9	17.8	15.1
12:00 PM	2	10	2	0	0	0	0	0	0	0	0	0	0	14	19.1	16.3
1:00 PM	5	6	2	0	0	0	0	0	0	0	0	0	0	13	19.4	15.2
2:00 PM	1	2	2	0	0	0	0	0	0	0	0	0	0	5	20.4	17.2
3:00 PM	3	3	0	0	1	1	0	0	0	0	0	0	0	8	30.4	18.5
4:00 PM	5	6	6	0	0	0	0	0	0	0	0	0	0	17	21.6	16.4
5:00 PM	2	5	2	0	0	0	0	0	0	0	0	0	0	9	20.6	17.2
6:00 PM	4	2	0	0	0	0	0	0	0	0	0	0	0	6	18.0	13.7
7:00 PM	1	1	0	1	0	0	0	0	0	0	0	0	0	3	22.6	17.3
8:00 PM	0	0	0	3	1	0	0	0	0	0	0	0	0	4	28.7	26.8
9:00 PM	0	2	1	0	2	1	0	0	0	0	0	0	0	6	34.0	25.8
10:00 PM	0	1	2	1	0	0	0	0	0	0	0	0	0	4	24.6	22.0
11:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16.0	16.0
Total	42	58	28	5	4	2	0	0	0	0	0	0	0	139	21.0	17.0
Percent	30.22%	41.73%	20.14%	3.60%	2.88%	1.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			

AM Peak	8:00 AM	7:00 AM	8:00 AM											7:00 AM	
Volume	5	8	4	0	0	0	0	0	0	0	0	0	0	0	12
PM Peak	1:00 PM	12:00 PM	4:00 PM	8:00 PM	9:00 PM	3:00 PM									4:00 PM
Volume	5	10	6	3	2	1	0	0	0	0	0	0	0	17	

15th Percentile:	12.0 MPH	Average Speed:	17.0 MPH	Posted Speed Limit:	20 MPH
50th Percentile:	17.0 MPH	10 MPH Pace:	12 to 21 MPH	Number of Vehicles > 20 MPH:	27
85th Percentile:	21.0 MPH	Number in Pace:	101	Percent of Vehicles > 20 MPH:	19.4%
95th Percentile:	25.2 MPH	Percent in Pace:	72.7%		

Beacon Street
 e/o Lagrange Street
 City, State: Worcester, MA
 Client: Chappell/ S. Kelly
 Site Code: 23109



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 # 249815 ATR-B

Count Date: Wednesday, January 31, 2024
 Direction: EB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	1	0	0	1
12:15 AM	0	0	0	0
12:30 AM	5	0	0	5
12:45 AM	2	0	0	2
1:00 AM	3	0	0	3
1:15 AM	1	0	0	1
1:30 AM	2	0	0	2
1:45 AM	2	0	0	2
2:00 AM	2	0	0	2
2:15 AM	1	0	0	1
2:30 AM	0	0	0	0
2:45 AM	2	0	0	2
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	1	0	0	1
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	2	0	0	2
4:30 AM	3	1	0	4
4:45 AM	4	0	0	4
5:00 AM	5	0	0	5
5:15 AM	2	0	0	2
5:30 AM	5	0	0	5
5:45 AM	6	0	0	6
6:00 AM	6	0	0	6
6:15 AM	10	0	0	10
6:30 AM	19	0	0	19
6:45 AM	24	0	0	24
7:00 AM	9	1	0	10
7:15 AM	16	1	0	17
7:30 AM	40	1	0	41
7:45 AM	35	2	0	37
8:00 AM	44	1	0	45
8:15 AM	40	0	0	40
8:30 AM	68	3	0	71
8:45 AM	40	1	0	41
9:00 AM	34	3	0	37
9:15 AM	29	1	0	30
9:30 AM	7	1	0	8
9:45 AM	19	0	0	19
10:00 AM	14	0	0	14
10:15 AM	8	0	0	8
10:30 AM	18	1	0	19
10:45 AM	20	1	0	21
11:00 AM	21	1	0	22
11:15 AM	13	2	0	15
11:30 AM	13	1	0	14
11:45 AM	21	1	0	22

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	28	0	0	28
12:15 PM	19	1	0	21
12:30 PM	20	1	0	21
12:45 PM	12	2	0	14
1:00 PM	14	0	0	14
1:15 PM	30	0	0	30
1:30 PM	16	0	0	16
1:45 PM	24	0	0	24
2:00 PM	20	1	0	21
2:15 PM	42	0	0	42
2:30 PM	36	1	0	37
2:45 PM	30	0	0	30
3:00 PM	40	0	0	40
3:15 PM	43	1	0	44
3:30 PM	27	0	0	27
3:45 PM	30	1	0	31
4:00 PM	33	1	0	34
4:15 PM	33	0	0	33
4:30 PM	40	0	0	40
4:45 PM	25	0	0	25
5:00 PM	26	0	0	26
5:15 PM	25	0	0	25
5:30 PM	17	0	0	17
5:45 PM	12	0	0	12
6:00 PM	17	0	0	17
6:15 PM	11	0	0	11
6:30 PM	16	0	0	16
6:45 PM	12	0	0	12
7:00 PM	15	0	0	15
7:15 PM	10	0	0	10
7:30 PM	11	0	0	11
7:45 PM	8	1	0	9
8:00 PM	7	0	0	7
8:15 PM	17	0	0	17
8:30 PM	3	0	0	3
8:45 PM	11	0	0	11
9:00 PM	7	0	0	7
9:15 PM	7	0	0	7
9:30 PM	5	0	0	5
9:45 PM	8	0	0	8
10:00 PM	5	1	0	6
10:15 PM	7	0	0	7
10:30 PM	4	0	0	4
10:45 PM	4	0	0	4
11:00 PM	7	0	0	7
11:15 PM	3	0	0	3
11:30 PM	2	0	0	2
11:45 PM	2	0	0	2

AM Total 617 23 0 640
 Percentage 96.41% 3.59% 0.00%
 AM Peak 8:00 AM 8:30 AM 12:00 AM 8:00 AM
 Volume 192 8 0 197

PM Total 841 11 1 853
 Percentage 98.59% 1.29% 0.12%
 PM Peak 2:30 PM 12:00 PM 12:00 PM 2:30 PM
 Volume 149 4 1 151

Day Total 1458 34 1 1493
 Percentage 97.66% 2.28% 0.07%

Beacon Street
 e/o Lagrange Street
 City, State: Worcester, MA
 Client: Chappell/ S. Kelly
 Site Code: 23109



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 # 249815 ATR-B

Count Date: Wednesday, January 31, 2024
 Direction: WB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	5	1	0	6
12:15 AM	8	0	0	8
12:30 AM	5	0	0	5
12:45 AM	3	0	0	3
1:00 AM	5	0	0	5
1:15 AM	4	0	0	4
1:30 AM	3	0	0	3
1:45 AM	2	0	0	2
2:00 AM	2	0	0	2
2:15 AM	0	0	0	0
2:30 AM	1	0	0	1
2:45 AM	1	0	0	1
3:00 AM	1	0	0	1
3:15 AM	5	0	0	5
3:30 AM	1	0	0	1
3:45 AM	2	0	0	2
4:00 AM	0	0	0	0
4:15 AM	2	0	0	2
4:30 AM	2	0	0	2
4:45 AM	4	0	0	4
5:00 AM	1	0	0	1
5:15 AM	8	0	0	8
5:30 AM	9	0	0	9
5:45 AM	7	1	0	8
6:00 AM	7	0	0	7
6:15 AM	6	0	0	6
6:30 AM	9	1	0	10
6:45 AM	12	1	0	13
7:00 AM	20	0	0	20
7:15 AM	19	2	0	21
7:30 AM	29	1	0	30
7:45 AM	30	1	0	31
8:00 AM	31	2	0	33
8:15 AM	41	0	0	41
8:30 AM	43	3	0	46
8:45 AM	45	1	0	46
9:00 AM	30	1	0	31
9:15 AM	22	0	0	22
9:30 AM	22	0	0	22
9:45 AM	35	1	0	36
10:00 AM	19	2	0	21
10:15 AM	28	0	0	28
10:30 AM	23	0	0	23
10:45 AM	26	0	0	26
11:00 AM	23	0	0	23
11:15 AM	29	0	0	29
11:30 AM	28	0	0	28
11:45 AM	26	1	0	27

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	52	0	0	52
12:15 PM	23	1	0	24
12:30 PM	31	1	0	32
12:45 PM	26	0	0	26
1:00 PM	31	1	0	32
1:15 PM	27	0	0	27
1:30 PM	30	1	0	31
1:45 PM	40	0	0	40
2:00 PM	41	2	0	43
2:15 PM	58	0	0	58
2:30 PM	39	4	0	43
2:45 PM	38	1	0	39
3:00 PM	61	1	0	62
3:15 PM	45	0	0	45
3:30 PM	55	0	0	55
3:45 PM	60	2	0	62
4:00 PM	58	1	0	59
4:15 PM	50	0	0	50
4:30 PM	52	0	0	52
4:45 PM	59	0	0	59
5:00 PM	57	2	1	60
5:15 PM	60	1	0	61
5:30 PM	51	0	0	51
5:45 PM	36	0	0	36
6:00 PM	25	0	0	25
6:15 PM	37	0	0	37
6:30 PM	37	0	0	37
6:45 PM	23	1	0	24
7:00 PM	28	0	0	28
7:15 PM	28	0	0	28
7:30 PM	26	0	0	26
7:45 PM	17	0	0	17
8:00 PM	28	0	0	28
8:15 PM	25	0	0	25
8:30 PM	19	0	0	19
8:45 PM	16	0	0	16
9:00 PM	14	0	0	14
9:15 PM	12	0	0	12
9:30 PM	20	0	0	20
9:45 PM	12	0	0	12
10:00 PM	8	0	0	8
10:15 PM	16	0	0	16
10:30 PM	10	0	0	10
10:45 PM	12	0	0	12
11:00 PM	11	0	0	11
11:15 PM	14	0	0	14
11:30 PM	10	0	0	10
11:45 PM	9	0	0	9

AM Total 684 19 0 703
 Percentage 97.30% 2.70% 0.00%
 AM Peak 8:00 AM 7:15 AM 12:00 AM 8:00 AM
 Volume 160 6 0 166

PM Total 1537 19 1 1557
 Percentage 98.72% 1.22% 0.06%
 PM Peak 4:30 PM 2:00 PM 4:15 PM 4:30 PM
 Volume 228 7 1 232

Day Total 2221 38 1 2260
 Percentage 98.27% 1.68% 0.04%

Beacon Street
 east of LaGrange Street
 City, State: Worcester, MA
 Client: Chappell/ S. Kelly
 Site Code: 23109



PDI File #: 249815 ATR-B (Speed)

Count Date
 Wednesday, January 31, 2024

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	1	6	2	0	0	0	0	0	0	0	0	0	0	9	19.8	18.4
1:00 AM	0	3	5	0	0	0	0	0	0	0	0	0	0	8	22.0	20.1
2:00 AM	0	2	2	0	0	0	0	0	0	0	0	0	0	4	20.6	19.8
3:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	2	23.4	22.0
4:00 AM	1	2	8	0	0	1	0	0	0	0	0	0	0	12	24.0	21.3
5:00 AM	2	6	9	1	0	0	0	0	0	0	0	0	0	18	22.0	19.6
6:00 AM	2	15	25	2	3	0	0	0	0	0	0	0	0	47	23.1	20.8
7:00 AM	11	42	33	2	2	1	0	0	0	0	0	0	0	91	23.0	18.9
8:00 AM	19	65	54	6	3	3	0	0	0	0	0	0	0	150	23.0	19.4
9:00 AM	10	32	30	5	4	0	0	0	0	0	0	0	0	81	23.0	19.3
10:00 AM	9	37	22	3	1	0	0	0	0	0	0	0	0	72	22.0	18.4
11:00 AM	9	29	37	1	2	2	0	0	0	0	0	0	0	80	22.2	19.5
12:00 PM	10	27	35	6	4	0	0	0	0	0	0	0	0	82	24.0	19.8
1:00 PM	13	30	33	4	2	0	0	1	0	0	0	0	0	83	22.7	19.1
2:00 PM	23	61	44	2	2	0	0	0	0	0	0	0	0	132	22.0	17.9
3:00 PM	28	63	40	7	0	0	0	0	0	0	0	0	0	138	21.5	17.9
4:00 PM	44	89	37	4	1	1	0	0	0	0	0	0	0	176	21.0	17.1
5:00 PM	36	49	14	3	3	1	0	0	0	0	0	0	0	106	20.0	16.6
6:00 PM	10	26	21	1	1	0	0	0	0	0	0	0	0	59	21.0	18.1
7:00 PM	6	23	17	0	1	0	0	0	0	0	0	0	0	47	21.1	18.3
8:00 PM	7	26	10	1	0	0	0	0	0	0	0	0	0	44	22.0	17.2
9:00 PM	10	16	15	0	0	0	0	0	0	0	0	0	0	41	21.0	17.4
10:00 PM	3	9	8	4	1	0	0	0	0	0	0	0	0	25	25.4	20.3
11:00 PM	1	7	1	3	0	1	0	0	0	0	0	0	0	13	25.4	20.8
Total	255	665	504	55	30	10	0	1	0	0	0	0	0	1520	22.0	18.5
Percent	16.78%	43.75%	33.16%	3.62%	1.97%	0.66%	0.00%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%			

AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	8:00 AM									8:00 AM
Volume	19	65	54	6	4	3	0	0	0	0	0	0	0	0	150
PM Peak	4:00 PM	4:00 PM	2:00 PM	3:00 PM	12:00 PM	4:00 PM		1:00 PM							4:00 PM
Volume	44	89	44	7	4	1	0	1	0	0	0	0	0	176	

15th Percentile:	14.0 MPH	Average Speed:	18.5 MPH	Posted Speed Limit:	25 MPH
50th Percentile:	18.0 MPH	10 MPH Pace:	14 to 23 MPH	Number of Vehicles > 25 MPH:	72
85th Percentile:	22.0 MPH	Number in Pace:	1189	Percent of Vehicles > 25 MPH:	4.7%
95th Percentile:	25.0 MPH	Percent in Pace:	78.2%		

Beacon Street
 east of LaGrange Street
 City, State: Worcester, MA
 Client: Chappell/ S. Kelly
 Site Code: 23109



PDI File #: 249815 ATR-B (Speed)

Count Date
 Wednesday, January 31, 2024

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	8	9	0	0	0	0	0	0	0	0	0	0	17	23.0	19.8
1:00 AM	0	3	8	0	0	0	0	0	0	0	0	0	0	11	23.0	21.4
2:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0	3	20.9	18.0
3:00 AM	0	1	2	1	0	0	0	0	0	0	0	0	0	4	23.2	21.3
4:00 AM	0	2	2	1	0	0	0	0	0	0	0	0	0	5	23.6	20.8
5:00 AM	0	8	9	4	0	0	0	0	0	0	0	0	0	21	25.0	21.4
6:00 AM	4	5	10	3	0	0	0	0	0	0	0	0	0	22	24.0	20.2
7:00 AM	1	20	43	8	3	1	0	0	0	0	0	0	0	76	24.8	21.6
8:00 AM	10	24	66	16	1	1	1	0	0	0	0	0	0	119	25.0	20.9
9:00 AM	4	17	50	9	0	0	0	0	0	0	0	0	0	80	24.0	20.9
10:00 AM	5	16	36	16	3	0	0	0	0	0	0	0	0	76	25.0	21.4
11:00 AM	3	27	33	17	0	0	0	0	0	0	0	0	0	80	26.0	21.1
12:00 PM	1	20	43	13	2	0	0	0	0	0	0	0	0	79	26.0	21.8
1:00 PM	7	16	56	14	5	0	0	0	0	0	0	0	0	98	25.5	21.4
2:00 PM	14	31	55	28	6	0	0	0	0	0	0	0	0	134	25.0	21.1
3:00 PM	8	26	84	36	1	1	0	0	0	0	0	0	0	156	25.0	21.6
4:00 PM	2	15	47	14	3	0	0	0	0	0	0	0	0	81	25.0	22.1
5:00 PM	4	32	57	17	1	0	0	0	0	0	0	0	0	111	25.0	20.9
6:00 PM	3	27	45	13	0	0	0	0	0	0	0	0	0	88	24.0	20.9
7:00 PM	2	19	42	10	2	0	0	0	0	0	0	0	0	75	24.9	21.7
8:00 PM	3	18	34	10	2	0	0	0	0	0	0	0	0	67	25.0	21.3
9:00 PM	3	14	11	5	3	0	0	0	0	0	0	0	0	36	25.8	20.3
10:00 PM	0	9	19	3	2	1	0	0	0	0	0	0	0	34	26.1	22.3
11:00 PM	1	11	13	4	1	0	0	0	0	0	0	0	0	30	25.3	20.8
Total	75	371	775	242	35	4	1	0	0	0	0	0	0	1503	25.0	21.3
Percent	4.99%	24.68%	51.56%	16.10%	2.33%	0.27%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			

AM Peak	8:00 AM	11:00 AM	8:00 AM	11:00 AM	7:00 AM	7:00 AM	8:00 AM								8:00 AM
Volume	10	27	66	17	3	1	1	0	0	0	0	0	0	0	119
PM Peak	2:00 PM	5:00 PM	3:00 PM	3:00 PM	2:00 PM	3:00 PM									3:00 PM
Volume	14	32	84	36	6	1	0	0	0	0	0	0	0	156	

15th Percentile:	18.0 MPH	Average Speed:	21.3 MPH	Posted Speed Limit:	25 MPH
50th Percentile:	21.0 MPH	10 MPH Pace:	17 to 26 MPH	Number of Vehicles > 25 MPH:	189
85th Percentile:	25.0 MPH	Number in Pace:	1234	Percent of Vehicles > 25 MPH:	12.6%
95th Percentile:	28.0 MPH	Percent in Pace:	82.1%		

Beacon Street
 east of LaGrange Street
 City, State: Worcester, MA
 Client: Chappell/ S. Kelly
 Site Code: 23109



PDI File #: 249815 ATR-B (Speed)

Count Date
 Wednesday, January 31, 2024

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	14	11	0	0	0	0	0	0	0	0	0	0	26	23.0	19.3
1:00 AM	0	6	13	0	0	0	0	0	0	0	0	0	0	19	23.0	20.8
2:00 AM	0	4	3	0	0	0	0	0	0	0	0	0	0	7	21.2	19.0
3:00 AM	0	1	4	1	0	0	0	0	0	0	0	0	0	6	24.3	21.5
4:00 AM	1	4	10	1	0	1	0	0	0	0	0	0	0	17	24.0	21.1
5:00 AM	2	14	18	5	0	0	0	0	0	0	0	0	0	39	23.3	20.5
6:00 AM	6	20	35	5	3	0	0	0	0	0	0	0	0	69	24.0	20.6
7:00 AM	12	62	76	10	5	2	0	0	0	0	0	0	0	167	24.0	20.1
8:00 AM	29	89	120	22	4	4	1	0	0	0	0	0	0	269	24.0	20.0
9:00 AM	14	49	80	14	4	0	0	0	0	0	0	0	0	161	24.0	20.1
10:00 AM	14	53	58	19	4	0	0	0	0	0	0	0	0	148	25.0	20.0
11:00 AM	12	56	70	18	2	2	0	0	0	0	0	0	0	160	24.0	20.3
12:00 PM	11	47	78	19	6	0	0	0	0	0	0	0	0	161	25.0	20.8
1:00 PM	20	46	89	18	7	0	0	1	0	0	0	0	0	181	24.0	20.4
2:00 PM	37	92	99	30	8	0	0	0	0	0	0	0	0	266	24.0	19.5
3:00 PM	36	89	124	43	1	1	0	0	0	0	0	0	0	294	25.0	19.9
4:00 PM	46	104	84	18	4	1	0	0	0	0	0	0	0	257	23.0	18.7
5:00 PM	40	81	71	20	4	1	0	0	0	0	0	0	0	217	23.0	18.8
6:00 PM	13	53	66	14	1	0	0	0	0	0	0	0	0	147	24.0	19.8
7:00 PM	8	42	59	10	3	0	0	0	0	0	0	0	0	122	24.0	20.4
8:00 PM	10	44	44	11	2	0	0	0	0	0	0	0	0	111	24.0	19.7
9:00 PM	13	30	26	5	3	0	0	0	0	0	0	0	0	77	22.6	18.7
10:00 PM	3	18	27	7	3	1	0	0	0	0	0	0	0	59	26.0	21.4
11:00 PM	2	18	14	7	1	1	0	0	0	0	0	0	0	43	25.7	20.8
Total	330	1036	1279	297	65	14	1	1	0	0	0	0	0	3023	24.0	19.9
Percent	10.92%	34.27%	42.31%	9.82%	2.15%	0.46%	0.03%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%			

AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	7:00 AM	8:00 AM	8:00 AM									8:00 AM
Volume	29	89	120	22	5	4	1	0	0	0	0	0	0	0	0	269
PM Peak	4:00 PM	4:00 PM	3:00 PM	3:00 PM	2:00 PM	3:00 PM		1:00 PM								3:00 PM
Volume	46	104	124	43	8	1	0	1	0	0	0	0	0	0	294	

15th Percentile:	15.0 MPH	Average Speed:	19.9 MPH	Posted Speed Limit:	25 MPH
50th Percentile:	20.0 MPH	10 MPH Pace:	15 to 24 MPH	Number of Vehicles > 25 MPH:	261
85th Percentile:	24.0 MPH	Number in Pace:	2315	Percent of Vehicles > 25 MPH:	8.6%
95th Percentile:	27.0 MPH	Percent in Pace:	76.6%		

Jackson Street
 n/o Beacon Street
 City, State: Worcester, MA
 Client: Chappell/ S. Kelly
 Site Code: 23109



PRECISION
 DATA
 INDUSTRIES, LLC

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

PDI File # 249815 ATR-C

Count Date: Wednesday, January 31, 2024
 Direction: NB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	6	0	0	6
12:15 AM	7	0	0	7
12:30 AM	1	0	0	1
12:45 AM	2	0	0	2
1:00 AM	4	1	0	5
1:15 AM	3	0	0	3
1:30 AM	2	0	0	2
1:45 AM	2	0	0	2
2:00 AM	2	0	0	2
2:15 AM	2	0	0	2
2:30 AM	0	0	0	0
2:45 AM	2	0	0	2
3:00 AM	2	0	0	2
3:15 AM	0	1	0	1
3:30 AM	2	0	0	2
3:45 AM	0	0	0	0
4:00 AM	4	0	0	4
4:15 AM	2	0	0	2
4:30 AM	10	1	0	11
4:45 AM	4	0	0	4
5:00 AM	6	0	0	6
5:15 AM	9	0	0	9
5:30 AM	3	0	0	3
5:45 AM	9	0	0	9
6:00 AM	10	0	0	10
6:15 AM	10	0	0	10
6:30 AM	13	1	0	14
6:45 AM	19	2	0	21
7:00 AM	21	2	0	23
7:15 AM	19	2	0	21
7:30 AM	45	0	1	46
7:45 AM	31	4	0	35
8:00 AM	41	1	0	42
8:15 AM	28	1	0	29
8:30 AM	24	1	0	25
8:45 AM	39	2	0	41
9:00 AM	40	0	0	40
9:15 AM	28	0	0	28
9:30 AM	31	1	0	32
9:45 AM	32	1	0	33
10:00 AM	33	0	0	33
10:15 AM	21	2	0	23
10:30 AM	30	0	0	30
10:45 AM	30	0	0	30
11:00 AM	30	3	0	33
11:15 AM	33	2	0	35
11:30 AM	23	3	0	26
11:45 AM	24	1	0	25

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	35	2	0	37
12:15 PM	29	1	0	30
12:30 PM	47	0	0	47
12:45 PM	27	0	0	27
1:00 PM	39	1	0	40
1:15 PM	39	0	0	39
1:30 PM	43	0	0	43
1:45 PM	48	0	0	48
2:00 PM	45	0	0	45
2:15 PM	38	0	0	38
2:30 PM	46	0	0	46
2:45 PM	28	1	0	29
3:00 PM	39	0	0	39
3:15 PM	41	1	0	42
3:30 PM	40	2	0	42
3:45 PM	45	1	0	46
4:00 PM	61	1	0	62
4:15 PM	57	1	0	58
4:30 PM	67	0	0	67
4:45 PM	45	0	0	45
5:00 PM	48	1	0	49
5:15 PM	38	0	0	38
5:30 PM	33	0	0	33
5:45 PM	48	1	0	49
6:00 PM	37	0	0	37
6:15 PM	38	0	0	38
6:30 PM	32	0	0	32
6:45 PM	34	0	0	34
7:00 PM	40	0	0	40
7:15 PM	36	0	0	36
7:30 PM	30	1	0	31
7:45 PM	17	0	0	17
8:00 PM	20	0	0	20
8:15 PM	23	0	0	23
8:30 PM	13	0	0	13
8:45 PM	8	0	0	8
9:00 PM	18	0	0	18
9:15 PM	15	0	0	15
9:30 PM	10	0	0	10
9:45 PM	14	0	0	14
10:00 PM	4	0	0	4
10:15 PM	3	0	0	3
10:30 PM	8	0	0	8
10:45 PM	11	0	0	11
11:00 PM	6	0	0	6
11:15 PM	9	0	0	9
11:30 PM	6	0	0	6
11:45 PM	7	0	0	7

AM Total 739 32 1 772
 Percentage 95.73% 4.15% 0.13%
 AM Peak 7:30 AM 11:00 AM 6:45 AM 7:30 AM
 Volume 145 9 1 152

PM Total 1465 14 0 1479
 Percentage 99.05% 0.95% 0.00%
 PM Peak 3:45 PM 3:15 PM 12:00 PM 3:45 PM
 Volume 230 5 0 233

Day Total 2204 46 1 2251
 Percentage 97.91% 2.04% 0.04%

Jackson Street
n/o Beacon Street
City, State: Worcester, MA
Client: Chappell/ S. Kelly
Site Code: 23109



PRECISION
DATA
INDUSTRIES, LLC

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

PDI File # 249815 ATR-C

Count Date: Wednesday, January 31, 2024
Direction: SB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	3	0	0	3
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	1	0	0	1
1:00 AM	1	0	0	1
1:15 AM	1	0	0	1
1:30 AM	2	0	0	2
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	2	0	0	2
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	1	0	0	1
3:30 AM	0	0	0	0
3:45 AM	1	0	0	1
4:00 AM	2	0	0	2
4:15 AM	1	0	0	1
4:30 AM	1	0	0	1
4:45 AM	2	0	0	2
5:00 AM	1	0	0	1
5:15 AM	5	0	0	5
5:30 AM	4	0	0	4
5:45 AM	3	0	0	3
6:00 AM	8	0	0	8
6:15 AM	12	0	0	12
6:30 AM	7	0	0	7
6:45 AM	9	0	0	9
7:00 AM	6	0	0	6
7:15 AM	10	1	0	11
7:30 AM	20	1	0	21
7:45 AM	20	1	0	21
8:00 AM	17	1	0	18
8:15 AM	16	0	0	16
8:30 AM	12	1	0	13
8:45 AM	11	0	0	11
9:00 AM	12	0	0	12
9:15 AM	21	0	0	21
9:30 AM	6	0	0	6
9:45 AM	9	0	0	9
10:00 AM	12	0	0	12
10:15 AM	14	0	0	14
10:30 AM	8	0	0	8
10:45 AM	19	0	0	19
11:00 AM	15	0	0	15
11:15 AM	16	0	0	16
11:30 AM	15	0	0	15
11:45 AM	16	1	0	17

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	20	2	0	22
12:15 PM	19	0	0	19
12:30 PM	14	1	0	15
12:45 PM	13	0	0	13
1:00 PM	17	0	0	17
1:15 PM	22	0	0	22
1:30 PM	15	0	0	15
1:45 PM	18	0	0	18
2:00 PM	26	0	0	26
2:15 PM	26	1	0	27
2:30 PM	21	1	0	22
2:45 PM	14	0	0	14
3:00 PM	28	0	0	28
3:15 PM	18	0	0	18
3:30 PM	18	1	0	19
3:45 PM	13	0	0	13
4:00 PM	25	0	0	25
4:15 PM	29	0	0	29
4:30 PM	42	0	0	42
4:45 PM	32	0	0	32
5:00 PM	35	1	0	36
5:15 PM	39	0	0	39
5:30 PM	16	0	0	16
5:45 PM	22	0	0	22
6:00 PM	10	1	0	11
6:15 PM	17	0	0	17
6:30 PM	7	0	0	7
6:45 PM	13	0	0	13
7:00 PM	16	0	0	16
7:15 PM	8	0	0	8
7:30 PM	8	0	0	8
7:45 PM	8	0	0	8
8:00 PM	7	0	0	7
8:15 PM	6	0	0	6
8:30 PM	5	0	0	5
8:45 PM	10	0	0	10
9:00 PM	11	0	0	11
9:15 PM	5	0	0	5
9:30 PM	8	0	0	8
9:45 PM	7	0	0	7
10:00 PM	4	0	0	4
10:15 PM	5	0	0	5
10:30 PM	3	0	0	3
10:45 PM	2	0	0	2
11:00 PM	2	0	0	2
11:15 PM	5	0	0	5
11:30 PM	2	0	0	2
11:45 PM	1	0	0	1

AM Total 342 6 0 348
Percentage 98.28% 1.72% 0.00%
AM Peak 7:30 AM 7:15 AM 12:00 AM 7:30 AM
Volume 73 4 0 76

PM Total 712 8 0 720
Percentage 98.89% 1.11% 0.00%
PM Peak 4:30 PM 12:00 PM 12:00 PM 4:30 PM
Volume 148 3 0 149

Day Total 1054 14 0 1068
Percentage 98.69% 1.31% 0.00%

Ron Müller & Associates

Traffic Engineering and Consulting Services

File Name : 23109 Worcester Beacon St at Lagrange St AM

Site Code : 23109

E-W Street: Beacon St

Start Date : 1/18/2024

N-S Street: Lagrange St

Page No : 1

Groups Printed- Cars - Trucks

Start Time	Lagrange St From North					Beacon St From East					Lagrange St From South					Beacon St From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	0	0	0	16	0	0	16	0	0	0	1	1	0	9	0	0	9	26
07:15 AM	3	0	0	0	3	0	18	4	0	22	0	0	0	0	0	0	14	0	0	14	39
07:30 AM	3	1	1	0	5	1	18	0	0	19	0	0	1	0	1	1	23	1	1	26	51
07:45 AM	4	3	4	0	11	1	23	0	0	24	0	0	0	0	0	1	33	0	0	34	69
Total	10	4	5	0	19	2	75	4	0	81	0	0	1	1	2	2	79	1	1	83	185
08:00 AM	5	0	2	0	7	0	23	5	0	28	0	0	0	0	0	3	36	0	0	39	74
08:15 AM	8	0	2	0	10	0	26	3	0	29	0	0	1	0	1	3	36	0	0	39	79
08:30 AM	5	1	4	0	10	0	41	8	0	49	0	0	1	0	1	2	32	0	0	34	94
08:45 AM	4	1	4	0	9	0	46	8	0	54	0	0	0	0	0	1	79	0	0	80	143
Total	22	2	12	0	36	0	136	24	0	160	0	0	2	0	2	9	183	0	0	192	390
Grand Total	32	6	17	0	55	2	211	28	0	241	0	0	3	1	4	11	262	1	1	275	575
Apprch %	58.2	10.9	30.9	0		0.8	87.6	11.6	0		0	0	75	25		4	95.3	0.4	0.4		
Total %	5.6	1	3	0	9.6	0.3	36.7	4.9	0	41.9	0	0	0.5	0.2	0.7	1.9	45.6	0.2	0.2	47.8	
Cars	31	6	16	0	53	2	205	27	0	234	0	0	3	1	4	10	255	1	1	267	558
% Cars	96.9	100	94.1	0	96.4	100	97.2	96.4	0	97.1	0	0	100	100	100	90.9	97.3	100	100	97.1	97
Trucks	1	0	1	0	2	0	6	1	0	7	0	0	0	0	0	1	7	0	0	8	17
% Trucks	3.1	0	5.9	0	3.6	0	2.8	3.6	0	2.9	0	0	0	0	0	9.1	2.7	0	0	2.9	3

Ron Müller & Associates

Traffic Engineering and Consulting Services

File Name : 23109 Worcester Beacon St at Lagrange St AM

Site Code : 23109

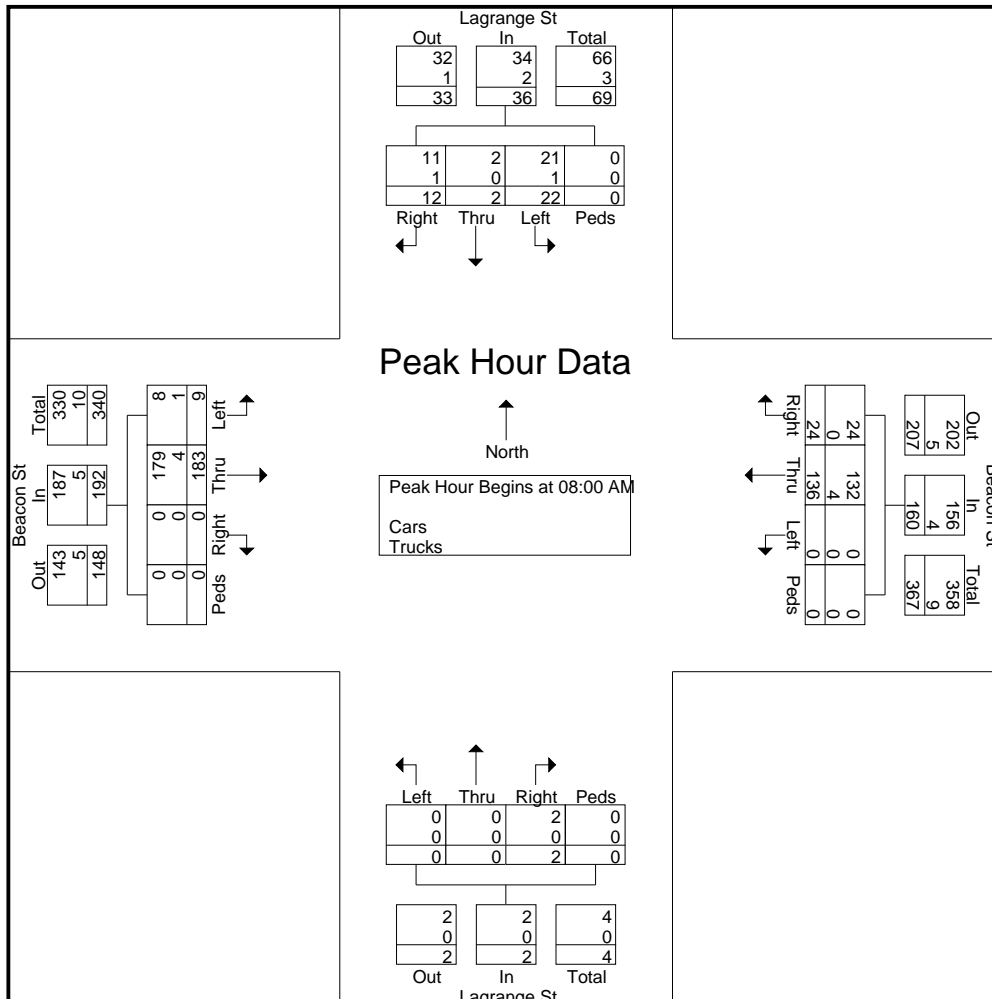
E-W Street: Beacon St

Start Date : 1/18/2024

N-S Street: Lagrange St

Page No : 2

Start Time	Lagrange St From North					Beacon St From East					Lagrange St From South					Beacon St From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	5	0	2	0	7	0	23	5	0	28	0	0	0	0	0	3	36	0	0	39	74
08:15 AM	8	0	2	0	10	0	26	3	0	29	0	0	1	0	1	3	36	0	0	39	79
08:30 AM	5	1	4	0	10	0	41	8	0	49	0	0	1	0	1	2	32	0	0	34	94
08:45 AM	4	1	4	0	9	0	46	8	0	54	0	0	0	0	0	1	79	0	0	80	143
Total Volume	22	2	12	0	36	0	136	24	0	160	0	0	2	0	2	9	183	0	0	192	390
% App. Total	61.1	5.6	33.3	0		0	85	15	0		0	0	100	0		4.7	95.3	0	0		
PHF	.688	.500	.750	.000	.900	.000	.739	.750	.000	.741	.000	.000	.500	.000	.500	.750	.579	.000	.000	.600	.682
Cars	21	2	11	0	34	0	132	24	0	156	0	0	2	0	2	8	179	0	0	187	379
% Cars	95.5	100	91.7	0	94.4	0	97.1	100	0	97.5	0	0	100	0	100	88.9	97.8	0	0	97.4	97.2
Trucks	1	0	1	0	2	0	4	0	0	4	0	0	0	0	0	1	4	0	0	5	11
% Trucks	4.5	0	8.3	0	5.6	0	2.9	0	0	2.5	0	0	0	0	0	11.1	2.2	0	0	2.6	2.8



Ron Müller & Associates

Traffic Engineering and Consulting Services

File Name : 23109 Worcester Beacon St at Lagrange St PM

Site Code : 23109

E-W Street: Beacon St

Start Date : 1/17/2024

N-S Street: Lagrange St

Page No : 1

Groups Printed- Cars - Trucks

Start Time	Lagrange St From North					Beacon St From East					Lagrange St From South					Beacon St From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
04:00 PM	2	5	1	1	9	1	40	1	0	42	1	0	0	0	1	2	15	1	0	18	70
04:15 PM	1	1	5	0	7	0	53	7	0	60	0	2	0	0	2	1	20	0	0	21	90
04:30 PM	1	0	6	0	7	1	55	4	0	60	2	0	0	0	2	5	17	2	1	25	94
04:45 PM	0	1	1	0	2	0	35	6	0	41	0	0	1	0	1	2	23	0	2	27	71
Total	4	7	13	1	25	2	183	18	0	203	3	2	1	0	6	10	75	3	3	91	325
05:00 PM	0	1	2	0	3	1	46	2	0	49	0	1	0	0	1	1	18	0	0	19	72
05:15 PM	4	1	8	0	13	0	57	5	0	62	0	0	0	0	0	1	14	0	0	15	90
05:30 PM	4	1	3	0	8	0	57	9	0	66	0	0	0	0	0	1	19	0	0	20	94
05:45 PM	3	0	5	0	8	0	43	5	0	48	1	0	0	0	1	2	17	1	0	20	77
Total	11	3	18	0	32	1	203	21	0	225	1	1	0	0	2	5	68	1	0	74	333
Grand Total	15	10	31	1	57	3	386	39	0	428	4	3	1	0	8	15	143	4	3	165	658
Apprch %	26.3	17.5	54.4	1.8		0.7	90.2	9.1	0		50	37.5	12.5	0		9.1	86.7	2.4	1.8		
Total %	2.3	1.5	4.7	0.2	8.7	0.5	58.7	5.9	0	65	0.6	0.5	0.2	0	1.2	2.3	21.7	0.6	0.5	25.1	
Cars	15	10	31	1	57	3	381	39	0	423	4	3	1	0	8	15	138	4	3	160	648
% Cars	100	100	100	100	100	100	98.7	100	0	98.8	100	100	100	0	100	100	96.5	100	100	97	98.5
Trucks	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
% Trucks	0	0	0	0	0	0	1.3	0	0	1.2	0	0	0	0	0	0	3.5	0	0	3	1.5

Ron Müller & Associates

Traffic Engineering and Consulting Services

File Name : 23109 Worcester Beacon St at Lagrange St PM

Site Code : 23109

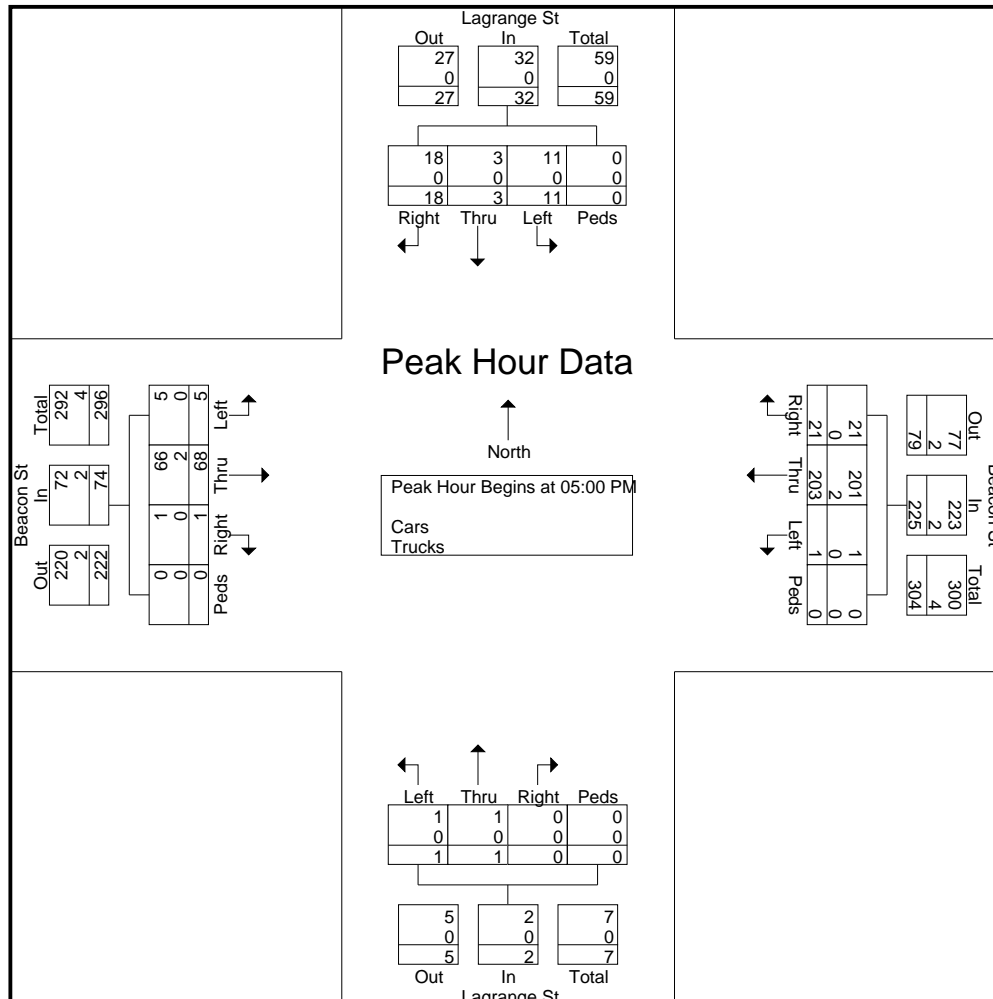
E-W Street: Beacon St

Start Date : 1/17/2024

N-S Street: Lagrange St

Page No : 2

Start Time	Lagrange St From North					Beacon St From East					Lagrange St From South					Beacon St From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	1	2	0	3	1	46	2	0	49	0	1	0	0	1	1	18	0	0	19	72
05:15 PM	4	1	8	0	13	0	57	5	0	62	0	0	0	0	0	1	14	0	0	15	90
05:30 PM	4	1	3	0	8	0	57	9	0	66	0	0	0	0	0	1	19	0	0	20	94
05:45 PM	3	0	5	0	8	0	43	5	0	48	1	0	0	0	1	2	17	1	0	20	77
Total Volume	11	3	18	0	32	1	203	21	0	225	1	1	0	0	2	5	68	1	0	74	333
% App. Total	34.4	9.4	56.2	0		0.4	90.2	9.3	0		50	50	0	0		6.8	91.9	1.4	0		
PHF	.688	.750	.563	.000	.615	.250	.890	.583	.000	.852	.250	.250	.000	.000	.500	.625	.895	.250	.000	.925	.886
Cars	11	3	18	0	32	1	201	21	0	223	1	1	0	0	2	5	66	1	0	72	329
% Cars	100	100	100	0	100	100	99.0	100	0	99.1	100	100	0	0	100	100	97.1	100	0	97.3	98.8
Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
% Trucks	0	0	0	0	0	0	1.0	0	0	0.9	0	0	0	0	0	0	2.9	0	0	2.7	1.2



Ron Müller & Associates

Traffic Engineering and Consulting Services

File Name : 23109 Worcester Main St at Lagrange St AM

Site Code : 23109

Start Date : 1/18/2024

Page No : 1

E-W Street:Main St
N-S Street:Lagrange St

Groups Printed- Cars - Trucks

Start Time	Main St From East				Lagrange St From South				Main St From West				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
07:00 AM	1	48	0	49	1	0	0	1	100	2	0	102	152
07:15 AM	0	70	0	70	4	2	1	7	117	2	0	119	196
07:30 AM	0	73	0	73	6	0	2	8	142	3	1	146	227
07:45 AM	3	83	0	86	6	2	2	10	160	7	0	167	263
Total	4	274	0	278	17	4	5	26	519	14	1	534	838
08:00 AM	0	81	1	82	18	1	2	21	147	9	0	156	259
08:15 AM	6	91	1	98	9	4	1	14	141	7	0	148	260
08:30 AM	4	81	1	86	9	4	3	16	107	6	0	113	215
08:45 AM	4	81	0	85	11	0	4	15	95	6	0	101	201
Total	14	334	3	351	47	9	10	66	490	28	0	518	935
Grand Total	18	608	3	629	64	13	15	92	1009	42	1	1052	1773
Apprch %	2.9	96.7	0.5		69.6	14.1	16.3		95.9	4	0.1		
Total %	1	34.3	0.2	35.5	3.6	0.7	0.8	5.2	56.9	2.4	0.1	59.3	
Cars	18	575	3	596	64	13	15	92	981	42	1	1024	1712
% Cars	100	94.6	100	94.8	100	100	100	100	97.2	100	100	97.3	96.6
Trucks	0	33	0	33	0	0	0	0	28	0	0	28	61
% Trucks	0	5.4	0	5.2	0	0	0	0	2.8	0	0	2.7	3.4

Ron Müller & Associates

Traffic Engineering and Consulting Services

File Name : 23109 Worcester Main St at Lagrange St AM

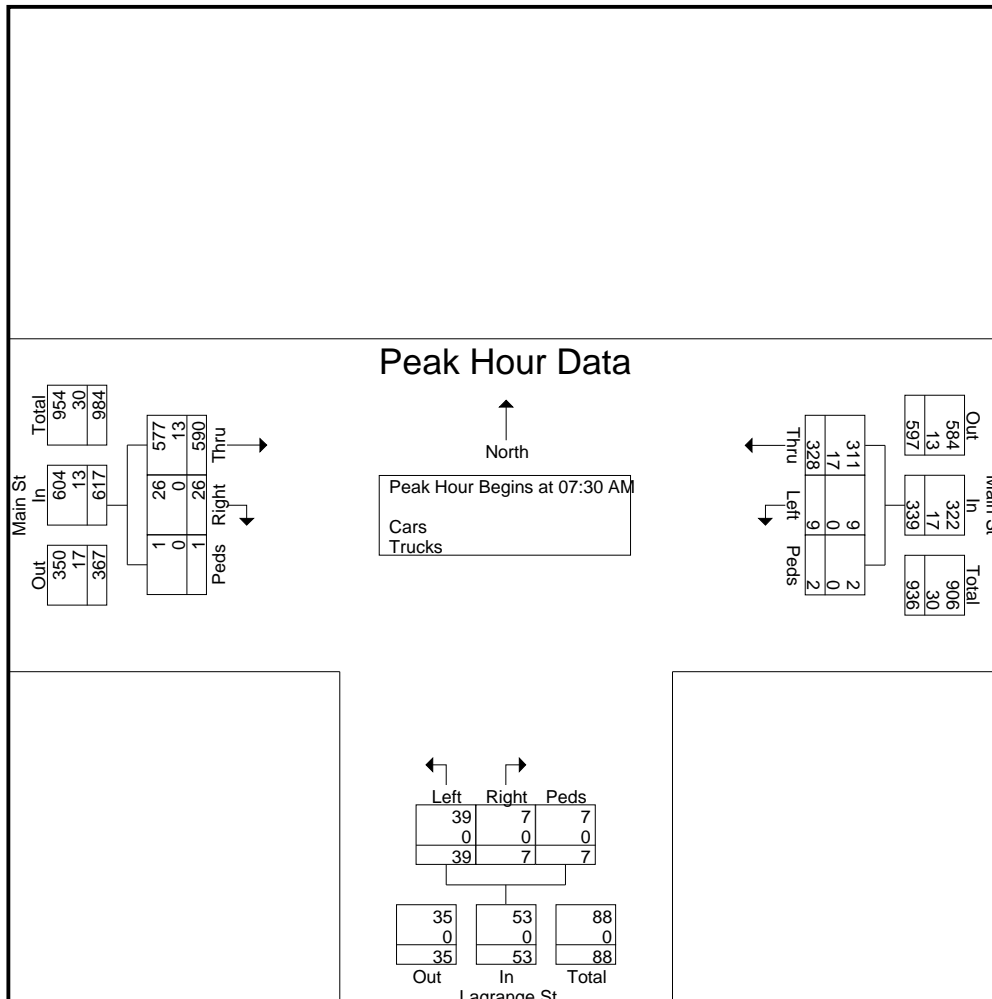
Site Code : 23109

Start Date : 1/18/2024

Page No : 2

E-W Street: Main St
N-S Street: Lagrange St

Start Time	Main St From East				Lagrange St From South				Main St From West				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	73	0	73	6	0	2	8	142	3	1	146	227
07:45 AM	3	83	0	86	6	2	2	10	160	7	0	167	263
08:00 AM	0	81	1	82	18	1	2	21	147	9	0	156	259
08:15 AM	6	91	1	98	9	4	1	14	141	7	0	148	260
Total Volume	9	328	2	339	39	7	7	53	590	26	1	617	1009
% App. Total	2.7	96.8	0.6		73.6	13.2	13.2		95.6	4.2	0.2		
PHF	.375	.901	.500	.865	.542	.438	.875	.631	.922	.722	.250	.924	.959
Cars	9	311	2	322	39	7	7	53	577	26	1	604	979
% Cars	100	94.8	100	95.0	100	100	100	100	97.8	100	100	97.9	97.0
Trucks	0	17	0	17	0	0	0	0	13	0	0	13	30
% Trucks	0	5.2	0	5.0	0	0	0	0	2.2	0	0	2.1	3.0



Ron Müller & Associates

Traffic Engineering and Consulting Services

File Name : 23109 Worcester Main St at Lagrange St PM

Site Code : 23109

Start Date : 1/17/2024

Page No : 1

E-W Street: Main St
N-S Street: Lagrange St

Groups Printed- Cars - Trucks

Start Time	Main St From East				Lagrange St From South				Main St From West				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
04:00 PM	2	115	0	117	3	2	2	7	117	8	0	125	249
04:15 PM	7	112	1	120	5	2	7	14	125	4	1	130	264
04:30 PM	3	134	0	137	2	5	4	11	120	4	0	124	272
04:45 PM	0	136	0	136	6	1	8	15	104	3	1	108	259
Total	12	497	1	510	16	10	21	47	466	19	2	487	1044
05:00 PM	2	142	0	144	5	1	4	10	109	4	0	113	267
05:15 PM	2	123	0	125	3	2	3	8	123	10	0	133	266
05:30 PM	2	131	0	133	6	0	1	7	108	4	0	112	252
05:45 PM	0	105	0	105	5	2	5	12	132	8	0	140	257
Total	6	501	0	507	19	5	13	37	472	26	0	498	1042
Grand Total	18	998	1	1017	35	15	34	84	938	45	2	985	2086
Apprch %	1.8	98.1	0.1		41.7	17.9	40.5		95.2	4.6	0.2		
Total %	0.9	47.8	0	48.8	1.7	0.7	1.6	4	45	2.2	0.1	47.2	
Cars	18	980	1	999	35	15	34	84	919	45	2	966	2049
% Cars	100	98.2	100	98.2	100	100	100	100	98	100	100	98.1	98.2
Trucks	0	18	0	18	0	0	0	0	19	0	0	19	37
% Trucks	0	1.8	0	1.8	0	0	0	0	2	0	0	1.9	1.8

Ron Müller & Associates

Traffic Engineering and Consulting Services

File Name : 23109 Worcester Main St at Lagrange St PM

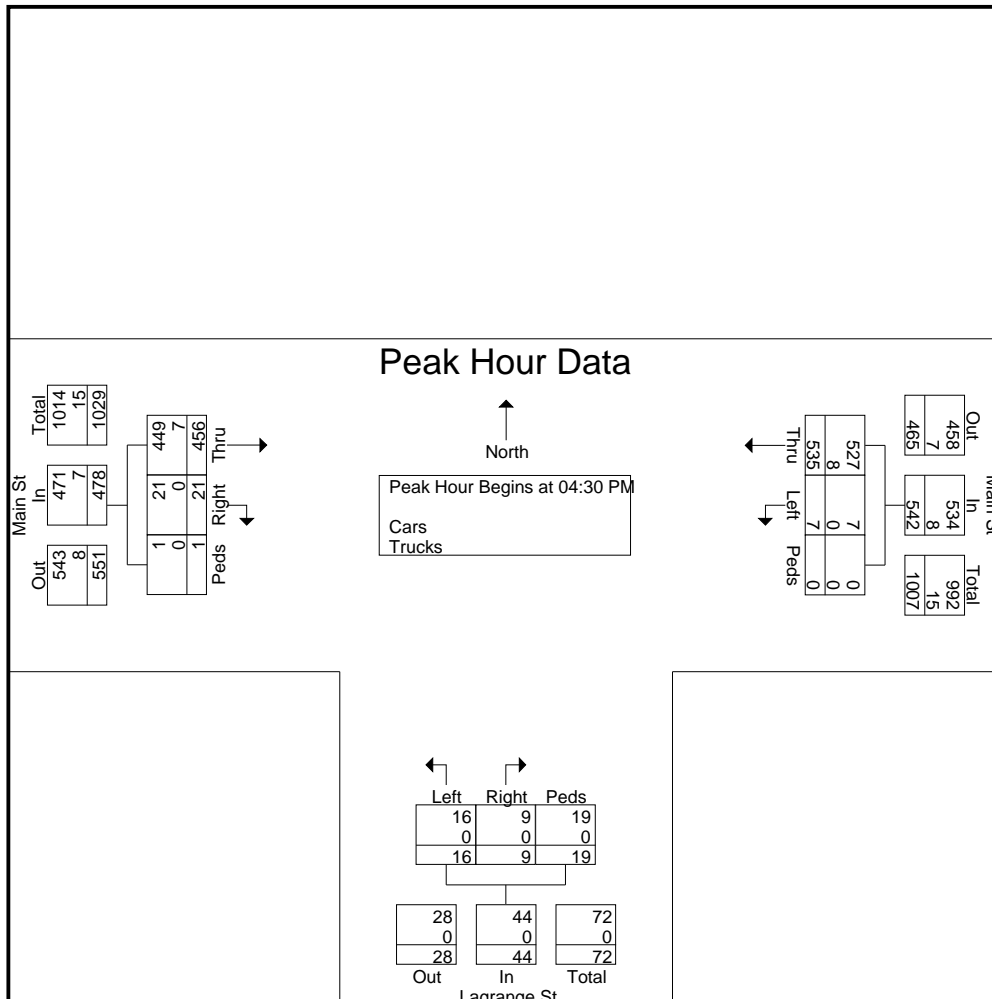
Site Code : 23109

Start Date : 1/17/2024

Page No : 2

E-W Street: Main St
N-S Street: Lagrange St

Start Time	Main St From East				Lagrange St From South				Main St From West				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	3	134	0	137	2	5	4	11	120	4	0	124	272
04:45 PM	0	136	0	136	6	1	8	15	104	3	1	108	259
05:00 PM	2	142	0	144	5	1	4	10	109	4	0	113	267
05:15 PM	2	123	0	125	3	2	3	8	123	10	0	133	266
Total Volume	7	535	0	542	16	9	19	44	456	21	1	478	1064
% App. Total	1.3	98.7	0		36.4	20.5	43.2		95.4	4.4	0.2		
PHF	.583	.942	.000	.941	.667	.450	.594	.733	.927	.525	.250	.898	.978
Cars	7	527	0	534	16	9	19	44	449	21	1	471	1049
% Cars	100	98.5	0	98.5	100	100	100	100	98.5	100	100	98.5	98.6
Trucks	0	8	0	8	0	0	0	0	7	0	0	7	15
% Trucks	0	1.5	0	1.5	0	0	0	0	1.5	0	0	1.5	1.4



Seasonal/Historical Adjustment Data

Massachusetts Highway Department
Statewide Traffic Data Collection
2019 Weekday Seasonal Factors

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Axle Factor
R1	1.22	1.14	1.12	1.06	1.00	0.96	0.87	0.85	0.96	0.99	1.04	1.12	0.85
R2	0.95	0.96	0.98	0.97	0.97	0.93	0.97	0.94	0.96	0.90	0.92	0.93	0.96
R3	1.15	1.06	1.07	1.00	0.89	0.88	0.89	0.89	0.95	0.92	1.02	1.01	0.97
R4-R7	1.09	1.09	1.11	1.02	0.96	0.92	0.89	0.89	0.99	0.98	1.09	1.13	0.98
U1-Boston	1.03	1.01	0.98	0.94	0.94	0.92	0.95	0.93	0.94	0.94	0.97	1.04	0.96
U1-Essex	1.09	1.06	1.03	0.99	0.94	0.90	0.88	0.86	0.93	0.94	0.99	1.06	0.93
U1-Southeast	1.06	1.05	1.01	0.97	0.95	0.93	0.93	0.90	0.94	0.94	0.98	1.04	0.98
U1-West	1.19	1.14	1.09	0.95	0.92	0.89	0.89	0.86	0.91	0.95	0.97	1.07	0.84
U1-Worcester	1.02	1.04	0.97	0.94	0.93	0.91	0.95	0.91	0.93	0.92	0.95	1.10	0.88
U2	1.01	1.00	0.94	0.93	0.91	0.89	0.93	0.90	0.90	0.91	0.94	1.02	0.99
U3	1.06	1.03	0.98	0.94	0.93	0.91	0.95	0.91	0.92	0.93	0.97	1.00	0.98
U4-U7	1.01	1.00	0.95	0.92	0.88	0.86	0.92	0.91	0.92	0.94	0.99	1.04	0.99
Rec - East	1.04	1.16	1.12	0.98	0.92	0.88	0.77	0.81	0.94	1.02	1.08	1.12	0.99
Rec - West	1.30	1.23	1.32	1.18	0.95	0.82	0.70	0.69	0.97	0.96	1.16	1.15	0.98

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

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.

Type	SPOT	HPMS ID	
On NHS		On HPMS	No
LRS ID	N038 EB	LRS Loc Pt.	0.9602489
SF Group	U3	Route Type	N
AF Group	U3	Route	038
GF Group	U3	Active	Yes
Class Dist Grp	U3	Category	HPMS
Seas Class Grp	MHD Statewide		
WIM Group			
QC Group	Default		
Funct'l Class	(3) Other Principal Arterial	Milepost	
Located On	SOUTHBRIDGE STREET		
Loc On Alias			
NORTH OF	JACKSON STREET		
More Detail			
STATION DATA			

Directions:

AADT

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2022	15,532	1,416	9	70	14,150 (91%)	1,382 (9%)	
2021	18,459 ³		10	59	17,445 (95%)	1,014 (5%)	Grown from 2020
2020	16,393 ³		10	59	15,458 (94%)	935 (6%)	Grown from 2019
2019	19,895 ³	1,991	10	59	19,095 (96%)	800 (4%)	Grown from 2018
2018	19,816 ³				18,825 (95%)	991 (5%)	Grown from 2017

1-5 of 22

Travel Demand Model										
Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV	

VOLUME COUNT			
	Date	Int	Total
	Thu 11/16/2023	15	14,712
	Wed 11/15/2023	15	15,140
	Tue 9/13/2022	15	16,690
	Mon 9/12/2022	15	16,598
	Thu 5/29/2014	60	21,593

VOLUME TREND	
Year	Annual Growth
2022	-16%
2021	13%
2020	-18%
2019	0%
2018	1%

Motor Vehicle Crash Data

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Status	Crash Time	Crash Year	Max Injury Severity Reported	Number of Vehicles	Light Conditions	Manner of Collision	Road Surface Condition	Weather Conditions	Roadway
4067660	WORCESTER	04/05/2015	Not Reported	Closed	9:38 PM	2015	Not reported	3	Dark - lighted roadway	Rear-end	Dry	Clear/Clear	BEACON STREET
4176954	WORCESTER	01/23/2016	Not Reported	Closed	12:00 PM	2016	Not reported	2	Dark - lighted roadway	Sideswipe, same direction	Snow	Snow	LAGRANGE STREET
4278127	WORCESTER	07/16/2016	Property damage only (none injured)	Closed	2:16 PM	2016	No injury	2	Daylight	Angle	Dry	Clear	BEACON STREET / LAGRANGE STREET
4355916	WORCESTER	03/06/2017	Non-fatal injury	Closed	2:45 PM	2017	Non-fatal injury - Possible	2	Daylight	Head-on	Dry	Clear/Clear	LAGRANGE STREET
4562702	WORCESTER	03/07/2018	Property damage only (none injured)	Closed	12:30 PM	2018	No injury	2	Daylight	Sideswipe, same direction	Wet	Snow/Clear	LAGRANGE STREET
4662322	WORCESTER	10/31/2018	Non-fatal injury	Closed	7:50 AM	2018	Non-fatal injury - Possible	3	Daylight	Sideswipe, opposite direction	Dry	Clear	BEACON STREET
4669201	WORCESTER	12/25/2018	Property damage only (none injured)	Closed	9:32 PM	2018	No injury	2	Dark - lighted roadway	Sideswipe, same direction	Dry	Clear	LAGRANGE STREET
4907018	WORCESTER	11/07/2020	Unknown	Closed	8:04 AM	2020	Not reported	2	Unknown	Unknown	Dry	Clear	LAGRANGE STREET

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Status	Crash Time	Crash Year	Max Injury Severity Reported	of Vehicles	Light Conditions	Manner of Collision	Surface Condition	Weather Conditions	Roadway
4064076	WORCESTER	01/08/2015	Property damage only (none injured)	Closed	2:26 PM	2015	No injury	2	Daylight	Rear-end	Dry	Clear	MAIN STREET
4065689	WORCESTER	05/22/2015	Not Reported	Closed	9:20 AM	2015	Not reported	2	Daylight	Sideswipe, same direction	Dry	Clear/Clear	MAIN STREET / LAGRANGE STREET
4328831	WORCESTER	10/31/2016	Non-fatal injury	Closed	12:03 PM	2016	Non-fatal injury - Possible	2	Daylight	Rear-end	Dry	Clear	MAIN STREET
4333663	WORCESTER	11/13/2016	Property damage only (none injured)	Closed	9:25 AM	2016	No injury	2	Daylight	Angle	Dry	Clear	MAIN STREET
4334933	WORCESTER	12/14/2016	Non-fatal injury	Closed	9:50 AM	2016	Non-fatal injury - Non-incapacitating	1	Daylight	Single vehicle crash	Wet	Clear	MAIN STREET
4339254	WORCESTER	12/26/2016	Non-fatal injury	Closed	4:27 PM	2016	Non-fatal injury - Possible	3	Dark - lighted roadway	Rear-end	Wet	Rain	MAIN STREET
4344155	WORCESTER	01/21/2017	Property damage only (none injured)	Closed	4:15 PM	2017	No injury	2	Daylight	Sideswipe, same direction	Dry	Clear	MAIN STREET
4413641	WORCESTER	07/20/2017	Not Reported	Closed	12:00 PM	2017	Not reported	2	Dark - lighted roadway	Sideswipe, same direction	Unknown	Unknown	MAIN STREET
4435757	WORCESTER	08/16/2017	Unknown	Closed	8:54 AM	2017	Unknown	2	Daylight	Sideswipe, opposite direction	Dry	Clear	MAIN STREET
4542018	WORCESTER	01/30/2018	Not Reported	Closed	2:00 PM	2018	Not reported	3	Dark - roadway not lighted	Angle	Ice	Clear	LAGRANGE STREET
4559508	WORCESTER	02/19/2018	Property damage only (none injured)	Closed	12:25 PM	2018	No injury	2	Daylight	Rear-end	Dry	Clear	MAIN STREET
4793463	WORCESTER	05/29/2019	Non-fatal injury	Closed	3:36 PM	2019	No injury	1	Daylight	Not reported	Dry	Cloudy	MAIN STREET
4901940	WORCESTER	08/14/2019	Property damage only (none injured)	Closed	11:45 AM	2019	No injury	2	Daylight	Angle	Dry	Clear	MAIN STREET
4842129	WORCESTER	10/07/2019	Property damage only (none injured)	Closed	2:08 PM	2019	No injury	2	Daylight	Unknown	Dry	Clear	MAIN STREET
4839279	WORCESTER	11/10/2019	Property damage only (none injured)	Closed	5:33 PM	2019	No injury	2	Dark - lighted roadway	Rear-end	Dry	Clear	MAIN STREET
4893179	WORCESTER	12/18/2019	Property damage only (none injured)	Closed	3:30 PM	2019	No injury	2	Dark - lighted roadway	Rear-end	Dry	Clear/Clear	LAGRANGE STREET

Roadway Segment Crash Analysis

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Status	Crash Time	Crash Year	Injury Severity	Number of Vehicles
<u>Lagrange Street - South of Beacon Street</u>								
4562702	WORCESTER	03/07/2018	Property damage only (none injured)	Closed	12:30 PM	2018	No injury	2

Beacon Street - between Jackson Street and Oread Street

4067660	WORCESTER	04/05/2015	Not Reported	Closed	9:38 PM	2015	Not reported	3
4163968	WORCESTER	11/23/2015	Not Reported	Closed	7:26 PM	2015	Not reported	2
4278127	WORCESTER	07/16/2016	Property damage only (none injured)	Closed	2:16 PM	2016	No injury	2
4355916	WORCESTER	03/06/2017	Non-fatal injury	Closed	2:45 PM	2017	Partial injury - F	2
4662322	WORCESTER	10/31/2018	Non-fatal injury	Closed	7:50 AM	2018	Partial injury - F	3
4822774	WORCESTER	08/24/2019	Property damage only (none injured)	Closed	4:04 PM	2019	Partial injury	1
4840903	WORCESTER	09/22/2019	Non-fatal injury	Closed	8:44 AM	2019	Partial injury - Minor	2

Roadway Crash Segment Calculations

$$R = \frac{(100,000,000 \times C)}{(365 * N * V * L)}$$

Roadway	(C) # Crashes	(N) # Years	(L) Length of roadway segment (miles)	(V) Daily Vol	Crash Rate
Lagrange	1	5	0.08	147	0.75
Beacon	7	5	0.13	3791	0.20

Light Conditions	Manner of Collision	Road Surface Condition
Daylight	Sideswipe, same direction	Wet
Dark - lighted roadway	Rear-end	Dry
Dark - lighted roadway	Rear-end	Dry
Daylight	Angle	Dry
Daylight	Head-on	Dry
Daylight	Sideswipe, opposite direction	Dry
Daylight	Single vehicle crash	Dry
Dark - lighted roadway	Angle	Dry

Public Transportation Information

OUTBOUND



WEEKDAYS

See the map for matching timepoint locations

1	1C	2	3	4A	4
BUS STARTS Union Station Hub	BUS Leaves City Hall Franklin St.	BUS Leaves Clark University	BUS Leaves Webster Square Plaza	BUS Leaves Goddard & Apricot	BUS ENDS Goddard & Coppage Dr.
530a	533a	543a	549a	556a	BR
*600a	603a	613a	619a	.....	626a
*630a	633a	643a	649a	.....	656a
700a	703a	713a	719a	.....	726a
730a	733a	743a	749a	.....	756a
800a	803a	813a	819a	826a	BR
830a	833a	843a	849a	856a	BR
845a	848a	859a	904a	.....	911a
900a	903a	913a	919a	926a	BR
930a	933a	943a	949a	956a	BR
945a	948a	959a	1004a	.....	1011a
1000a	1003a	1013a	1019a	1026a	BR
1030a	1033a	1043a	1049a	1056a	BR
1045a	1048a	1059a	1104a	.....	1111a
1100a	1103a	1113a	1119a	1126a	BR
1130a	1133a	1143a	1149a	1156a	BR
1145a	1148a	1159a	1204p	.....	1211p
1200p	1203p	1213p	1219p	1226p	BR
1230p	1233p	1243p	1249p	1256p	BR
1245p	1248p	1259p	104p	.....	111p
100p	103p	113p	119p	126p	BR
130p	133p	143p	149p	156p	BR
145p	148p	159p	204p	.....	211p
230p	233p	243p	251p	.....	256p
245p	248p	259p	304p	.....	311p
300p	303p	315p	321p	.....	331p
330p	333p	345p	351p	401p	BR
345p	348p	359p	404p	.....	411p
400p	403p	415p	421p	431p	BR
445p	448p	455p	501p	516p	BR
515p	518p	528p	533p	546p	BR
540p	543p	555p	601p	611p	BR
610p	613p	625p	631p	641p	BR
655p	658p	708p	714p	721p	BR
725p	728p	738p	744p	.....	751P
750p	753p	803p	809p	816p	BR
820p	823p	832p	838p	.....	846p
920p	923p	932p	938p	.....	946p
1020p	1023p	1032p	1038p	.....	1046p

– PLEASE NOTE –

Outbound trips beginning at 830 pm service to/from Webster Square Plaza

BR - Weekday outbound trips to Goddard and Coppage are served on these trips by request to the driver

*These trips service South High.

SATURDAYS

See the map for matching timepoint locations

1	1C	2	3	5	6	7
BUS STARTS Union Station Hub	BUS Leaves City Hall Franklin St.	BUS Leaves Clark University	BUS Leaves Webster Square Plaza	BUS Leaves Leicester Wal-Mart	BUS Leaves Spencer Center	BUS ENDS Spencer DPW
**650a	653a	700a	706a	716a	.....	751a
710a	713a	720a	727a	737a	747a	751a
800a	803a	813a	820a	835a	847a	851a
900a	903a	913a	920a	935a	947a	951a
1000a	1003a	1013a	1020a	1035a	1047a	1051a
1100a	1103a	1113a	1120a	1135a	1147a	1151a
1200p	1203p	1213p	1220p	1235p	1247p	1251p
100p	103p	113p	120p	135p	147p	151p
200p	203p	213p	220p	235p	247p	251p
300p	303p	313p	320p	335p	347p	351p
400p	403p	413p	420p	435p	447p	451p
500p	503p	513p	520p	535p	547p	551p
600p	603p	613p	620p	635p	647p	651p
655p	658p	708p	715p	725p	737p	741p
***755p	758p	807p	813p	.....	.....	.....
***855p	858p	905p	911p	.....	.....	.....
***945p	948p	955p	1001p	.....	.....	.....

– PLEASE NOTE –

*** These trips end at Webster Square Plaza

** This trip starts / ends at Walmart

SUNDAYS

1	1C	2	3	5
BUS STARTS Union Station Hub	BUS Leaves City Hall Franklin St.	BUS Leaves Clark University	BUS Leaves Webster Square Plaza	BUS ENDS Leicester Wal-Mart
1030a	1033a	1040a	1046a	1056a
1130a	1133a	1140a	1146a	1156a
1230p	1233p	1240p	1246p	1256p
130p	133p	140p	146p	156p
230p	233p	240p	246p	256p
330p	333p	340p	346p	356p
430p	433p	440p	446p	456p
530p	533p	540p	546p	556p

INBOUND



WEEKDAYS

See the map for matching timepoint locations

4	4A	3	2	1A	1
BUS STARTS Goddard & Coppage Dr.	BUS Leaves Goddard & Apricot	BUS Leaves Webster Square Plaza	BUS Leaves Clark University	BUS Leaves City Hall Main St.	BUS ENDS Union Station Hub
500a	.....	510a	515a	525a	530a
530a	.....	540a	545a	555a	600a
.....	600a	605a	615a	625a	630a
630a	.....	640a	645a	655a	700a
700a	.....	710a	715a	725a	730a
730a	.....	740a	745a	755a	800a
800a	.....	805a	815a	825a	830a
.....	830a	835a	845a	855a	900a
.....	900a	905a	915a	925a	930a
915a	.....	923a	929a	941a	945a
.....	930a	935a	945a	955a	1000a
.....	1000a	1005a	1015a	1025a	1030a
1015a	.....	1023a	1029a	1041a	1045a
.....	1030a	1035a	1045a	1055a	1100a
.....	1100a	1105a	1115a	1125a	1130a
1115p	1123p	1123p	1129p	1141p	1145p
.....	1130a	1135a	1145a	1155a	1200p
.....	1200p	1205p	1215p	1225p	1230p
1215p	.....	1223p	1229p	1241p	1245p
1230p	.....	1240p	1245p	1255p	100p
.....	100p	105p	115p	125p	130p
115p	.....	123p	129p	141p	145p
.....	130p	135p	145p	155p	200p
.....	200p	205p	215p	225p	230p
215p	.....	223p	229p	241p	245p
*305p	.....	315p	326p	340p	345p
315p	.....	323p	329p	341p	345p
335p	.....	345p	351p	410p	415p
.....	405p	410p	421p	435p	440p
415p	.....	423p	429p	441p	445p
.....	435p	440p	451p	505p	510p
.....	*520p	525p	531p	550p	555p
.....	550p	555p	601p	620p	625p
.....	615p	620p	631p	645p	650p
645p	.....	655p	701p	715p	720p
.....	725p	730p	740p	750p	755p
755p	.....	805p	810p	820p	825p
.....	820p	825p	835p	845p	850p
850p	.....	858p	905p	915p	920p
950p	.....	958p	1005p	1015p	1020p
1050p	.....	1058p	1105p	1115p	1120p

– PLEASE NOTE –

On Weekdays most inbound RT 19 buses continue as Route 23 outbound.

SATURDAYS

See the map for matching timepoint locations

7	6	5	3	2	1A	1
BUS STARTS Spencer DPW	BUS Leaves Spencer Center	BUS Leaves Leicester Wal-Mart	BUS Leaves Webster Sq. Plaza	BUS Leaves Clark University	BUS Leaves City Hall Main St.	BUS ENDS Union Station Hub
.....	.....	720a	640a	642a	650a	655a
.....	.....	735a	735a	742a	750a	755a
755a	758a	808a	827a	837a	845a	850a
855a	858a	908a	927a	937a	945a	950a
955a	958a	1008a	1027a	1037a	1045a	1050a
1055a	1058a	1108a	1127a	1137a	1145a	1150a
1155a	1158a	1208p	1227p	1237p	1245p	1250p
1255p	1258p	108p	127p	137p	145p	150p
155p	158p	208p	227p	237p	245p	250p
255p	258p	308p	327p	337p	345p	350p
355p	358p	408p	427p	437p	445p	450p
455p	458p	508p	527p	537p	545p	550p
555p	558p	608p	627p	637p	645p	650p
655p	658p	708p	727p	737p	745p	750p
745p	748p	758p	817p	827p	835p	840p
.....	.....	.....	817p	823p	832p	835p
.....	.....	.....	915p	920p	930p	935p
.....	.....	.....	1005p	1010p	1020p	1025p

– PLEASE NOTE –

*** This trip starts at Webster Sq Plaza

** This trip starts / ends at Walmart

SUNDAYS

5	3	2	1A	1
BUS STARTS Leicester Wal-Mart	BUS Leaves Webster Square Plaza	BUS Leaves Clark University	BUS Leaves City Hall Main St.	BUS ENDS Union Station Hub
1100a	1113a	1118a	1125a	1130a
1200p	1213p	1218p	1225p	1230p
100p	113p	118p	125p	130p
200p	213p	218p	225p	230p
300p	313p	318p	325p	330p
400p	413p	418p	425p	430p
500p	513p	518p	525p	530p
600p	613p	618p	625p	630p

– PLEASE NOTE –

On Saturdays, most inbound Route 19 buses continue as Route 30 outbound.

On Sundays, all inbound Route 19 buses continue as Route 23 outbound.

Route 19

UNION STATION HUB –
WEBSTER SQUARE –
CLARK UNIVERSITY via MAIN ST.

Revised Date: August 26, 2023

Worcester Regional Transit Authority



Serving:

- Federal Building / U.S. Courthouse
- YMCA Central Branch
- Clark University
- Webster Square
- Webster Square Plaza
- Gates Lane School
- Sullivan Middle School
- Leicester Housing Authority - Sat & Sun Only
- Leicester Wal-Mart - Sat & Sun Only
- Spencer - Saturday Only

Translation

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For Transit Information Call
508-791-9782 or visit
www.therta.com



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 can be 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.

Most Routes Serve:

- ~ WRTA Customer Service Center/Hub
- ~ Union Station

Route 19 Serving:

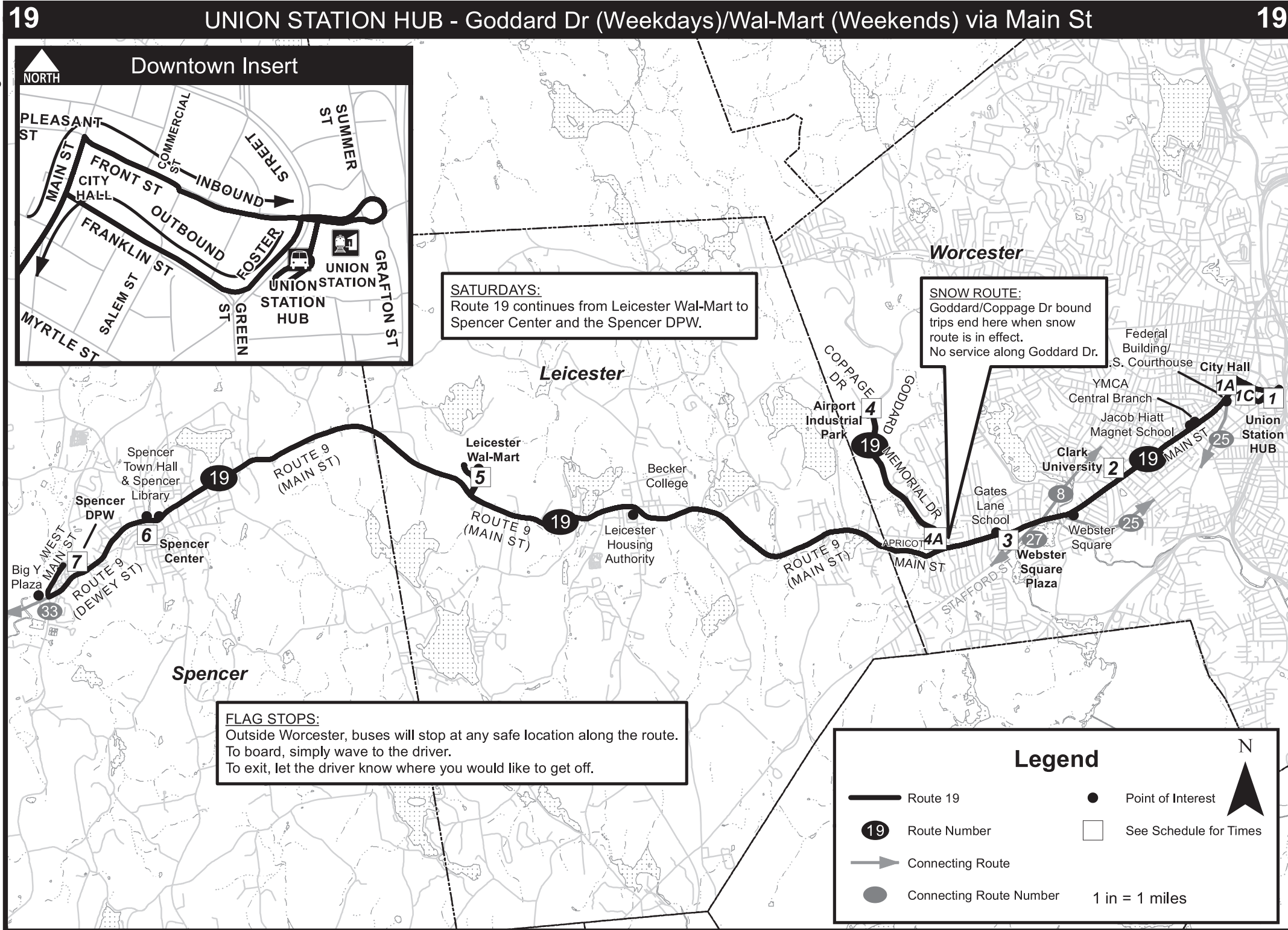
- ~ City Hall
- ~ Federal Building/ U.S. Courthouse
- ~ YMCA Central Branch
- ~ Jacob Hiatt Magnet School
- ~ Clark University
- ~ Webster Square Plaza
- ~ Webster Square Plaza
- ~ Gates Lane School

Rt. 19 Weeknd Only

- ~ Becker College (Leicester campus)
- ~ Leicester Center
- ~ Leicester Wal-Mart
- ~ Spencer Center
- ~ Spencer DPW Garage

Connecting Routes:

- Route 8
- Route 23
- Route 25
- Route 27
- Route 33



Data provided by the WRTA, CMRPC, massDOT and EOE/MassGIS. Produced by the Central Massachusetts Regional Planning Commission (CMRPC) Date: 6/5/2019



Thank You for riding the

OUTBOUND



WEEKDAYS

See the map for matching timepoint locations

1	1C	2	3	4
BUS STARTS Union Station Hub	BUS Leaves City Hall Franklin St.	BUS Leaves Clark University	BUS Leaves Webster Square Plaza	BUS ENDS Auburn Mall
545a	548a	557a	602a	616a
620a	623a	632a	637a	651a
655a	658a	707a	712a	726a
730a	733a	742a	747a	801a
805a	808a	817a	822a	836a
840a	843a	852a	857a	911a
915a	918a	927a	932a	946a
950a	953a	1002a	1007a	1021a
1025a	1028a	1037a	1042a	1056a
1100a	1103a	1112a	1117a	1131a
1120a	1123a	1133a	1142a	1156a
1140a	1143a	1153a	1202p	1216p
1215p	1218p	1228p	1237p	1251p
1240p	1243p	1253p	102p	116p
105p	108p	118p	127p	141p
135p	138p	148p	157p	211p
200p	203p	213p	222p	236p
225p	228p	238p	247p	301p
255p	258p	308p	317p	331p
320p	323p	333p	342p	356p
345p	348p	358p	407p	421p
415p	418p	428p	437p	451p
440p	443p	453p	502p	516p
505p	508p	518p	527p	541p
535p	538p	548p	557p	611p
600p	603p	613p	622p	636p
625p	628p	637p	642p	656p
655p	658p	707p	712p	726p
735p	738p	747p	752p	806p
805p	808p	817p	822p	836p
845p	848p	857p	902p	916p
915p	918p	927p	932p	946p

SATURDAYS

See the map for matching timepoint locations

1	1C	2	3	4
BUS STARTS Union Station Hub	BUS STARTS City Hall Franklin St.	BUS Leaves Clark University	BUS Leaves Webster Square Plaza	BUS ENDS Auburn Mall
605a	608a	615a	*621a	.....
645a	648a	655a	*701a	.....
725a	728a	737a	747a	756a
830a	833a	842a	852a	901a
935a	938a	947a	956a	1006a
1010a	1013a	1022a	1031a	1041a
1040a	1048a	1057a	1107a	1111a
1115a	1118a	1127a	1136a	1146a
1145a	1148a	1157a	1206p	1216p
1220p	1223p	1232p	1241p	1251p
1250p	1253p	102p	111p	121p
125p	128p	137p	146p	156p
155p	158p	207p	216p	226p
230p	233p	242p	251p	301p
300p	303p	312p	321p	331p
335p	338p	347p	356p	406p
405p	408p	427p	426p	436p
440p	443p	452p	501p	511p
510p	513p	522p	531p	541p
615p	618p	627p	632p	641p
715p	718p	727p	732p	741p
815p	818p	827p	832p	841p

SUNDAYS

1	1C	2	3	4
900a	903a	910a	920a	931a
1010a	1013a	1020a	1030a	1041a
1120a	1123a	1130a	1140a	1151a
1230p	1233p	1240p	1250p	101p
140p	143p	150p	200p	211p
250p	253p	300p	310p	321p
400p	403p	410p	420p	431p

*This trip starts/ends at Webster Sq Plaza

INBOUND



WEEKDAYS

See the map for matching timepoint locations

4	3	2	1A	1
BUS STARTS Auburn Mall	BUS Leaves Webster Square Plaza	BUS Leaves Clark University	BUS Leaves City Hall Main St.	BUS ENDS Union Station Hub
620a	633a	640a	648a	653a
655a	708a	715a	723a	728a
730a	743a	750a	758a	803a
805a	818a	825a	833a	838a
840a	853a	900a	908a	913a
915a	928a	935a	943a	948a
950a	1003a	1010a	1020a	1025a
1025a	1038a	1045a	1055a	1100a
1100a	1113a	1123a	1135a	1140a
1135a	1148a	1158a	1210p	1215p
1200p	1213p	1225p	1235p	1240p
1220p	1233p	1245p	1255p	100p
1255p	108p	120p	130p	135p
120p	133p	145p	155p	200p
145p	158p	210p	220p	225p
215p	228p	240p	250p	255p
240p	253p	305p	315p	320p
305p	318p	330p	340p	345p
335p	348p	400p	410p	415p
400p	413p	425p	435p	440p
425p	438p	450p	500p	505p
455p	508p	520p	530p	535p
520p	533p	545p	555p	600p
545p	558p	610p	620p	625p
615p	628p	640p	650p	655p
640p	653p	705p	715p	720p
700p	713p	720p	730p	735p
730p	743p	750p	800p	805p
810p	823p	830p	840p	845p
840p	853p	900p	910p	915p

SATURDAYS

See the map for matching timepoint locations

4	3	2	1A	1
BUS STARTS Auburn Mall	BUS Leaves Webster Square Plaza	BUS Leaves Clark University	BUS Leaves City Hall Main St.	BUS ENDS Union Station Hub
.....	*625a	635a	640a	645a
.....	*705a	715a	720a	725a
800a	811a	817a	825a	830a
905a	916a	922a	930a	935a
1010a	1016a	1022a	1035a	1040a
1045a	1056a	1102a	1110a	1115a
1115a	1126a	1132a	1140a	1145a
1150a	1201p	1207p	1215p	1220p
1220p	1231p	1237p	1245p	1250p
1255p	106p	112p	120p	125p
125p	136p	142p	150p	155p
200p	211p	217p	225p	230p
230p	241p	247p	255p	300p
305p	316p	322p	330p	335p
335p	346p	352p	400p	405p
410p	421p	427p	435p	440p
440p	451p	457p	505p	510p
515p	526p	532p	540p	545p
545p	556p	602p	610p	615p
645p	656p	702p	710p	715p
745p	756p	802p	810p	815p

SUNDAYS

4	3	2	1A	1
***	845a	850a	855a	900a
935a	946a	955a	1005a	1010a
1045a	1056a	1105a	1115a	1120a
1155a	1206p	1215p	1225p	1230p
105p	116p	125p	135p	140p
215p	226p	235p	245p	250p
325p	336p	345p	355p	400p

*This trip starts/ends at Webster Sq Plaza

Route 27

UNION STATION HUB -
AUBURN MALL
via MAIN ST.

Effective Date: January 25, 2020

Worcester Regional Transit Authority



Serving:

Federal Building / U.S. Courthouse

YMCA Central Branch

Clark University

Webster Square Plaza

Auburn Mall

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For Transit Information Call
508-791-9782 or visit
www.therta.com



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.

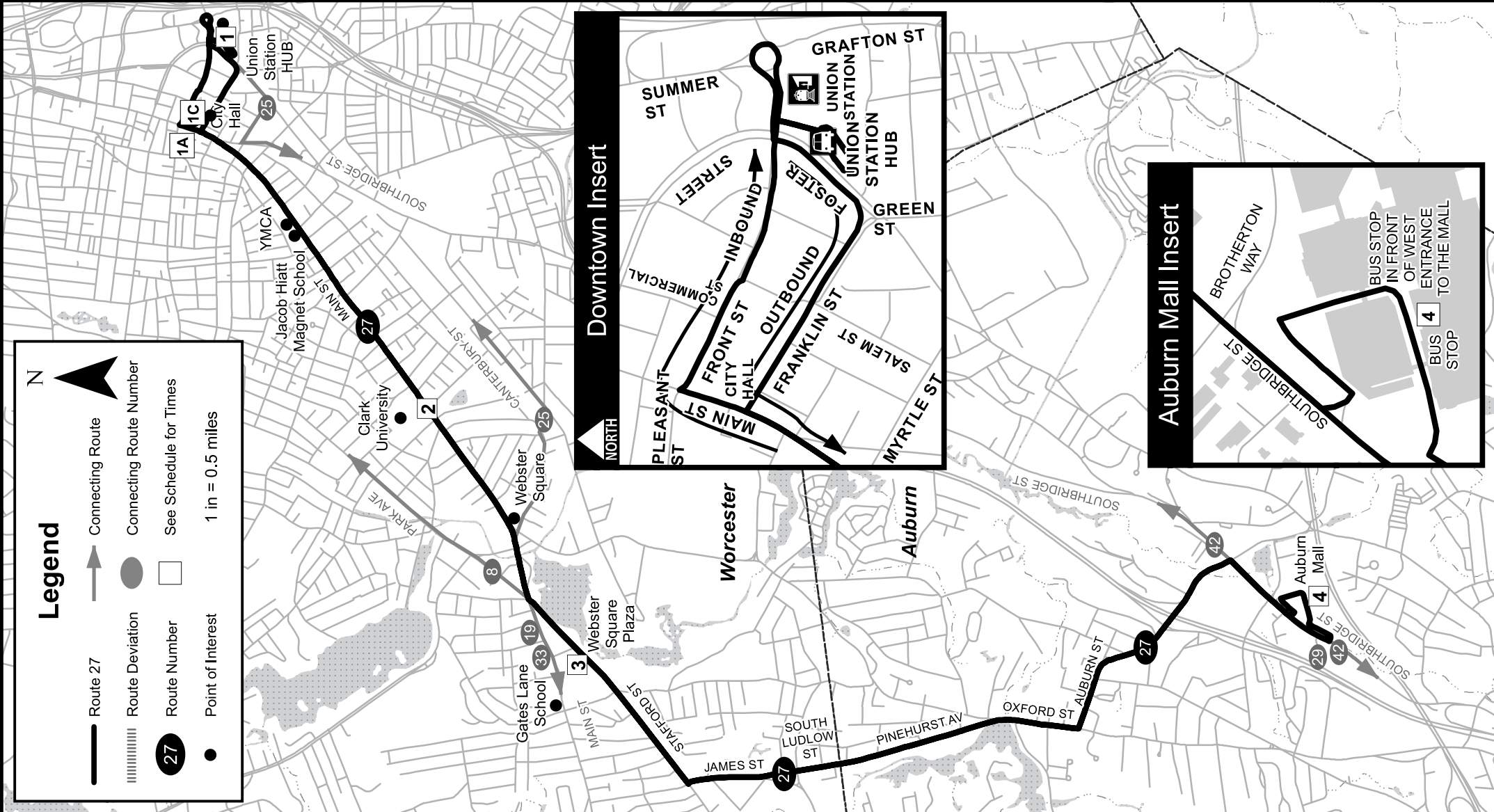
Routes 29, 33, 42 and community shuttles operate on a weekday schedule on these holidays. Routes 19 and 30 operate on a modified Saturday schedule on these holidays.

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.

27 UNION STATION HUB - Auburn Mall via Main St 27



Most Routes Serve:

- ~ WRTA Customer Service Center/Hub
- ~ Union Station

Route 27 Serving:

- ~ City Hall
- ~ Federal Building/ U.S. Courthouse
- ~ YMCA Central Branch
- ~ Jacob Hiatt Magnet School
- ~ Clark University
- ~ Webster Square
- ~ Webster Square Plaza
- ~ Auburn High School
- ~ Auburn Mall

Connecting Routes:

- Route 8
- Route 19
- Route 25
- Route 29
- Route 33
- Route 42

Data provided by the WRTA, CMRPC, massDOT and EDEA/MassGIS. Produced by the Central Massachusetts Regional Planning Commission (CMRPC). Date: 6/5/2019 Path: H:\Projects\WRTA_GIS\Route27_WRTA.mxd

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 can be obtained by calling the WRTA Information Line at **(508) 791-WRTA (9782)**, or visit our website at www.TheRTA.com.

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OUTBOUND WEEKDAYS

See the map for matching timepoint locations

1	1C	2	3	4	5	6	7	8	9	10
BUS STARTS Union Station Hub	BUS Leaves City Hall Franklin St	BUS Leaves Clark University	BUS Leaves Webster Square Plaza	BUS Leaves Leicester Center	BUS Leaves Leicester Wal-Mart	BUS ENDS Spencer Center	BUS Leaves Spencer DPW Garage	BUS Leaves East Brookfield Courthouse	BUS Leaves East Brookfield	BUS ENDS Brookfield Center
450a	453a	458a	505a	511a	516a	521a	.....	.....	528a	*535a
600a	603a	613a	620a	629a	632a	642a	*646a	.....	.....	.....
635a	638a	648a	655a	704a	707a	717a	.....	.....	724a	*731a
740a	743a	753a	800a	809a	812a	822a	.....	*826a	.....	.....
920a	923a	933a	940a	949a	952a	1002a	.....	*1006a	.....	.....
1100a	1104a	1114a	1121a	1130a	1133a	1144a	.....	*1156a	.....	.....
1210p	1214p	1224p	1231p	1240p	1243p	1254p	.....	*106p	.....	.....
110p	114p	124p	131p	140p	143p	154p	.....	*206p	.....	.....
210p	214p	224p	231p	240p	243p	254p	.....	*306p	.....	.....
310p	314p	324p	331p	340p	343p	354p	.....	*406p	.....	.....
410p	414p	424p	431p	440p	443p	454p	.....	*506p	.....	.....
510p	513p	523p	530p	539p	542p	552p	.....	.....	559p	*606p
610p	613p	623p	630p	639p	642p	652p	.....	.....	659p	*706p
710p	713p	723p	730p	739p	742p	749p	*753p	.....	.....	.....

* Trips end here

INBOUND WEEKDAYS

See the map for matching timepoint locations

10	9	8	7	6	5	4	3	2	1A	1
BUS STARTS Brookfield Center	BUS Leaves East Brookfield	BUS Leaves East Brookfield Courthouse	BUS Leaves Spencer DPW Garage	BUS Leaves Spencer Center	BUS Leaves Leicester Wal-Mart	BUS Leaves Leicester Center	BUS Leaves Webster Square Plaza	BUS Leaves Clark Univ.	BUS Leaves City Hall (Main St.)	BUS ENDS Union Station Hub
539a	546a	.....	.....	553a	600a	603a	613a	620a	630a	635a
.....	.....	.....	650a	654a	701a	705a	715a	725a	735a	740a
735a	744a	.....	.....	751a	758a	801a	813a	820a	830a	835a
.....	.....	830a	.....	834a	841a	845a	855a	905a	915a	920a
.....	.....	1010a	.....	1014a	1021a	1025a	1035a	1045a	1055a	1100a
.....	.....	1200p	.....	1205p	1215p	1220p	1235p	1243p	1255p	100p
.....	.....	110p	.....	115p	125p	130p	145p	153p	205p	210p
.....	.....	210p	.....	215p	225p	230p	245p	253p	305p	310p
.....	.....	310p	.....	315p	325p	330p	345p	353p	405p	410p
.....	.....	410p	.....	415p	425p	430p	445p	453p	505p	510p
.....	.....	510p	.....	515p	525p	530p	545p	553p	605p	610p
610p	619p	.....	.....	626p	633p	636p	648p	655p	705p	710p
710p	719p	.....	.....	726p	733p	736p	748p	755p	805p	810p
.....	.....	.....	757p	801p	808p	811p	823p	830p	840p	845p

SATURDAY SERVICE: TO SPENCER USE ROUTE 19

Route 33

UNION STATION HUB-LEICESTER – SPENCER – EAST BROOKFIELD – BROOKFIELD via MAIN ST. & ROUTE 9

Effective Date: January 25, 2020

Worcester Regional Transit Authority



- Serving:**
- Union Station
 - Federal Building / U.S. Courthouse
 - YMCA Central Branch
 - Clark University
 - Webster Square
 - Webster Square Plaza
 - Becker College (Leicester campus)
 - Leicester Housing Authority
 - Leicester Wal-Mart
 - Western Worcester District Court

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.

French: Si vous désirez ces renseignements dans une autre langue, prière de vous servir de Google Translate qui se trouve à l'adresse suivante: www.therta.com.

Polish: Jeśli ta informacja jest potrzebna w innym języku, proszę odwiedzić www.therta.com i korzystać z Google Translate funkcji.

Vietnamese: Nếu thông tin này là cần thiết trong một ngôn ngữ khác, vui lòng truy cập www.therta.com và sử dụng các tính năng của Google Translate.

Chinese (Traditional): 如果此信息需要以另一種語言，請訪問www.therta.com並使用谷歌翻譯功能。

Swahili: Kama unahitaji habari hii katika nyingine lugha, unaweza kubonyeza mahali panaandikwa "Google Translate" hapa juu.

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33

UNION STATION HUB - Leicester - Spencer - East Brookfield - Brookfield via Main St & Route 9

33

Most Routes Serve:

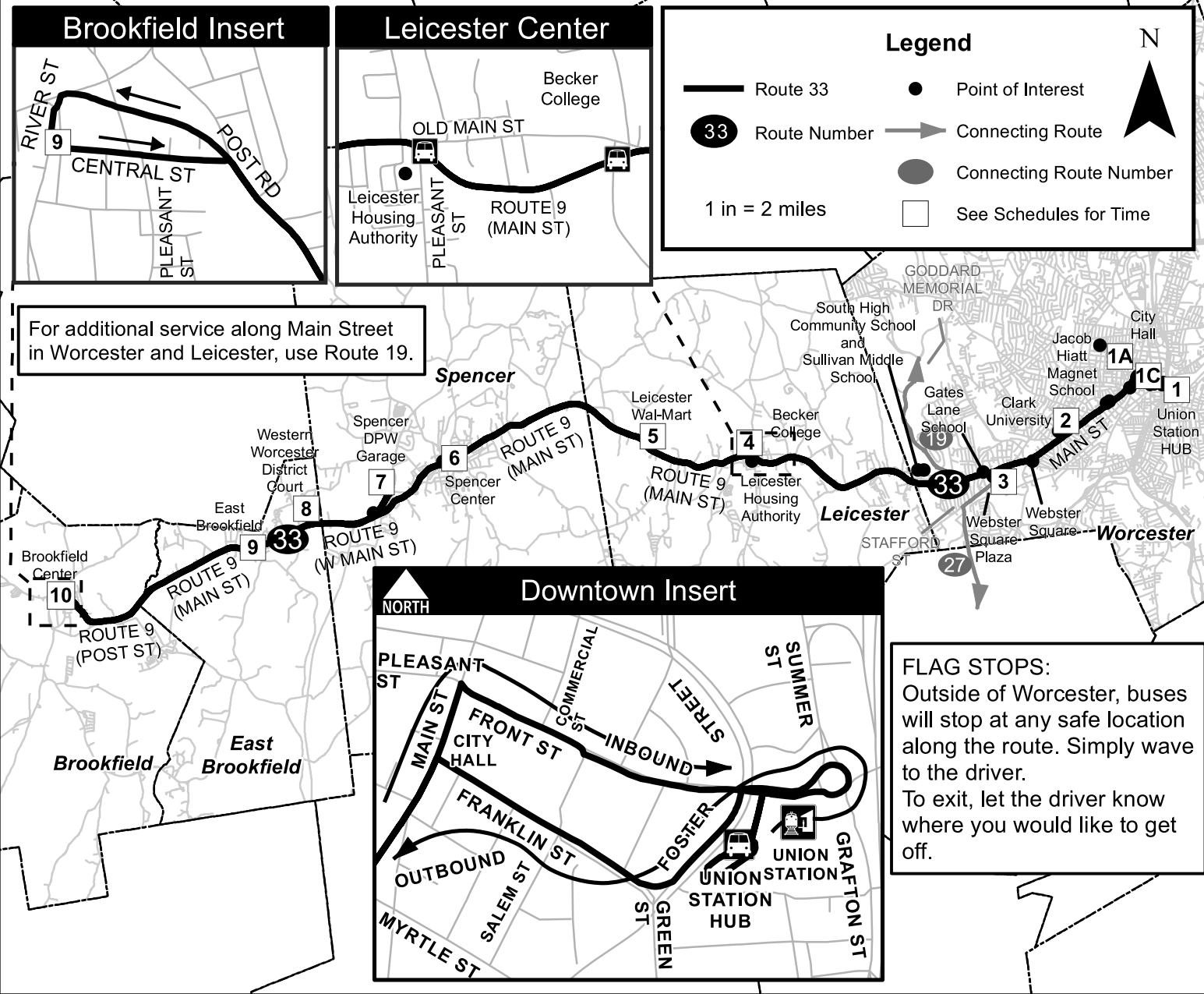
- ~ WRTA Customer Service Center/Hub
- ~ Union Station

Route 33 Serving:

- ~ Worcester City Hall
- ~ Federal Building/ U.S. Courthouse
- ~ YMCA Central Branch
- ~ Jacob Hiatt Magnet School
- ~ Clark University
- ~ Webster Square Plaza
- ~ Gates Lane School
- ~ Leicester Center
- ~ Leicester Wal-Mart
- ~ Spencer Center
- ~ Western Worcester District Court
- ~ East Brookfield Elementary School
- ~ Lake Lashaway
- ~ East Brookfield Center
- ~ Brookfield Center

Connecting Routes:

- Route 8
- Route 19
- Route 25
- Route 27



Thank You for riding the

Trip Generation and Parking Demand Worksheets

Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

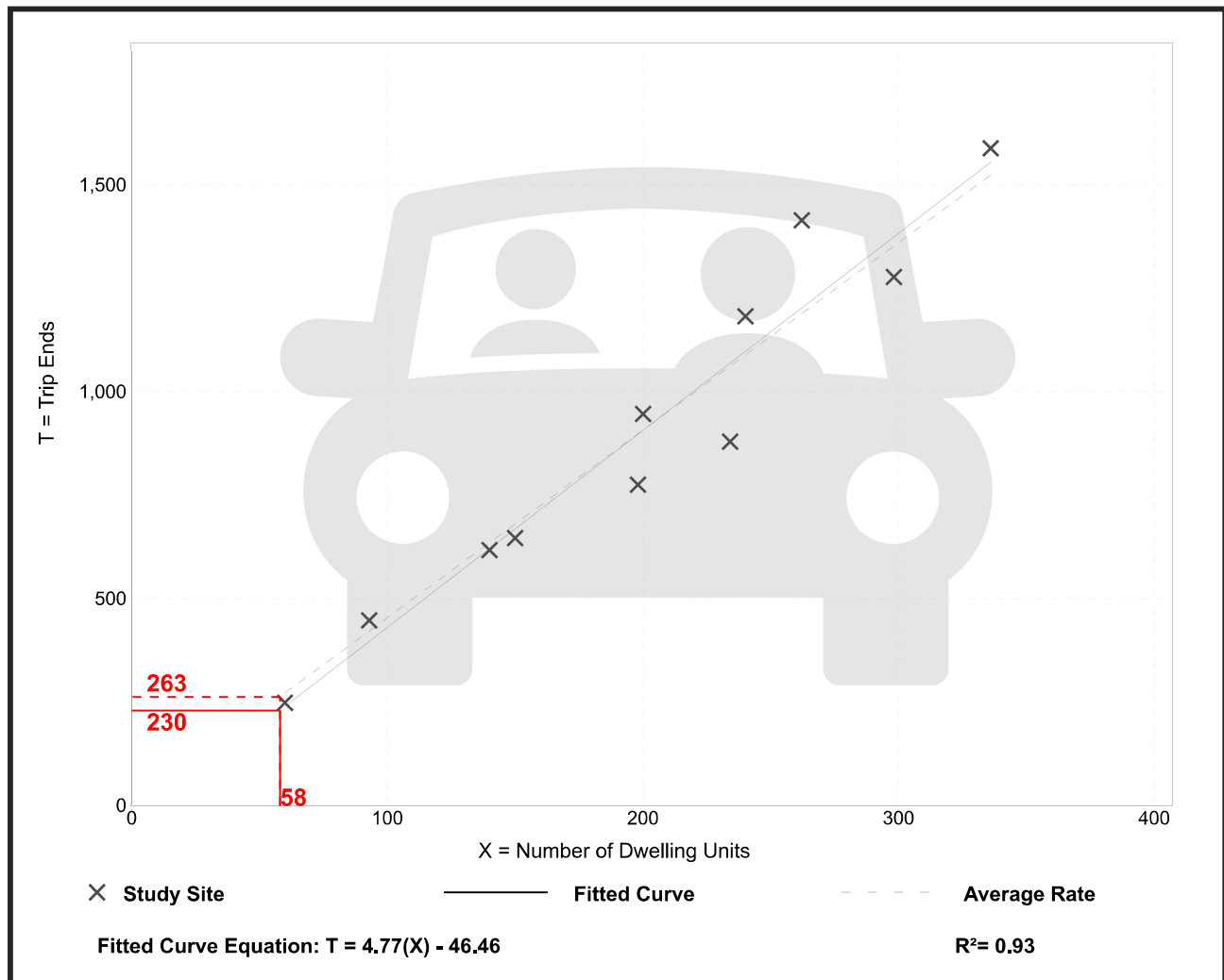
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. Num. of Dwelling Units: 201
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.54	3.76 - 5.40	0.51

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.

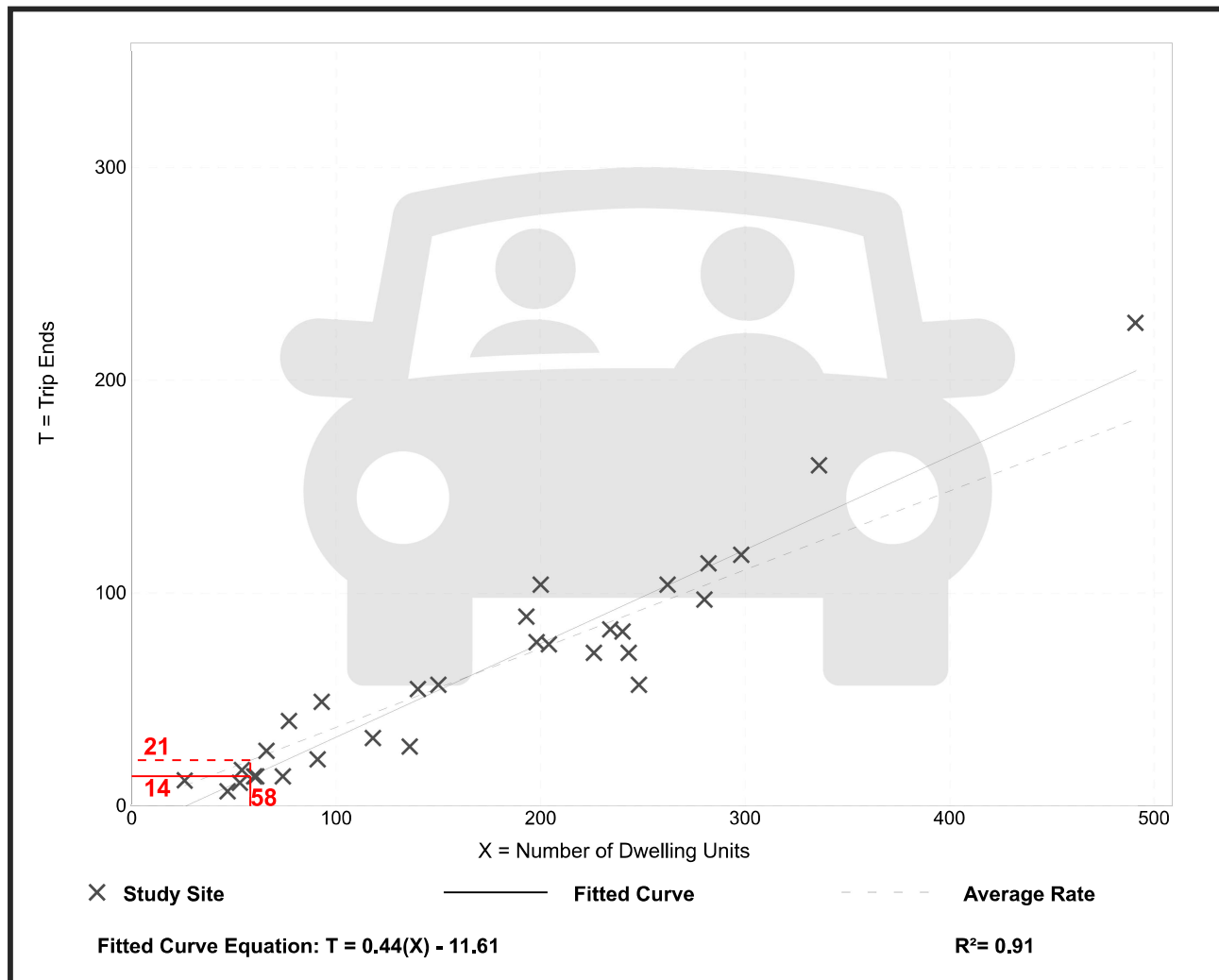
Setting/Location: General Urban/Suburban

Number of Studies: 30
 Avg. Num. of Dwelling Units: 173
 Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 31

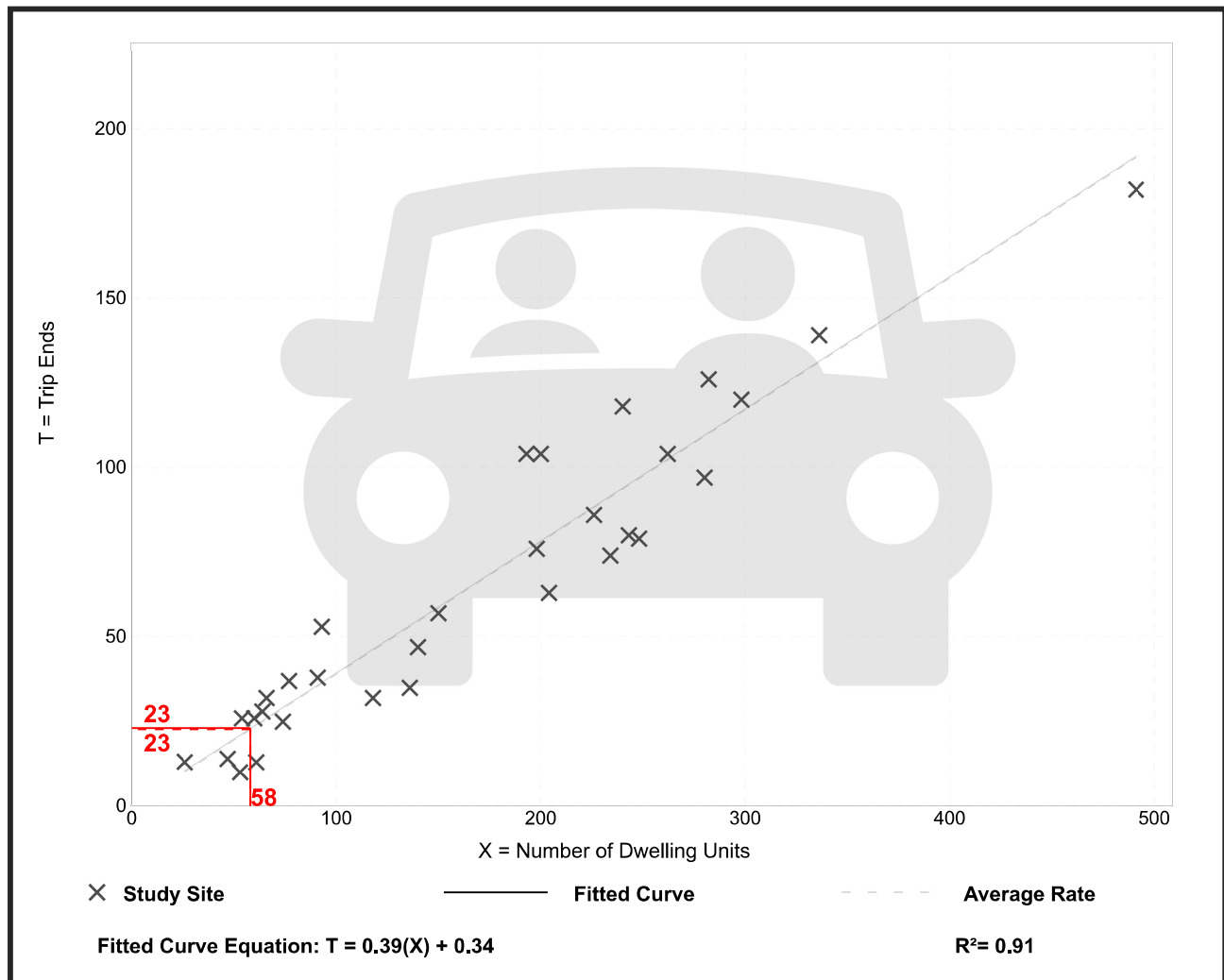
Avg. Num. of Dwelling Units: 169

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.57	0.08

Data Plot and Equation



Multifamily Housing - 1 BR (Mid-Rise) - Not Close to Rail Transit (218)

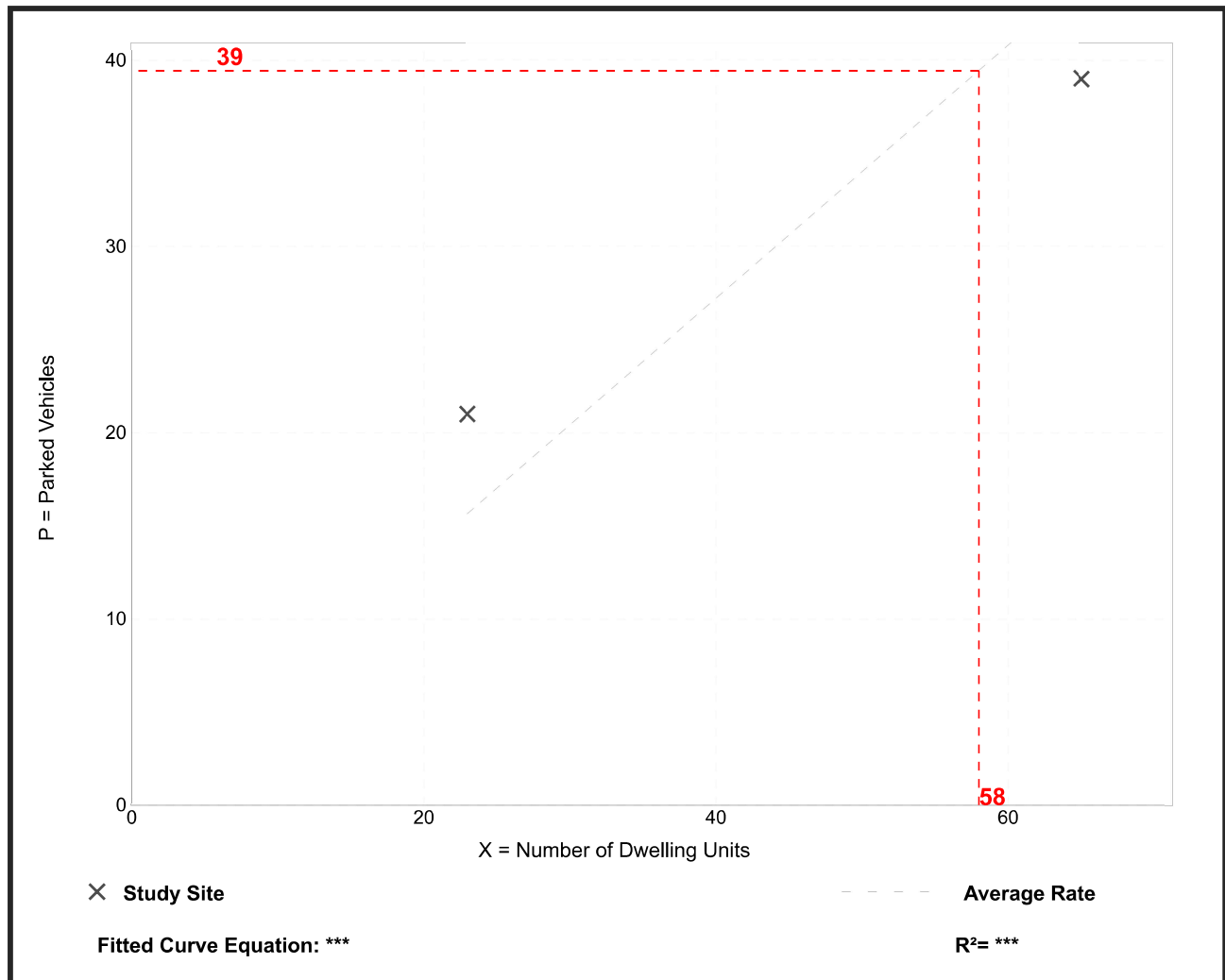
Peak Period Parking Demand vs: Dwelling Units
On a: Weekday (Monday - Friday)
Setting/Location: General Urban/Suburban
 Number of Studies: 2
 Avg. Num. of Dwelling Units: 44

Peak Period Parking Demand per Dwelling Unit

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.68	0.60 - 0.91	*** / ***	***	***

Data Plot and Equation

Caution – Small Sample Size



Trip Distribution Calculations

Capacity Analysis Worksheets

Intersection						
Int Delay, s/veh	1.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	596	26	9	331	39	7
Future Vol, veh/h	596	26	9	331	39	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	87	87	63	63
Heavy Vehicles, %	2	0	0	5	0	0
Mvmt Flow	648	28	10	380	62	11

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	676	0	1062
Stage 1	-	-	-	-	662
Stage 2	-	-	-	-	400
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	925	-	250
Stage 1	-	-	-	-	517
Stage 2	-	-	-	-	681
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	925	-	247
Mov Cap-2 Maneuver	-	-	-	-	247
Stage 1	-	-	-	-	517
Stage 2	-	-	-	-	671

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	23.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	266	-	-	925	-
HCM Lane V/C Ratio	0.274	-	-	0.011	-
HCM Control Delay (s)	23.6	-	-	8.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0	-

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	185	0	0	137	24	0	0	2	22	2	12
Future Vol, veh/h	9	185	0	0	137	24	0	0	2	22	2	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	74	74	74	50	50	50	90	90	90
Heavy Vehicles, %	11	2	2	0	3	0	0	0	0	5	0	8
Mvmt Flow	15	308	0	0	185	32	0	0	4	24	2	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	217	0	0	308	0	0	547	555	308	541	539	201
Stage 1	-	-	-	-	-	-	338	338	-	201	201	-
Stage 2	-	-	-	-	-	-	209	217	-	340	338	-
Critical Hdwy	4.21	-	-	4.1	-	-	7.1	6.5	6.2	7.15	6.5	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Follow-up Hdwy	2.299	-	-	2.2	-	-	3.5	4	3.3	3.545	4	3.372
Pot Cap-1 Maneuver	1301	-	-	1264	-	-	451	443	737	447	452	825
Stage 1	-	-	-	-	-	-	681	644	-	794	739	-
Stage 2	-	-	-	-	-	-	798	727	-	669	644	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1301	-	-	1264	-	-	437	437	737	440	446	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	437	437	-	440	446	-
Stage 1	-	-	-	-	-	-	671	635	-	783	739	-
Stage 2	-	-	-	-	-	-	783	727	-	656	635	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	9.9	12.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	737	1301	-	-	1264	-	-	522
HCM Lane V/C Ratio	0.005	0.012	-	-	-	-	-	0.077
HCM Control Delay (s)	9.9	7.8	0	-	0	-	-	12.5
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	620	48	12	355	45	13
Future Vol, veh/h	620	48	12	355	45	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	87	87	63	63
Heavy Vehicles, %	2	0	0	5	0	0
Mvmt Flow	674	52	14	408	71	21

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	726	0	1136
Stage 1	-	-	-	-	700
Stage 2	-	-	-	-	436
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	886	-	225
Stage 1	-	-	-	-	496
Stage 2	-	-	-	-	656
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	886	-	221
Mov Cap-2 Maneuver	-	-	-	-	221
Stage 1	-	-	-	-	496
Stage 2	-	-	-	-	643

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	27.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	249	-	-	886	-
HCM Lane V/C Ratio	0.37	-	-	0.016	-
HCM Control Delay (s)	27.7	-	-	9.1	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0	-

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	198	0	3	147	26	1	8	10	43	5	13
Future Vol, veh/h	10	198	0	3	147	26	1	8	10	43	5	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	74	74	74	50	50	50	90	90	90
Heavy Vehicles, %	11	2	2	0	3	0	0	0	0	5	0	8
Mvmt Flow	17	330	0	4	199	35	2	16	20	48	6	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	234	0	0	330	0	0	599	606	330	607	589	217
Stage 1	-	-	-	-	-	-	364	364	-	225	225	-
Stage 2	-	-	-	-	-	-	235	242	-	382	364	-
Critical Hdwy	4.21	-	-	4.1	-	-	7.1	6.5	6.2	7.15	6.5	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Follow-up Hdwy	2.299	-	-	2.2	-	-	3.5	4	3.3	3.545	4	3.372
Pot Cap-1 Maneuver	1282	-	-	1241	-	-	416	414	716	404	423	808
Stage 1	-	-	-	-	-	-	659	627	-	771	721	-
Stage 2	-	-	-	-	-	-	773	709	-	634	627	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1282	-	-	1241	-	-	398	406	716	375	415	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	398	406	-	375	415	-
Stage 1	-	-	-	-	-	-	648	617	-	759	718	-
Stage 2	-	-	-	-	-	-	750	706	-	591	617	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	12.4	15
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	525	1282	-	-	1241	-	-	427
HCM Lane V/C Ratio	0.072	0.013	-	-	0.003	-	-	0.159
HCM Control Delay (s)	12.4	7.8	0	-	7.9	0	-	15
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	620	48	14	355	47	18
Future Vol, veh/h	620	48	14	355	47	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	87	87	63	63
Heavy Vehicles, %	2	0	0	5	0	0
Mvmt Flow	674	52	16	408	75	29

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	726	0	1140
Stage 1	-	-	-	-	700
Stage 2	-	-	-	-	440
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	886	-	224
Stage 1	-	-	-	-	496
Stage 2	-	-	-	-	653
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	886	-	219
Mov Cap-2 Maneuver	-	-	-	-	219
Stage 1	-	-	-	-	496
Stage 2	-	-	-	-	638

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	28.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	255	-	-	886	-
HCM Lane V/C Ratio	0.405	-	-	0.018	-
HCM Control Delay (s)	28.4	-	-	9.1	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.1	-

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	198	1	4	147	26	3	15	15	43	7	13
Future Vol, veh/h	10	198	1	4	147	26	3	15	15	43	7	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	74	74	74	50	50	50	90	90	90
Heavy Vehicles, %	11	2	2	0	3	0	0	0	0	5	0	8
Mvmt Flow	17	330	2	5	199	35	6	30	30	48	8	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	234	0	0	332	0	0	603	609	331	622	593	217
Stage 1	-	-	-	-	-	-	365	365	-	227	227	-
Stage 2	-	-	-	-	-	-	238	244	-	395	366	-
Critical Hdwy	4.21	-	-	4.1	-	-	7.1	6.5	6.2	7.15	6.5	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Follow-up Hdwy	2.299	-	-	2.2	-	-	3.5	4	3.3	3.545	4	3.372
Pot Cap-1 Maneuver	1282	-	-	1239	-	-	414	412	715	395	421	808
Stage 1	-	-	-	-	-	-	658	627	-	769	720	-
Stage 2	-	-	-	-	-	-	770	708	-	624	626	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1282	-	-	1239	-	-	395	403	715	351	412	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	395	403	-	351	412	-
Stage 1	-	-	-	-	-	-	647	617	-	757	716	-
Stage 2	-	-	-	-	-	-	744	704	-	560	616	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.2			13.3			15.7		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	502	1282	-	-	1239	-	-	405
HCM Lane V/C Ratio	0.131	0.013	-	-	0.004	-	-	0.173
HCM Control Delay (s)	13.3	7.8	0	-	7.9	0	-	15.7
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.6

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	256	0	1	177	0	2
Future Vol, veh/h	256	0	1	177	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	0	1	192	0	2

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	278	0	472
Stage 1	-	-	-	-	278
Stage 2	-	-	-	-	194
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1285	-	551
Stage 1	-	-	-	-	769
Stage 2	-	-	-	-	839
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1285	-	550
Mov Cap-2 Maneuver	-	-	-	-	550
Stage 1	-	-	-	-	769
Stage 2	-	-	-	-	838

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	761	-	-	1285	-
HCM Lane V/C Ratio	0.003	-	-	0.001	-
HCM Control Delay (s)	9.7	-	-	7.8	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	0	0	26	10	2
Future Vol, veh/h	7	0	0	26	10	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	0	0	28	11	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	40	12	13	0	0
Stage 1	12	-	-	-	-
Stage 2	28	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	972	1069	1606	-	-
Stage 1	1011	-	-	-	-
Stage 2	995	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	972	1069	1606	-	-
Mov Cap-2 Maneuver	972	-	-	-	-
Stage 1	1011	-	-	-	-
Stage 2	995	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1606	-	972	-	-
HCM Lane V/C Ratio	-	-	0.008	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	0	0	19	8	2
Future Vol, veh/h	7	0	0	19	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	0	0	21	9	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	31	10	11	0	0
Stage 1	10	-	-	-	-
Stage 2	21	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	983	1071	1608	-	-
Stage 1	1013	-	-	-	-
Stage 2	1002	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	983	1071	1608	-	-
Mov Cap-2 Maneuver	983	-	-	-	-
Stage 1	1013	-	-	-	-
Stage 2	1002	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1608	-	983	-	-
HCM Lane V/C Ratio	-	-	0.008	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	461	21	7	540	16	9
Future Vol, veh/h	461	21	7	540	16	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	94	94	73	73
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	512	23	7	574	22	12

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	535	0	1112
Stage 1	-	-	-	-	524
Stage 2	-	-	-	-	588
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1043	-	233
Stage 1	-	-	-	-	598
Stage 2	-	-	-	-	559
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1043	-	231
Mov Cap-2 Maneuver	-	-	-	-	231
Stage 1	-	-	-	-	598
Stage 2	-	-	-	-	553

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	293	-	-	1043	-
HCM Lane V/C Ratio	0.117	-	-	0.007	-
HCM Control Delay (s)	18.9	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	69	1	1	205	21	1	1	0	11	3	18
Future Vol, veh/h	5	69	1	1	205	21	1	1	0	11	3	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	85	85	85	50	50	50	62	62	62
Heavy Vehicles, %	0	3	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	5	74	1	1	241	25	2	2	0	18	5	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	266	0	0	75	0	0	358	353	75	342	341	254
Stage 1	-	-	-	-	-	-	85	85	-	256	256	-
Stage 2	-	-	-	-	-	-	273	268	-	86	85	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1310	-	-	1537	-	-	601	575	992	616	584	790
Stage 1	-	-	-	-	-	-	928	828	-	753	699	-
Stage 2	-	-	-	-	-	-	737	691	-	927	828	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1310	-	-	1537	-	-	573	572	992	612	581	790
Mov Cap-2 Maneuver	-	-	-	-	-	-	573	572	-	612	581	-
Stage 1	-	-	-	-	-	-	924	825	-	750	698	-
Stage 2	-	-	-	-	-	-	704	690	-	921	825	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	11.3	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	572	1310	-	-	1537	-	-	697
HCM Lane V/C Ratio	0.007	0.004	-	-	0.001	-	-	0.074
HCM Control Delay (s)	11.3	7.8	0	-	7.3	0	-	10.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	445	75	13	579	19	13
Future Vol, veh/h	445	75	13	579	19	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	94	94	73	73
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	494	83	14	616	26	18

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	577	0	1180
Stage 1	-	-	-	-	536
Stage 2	-	-	-	-	644
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1006	-	212
Stage 1	-	-	-	-	591
Stage 2	-	-	-	-	527
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1006	-	208
Mov Cap-2 Maneuver	-	-	-	-	208
Stage 1	-	-	-	-	591
Stage 2	-	-	-	-	516

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	20.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	278	-	-	1006	-
HCM Lane V/C Ratio	0.158	-	-	0.014	-
HCM Control Delay (s)	20.4	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	74	2	9	220	23	2	6	5	61	11	19
Future Vol, veh/h	5	74	2	9	220	23	2	6	5	61	11	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	85	85	85	50	50	50	62	62	62
Heavy Vehicles, %	0	3	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	5	80	2	11	259	27	4	12	10	98	18	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	286	0	0	82	0	0	410	399	81	397	387	273
Stage 1	-	-	-	-	-	-	91	91	-	295	295	-
Stage 2	-	-	-	-	-	-	319	308	-	102	92	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1288	-	-	1528	-	-	556	542	985	567	551	771
Stage 1	-	-	-	-	-	-	921	823	-	718	673	-
Stage 2	-	-	-	-	-	-	697	664	-	909	823	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1288	-	-	1528	-	-	515	535	985	546	544	771
Mov Cap-2 Maneuver	-	-	-	-	-	-	515	535	-	546	544	-
Stage 1	-	-	-	-	-	-	917	820	-	715	667	-
Stage 2	-	-	-	-	-	-	646	658	-	883	820	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.3			10.8			13.3		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	644	1288	-	-	1528	-	-	581
HCM Lane V/C Ratio	0.04	0.004	-	-	0.007	-	-	0.253
HCM Control Delay (s)	10.8	7.8	0	-	7.4	0	-	13.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	1

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	445	77	17	579	20	16
Future Vol, veh/h	445	77	17	579	20	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	94	94	73	73
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	494	86	18	616	27	22

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	580	0	1189
Stage 1	-	-	-	-	537
Stage 2	-	-	-	-	652
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1004	-	210
Stage 1	-	-	-	-	590
Stage 2	-	-	-	-	522
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1004	-	204
Mov Cap-2 Maneuver	-	-	-	-	204
Stage 1	-	-	-	-	590
Stage 2	-	-	-	-	508

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	20.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	283	-	-	1004	-
HCM Lane V/C Ratio	0.174	-	-	0.018	-
HCM Control Delay (s)	20.4	-	-	8.7	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	74	4	13	220	23	3	10	8	61	17	19
Future Vol, veh/h	5	74	4	13	220	23	3	10	8	61	17	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	85	85	85	50	50	50	62	62	62
Heavy Vehicles, %	0	3	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	5	80	4	15	259	27	6	20	16	98	27	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	286	0	0	84	0	0	424	408	82	413	397	273
Stage 1	-	-	-	-	-	-	92	92	-	303	303	-
Stage 2	-	-	-	-	-	-	332	316	-	110	94	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1288	-	-	1526	-	-	544	536	983	553	544	771
Stage 1	-	-	-	-	-	-	920	823	-	711	667	-
Stage 2	-	-	-	-	-	-	686	659	-	900	821	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1288	-	-	1526	-	-	496	527	983	522	535	771
Mov Cap-2 Maneuver	-	-	-	-	-	-	496	527	-	522	535	-
Stage 1	-	-	-	-	-	-	916	820	-	708	659	-
Stage 2	-	-	-	-	-	-	624	651	-	860	818	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.4	11.1	13.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	633	1288	-	-	1526	-	-	560
HCM Lane V/C Ratio	0.066	0.004	-	-	0.01	-	-	0.279
HCM Control Delay (s)	11.1	7.8	0	-	7.4	0	-	13.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	1.1

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	143	0	2	256	0	1
Future Vol, veh/h	143	0	2	256	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	155	0	2	278	0	1

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	155	0	437
Stage 1	-	-	-	-	155
Stage 2	-	-	-	-	282
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1425	-	577
Stage 1	-	-	-	-	873
Stage 2	-	-	-	-	766
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1425	-	576
Mov Cap-2 Maneuver	-	-	-	-	576
Stage 1	-	-	-	-	873
Stage 2	-	-	-	-	764

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	891	-	-	1425	-
HCM Lane V/C Ratio	0.001	-	-	0.002	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	0	0	17	28	6
Future Vol, veh/h	4	0	0	17	28	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	0	18	30	7

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	52	34	37	0	0
Stage 1	34	-	-	-	-
Stage 2	18	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	957	1039	1574	-	-
Stage 1	988	-	-	-	-
Stage 2	1005	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	957	1039	1574	-	-
Mov Cap-2 Maneuver	957	-	-	-	-
Stage 1	988	-	-	-	-
Stage 2	1005	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1574	-	957	-	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	0	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	4	0	0	13	22	6
Future Vol, veh/h	4	0	0	13	22	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	0	14	24	7

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	42	28	31	0	0
Stage 1	28	-	-	-	-
Stage 2	14	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	969	1047	1582	-	-
Stage 1	995	-	-	-	-
Stage 2	1009	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	969	1047	1582	-	-
Mov Cap-2 Maneuver	969	-	-	-	-
Stage 1	995	-	-	-	-
Stage 2	1009	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1582	-	969	-	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Certified Abutters List

A list of 'parties in interest' shall be attached to the application form and shall include the names and addresses. All such names and addresses shall be obtained from the most recent applicable tax list maintained by the City's Assessing Department. The Assessing Department certifies the list of names and addresses.

Total Count: 77

Parcel Address: 06-028-0004B 30 LAGRANGE ST & 03-001-0001A 96 BEACON ST
Assessor's Map-Block-Lot(s): 03-001-00001 35 LAGRANGE ST & 03-001-00008 98 BEACON ST
06-028-00019 42 LAGRANGE ST
06-028-00001 44 LAGRANGE ST
03-001-00005 47 LAGRANGE ST
06-028-00014 50 LAGRANGE ST
06-028-00015 47 OREAD ST

Owner: MULTIPLE

Owner Mailing: _____

Petitioner (if other than owner): STEPHANIE FLEMING
Petitioner Mailing Address: 311 MAIN ST
WORCESTER, MA 01608

Petitioner Phone: 508-926-3346

Planning: X

Zoning: _____

License
Commission: _____

Conservation
Commission: _____

Historical: _____

Cannabis: _____

Other: _____

03-002-14+15	ZITOMERSKI FRANK A TRUSTEE	800 MAIN STREET	WORCESTER MA 01610
03-003-10+20	BRADY SULLIVAN WORCESTER	0670 N COMMERCIAL ST STE 303	MANCHESTER NH 03101
03-002-12+13	ROTHSCHILD STEVEN M TRUSTEE	40 JACKSON ST - SUITE 1000	WORCESTER MA 01608
03-002-08+11	ROTHSCHILD STEVEN M TRUSTEE	40 JACKSON ST - SUITE 1000	WORCESTER MA 01608
06-027-05+15	HOUSING OPPORTUNITY GROUP LLP	0049 WALL ST	WORCESTER MA 01604
06-028-21+23	ROMERO JULIO	31 GATES ST #1	WORCESTER MA 01610
03-002-00017	LAGRANGE STREET HOLDING CORP	0800 MAIN ST	WORCESTER MA 01608
03-001-00002	BRADY SULLIVAN WORCESTER	0670 N COMMERCIAL ST STE 303	MANCHESTER NH 03101
03-004-00005	BRIDGESOUTH REAL ESTATE DEVELOPMENT	PO BOX 206	NEWTON MA 02468
03-002-00010	LAGRANGE STREET HOLDING CORP	0800 MAIN ST	WORCESTER MA 01608
03-001-00003	BRADY SULLIVAN WORCESTER	0670 N COMMERCIAL ST	MANCHESTER NH 03101
03-004-00002	BRADY SULLIVAN WORCESTER	0670 N COMMERCIAL ST STE 303	MANCHESTER NH 03101
03-003-00012	CLARK ROBERT H JR + GERALD M	41 JACKSON ST	WORCESTER MA 01608
06-028-00006	IGLESIA CRISTIANA DE LA COMUNIDAD	0108 BEACON ST	WORCESTER MA 01608
06-028-00005	TRINITY ESTATE INVESTMENTS +	0108 BEACON ST	WORCESTER MA 01608
03-002-00018	LAGRANGE STREET HOLDING CORP	0800 MAIN ST	WORCESTER MA 01608
03-004-00004	295 LOT LLC	0295 SOUTHBRIDGE ST	WORCESTER MA 01608
03-001-00012	PROVIDENCE + WORCESTER RR CO	0100 CONGRESS AVE SUITE 1900	AUSTIN TX 78701
06-028-00001	KROSOCZKA STEPHEN A + JOSEPH M	0047 LAGRANGE STREET	WORCESTER MA 01610
06-028-00017	FRANCESCHI MARIA L	0114 BEACON ST	WORCESTER MA 01608
06-028-00020	RIVERA JOSE M +	0076 WILLOW HILL RD	CHERRY VALLEY MA 01611
06-028-00011	MAIN SOUTH COMMUNITY DEVELOPMENT	0875 MAIN ST	WORCESTER MA 01610
06-032-049-1	CHEN JIAJIE + SHANG LIWEI	0002 LEONS WAY	HOPKINTON MA 01748
06-032-051-2	CHEN JIAJIE + SHANG LIWEI	0002 LEONS WAY	HOPKINTON MA 01748
06-028-00008	MOORE ROBERT W II + JENNIE P TRUSTE	0010 WOOD DR	MENDON MA 01756
06-032-00038	QUIEWAY DAVID C	45 BENEFIT ST # 3	WORCESTER MA 01610
06-027-0000A	SALINAS MAURICIO A	11 MARANOOK RD	WORCESTER MA 01606
06-027-0000B	OTHMAN SALAH	0020 LAGRANGE ST UNIT B	WORCESTER MA 01610
06-027-0000C	CASTRO HERACLIDES F + EUDOCIA	0020 LAGRANGE ST	WORCESTER MA 01610
03-002-00016	F-Z REALTY + HOLDINGS LLC	0800 MAIN ST	WORCESTER MA 01608
03-001-0001A	98 BEACON STREET LLC	0002 TAMMIE RD	HOPEDALE MA 01747
06-027-00003	LOPEZ HERIBERTO +	0022 LAGRANGE ST	WORCESTER MA 01610
03-001-00008	98 BEACON STREET LLC	0002 TAMMIE RD	HOPEDALE MA 01747
06-027-00001	THE 24-26 LAGRANGE ST LTD PRTS	800 MAIN STREET	WORCESTER MA 01610
03-001-00001	KROSOCZKA JOSEPH M + STEPHEN A	0047 LAGRANGE ST	WORCESTER MA 01610
06-027-00002	MEDERO JOSE L	386 MAIN STREET	SOUTHBRIDGE MA 01550
06-027-00019	FLORES ROGER E + REGALADO GENOVEVA	0109 BEACON ST	WORCESTER MA 01608
03-001-00015	US SPRINT COMMUNICATIONS COMPANY	PO BOX 12913	SHAWNEE MISSION KS 66212
06-027-00014	NGUYEN HANH	0113 BEACON ST	WORCESTER MA 01608
06-028-00007	CLARA MIGUEL	0080 OREAD ST	WORCESTER MA 01608
03-001-00005	SEM TEC INC	47 LAGRANGE ST	WORCESTER MA 01608
03-001-00006	PROVIDENCE + WORCESTER RR CO	0100 CONGRESS AVE SUITE 1900	AUSTIN TX 78701
06-029-00010	MAIN SOUTH COMMUNITY DEVELOPMENT	0875 MAIN ST	WORCESTER MA 01608

06-027-00013	NGUYEN HUYNHMAI N +	0015 BALMORAL ST	WORCESTER MA 01602
06-027-00012	ATHERLEY ALEXANDER C + PAULINE	41 OREAD ST	WORCESTER MA 01608
06-028-00019	KROSOCZKA JOSEPH M + STEPHEN A	0047 LAGRANGE ST	WORCESTER MA 01610
06-028-0004B	KROSOCZKA STEPHEN A + JOSEPH M	47 LAGRANGE ST	WORCESTER MA 01610
06-029-00034	MAIN SOUTH COMMUNITY DEVELOPMENT	0875 MAIN ST	WORCESTER MA 01610
05-012-00010	JUNCTION DEVELOPMENT LLC	0011 MONADNOCK RD	WORCESTER MA 01609
06-029-00001	LLANOS RAMON A +	0054 OREAD ST	WORCESTER MA 01610
06-028-00016	ZHAO HUA	0131 MAIN ST	NORTH ANDOVER MA 01845
06-028-00015	KROSOCZKA STEPHEN A + JOSEPH M	47 LA GRANGE ST	WORCESTER MA 01610
06-029-00004	WATTS JILL W +	0129 BEACON ST	WORCESTER MA 01610
06-028-00012	MAIN SOUTH COMMUNITY DEVELOPMENT	0875 MAIN ST	WORCESTER MA 01610
05-012-00013	SOUTHBRIDGE TIC-1 LLC +	0001 CREST RD	WELLESLEY MA 02482
06-028-00014	KROSOCZKA JOSEPH M + STEPHEN A	0047 LAGRANGE ST	WORCESTER MA 01610
06-029-00005	MAVERICK DEVELOPMENT COMPANY LLC	37 BENEFIT ST	WORCESTER MA 01610
06-028-00022	GRAJALES JOSE A	28 SANDPIPER DR	SHREWSBURY MA 01545
06-032-00001	AGUILAR JOSE C	0189 HOLYOKE ST	LYNN MA 01905
06-028-00009	MAIN SOUTH COMMUNITY DEVELOPMENT	0875 MAIN ST	WORCESTER MA 01608
06-028-00013	MONZON EDUARDO	0069 OREAD ST #1	WORCESTER MA 01608
06-032-00002	ELYSEE RAMUEL	0134 BEACON ST	WORCESTER MA 01610
07-028-00001	PROVIDENCE + WORCESTER RR CO	0100 CONGRESS AVE SUITE 1900	AUSTIN TX 78701
05-012-16-21	TALBERT THELMA TRUSTEE + KULL + B	306 MAIN ST	WORCESTER MA 01608
06-032-00003	47 BENEFIT LLC	0003 LOWELL ST UNIT 1	WALTHAM MA 02453
06-028-00018	GRAJALES JOSE A	28 SANDPIPER DR	SHREWSBURY MA 01545
05-012-0026A	GRENACHE KATHLEEN J TRUSTEE	0073 ST NICHOLAS AVE	WORCESTER MA 01606
06-032-00005	VONG KIM	0597 FULTON ST	MEDFORD MA 02155
07-028-00003	PROVIDENCE + WORCESTER RR CO	0100 CONGRESS AVE SUITE 1900	AUSTON TX 78701
06-032-00006	MARTINEZ RAFAEL	0059 BENEFIT ST APT 1	WORCESTER MA 01610
06-032-00030	PAUL LYDIE	0005 MORTON CT	WORCESTER MA 01610
06-032-00040	TRAN SON	0103 MILL ST	WORCESTER MA 01603
05-012-00027	JOMO LLC	0350 SOUTHBRIDGE ST	WORCESTER MA 01608
RR-ROW-OCSXT	NEW YORK CENTRAL LINES LLC	Tax Dept-C910 500 WATER ST	JACKSONVILLE FL 32202
RR-ROW-000PW	PROVIDENCE & WORCESTER RAILROAD CO	75 HAMMOND ST	WORCESTER MA 01610
06-032-00031	MARTINEZ RAFAEL	59 1/2 BENEFIT ST	WORCESTER MA 01610
07-028-00002	PROVIDENCE + WORCESTER RR CO	0100 CONGRESS AVE SUITE 1900	AUSTIN TX 78701

This is to certify that the above is a list of abutters to Assessor's Map-Block-Lot's 06-028-0004B & others as cited above.

Certified by:



Signature

10/12/2023

Date



Abutters Map

