WORCESTER, MASSACHUSETTS

48 Mason Street

Transportation Impact Study

Prepared for
City of Worcester

Prepared by
Howard Stein Hudson

March 2023

HOWARD STEIN HUDSON

Engineers + Planners

HOWARD STEIN HUDSON

March 30, 2023

City of Worcester
455 Main Street
Worcester, MA 01608

Re: 48 Mason Street Transportation Impact Study (TIS)

Dear Reviewer:

This letter shall certify that this Transportation Impact Study (TIS) has been prepared under my direct supervision and responsible charge. I am a Registered Professional Engineer (P.E.) in the Commonwealth of Massachusetts (Massachusetts P.E. No. 47252) and hold Certification as a Professional Traffic Operations Engineer (PTOE Certificate No. 906) from the Transportation Professional Certification Board, Inc. (TPCB), an independent affiliate of the Institute of Transportation Engineers (ITE).

Sincerely,

Keri Pyke, P.E., PTOE
Principal of Transportation Planning and Land Development

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Introduction

In accordance with the City of Worcester's *Guidelines for Performing Traffic Impact Studies*, proponents of major construction projects are required to submit a transportation study to the City that assesses existing and future traffic conditions. This study, prepared by ***Howard Stein Hudson (HSH)*** for Kensington Management, LLC (the Proponent), presents the traffic and parking impacts associated with the proposed development located at 48 Mason Street in Worcester, Massachusetts. This report has been prepared in conjunction with the Site Plan Application.

Project Description

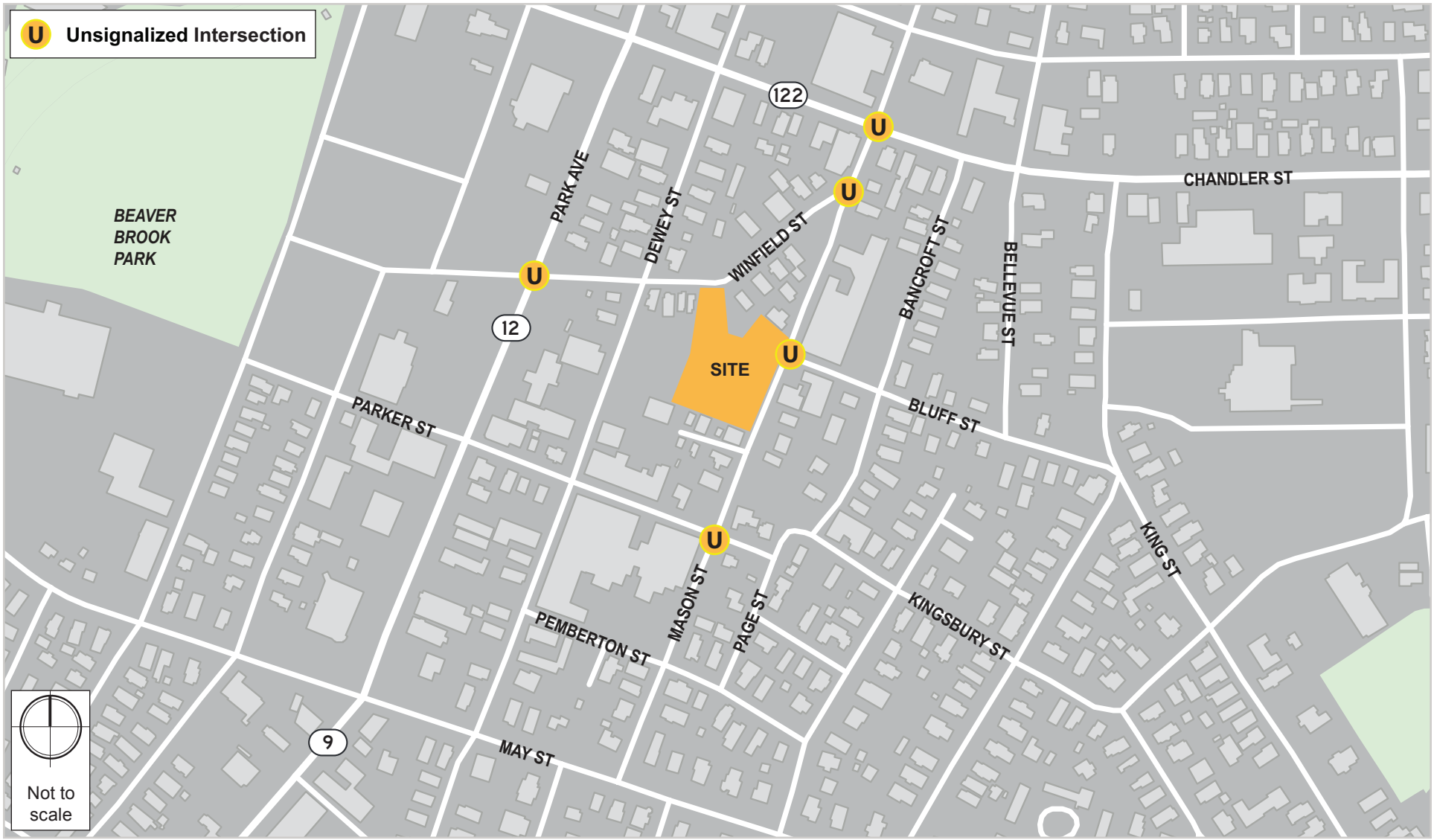
The Project will consist of the construction of a seven-story approximately 94-unit affordable multifamily development. Vehicular access will be provided via Mason Street and Winfield Street to a surface parking lot with approximately 66 parking spaces.

Study Area

The extent of the study area generally includes Mason Street to the east, Park Street to west Chandler Street to the north, and May Street to the south. The study area, shown in **Figure 1**, was defined collaboratively with the City and includes the following five unsignalized intersections:

- Mason Street/Chandler Street (Route 122);
- Mason Street/Bluff Street;
- Mason Street/Parker Street;
- Park Avenue (Route 12)/Winfield Street; and
- Mason Street/Winfield Street.

Figure 1. ***Study Area***



Study Methodology

This transportation study and its supporting analyses were conducted in accordance with the Massachusetts Department of Transportation (MassDOT) guidelines and are described below.

The Existing (2023) Condition analysis includes an inventory of the existing transportation conditions such as traffic characteristics, parking and curb usage, transit operations, pedestrian and bicycle facilities, and car and bike share services. Existing counts for vehicles, bicycles, and pedestrians were collected at the study area intersections. A traffic data collection effort forms the basis for the transportation analysis conducted as part of this evaluation.

The future transportation conditions analysis evaluates potential transportation impacts associated with the Project. The long-term transportation impacts are evaluated for the year 2030, based on a seven-year horizon from the year of the filing of this traffic study.

The No-build (2030) Condition analysis includes general background traffic growth, traffic growth associated with specific developments (not including this Project), and transportation improvements that are planned in the vicinity of the Project site.

The Build (2030) Condition analysis includes a net increase in traffic volume due to the addition of Project-generated trip estimates to the traffic volumes developed as part of the No-build (2030) Condition analysis. The transportation study identified expected roadway, parking, transit, pedestrian, and bicycle accommodations, as well as loading capabilities.

The final part of the transportation study identifies measures to mitigate Project-related impacts and to address any traffic, pedestrian, bicycle, transit, safety, or construction related issues that are necessary to accommodate the Project.

Existing Condition

Existing Roadway Conditions

The study area includes the following roadways described below, categorized according to the Massachusetts Office of Transportation Planning classifications. Roadway geometry descriptions are based on field observations.

Mason Street is a two-way local roadway between Pleasant Street to the north and May Street to the south under City of Worcester jurisdiction. Within the study area, sidewalks and on-street parking are provided along both sides of Mason Street.

Chandler Street is a two-way urban principal arterial roadway between Main Street to the east and May Street to the west under City of Worcester jurisdiction. Within the study area, sidewalks are provided along both sides of the roadway, and on-street parking is permitted.

Bluff Street is a two-way local roadway between King Street to the east and Mason Street to the west under City of Worcester jurisdiction. Within the study area, sidewalks are provided along both sides of the roadway, and on-street parking is permitted.

Parker Street is a two-way local roadway between Page Street and Mayfield Street to the west, under City of Worcester jurisdiction. Within the study area, sidewalks are provided along both sides of the roadway, and on-street parking is permitted.

Park Avenue is a two-way urban principal arterial between Grove Street to the north and Main Street to the south, under the City of Worcester jurisdiction. Within the study area, sidewalks are provided along both sides of the road, and on-street parking is generally permitted along the east side of Park Avenue only.

Winfield Street is a one-way eastbound local roadway between Mason Street to the east and Park Avenue to the west, under City of Worcester jurisdiction. Within the study area, sidewalks are provided along both sides of the roadway, and on-street parking is permitted.

Existing Intersection Conditions

Mason Street/Chandler Street (Route 122) is an unsignalized intersection with four approaches. The Chandler Street eastbound and westbound approaches each consist of a 10-foot-wide shared left-turn/through lane and a 10-foot-wide shared through/right-turn lane. The Mason Street northbound and southbound approaches are stop-controlled, and each consist of a 12-foot-wide general travel lane. Sidewalks are provided along every approach of the intersection with crosswalks across every approach except for the westbound approach. On-street parking is permitted along every approach.

Mason Street/Bluff Street is an unsignalized intersection with three approaches. The Bluff Street westbound approach is stop-controlled and consists of a 12-foot-wide shared left-turn/right-turn lane. The Mason Street northbound and southbound approaches each consist of a 12-foot-wide shared through/right-turn lane and a 12-foot-wide shared left-turn/through lane, respectively. Sidewalks are

provided along every approach; however, no crosswalks are provided. On-street parking is permitted along every approach.

Mason Street/Parker Street is an unsignalized intersection with four approaches. The Parker Street eastbound and westbound approaches are stop-controlled, and each consist of a 12-foot-wide general travel lane. The Mason Street northbound and southbound approach each consist of a 12-foot-wide general travel lane. Sidewalks are provided along every approach except for the Mason Street northbound approach. Crosswalks are not provided across any approach. On-street parking is permitted along every approach.

Park Avenue (Route 12)/Winfield Street is an unsignalized intersection with two approaches. The Park Avenue northbound approach consists of a 10-foot-wide exclusive through lane and 10-foot-wide exclusive through/right-turn lane. The Park Avenue southbound approach consists of a 10-foot-wide shared left-turn/through lane and a 10-foot-wide exclusive through lane. Winfield Street eastbound is one-way leaving the intersection. Sidewalks are provided along every approach with a crosswalk across Winfield Street. On-street parking is only permitted along Winfield Street.

Mason Street/Winfield Street is an unsignalized intersection with three approaches. The Winfield Street eastbound approach is stop-controlled and consists of a 12-foot-wide shared left-turn/right-turn lane. The Mason Street northbound and southbound approaches each consist of a 12-foot-wide exclusive through lane. Sidewalks are provided along every approach; however, no crosswalks are provided. Parking is permitted along every approach.

Existing On-Street Parking and Curb Use

An inventory of the on-street parking regulations and existing curb use in the vicinity of the Site was collected and is shown in **Figure 2**. Within the study area, parking generally consists of no parking, unrestricted parking, commercial loading, and one-hour parking.

Existing Car Sharing Services

Car sharing enables easy access to short-term vehicular transportation. Vehicles are rented on an hourly or daily basis, and all vehicle costs (gas, maintenance, insurance, and parking) are included in the rental fee. Vehicles are checked out for a specific time period and returned to their designated location.

Zipcar is the primary company in the Greater Boston area car sharing market; however, other companies such as Turo and Getaround also operate within the City of Worcester. The two closest Zipcar locations are located within a half-mile from the Project Site, at Clark University.

Figure 2. *On-Street Parking and Curb Regulations*

Existing Traffic Volumes

TURNING MOVEMENT COUNTS

Turning movement counts (TMCs) and vehicle classification counts were conducted during the weekday a.m. and p.m. peak periods (7:00 – 9:00 a.m. and 4:00 – 6:00 p.m., respectively). The TMCs included automobile, truck, pedestrian, and bicycle movements. The traffic volume data for all five study area intersections were collected on Tuesday, January 31, 2023. When the traffic counts were collected, the weather was sunny with an average temperature of 35 degrees F. Within the data collection periods, the peak hours were generally identified as 7:30 – 8:30 a.m. and 4:30 – 5:30 p.m. The detailed TMC data is provided in **Appendix A.**

SEASONAL ADJUSTMENT

It is standard practice to adjust traffic count data by a seasonal factor to calculate average annual volumes. To account for seasonal variation in Worcester traffic, the study team reviewed MassDOT's weekday seasonal adjustment factor for Group U4-7 (Urban Minor Arterials, Major and Minor Collectors, and Local Roads and Streets). The seasonal adjustment factor for January is 1.01, indicating that the annual average vehicular volume is 1% higher than the January data that was collected. Therefore, all traffic volume data have been adjusted upward by 1% to estimate annual average volumes. The 2019 MassDOT weekday seasonal and axle correction factors are provided in **Appendix B**.

AUTOMATIC TRAFFIC RECORDER COUNTS

An Automatic Traffic Recorder (ATR) is a device that continuously records the passage of vehicles, vehicle speed, vehicle classification, and direction of traffic flow. ATRs are used to gather larger amounts of traffic data over an extended time period. ATR counts were recorded for a 48-hour period between Tuesday, January 31, and Wednesday, February 1, 2023. **Table 1** summarizes the ATR data collected, including Average Daily Traffic (ADT in vehicles per day (vpd)), the proportion of daily traffic occurring during the peak hour (K-factor, %), number and percent heavy vehicles (T), and daily 85th percentile speeds. The detailed ATR counts are provided in **Appendix A.**

Table 1. Average Weekday Traffic Data

Approach	ADT (vpd)	K (%)	T (#/%)	85th Percentile Speed (mph)
Mason Street, south of Bluff Street				
Northbound	589	8%	29/5%	30
Southbound	824	11%	11/1%	30
Total	**1,413**	**9%**	**40/3%**	
Winfield Street, east of Dewey Street				
Eastbound	910	9%	6/1%	22
Total	**910**	**9%**	**6/1%**	

EXISTING VEHICULAR TRAFFIC VOLUMES

The Existing (2023) Condition vehicular volumes for the weekday a.m. and p.m. peak hours are shown in **Figure 3** and **Figure 4**, respectively.

Crash History

Crash data is used to understand safety conditions at the study intersections. The MassDOT IMPACT Portal was used to obtain crash data from the most recent three years of available data, which included data between 2018-2020. While the most recent year of complete crash data is 2020, the IMPACT Portal is updated daily with data that MassDOT considers incomplete as the records have not been verified or closed by all municipal police departments across the Commonwealth.

In MassDOT District 3, where the Project site is located, the average number of crashes is 0.61 crashes per million entering vehicles (MEV) at unsignalized intersections. **Table 2** summarizes crash data, including the number per location and the associated crash rates. Crash rate worksheets are provided in **Appendix C.**

Figure 3. ***Existing (2023) Condition Vehicular Volumes, Weekday a.m. Peak Hour***

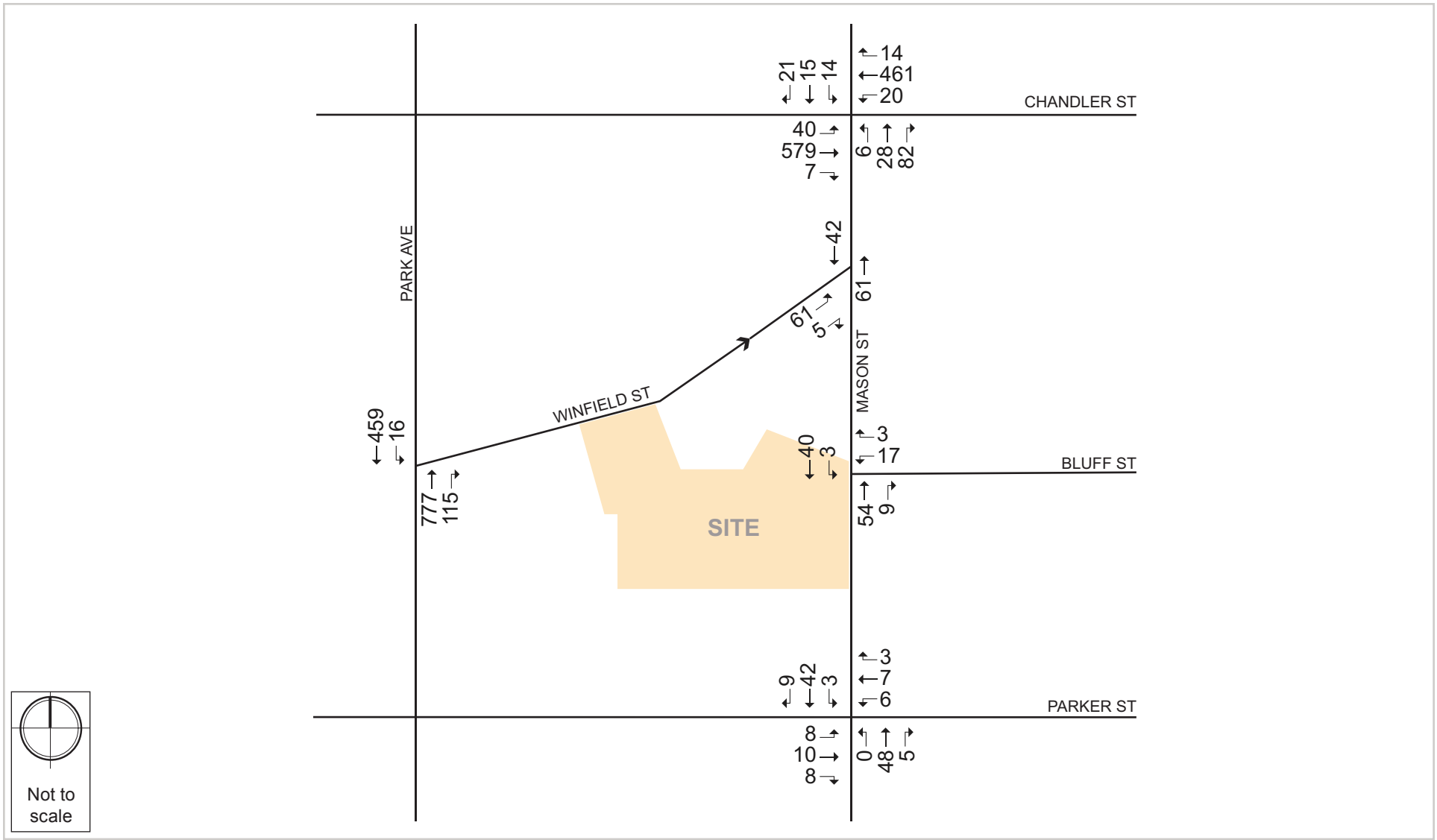


Figure 4. ***Existing (2023) Condition Vehicular Volumes, Weekday p.m. Peak Hour***

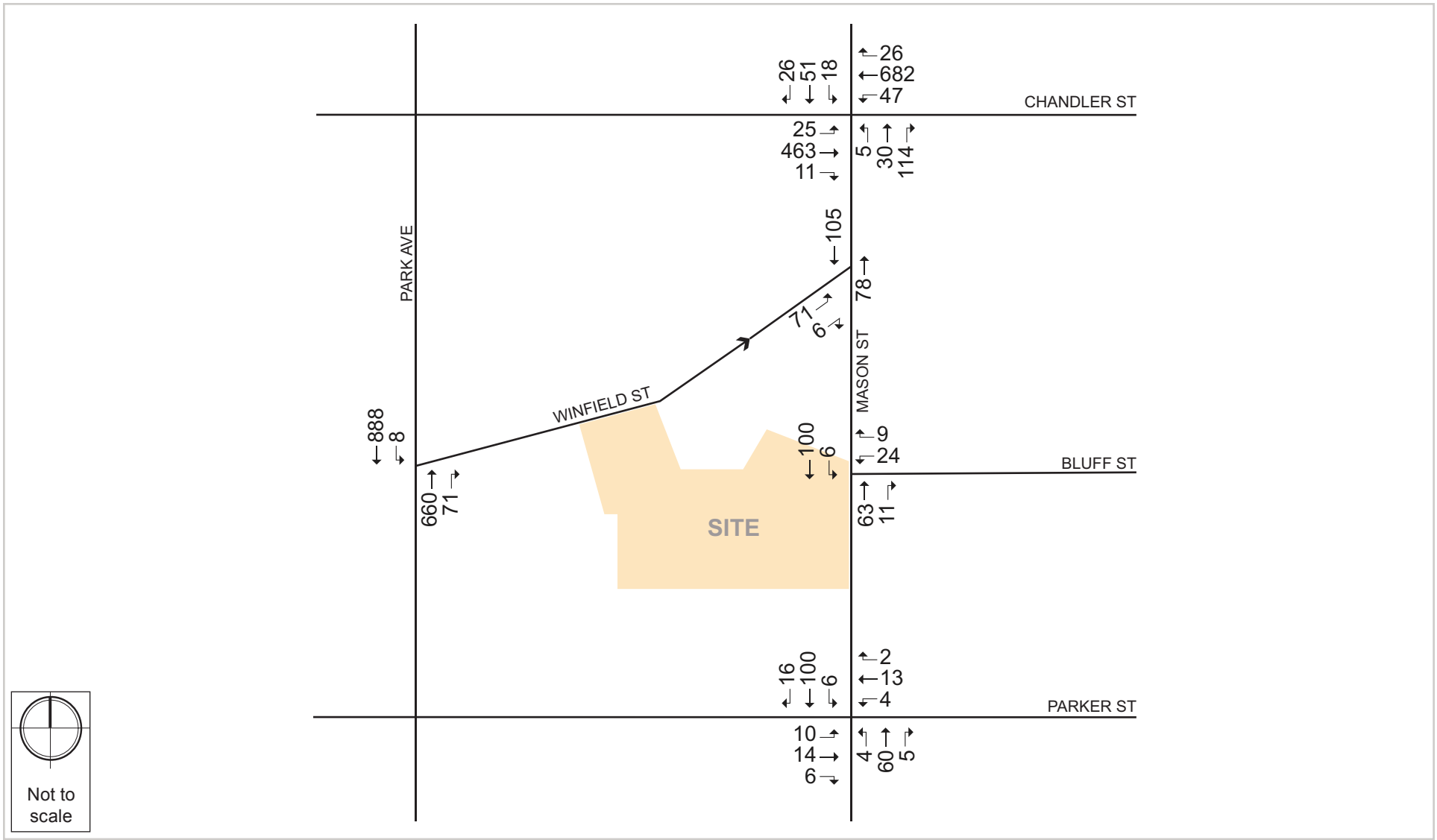


Table 2. Crash History at Study Area Intersections, 2018-2020

Characteristic	Mason Street/ Chandler Street	Mason Street/ Bluff Street	Mason Street/ Parker Street	Park Avenue/ Winfield Street	Mason Street/ Winfield Street
Year					
2018	16	1	2	6	0
2019	22	1	1	2	1
2020	10	0	4	0	0
Crash Severity					
Property Damage Only	28	2	1	5	1
Injury	12	0	5	1	0
Fatality	1	0	0	0	0
Other/Not Reported	7	0	0	1	0
Crash Type					
Angle	37	2	5	1	1
Rear-end	2	0	1	5	0
Head-on	1	0	0	0	0
Sideswipe, same direction	2	0	0	1	1
Sideswipe, opposite direction	2	0	0	0	0
Pedestrian	1	0	0	0	0
Cyclist	0	0	0	0	0
Single Vehicle	3	0	1	0	0
Other/Not Reported	0	0	0	0	0
Pavement Condition					
Dry	32	1	6	5	0
Wet	13	0	1	2	1
Snow/Ice	3	1	0	0	0
Other/Not Reported	3	0	0	0	0
Total Crashes	**48**	**2**	**7**	**7**	**1**
Crash Rate [1]	2.66	0.78	2.42	0.36	0.32
District 3 Average	0.61 unsignalized				

[1] *Crash rate = Crashes per million entering vehicles*
Shading indicates a crash rate higher than district average

Three of the intersections exceed the District 3 average crash rates for unsignalized intersections:

- The intersection of Chandler Street/Mason Street has a crash rate of 2.66 per MEV and during the study period, one pedestrian-involved crash was observed in 2018. This intersection has been identified by MassDOT as a top 200 intersection crash cluster and eligible for the Highway Safety Improvement Program (HSIP) and has been identified as a top 5% Pedestrian Crash Cluster location between 2010-2019. The Chandler Street corridor, between Main Street and Park Avenue, which includes the Chandler Street/Mason Street

intersection, is undergoing a safety study to make Chandler Street a Complete Street corridor. This study is aiming to reduce the crash rate along Chandler Street and provide a safer corridor for all users.

- The intersection of Mason Street/Bluff Street has a crash rate of 0.78 per MEV. This intersection only has two crashes over the three-year period with no fatalities involved. However, due to the low volume at Mason Street/Bluff Street, the crash rate per MEV is higher than the district average. No safety concerns are present.
- The intersection of Mason Street/Parker Street has a crash rate of 2.42 per MEV. This intersection has been identified by MassDOT as a top 5% intersection crash cluster and is eligible for the HSIP.
- Although no bicycle crashes were identified during the study period, Park Avenue/Winfield Street and Mason Street/Chandler Street were identified as top 5% Bicycle Crash Clusters between 2010-2019.

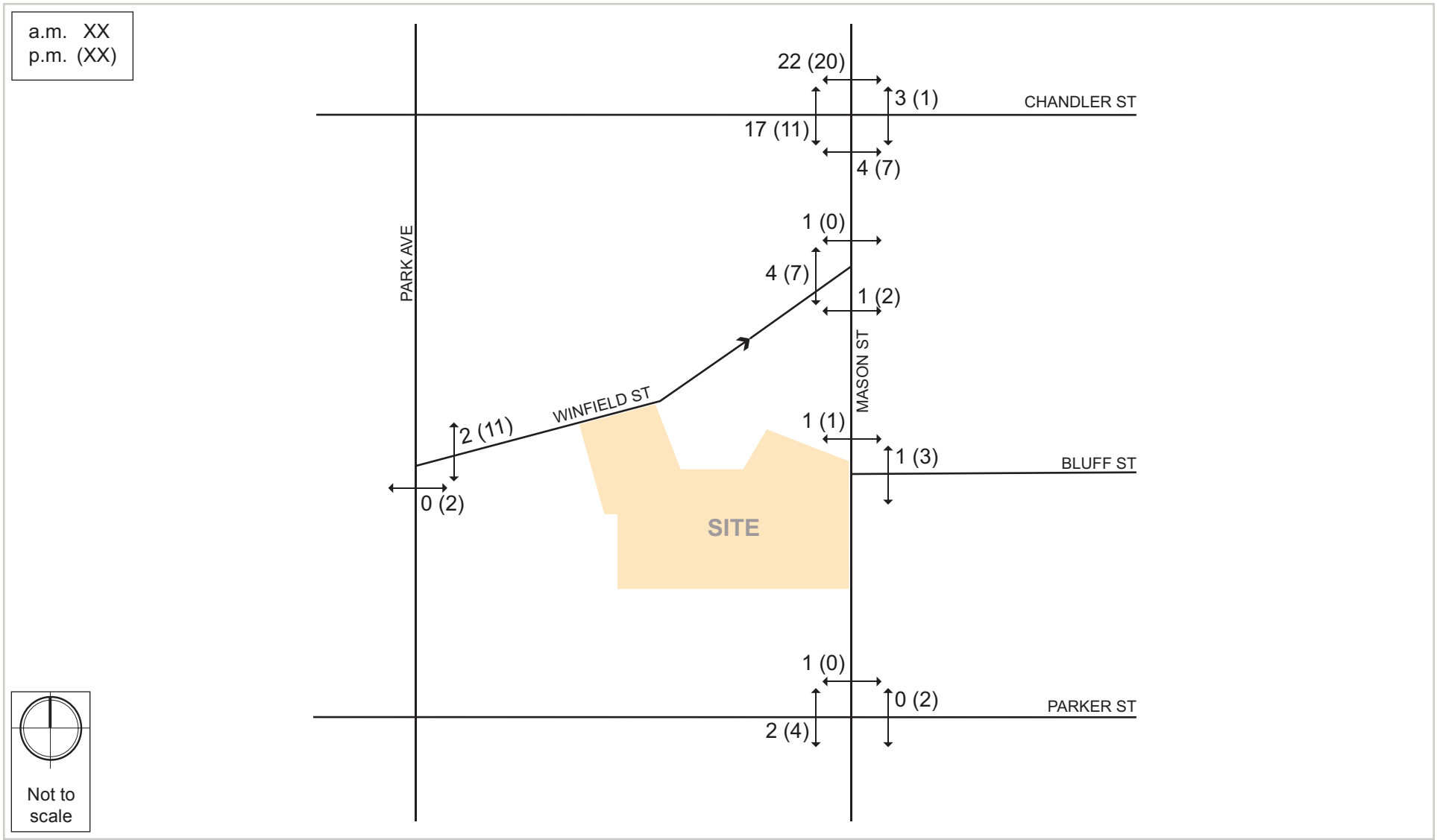
Existing Pedestrian Conditions

Sidewalks are typically provided along all roadways and are generally in good or fair condition near the Project Site. Crosswalks and pedestrian curb ramps are provided at the Chandler Street/Mason Street and Park Avenue/Winfield Street intersections only. To estimate the amount of pedestrian activity within the study area, pedestrian counts were conducted concurrent with the TMCs on Tuesday, January 31, 2023, at the study area intersections and are presented in **Figure 5**. Pedestrian activity is relatively low in the study area. During warmer weather, it is expected that pedestrian activity would be greater.

Existing Bicycle Conditions

In recent years, bicycle use has increased, and communities are incorporating bicycle facilities (bicycle lanes/paths) into the public realm. Within the study area, no bicycle facilities are provided along any of the study area roadways. Bicycle counts were also conducted concurrent with the vehicular TMCs and given the lack of bicycle facilities within the study area, minimal bicycle activity was observed.

Figure 5. ***Existing (2023) Condition Pedestrian Volumes, Weekday a.m. and p.m. Peak Hours***



Existing Public Transportation

The Project Site is located within walking distance of three Worcester Regional Transit Authority (WRTA) bus routes (Route 2, Route 6, and Route 7) that run along Chandler Street. Additional bus routes operate within a half-mile of the Project. The Project Site is located approximately 1.5 miles from the Massachusetts Bay Transportation Authority (MBTA) Worcester station, which provides access to the Framingham/Worcester Commuter Rail Line. **Table 3** provides a summary of the routes and peak-hour headways, and **Figure 6** maps the public transportation services located near the Project Site.

Table 3. Transit Service in the Study Area

Service	Description	Peak Hour Headway (minutes)[1]
Worcester/Framingham Line	Worcester – South Station	60
Route 2	Union Station Hub – Tatnuck Square via Pleasant Street	50-65
Route 6	Union Station Hub – Tatnuck Square	25-60
Route 7	Union Station Hub – Washington Heights Apts.	15-30
Route 19	Union Station Hub – Webster Square – Clark University via Main Street	30
Route 27	Union Station Hub – Auburn Mall via Main Street	25-35
Route 33	Union Station Hub – Spencer – Brookfield via Main Street and Route 9	60

1. *Headway is the time between vehicles. Source MBTA and WTRA January 2023.*

Figure 6. ***Existing Public Transportation***

No-build (2030) Condition

For transportation impact analyses, it is standard practice to evaluate two future conditions: a No-build Condition (without the proposed project) and a Build Condition (if the project is built). Typically, these conditions are projected to a future date seven years from the expected date of filing, which is known as the Existing Condition year. For this study, the year 2030 has been designated as the future year. The traffic volumes under the No-build Condition are independent of the proposed Project and include existing traffic plus new traffic resulting from general background growth and any new projects in the area that have been identified by the City of Worcester.

Background Traffic Growth

A general background growth rate accounts for changes in demographics, auto usage, auto ownership, and non-specific minor changes in land use within the study area. A 1.0% annual growth rate was applied to the existing intersection volumes compounded annually over seven years to account for background growth by 2030.

Specific Area Developments

Traffic volumes associated with larger and/or closer known development projects can affect traffic patterns throughout the study area within the future analysis time horizon. Traffic associated with the following large projects were directly incorporated into the future conditions traffic volumes.

- **109 Franklin Street.** This project consists of the development of a residential building with 364 residential units. Parking will be provided in an underground parking garage. This project is under review by the Planning Board.
- **35 Portland Street.** This project consists of the development of a six-story mixed-use building with 1,238 square feet (sf) of office space and 108 residential units. The project will provide 50 parking spaces. This project is under review by the Planning Board.
- **153 Green Street.** This project consists of a mixed-use development of 473 residential units and 43,500 sf of retail space. The project will provide 589 parking spaces. This project is currently under review by the Planning Board.
- **5 Salem Street.** This project consists of a seven-story mixed-use development with 20,000 sf of commercial space, 6,200 sf of restaurant space, and 163 residential units. The project will provide 107 parking spaces. This project is under review by the Planning Board.

- **11 Sever Street (Lot B).** This project consists of the development of a four-story residential building with 29 units. A minimum of two parking spaces will be provided per unit. This project has been approved by the Planning Board.
- **35 Lagrange Street.** This project consists of the redevelopment of the existing building into a mixed-use development with 63 residential units and 5,300 sf of commercial space. The project will provide 82 parking spaces. This project has been approved by the Planning Board.
- **807-815 Main Street.** This project consists of the development of seven commercial lots with approximately 12,000 sf of retail space each. This project has been approved by the Planning Board.

The following projects are considered small projects and are not expected to generate a significant amount of new traffic in the area:

- **30 Winfield Street Homeless Housing.** This project consists of the development of an 18-unit apartment building dedicated to individuals with severe housing issues. Due to the size and nature of the development, project-generated trips for this development were considered to be part of the background growth rate.
- **1103 Main Street**. This project consists of the demolition of the existing buildings and construction of an automatic carwash. Currently, the project site is occupied by a tire store, used car dealership and services, retail textile store, and a retail transportation storefront. Given the reduction in trips due to the existing land uses, this project is not expected to have a significant impact on the study area roadway network. Therefore, it was assumed to be included in the background growth rate.

A map of the background development projects is shown in **Figure 7.** The No-build Condition vehicular volumes for the weekday a.m. and weekday p.m. peak hours, which incorporate the 1.0% background growth rate and the traffic volumes from the specific development projects were added to the study area intersections to develop the No-build (2030) Condition vehicular volumes and are shown in **Figure 8** and **Figure 9** for the weekday a.m. peak hour and p.m. peak hour, respectively.

Figure 7. *Specific Area Developments*

Figure 8. ***No-build (2030) Condition Vehicular Volumes, Weekday a.m. Peak Hour***

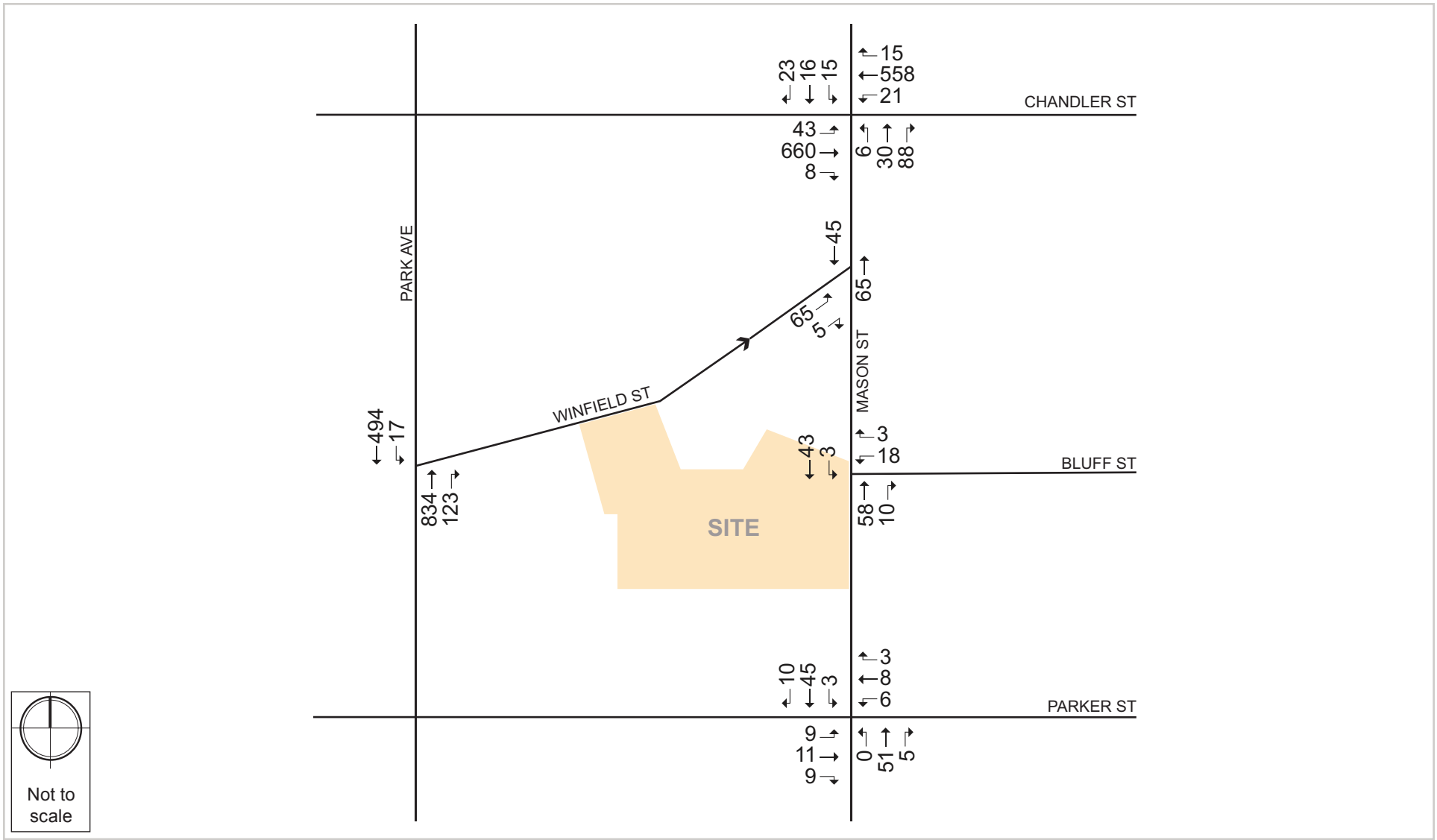
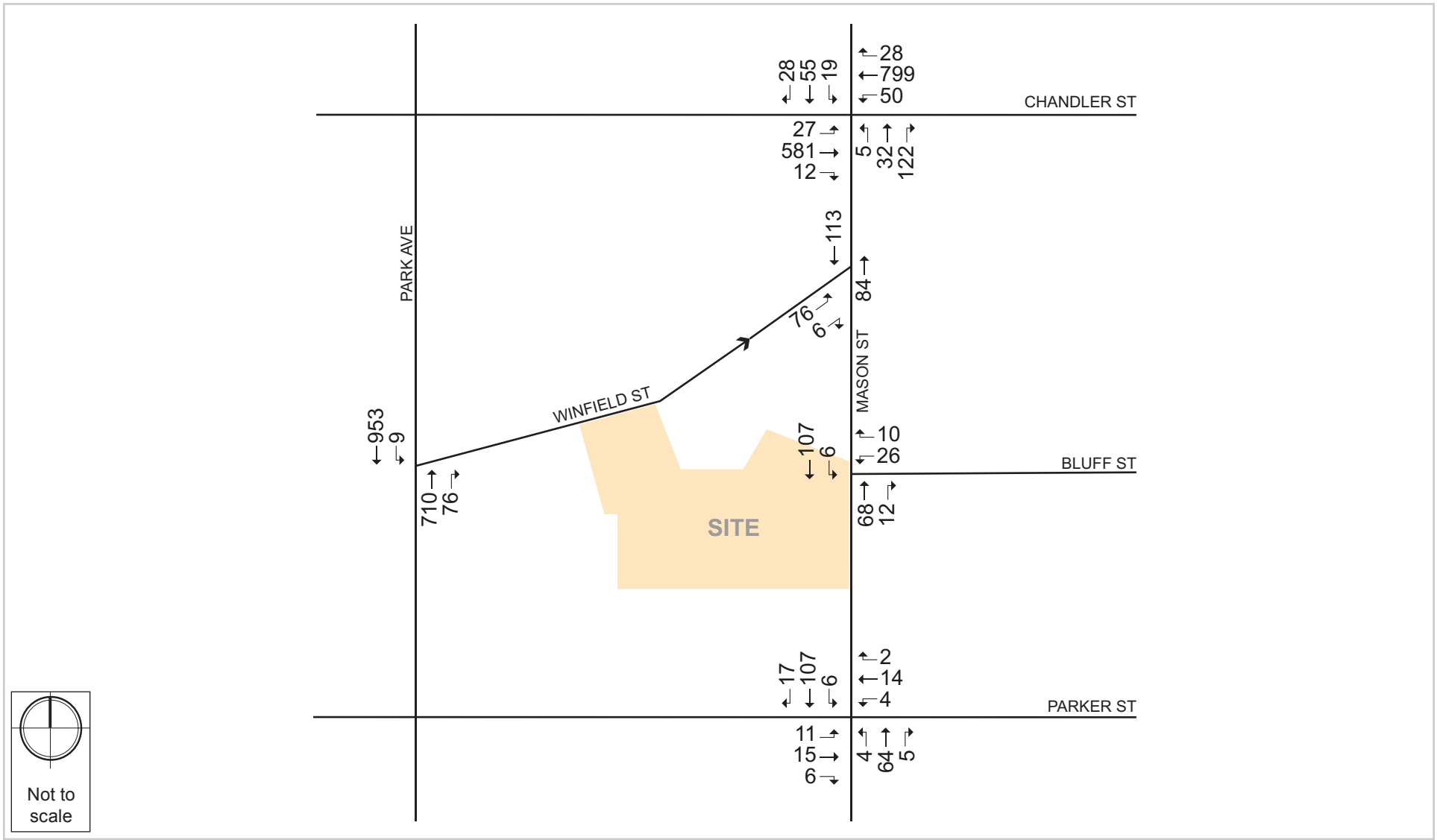


Figure 9. ***No-build (2030) Condition Vehicular Volumes, Weekday p.m. Peak Hour***



Other Infrastructure Improvements

A review of planned infrastructure improvements to roadways, public transportation, and bicycle and pedestrian facilities was conducted to determine if there were any nearby infrastructure improvement projects that would affect travel patterns, behavior, or capacity. The following roadway and infrastructure improvement projects were identified within the study area:

- **Chandler Street Redesign.** This project will make the Chandler Street corridor a safer and more inviting place to travel by implementing roadway design changes. Chandler Street will become a Complete Street between Main Street and Park Avenue and will also have improved ADA access and accommodations, enhanced bus stops, improved bus stop locations, and improved traffic signal coordination. As the final design for this project won't be released until 2024, the improvements were not included in the future conditions.
- **Union Station Improvements.** Union Station is undergoing improvements to the platform, tracks, and its accessibility to patrons. These upgrades will improve accessibility and safety, increase station capacity, enable two trains at the station at the same time, improve operations and schedules, and provide flexibility for future expansion. In addition, at the existing commuter rail parking lot, there will be new elevators, stairways, and pedestrian bridges. A new accessible walkway will connect the parking lot and station building. Construction is expected to be finished in mid-2023.

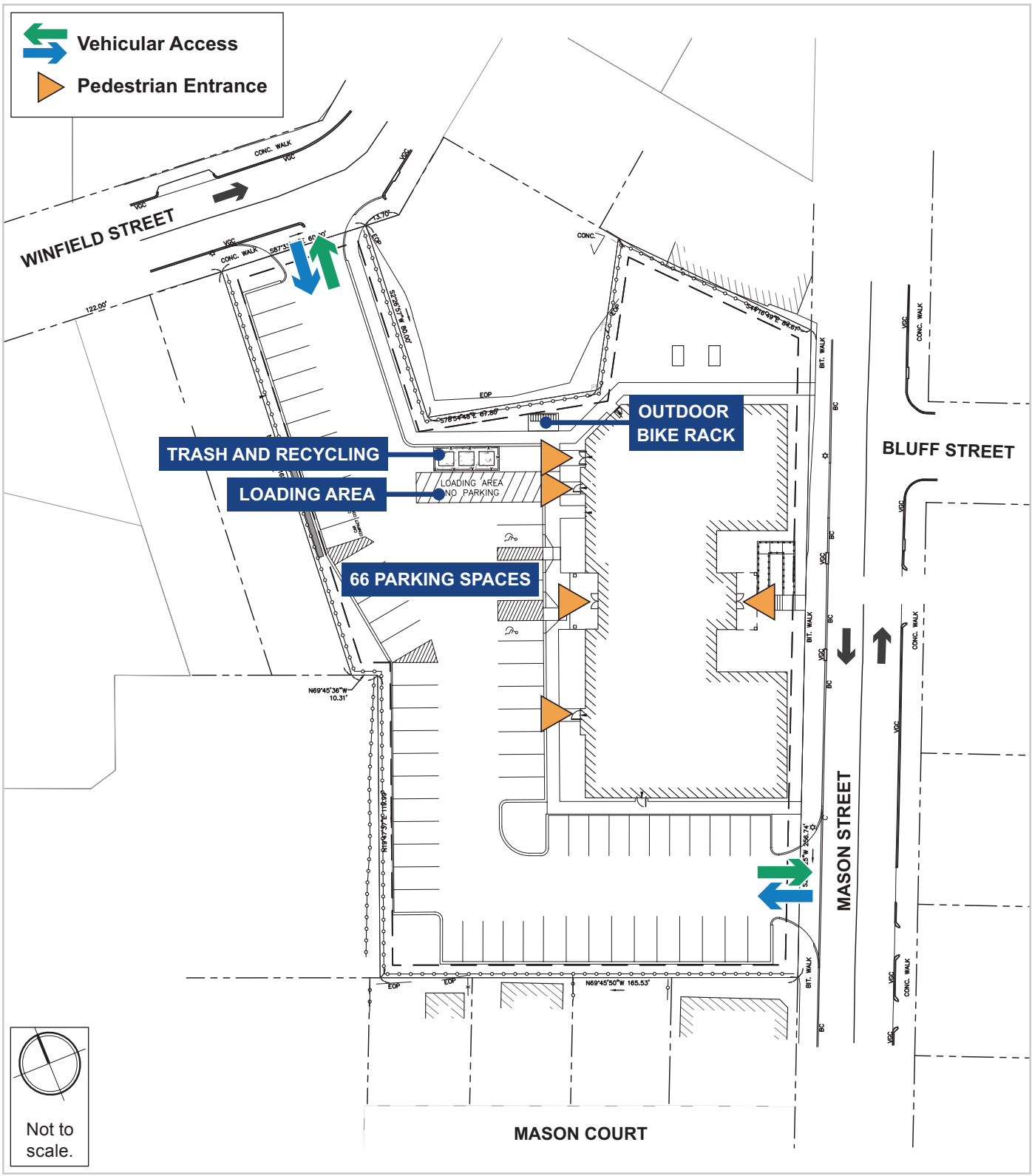
Build (2030) Condition

The Project will consist of the redevelopment of the vacant lot and construction of a 94-unit affordable housing building. The project will have 66 parking spaces in a parking lot with access from Mason Street and Winfield Street.

Site Access and Service Activity

The Project Site Plan is shown in **Figure 10**. The Project will include one curb-cut on Mason Street and one curb-cut on Winfield Street for access to the surface parking lot. Primary pedestrian access will be provided via Mason Street. All project-related deliveries, including move-in/move-out and trash pick-up, will occur in a dedicated off-street loading area near the northwest corner of the building. Project delivery activity will be managed by an on-site transportation coordinator.

Figure 10. ***Site Plan***



Parking Supply and Demand

The Project is proposing 66 parking spaces for 94 affordable residential units, resulting in a parking ratio of 0.70 spaces per unit. The future parking demand was evaluated using two methods: standard parking generation rates published by the Institute of Transportation Engineers (ITE) and vehicle ownership rates provided by the U.S. Census Bureau in the vicinity of the Project Site. The ITE *Parking Generation Manual, 5th Edition* provides parking demand data for a variety of land uses in different settings/locations. The ITE land use code (LUC) 223 – Affordable Housing was used to assess the parking demand in two different settings, General Urban/Suburban and Dense Multi-Use Urban, as summarized in **Table 4.**

Table 4. ITE Parking Demand – LUC 223

Setting/Location	Parking Demand (vehicles)
General Urban/Suburban	93
Dense Multi-Use Urban	50

Although the General Urban/Suburban setting results in a parking demand of 93 vehicles, which is higher than the planned supply of 66 spaces, the Project Site is located in a mix of both of the settings and is expected to behave similarly to developments located in a Dense Multi-Use Urban setting with a lower parking demand. Additionally, according to the U.S. Census Bureau data collected in 2016-2022, the Census tract 7314, where the Project is located, had an average vehicle ownership rate of 0.70 vehicles per household. This data also indicates that 47% of households in the area do not own a vehicle and that approximately 21% of persons use other modes of transportation (not including a private vehicle) to travel and/or commute daily.

Based on ITE parking demand data, the proposed parking supply of 66 spaces falls within the demand range based on ITE parking generation data. More representative of the specific site, however, is the local Census data, which indicates that area vehicle ownership is 0.70 vehicles per household, which aligns precisely with the Project's proposed supply. Based on the above evaluation, the study team concludes that the proposed parking supply will adequately satisfy the parking demand for the Project. The Project is located in a walkable neighborhood, proximate to commercial amenities as well as the Worcester train station. The Project will implement a TDM program, including on-site bicycle parking, to encourage non-auto modes of travel.

Trip Generation Methodology

To estimate the number of trips expected to be generated by the Project, data published by ITE in the *Trip Generation Manual*[1] were used. ITE provides data to estimate the total number of unadjusted vehicular trips associated with the Project. In an urban setting well-served by transit, adjustments are necessary to account for other travel modes such as walking, bicycling, and transit. To estimate the unadjusted number of vehicular trips for the Project, the following ITE LUC was used:

- **LUC 223 – Affordable Housing**. As defined by ITE, affordable housing includes all multifamily housing that is rented at below market rate to households that include at least one employed member. Eligibility to live in affordable housing can be a function of limited household income and resident age. The trip generation estimates are based on the average rate per dwelling units.

TRAVEL MODE SHARES

Travel mode shares reflect the distribution of person trips among automobiles, transit services, and walking/bicycling. The American Census Survey (ACS) Table B08301 – Means of Transportation to Work provides work-based travel mode share rates for cities and towns in Massachusetts. The ACS data for the census tract where the Project is located (tract 7314) was used to develop the travel mode shares. The unadjusted vehicular trips were converted to person trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA); the person trips were then distributed to the mode share rates shown in **Table 5**.

Table 5. Travel Mode Shares and Vehicle Occupancy

Land Use	Travel Mode Share[1]			Vehicle Occupancy[2]
	Walk/Bicycle	Transit	Auto	
Residential	24%	6%	70%	1.18

1. *U.S. Census Journey to Work, Tract 7314*
2. *Federal Highway Administration, 2017 National Vehicle Occupancy Rates*

[1] Trip Generation Manual, 11th Edition; Institute of Transportation Engineers; Washington, D.C.; 2021.

Project Trip Generation

The travel mode share percentages shown in **Table 5** were applied to the number of person trips to develop walk/bicycle, transit, and vehicle trip generation estimates for the Project. The trip generation for the Project by travel mode is shown in **Table 6**. The detailed trip generation information is provided in the **Appendix D**.

Table 6. Project Trip Generation

Land Use/Direction		Walk/Bicycle Trips	Transit Trips	Vehicle Trips
Daily				
Residential *LUC 223 - 94 units*	In	64	16	169
	Out	64	16	169
	Total	**128**	**32**	**338**
Weekday a.m. Peak Hour				
Residential *LUC 223 - 94 units*	In	3	0	9
	Out	7	2	17
	Total	**10**	**2**	**26**
Weekday p.m. Peak Hour				
Residential *LUC 223 - 94 units*	In	7	2	20
	Out	5	1	15
	Total	**12**	**3**	**35**

As shown in **Table 6**, the Project is expected to generate approximately 26 new vehicle trips (nine entering and 17 exiting) during the weekday a.m. peak hour and approximately 35 new vehicle trips (20 entering and 15 exiting) during the weekday p.m. peak hour. The Project is expected to generate approximately two transit person trips (two exiting) during the weekday a.m. peak hour and approximately three transit person trips (two entering and one exiting) during the p.m. peak hour. These new transit person trips are expected to primarily use the local bus routes along Chandler Street and the Framingham/Worcester Commuter Rail Line.

Vehicle Trip Distribution

A vehicle trip distribution pattern identifies the various travel paths for vehicles arriving at a destination and the corresponding departure travel paths. New vehicle trips generated by the Project Site will be made primarily by its residents. The trip distribution for new Project trips was based on 2019 Census Journey to Work data and knowledge of the roadway system in the area. **Figure 11** shows the trip distribution pattern for Project trips entering and exiting the Project Site.

Build Traffic Volumes

The distribution pattern was applied to the Project trips to develop the Project-generated vehicle trips shown in **Figure 12** and **Figure 13**, for the a.m. peak hour and p.m. hour, respectively. Then the Project-generated vehicle trips were added to the No-build traffic volumes to develop the Build (2030) Condition traffic volumes, shown in **Figure 14** and **Figure 15** for the a.m. and p.m. peak hours, respectively.

Figure 11. ***Vehicle Trip Distribution***

Figure 12. ***Project-generated Vehicle Trips, Weekday a.m. Peak Hour***

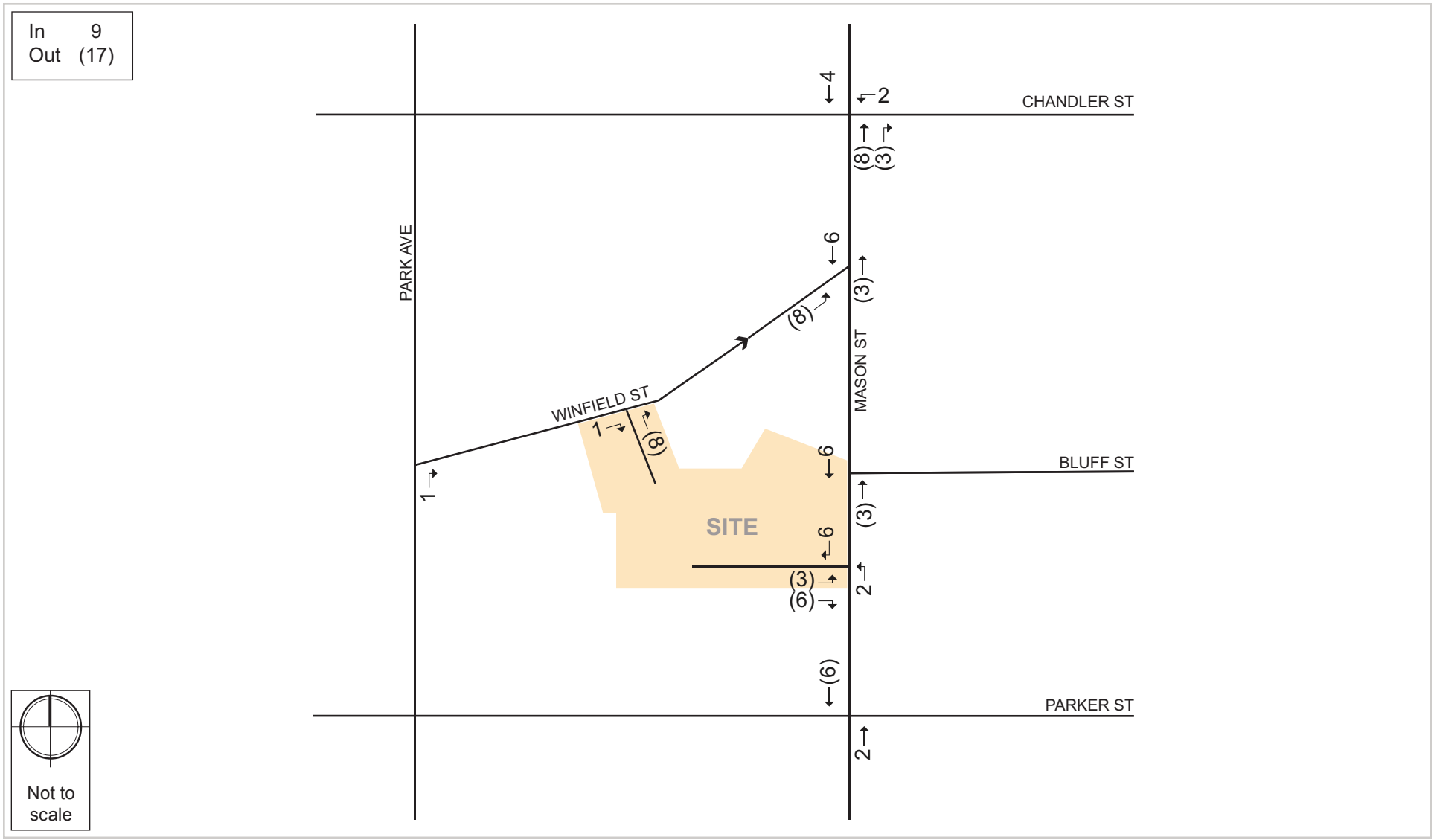


Figure 13. ***Project-generated Vehicle Trips, Weekday p.m. Peak Hour***

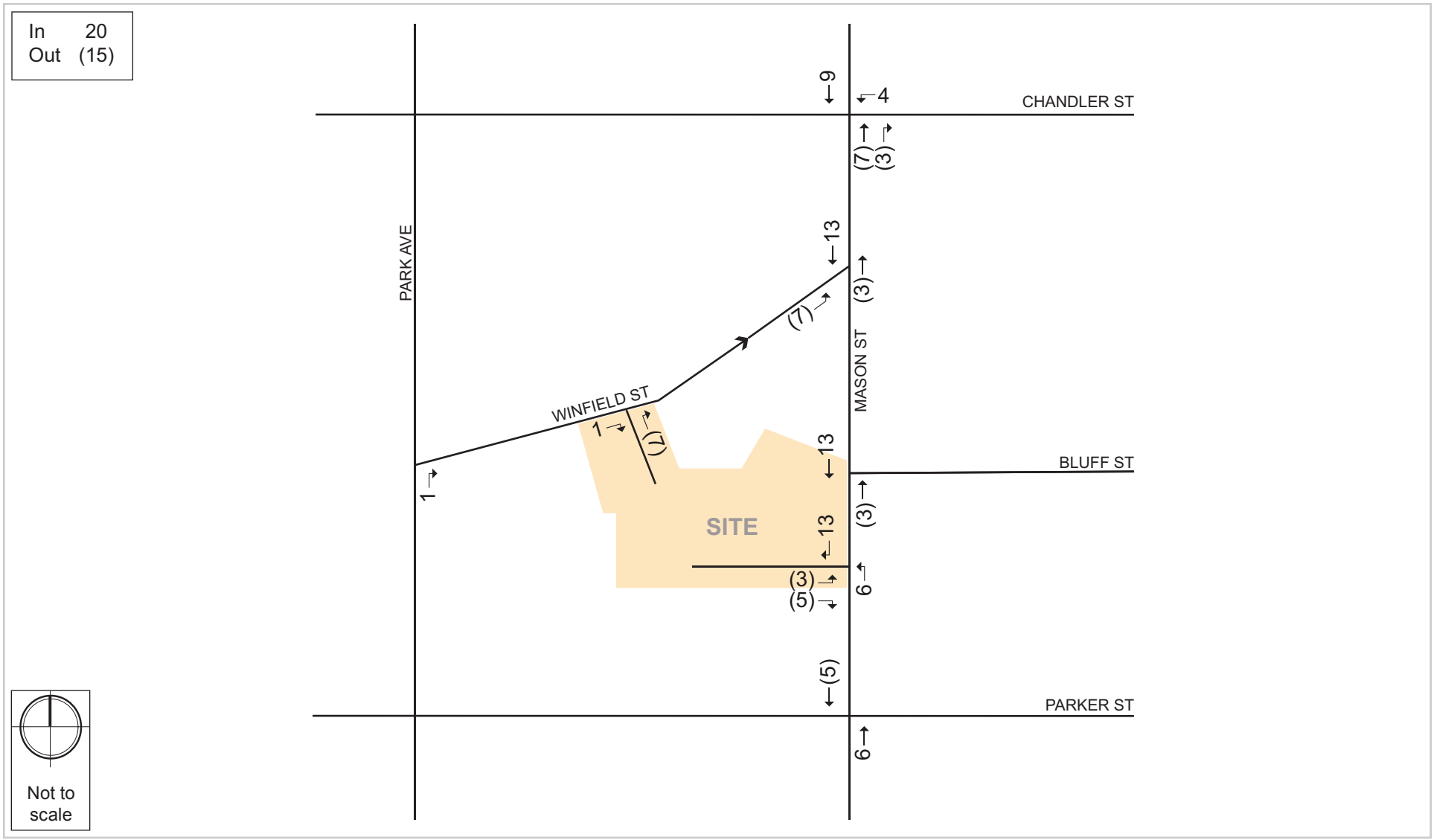


Figure 14. ***Build (2030) Condition Vehicular Volumes, Weekday a.m. Peak Hour***

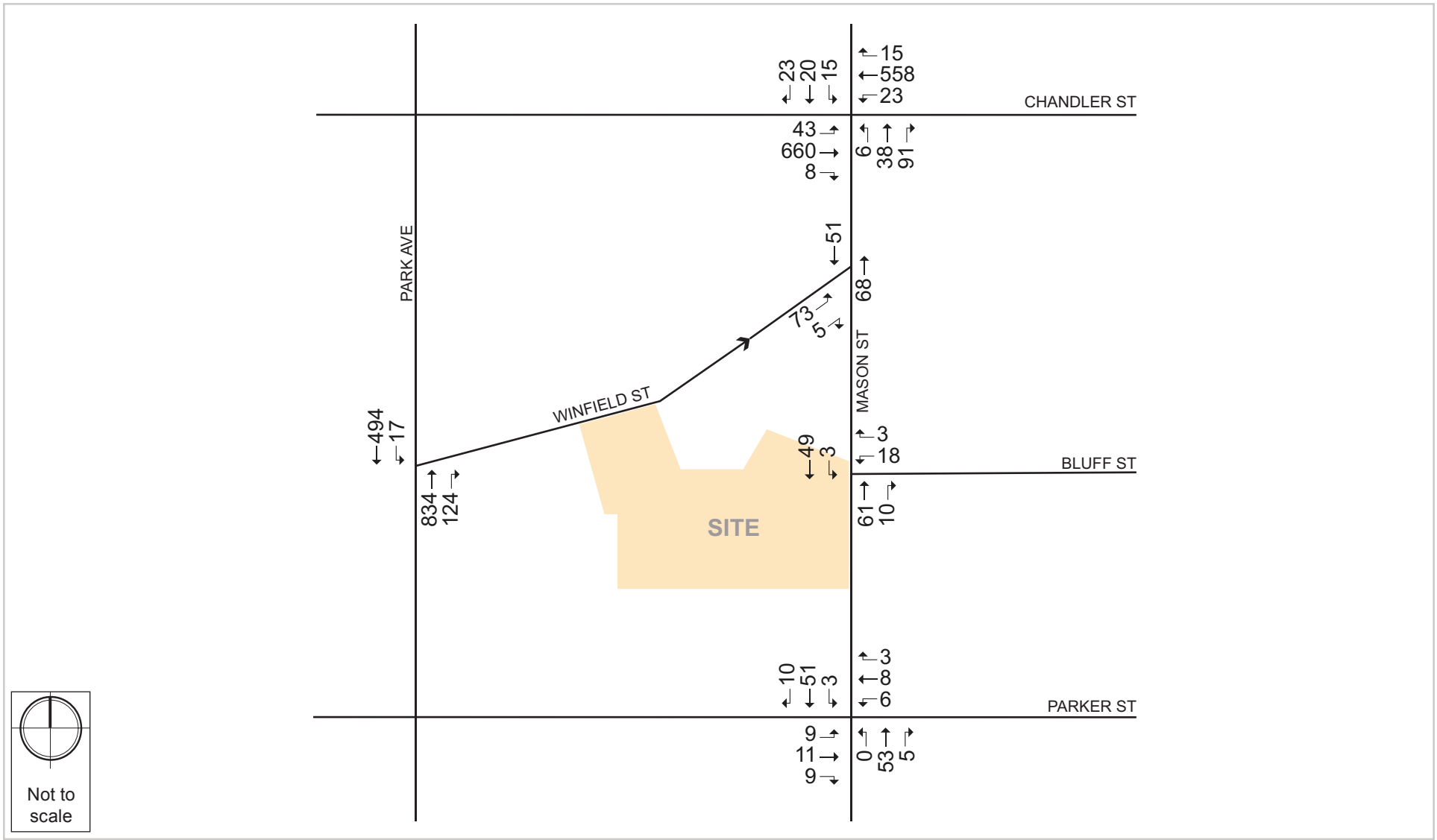
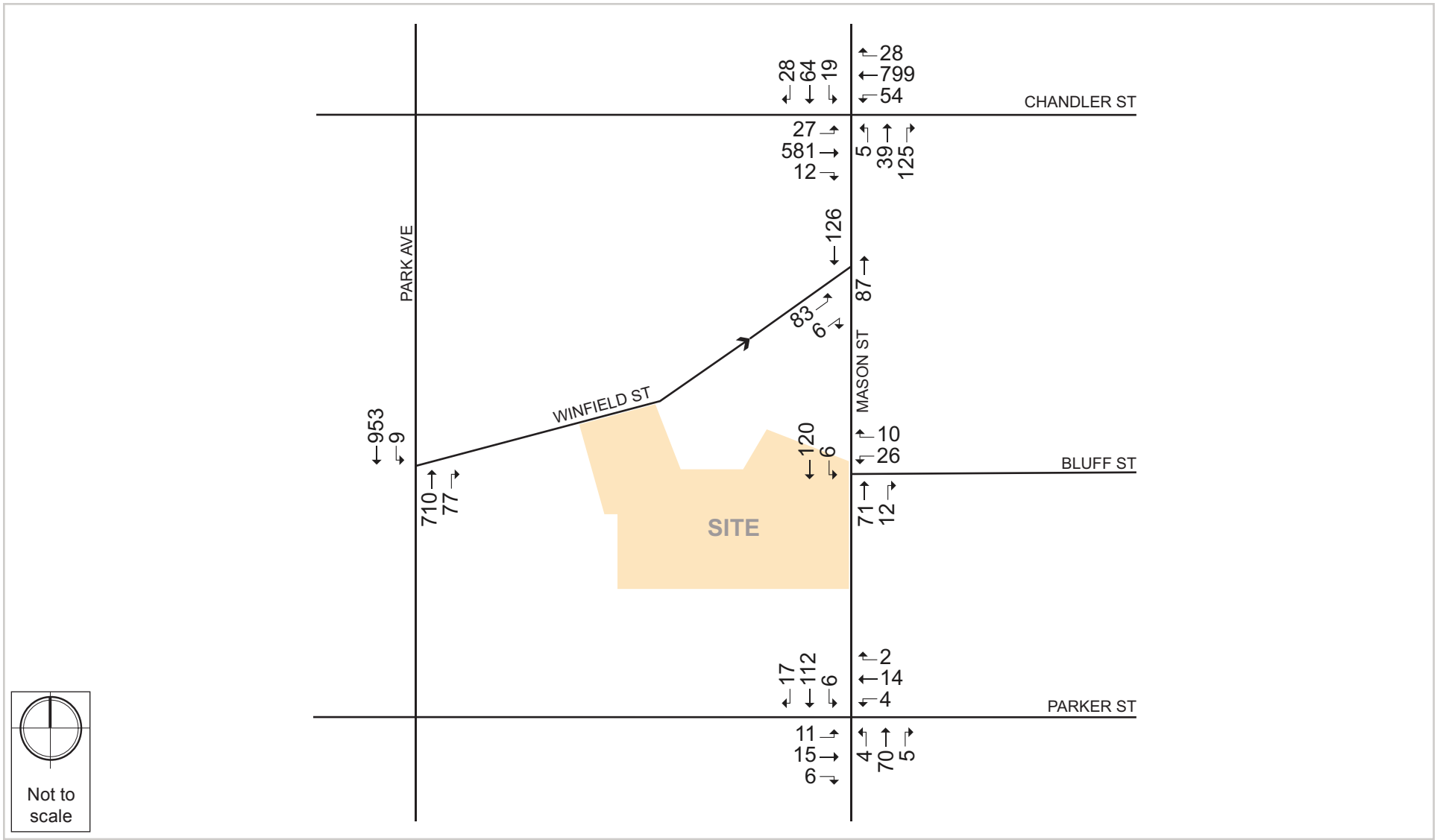


Figure 15. ***Build (2030) Condition Vehicular Volumes, Weekday p.m. Peak Hour***



Traffic Operations Analysis

Traffic operations are determined through an analysis of intersection Level of Service (LOS) calculations. LOS at the intersection was calculated using Synchro 11.0, which is based on the traffic operational analysis methodology of the Transportation Research Board's (TRB's) 2000 *Highway Capacity Manual* (HCM). The LOS and delay (in seconds) are based on intersection geometry and traffic volumes. **Table 7** is an excerpt from the HCM and provides LOS criteria for signalized and unsignalized intersections. LOS A defines the most favorable condition, with minimum traffic delay. LOS F represents the worst condition, with significant traffic delay. LOS D is generally considered acceptable. LOS E or F, however, is often typical for a stop-controlled minor street that intersects a major roadway.

Table 7. Level of Service Criteria

Level of Service	Average Stopped Delay (sec./veh.)	
	Signalized Intersection	Unsignalized Intersection
A	0.0–10.0	0.0–10.0
B	10.1–20.0	10.1–15.0
C	20.1–35.0	15.1–25.0
D	35.1–55.0	25.1–35.0
E	55.1–80.0	35.1–50.0
F	>80.0	>50.0

Source: Highway Capacity Manual, 2022. Transportation Research Board.

In accordance with MassDOT guidelines, the peak 15 minutes of data collected during the peak hour were isolated to calculate the peak-hour factors (PHFs) for each approach. The percentage of heavy vehicles was noted for each approach as well.

In addition to delay and LOS, the operational capacity and vehicular queues, as described below, are calculated and used to further quantify traffic operations at intersections.

- The volume-to-capacity ratio (v/c ratio) is a measure of congestion at an intersection approach. A v/c ratio below one indicates that the intersection approach has adequate capacity to process the arriving traffic volumes over the course of an hour. A v/c ratio of one or greater indicates that the traffic volume on the intersection approach exceeds capacity.

- The 95th percentile queue length, measured in feet, represents the farthest extent of the vehicle queue (to the last stopped vehicle) upstream from the stop line during 5% of all signal cycles. The 95th percentile queue will not be seen during each cycle. The queue would be this long only 5% of the time and would typically occur during peak hours.

Table 8 and **Table 9** present the a.m. and p.m. peak hour capacity analysis, respectively, for the study area intersections under each analysis condition: Existing (2023) Condition, No-build (2030) Condition, and the Build (2030) Condition. The detailed analysis sheets are provided in **Appendix E**. The sections that follow present the results for each condition.

Table 8. Vehicle Capacity Analysis, Weekday a.m. Peak Hour

Intersection/Movement	Existing Condition				No-build (2030) Condition				Build (2030) Condition			
	LOS	Delay (s)	V/C Ratio	95th % Queue (ft.)	LOS	Delay (s)	V/C Ratio	95th % Queue (ft.)	LOS	Delay (s)	V/C Ratio	95th % Queue (ft.)
Mason Street/Chandler Street (Route 122)	-	-	-	-	-	-	-	-	-	-	-	-
Chandler St EB left/thru I thru/right	A	1.4	0.04	3	A	1.6	0.05	4	A	1.6	0.05	4
Chandler St WB left/thru I thru/right	A	0.9	0.02	2	A	0.9	0.03	2	A	1.0	0.03	2
Mason St NB left/thru/right	C	22.7	0.40	46	D	31.9	0.52	70	E	41.8	0.63	96
Mason St SB left/thru/right	D	29.8	0.32	33	E	38.0	0.35	37	F	>50.0	0.55	69
Mason Street/Bluff Street	-	-	-	-	-	-	-	-	-	-	-	-
Bluff St WB left/right	A	9.3	0.05	4	A	9.4	0.05	4	A	9.4	0.05	4
Mason St NB thru/right	A	0.0	0.05	0	A	0.0	0.05	0	A	0.0	0.05	0
Mason St SB left/thru	A	0.5	0.00	0	A	0.5	0.00	0	A	0.4	0.00	0
Mason Street/Parker Street	-	-	-	-	-	-	-	-	-	-	-	-
Parker St EB left/thru/right	A	9.6	0.05	4	A	9.7	0.06	4	A	9.8	0.06	4
Parker St WB left/thru/right	A	9.7	0.03	2	A	9.8	0.03	3	A	9.9	0.03	3
Mason St NB left/thru/right	A	0.0	0.00	0	A	0.0	0.00	0	A	0.0	0.00	0
Mason St SB left/thru/right	A	0.4	0.00	0	A	0.4	0.00	0	A	0.4	0.00	0
Park Avenue (Route 12)/Winfield Street	-	-	-	-	-	-	-	-	-	-	-	-
Park Ave NB thru I thru/right	A	0.0	0.33	0	A	0.0	0.35	0	A	0.0	0.35	0
Park Ave SB left/thru I thru	A	1.2	0.03	2	A	1.3	0.03	2	A	1.3	0.03	2
Mason Street/Winfield Street	-	-	-	-	-	-	-	-	-	-	-	-
Mason St NB thru	A	0.0	0.04	0	A	0.0	0.05	0	A	0.0	0.05	0
Mason St SB thru	A	0.0	0.03	0	A	0.0	0.04	0	A	0.0	0.04	0
Winfield St NEB left/right	A	9.5	0.08	7	A	9.6	0.09	7	A	9.7	0.10	8

Grey shading indicates LOS E or F under the Existing Condition or a change from LOS D or better in a previous condition to LOS E or F.

Table 9. Vehicle Capacity Analysis, Weekday p.m. Peak Hour

Intersection/Movement	Existing Condition				No-build (2030) Condition				Build (2030) Condition			
	LOS	Delay (s)	V/C Ratio	95th % Queue (ft.)	LOS	Delay (s)	V/C Ratio	95th % Queue (ft.)	LOS	Delay (s)	V/C Ratio	95th % Queue (ft.)
Mason Street/Chandler Street (Route 122)	-	-	-	-	-	-	-	-	-	-	-	-
Chandler St EB left/thru I thru/right	A	1.2	0.03	2	A	1.2	0.04	3	A	1.2	0.04	3
Chandler St WB left/thru I thru/right	A	1.5	0.05	4	A	1.6	0.05	4	A	1.7	0.06	5
Mason St NB left/thru/right	D	26.2	0.52	72	F	>50.0	0.77	142	F	>50.0	0.94	200
Mason St SB left/thru/right	F	>50.0	0.77	117	F	>50.0	>1.00	208	F	>50.0	>1.00	252
Mason Street/Bluff Street	-	-	-	-	-	-	-	-	-	-	-	-
Bluff St WB left/right	A	9.6	0.05	4	A	9.7	0.06	5	A	9.8	0.06	5
Mason St NB thru/right	A	0.0	0.05	0	A	0.0	0.05	0	A	0.0	0.06	0
Mason St SB left/thru	A	0.5	0.00	0	A	0.4	0.00	0	A	0.4	0.00	0
Mason Street/Parker Street	-	-	-	-	-	-	-	-	-	-	-	-
Parker St EB left/thru/right	B	10.2	0.05	4	B	10.3	0.05	4	B	10.4	0.05	4
Parker St WB left/thru/right	B	10.4	0.05	4	B	10.5	0.05	4	B	10.6	0.05	4
Mason St NB left/thru/right	A	0.5	0.00	0	A	0.5	0.00	0	A	0.4	0.00	0
Mason St SB left/thru/right	A	0.4	0.00	0	A	0.4	0.00	0	A	0.4	0.00	0
Park Avenue (Route 12)/Winfield Street	-	-	-	-	-	-	-	-	-	-	-	-
Park Ave NB thru I thru/right	A	0.0	0.27	0	A	0.0	0.29	0	A	0.0	0.29	0
Park Ave SB left/thru I thru	A	0.3	0.01	1	A	0.4	0.01	1	A	0.4	0.01	1
Mason Street/Winfield Street	-	-	-	-	-	-	-	-	-	-	-	-
Mason St NB thru	A	0.0	0.05	0	A	0.5	0.05	0	A	0.0	0.06	0
Mason St SB thru	A	0.0	0.07	0	A	0.0	0.07	0	A	0.0	0.08	0
Winfield St NEB left/right	B	10.0	0.11	9	B	10.2	0.12	10	B	10.4	0.13	11

Grey Shading indicates LOS E or F under the Existing Condition or a change from LOS D or better in a previous condition to LOS E or F.

Traffic Operations – Unsignalized Intersections

MASON STREET/CHANDLER STREET (ROUTE 122)

The Mason Street southbound approach, at the intersection of Mason Street/Chandler Street (Route 122), currently operates at LOS F during the p.m. peak hour only. Under the No-Build (2030) Condition, the Mason Street northbound approach decreases from LOS D to LOS F during the p.m. peak hour and the Mason Street southbound approach decreases from LOS D to LOS E during the a.m. peak hour. Under the Build (2030) Condition, the northbound approach decreases from LOS D to LOS E and the southbound approach decreases from LOS E to LOS F during the a.m. peak hour. Although the operation on the northbound and southbound approaches will change LOS, the average associated queue will only increase by approximately one vehicle, indicating that the Project impact will not be significant.

All other intersections and approaches operate at an acceptable LOS D or better under the Existing, No-Build (2030), and Build (2030) Conditions during both the peak hours.

Transportation Demand Management

While the Project will not significantly impact traffic operations in the study area, the Proponent is committed to implementing a TDM program for Project residents to minimize the Project's vehicular impacts on the adjacent transportation network. TDM measures will promote the use of public transportation (including the MBTA bus and commuter rail), walking, and bicycling, and other options to reduce single occupant vehicle trips. TDM measures may include, but are not limited to, the following:

- ***Transportation Coordinator*** – The Project will designate a transportation coordinator to manage all transportation issues associated with the Project. The transportation coordinator will oversee transportation issues, including parking, service, and loading activity.
- ***Transit Information*** – The Proponent will keep a supply of transit information (schedules, maps, and fare information) to be made available to the residents and patrons of the Project site.
- ***Orientation Packets*** – The Proponent will provide orientation packets to new tenants containing information on available transportation choices, including transit routes/schedules. On-site management will work with residents and tenants as they move in to help facilitate transportation for new arrivals.

- ***Bicycle Accommodations*** – A bicycle room will be provided at the ground floor level with approximately 17 secure, covered bicycle spaces. Additionally, the Proponent will provide outdoor bike racks for approximately 10 bicycles.

Conclusion

According to the analysis, the proposed Project is not expected to generate a substantial number of new vehicle trips during both the morning and evening peak hours. The Project has proposed to provide 66 parking spaces for 94 affordable residential units, resulting in a parking ratio of 0.70 spaces per unit, aligning with the area vehicle ownership of 0.70 vehicles per household. Additionally, the proposed parking supply falls within the ITE parking demand for the two settings evaluated, General Urban/Suburban with a parking demand of 93 vehicles and Dense Multi-Use Urban with a parking demand of 50 vehicles. The Project is located in a walkable area that includes nearby commercial amenities. Due to the Project's proximity (about 1.5 miles) and access to the Worcester Train Station, combined with the moderate number of new vehicle trips, the proposed Project is expected to have minimal impact on the surrounding transportation infrastructure. The Proponent is also committed to implementing a TDM program, including secure bicycle storage and outdoor bicycle racks to further help reduce single-occupant vehicle trips.

HOWARD STEIN HUDSON

Engineers + Planners

Appendix A

Count Data

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 1
Location:	Worcester, MA
Street 1:	Chandler Street
Street 2:	Mason Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

BOSTON TRAFFIC DATA
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	1	4	7	0	6	3	3	0	5	123	0	0	6	60	3
7:15 AM	0	1	7	14	0	3	5	6	0	8	170	0	0	7	65	7
7:30 AM	0	0	7	21	0	7	4	6	0	10	138	4	0	0	89	3
7:45 AM	0	2	4	27	0	2	3	4	0	12	158	3	0	5	111	6
8:00 AM	0	2	10	19	0	6	3	8	0	8	118	2	0	4	125	2
8:15 AM	0	2	11	18	0	1	7	4	0	12	143	2	0	6	121	2
8:30 AM	0	0	3	17	0	5	2	5	0	8	154	0	0	5	99	4
8:45 AM	0	2	8	21	0	1	4	8	0	3	110	0	0	4	103	3

	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	1	5	11	25	0	2	9	4	0	11	134	3	0	15	166	5
4:15 PM	0	3	8	18	0	2	6	10	0	6	113	4	0	14	160	4
4:30 PM	0	3	10	21	0	5	4	11	0	6	121	5	0	16	152	9
4:45 PM	0	2	11	20	0	4	9	5	0	9	114	2	0	17	164	8
5:00 PM	0	1	10	23	0	4	14	4	0	7	122	2	0	9	170	7
5:15 PM	0	2	7	36	0	2	9	7	0	8	102	3	0	15	169	10
5:30 PM	0	1	7	20	0	8	11	8	0	5	108	4	0	15	173	6
5:45 PM	0	1	6	34	0	4	16	7	0	4	126	2	0	8	163	3

AM PEAK HOUR 7:45 AM to 8:45 AM	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**6**	**28**	**81**	**0**	**14**	**15**	**21**	**0**	**40**	**573**	**7**	**0**	**20**	**456**	**14**
PHF	**0.87**				**0.74**				**0.90**				**0.94**			
HV %	**0.0%**	**0.0%**	**3.6%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**5.0%**	**1.7%**	**0.0%**	**0.0%**	**5.0%**	**4.8%**	**7.1%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**5**	**30**	**113**	**0**	**18**	**50**	**26**	**0**	**24**	**458**	**11**	**0**	**47**	**675**	**26**
PHF	**0.82**				**0.87**				**0.93**				**0.96**			
HV %	**0.0%**	**0.0%**	**0.0%**	**1.8%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.2%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 1
Location:	Worcester, MA
Street 1:	Chandler Street
Street 2:	Mason Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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HEAVY VEHICLES

	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	1	0	0	1	0	1	0	0	3	0	0	0	3	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
7:30 AM	0	0	0	1	0	0	1	1	0	1	3	0	0	0	6	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	3	0	0	0	1	0
8:00 AM	0	0	0	1	0	0	0	0	0	1	2	0	0	1	8	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	8	0
8:30 AM	0	0	0	0	0	0	0	0	0	1	4	0	0	0	5	1
8:45 AM	0	0	0	1	0	1	0	0	0	0	3	0	0	0	6	1

	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	1	0	0	0	0	1	0	0	1	6	1	0	0	0	0
4:15 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	4	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:00 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**2**	**10**	**0**	**0**	**1**	**27**	**2**
PHF	**0.50**				**0.25**				**0.60**				**0.83**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**1**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**9**	**1**	**0**	**0**	**6**	**0**
PHF	**0.75**				**0.25**				**0.34**				**0.38**			

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 1
Location:	Worcester, MA
Street 1:	Chandler Street
Street 2:	Mason Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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PEDESTRIANS & BICYCLES

	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0
7:15 AM	0	0	0	1	0	0	0	3	0	0	0	2	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	10	0	0	0	7	0	0	0	1
8:00 AM	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	0
8:15 AM	0	0	0	1	0	0	0	10	0	0	0	8	0	0	0	2
8:30 AM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0
8:45 AM	0	0	0	3	0	1	0	3	0	0	0	3	0	0	0	0

	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	9	0	0	0	4	0	0	0	3	0	0	0	0
4:15 PM	0	1	0	10	0	0	0	3	0	0	0	7	0	0	0	3
4:30 PM	0	0	0	5	0	0	0	2	0	0	0	1	1	1	0	0
4:45 PM	0	0	0	10	0	0	0	2	0	0	0	5	0	0	0	0
5:00 PM	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	7	0	0	0	3	0	0	0	1
5:30 PM	0	0	0	4	0	0	0	6	0	0	0	3	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	7	0	0	0	4	0	0	0	0

AM PEAK HOUR[1] 7:45 AM to 8:45 AM	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	4	0	0	0	22	0	0	0	17	0	0	0	3

PM PEAK HOUR[1] 5:00 PM to 6:00 PM	Mason Street Northbound				Mason Street Southbound				Chandler Street Eastbound				Chandler Street Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	7	0	0	0	20	0	0	0	11	0	0	0	1

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 2
Location:	Worcester, MA
Street 1:	Mason Street
Street 2:	Bluff Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	11	1	0	0	9	0	0	0	0	0	0	2	0	0
7:15 AM	0	0	13	1	0	0	13	0	0	0	0	0	0	2	0	0
7:30 AM	0	0	15	1	0	3	7	0	0	0	0	0	0	2	0	1
7:45 AM	0	0	9	2	0	0	9	0	0	0	0	0	0	10	0	1
8:00 AM	0	0	13	6	0	0	9	0	0	0	0	0	0	1	0	0
8:15 AM	0	0	16	0	0	0	15	0	0	0	0	0	0	4	0	1
8:30 AM	0	0	10	0	0	1	7	0	0	0	0	0	0	2	0	0
8:45 AM	1	0	13	3	0	0	10	0	0	0	0	0	0	1	0	1

	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	17	2	1	2	24	0	0	0	0	0	0	6	0	1
4:15 PM	0	0	14	3	0	3	21	0	0	0	0	0	0	3	0	2
4:30 PM	0	0	11	3	0	2	27	0	0	0	0	0	0	5	0	4
4:45 PM	0	0	14	4	1	3	23	0	0	0	0	0	0	9	0	2
5:00 PM	0	0	18	3	0	1	24	0	0	0	0	0	0	5	0	2
5:15 PM	0	0	19	1	0	0	25	0	0	0	0	0	0	5	0	1
5:30 PM	0	0	13	2	0	2	30	0	0	0	0	0	0	3	0	2
5:45 PM	0	0	16	0	0	4	21	0	0	0	0	0	0	6	0	2

AM PEAK HOUR 7:30 AM to 8:30 AM	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**53**	**9**	**0**	**3**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**0**	**3**
PHF			**0.82**				**0.72**				**0.00**				**0.45**	
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**5.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:30 PM to 5:30 PM	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**62**	**11**	**1**	**6**	**99**	**0**	**0**	**0**	**0**	**0**	**0**	**24**	**0**	**9**
PHF			**0.87**				**0.91**				**0.00**				**0.75**	
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**4.2%**	**0.0%**	**0.0%**

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 2
Location:	Worcester, MA
Street 1:	Mason Street
Street 2:	Bluff Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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HEAVY VEHICLES

	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.25**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.25**				**0.00**				**0.00**			

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 2
Location:	Worcester, MA
Street 1:	Mason Street
Street 2:	Bluff Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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PEDESTRIANS & BICYCLES

	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1

	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR[1] 7:30 AM to 8:30 AM	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1

PM PEAK HOUR[1] 4:30 PM to 5:30 PM	Mason Street Northbound				Mason Street Southbound				Eastbound				Bluff Street Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 3
Location:	Worcester, MA
Street 1:	Parker Street
Street 2:	Mason Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	10	0	0	1	8	1	0	0	2	0	0	2	1	0
7:15 AM	0	0	10	0	0	0	13	2	0	1	1	1	0	0	3	2
7:30 AM	1	0	13	0	0	0	7	2	0	1	2	0	0	2	1	1
7:45 AM	0	0	8	0	0	1	15	2	0	2	4	2	0	1	4	1
8:00 AM	0	0	11	0	0	1	6	1	0	5	2	3	0	1	0	1
8:15 AM	0	0	16	5	0	1	14	4	0	0	2	3	0	2	2	0
8:30 AM	0	0	6	1	0	2	7	2	0	1	1	2	0	0	2	1
8:45 AM	0	1	14	1	0	1	7	4	0	0	2	1	0	1	0	3

	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	2	18	2	0	1	26	4	0	2	3	2	0	3	2	0
4:15 PM	0	1	12	2	0	2	14	4	0	4	2	0	0	0	0	1
4:30 PM	0	0	9	1	0	5	28	3	0	3	2	3	0	0	3	2
4:45 PM	0	1	12	1	0	3	24	3	0	4	3	2	0	2	5	1
5:00 PM	0	0	16	1	0	2	23	4	0	5	2	1	0	1	2	0
5:15 PM	0	2	17	1	0	0	25	4	0	1	4	2	0	0	3	1
5:30 PM	0	1	14	2	0	1	27	5	0	0	5	1	0	1	3	0
5:45 PM	0	0	16	1	0	1	25	1	0	0	2	0	0	0	3	0

AM PEAK HOUR 7:30 AM to 8:30 AM	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	1	**0**	**48**	**5**	**0**	**3**	**42**	**9**	**0**	**8**	**10**	**8**	**0**	**6**	**7**	**3**
PHF	**0.64**				**0.71**				**0.65**				**0.67**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**33.3%**	**2.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:45 PM to 5:45 PM	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**4**	**59**	**5**	**0**	**6**	**99**	**16**	**0**	**10**	**14**	**6**	**0**	**4**	**13**	**2**
PHF	**0.85**				**0.92**				**0.83**				**0.59**			
HV %	**0.0%**	**0.0%**	**0.0%**	**20.0%**	**0.0%**	**0.0%**	**0.0%**	**6.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 3
Location:	Worcester, MA
Street 1:	Parker Street
Street 2:	Mason Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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HEAVY VEHICLES

	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
7:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.25**				**0.00**				**0.00**			

PM PEAK HOUR	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
4:45 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.25**				**0.00**				**0.00**			

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 3
Location:	Worcester, MA
Street 1:	Parker Street
Street 2:	Mason Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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PEDESTRIANS & BICYCLES

	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	0

	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
5:45 PM	0	1	0	0	0	0	0	1	0	0	0	2	0	0	0	0

AM PEAK HOUR[1] 7:30 AM to 8:30 AM	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0

PM PEAK HOUR[1] 4:45 PM to 5:45 PM	Mason Street Northbound				Mason Street Southbound				Parker Street Eastbound				Parker Street Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	2

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 4
Location:	Worcester, MA
Street 1:	Park Avenue
Street 2:	Winfield Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	150	13	0	0	87	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	160	18	0	2	93	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	196	19	0	4	92	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	192	46	0	5	109	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	194	29	0	2	124	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	187	20	0	5	129	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	173	20	0	2	115	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	185	25	0	1	138	0	0	0	0	0	0	0	0	0

	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	163	21	0	2	251	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	174	11	0	2	200	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	152	19	0	3	204	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	156	15	0	4	226	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	156	27	0	0	230	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	172	14	0	3	221	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	169	14	0	1	202	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	144	18	0	2	231	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:30 AM to 8:30 AM	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**769**	**114**	**0**	**16**	**454**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.93**				**0.88**				**0.00**				**0.00**			
HV %	**0.0%**	**0.0%**	**3.1%**	**2.6%**	**0.0%**	**0.0%**	**5.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:45 PM to 5:45 PM	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**653**	**70**	**0**	**8**	**879**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.97**				**0.96**				**0.00**				**0.00**			
HV %	**0.0%**	**0.0%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**0.6%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 4
Location:	Worcester, MA
Street 1:	Park Avenue
Street 2:	Winfield Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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HEAVY VEHICLES

	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	10	0	0	0	5	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	7	1	0	0	5	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	3	2	0	0	4	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	4	0	0	0	10	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	10	0	0	0	5	0	0	0	0	0	0	0	0	0

	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	8	0	0	0	3	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:30 AM to 8:30 AM	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**24**	**3**	**0**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.68**				**0.60**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**17**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.53**				**0.56**				**0.00**				**0.00**			

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 4
Location:	Worcester, MA
Street 1:	Park Avenue
Street 2:	Winfield Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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PEDESTRIANS & BICYCLES

	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4
5:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR[1] 7:30 AM to 8:30 AM	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

PM PEAK HOUR[1] 4:45 PM to 5:45 PM	Park Avenue Northbound				Park Avenue Southbound				Eastbound				Winfield Street Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	2	0	3	0	0	0	0	0	0	0	0	0	11

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 5
Location:	Worcester, MA
Street 1:	Mason Street
Street 2:	Winfield Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	8	0	0	0	8	0	0	5	0	1	0	0	0	0
7:15 AM	0	0	14	0	0	0	12	0	0	7	0	1	0	0	0	0
7:30 AM	0	0	18	0	1	0	7	0	0	9	0	3	0	0	0	0
7:45 AM	0	0	10	0	0	0	11	0	0	22	0	1	0	0	0	0
8:00 AM	0	0	14	0	0	0	9	0	0	16	0	1	0	0	0	0
8:15 AM	0	0	18	0	0	0	15	0	0	13	0	0	0	0	0	0
8:30 AM	0	0	10	0	0	0	7	0	0	10	0	1	0	0	0	0
8:45 AM	0	0	13	0	0	0	7	0	0	20	0	2	0	0	0	0

	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	19	0	2	0	26	0	0	20	0	1	0	0	0	0
4:15 PM	1	0	16	0	1	0	24	0	0	13	0	0	0	0	0	0
4:30 PM	1	0	15	0	0	0	25	0	0	19	0	1	0	0	0	0
4:45 PM	0	0	18	0	0	0	25	0	0	13	0	0	0	0	0	0
5:00 PM	0	0	19	0	0	0	25	0	0	17	0	2	0	0	0	0
5:15 PM	0	0	21	0	2	0	24	0	0	21	0	1	0	0	0	0
5:30 PM	0	0	17	0	0	0	30	0	0	12	0	1	0	0	0	0
5:45 PM	0	0	20	0	2	0	25	0	0	20	0	2	0	0	0	0

AM PEAK HOUR 7:30 AM to 8:30 AM	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**60**	**0**	**1**	**0**	**42**	**0**	**0**	**60**	**0**	**5**	**0**	**0**	**0**	**0**
PHF		**0.83**				**0.72**				**0.71**				**0.00**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**4.8%**	**0.0%**	**0.0%**	**5.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**77**	**0**	**4**	**0**	**104**	**0**	**0**	**70**	**0**	**6**	**0**	**0**	**0**	**0**
PHF		**0.92**				**0.90**				**0.86**				**0.00**		
HV %	**0.0%**	**0.0%**	**1.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 5
Location:	Worcester, MA
Street 1:	Mason Street
Street 2:	Winfield Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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HEAVY VEHICLES

	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:15 AM to 8:15 AM	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.50**				**0.75**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.38**				**0.25**				**0.00**				**0.00**			

Client:	Emma Parisi, EIT - Transportation
Project #:	1169_2_HSH
BTD #:	Location 5
Location:	Worcester, MA
Street 1:	Mason Street
Street 2:	Winfield Street
Count Date:	1/31/2023
Day of Week:	Tuesday
Weather:	Clouds & Sun, 35°F

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PEDESTRIANS & BICYCLES

	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	1	0	0	1	0	0	0	0	2	0	0	0	0
4:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0

AM PEAK HOUR[1] 7:30 AM to 8:30 AM	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	1	0	0	0	1	0	0	0	4	0	0	0	0

PM PEAK HOUR[1] 5:00 PM to 6:00 PM	Mason Street Northbound				Mason Street Southbound				Winfield Street Eastbound				Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	1	0	2	0	0	0	0	0	0	0	7	0	0	0	0

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Volume Report

Job 1169_2_HSH_ATR A
Area Worcester, MA
Location Mason Street, south of Bluff Street

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Tuesday, January 31, 2023

Time	Total		NB		SB		Time	Total		NB		SB	
0000	9		1		8		1200	26		11		15	
0015	7		3		4		1215	21		9		12	
0030	4		2		2		1230	31		12		19	
0045	2	22	1	7	1	15	1245	28	106	14	46	14	60
0100	3		2		1		1300	30		11		19	
0115	2		1		1		1315	28		9		19	
0130	2		0		2		1330	32		16		16	
0145	3	10	3	6	0	4	1345	31	121	14	50	17	71
0200	7		3		4		1400	38		14		24	
0215	1		0		1		1415	39		14		25	
0230	2		1		1		1430	38		15		23	
0245	2	12	0	4	2	8	1445	45	160	19	62	26	98
0300	2		2		0		1500	36		12		24	
0315	2		1		1		1515	35		14		21	
0330	1		0		1		1530	43		15		28	
0345	3	8	2	5	1	3	1545	56	170	19	60	37	110
0400	2		1		1		1600	49		19		30	
0415	2		0		2		1615	43		18		25	
0430	5		4		1		1630	46		14		32	
0445	4	13	1	6	3	7	1645	50	188	18	69	32	119
0500	12		4		8		1700	51		21		30	
0515	5		4		1		1715	49		19		30	
0530	10		7		3		1730	50		16		34	
0545	13	40	8	23	5	17	1745	46	196	17	73	29	123
0600	8		4		4		1800	37		20		17	
0615	14		9		5		1815	34		10		24	
0630	19		13		6		1830	33		9		24	
0645	20	61	9	35	11	26	1845	31	135	12	51	19	84
0700	23		12		11		1900	28		10		18	
0715	29		14		15		1915	31		12		19	
0730	26		16		10		1930	13		6		7	
0745	30	108	11	53	19	55	1945	22	94	6	34	16	60
0800	30		19		11		2000	20		9		11	
0815	34		16		18		2015	10		3		7	
0830	19		9		10		2030	25		14		11	
0845	30	113	16	60	14	53	2045	20	75	11	37	9	38
0900	29		16		13		2100	14		9		5	
0915	26		11		15		2115	11		4		7	
0930	22		12		10		2130	6		2		4	
0945	29	106	12	51	17	55	2145	9	40	5	20	4	20
1000	31		11		20		2200	10		3		7	
1015	26		10		16		2215	16		7		9	
1030	24		6		18		2230	13		9		4	
1045	18	99	8	35	10	64	2245	13	52	7	26	6	26
1100	26		12		14		2300	8		4		4	
1115	29		13		16		2315	8		1		7	
1130	26		14		12		2330	9		3		6	
1145	21	102	6	45	15	57	2345	5	30	1	9	4	21
							Total	**2061**		**867**		**1194**	

Volume Report

Job 1169_2_HSH_ATR A
Area Worcester, MA
Location Mason Street, south of Bluff Street

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Wednesday, February 1, 2023

Time	Total		NB		SB		Time	Total		NB		SB	
0000	6		1		5		1200	32		13		19	
0015	7		4		3		1215	26		10		16	
0030	1		0		1		1230	37		17		20	
0045	1	15	0	5	1	10	1245	40	135	17	57	23	78
0100	7		3		4		1300	39		17		22	
0115	3		1		2		1315	37		14		23	
0130	4		0		4		1330	34		17		17	
0145	1	15	1	5	0	10	1345	37	147	16	64	21	83
0200	4		1		3		1400	54		22		32	
0215	1		0		1		1415	49		25		24	
0230	3		0		3		1430	44		24		20	
0245	4	12	3	4	1	8	1445	43	190	18	89	25	101
0300	4		2		2		1500	41		15		26	
0315	4		1		3		1515	55		22		33	
0330	0		0		0		1530	44		18		26	
0345	3	11	1	4	2	7	1545	44	184	12	67	32	117
0400	4		3		1		1600	45		19		26	
0415	5		1		4		1615	70		20		50	
0430	1		0		1		1630	53		15		38	
0445	3	13	3	7	0	6	1645	41	209	14	68	27	141
0500	7		3		4		1700	45		21		24	
0515	7		4		3		1715	47		19		28	
0530	11		8		3		1730	39		18		21	
0545	6	31	3	18	3	13	1745	36	167	17	75	19	92
0600	13		8		5		1800	42		15		27	
0615	12		5		7		1815	40		17		23	
0630	17		12		5		1830	31		5		26	
0645	16	58	11	36	5	22	1845	31	144	16	53	15	91
0700	21		12		9		1900	23		8		15	
0715	29		10		19		1915	18		4		14	
0730	28		14		14		1930	19		4		15	
0745	34	112	19	55	15	57	1945	22	82	9	25	13	57
0800	29		9		20		2000	22		10		12	
0815	30		14		16		2015	23		9		14	
0830	30		15		15		2030	17		9		8	
0845	35	124	16	54	19	70	2045	15	77	4	32	11	45
0900	32		20		12		2100	14		3		11	
0915	28		13		15		2115	17		6		11	
0930	24		9		15		2130	20		7		13	
0945	30	114	13	55	17	59	2145	18	69	4	20	14	49
1000	28		9		19		2200	15		4		11	
1015	22		10		12		2215	12		7		5	
1030	26		10		16		2230	8		2		6	
1045	33	109	7	36	26	73	2245	6	41	4	17	2	24
1100	18		10		8		2300	7		1		6	
1115	19		11		8		2315	12		2		10	
1130	23		10		13		2330	5		2		3	
1145	39	99	17	48	22	51	2345	9	33	3	8	6	25
							Total	**2191**		**902**		**1289**	

Volume Report

Job 1169_2_HSH_ATR B
Area Worcester, MA
Location Winfield Street EB, east of Dewey Street

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Tuesday, January 31, 2023

Time	Total		EB				Time	Total		EB			
0000	4		4		0		1200	15		15		0	
0015	7		7		0		1215	6		6		0	
0030	1		1		0		1230	16		16		0	
0045	0	12	0	12	0	0	1245	19	56	19	56	0	0
0100	2		2		0		1300	12		12		0	
0115	0		0		0		1315	16		16		0	
0130	0		0		0		1330	13		13		0	
0145	1	3	1	3	0	0	1345	15	56	15	56	0	0
0200	0		0		0		1400	14		14		0	
0215	2		2		0		1415	23		23		0	
0230	0		0		0		1430	19		19		0	
0245	1	3	1	3	0	0	1445	19	75	19	75	0	0
0300	1		1		0		1500	15		15		0	
0315	1		1		0		1515	15		15		0	
0330	0		0		0		1530	17		17		0	
0345	0	2	0	2	0	0	1545	23	70	23	70	0	0
0400	0		0		0		1600	19		19		0	
0415	1		1		0		1615	12		12		0	
0430	0		0		0		1630	21		21		0	
0445	2	3	2	3	0	0	1645	14	66	14	66	0	0
0500	0		0		0		1700	20		20		0	
0515	3		3		0		1715	18		18		0	
0530	1		1		0		1730	13		13		0	
0545	0	4	0	4	0	0	1745	19	70	19	70	0	0
0600	4		4		0		1800	16		16		0	
0615	6		6		0		1815	13		13		0	
0630	3		3		0		1830	14		14		0	
0645	10	23	10	23	0	0	1845	9	52	9	52	0	0
0700	5		5		0		1900	9		9		0	
0715	7		7		0		1915	14		14		0	
0730	13		13		0		1930	6		6		0	
0745	23	48	23	48	0	0	1945	9	38	9	38	0	0
0800	17		17		0		2000	8		8		0	
0815	12		12		0		2015	4		4		0	
0830	10		10		0		2030	7		7		0	
0845	22	61	22	61	0	0	2045	6	25	6	25	0	0
0900	12		12		0		2100	7		7		0	
0915	14		14		0		2115	5		5		0	
0930	7		7		0		2130	3		3		0	
0945	10	43	10	43	0	0	2145	9	24	9	24	0	0
1000	12		12		0		2200	3		3		0	
1015	18		18		0		2215	1		1		0	
1030	14		14		0		2230	2		2		0	
1045	12	56	12	56	0	0	2245	3	9	3	9	0	0
1100	9		9		0		2300	2		2		0	
1115	15		15		0		2315	4		4		0	
1130	15		15		0		2330	2		2		0	
1145	12	51	12	51	0	0	2345	1	9	1	9	0	0
							Total	**859**		**859**		**0**	

Volume Report

Job 1169_2_HSH_ATR B
Area Worcester, MA
Location Winfield Street EB, east of Dewey Street

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Wednesday, February 1, 2023

Time	Total		EB				Time	Total		EB			
0000	1		1		0		1200	8		8		0	
0015	3		3		0		1215	13		13		0	
0030	0		0		0		1230	20		20		0	
0045	2	6	2	6	0	0	1245	23	64	23	64	0	0
0100	0		0		0		1300	12		12		0	
0115	1		1		0		1315	26		26		0	
0130	0		0		0		1330	22		22		0	
0145	0	1	0	1	0	0	1345	12	72	12	72	0	0
0200	2		2		0		1400	19		19		0	
0215	1		1		0		1415	24		24		0	
0230	2		2		0		1430	25		25		0	
0245	0	5	0	5	0	0	1445	21	89	21	89	0	0
0300	2		2		0		1500	21		21		0	
0315	0		0		0		1515	17		17		0	
0330	0		0		0		1530	20		20		0	
0345	0	2	0	2	0	0	1545	17	75	17	75	0	0
0400	1		1		0		1600	19		19		0	
0415	0		0		0		1615	24		24		0	
0430	1		1		0		1630	20		20		0	
0445	1	3	1	3	0	0	1645	16	79	16	79	0	0
0500	0		0		0		1700	23		23		0	
0515	1		1		0		1715	19		19		0	
0530	1		1		0		1730	12		12		0	
0545	0	2	0	2	0	0	1745	15	69	15	69	0	0
0600	3		3		0		1800	19		19		0	
0615	1		1		0		1815	13		13		0	
0630	7		7		0		1830	23		23		0	
0645	6	17	6	17	0	0	1845	12	67	12	67	0	0
0700	5		5		0		1900	12		12		0	
0715	18		18		0		1915	6		6		0	
0730	13		13		0		1930	12		12		0	
0745	23	59	23	59	0	0	1945	9	39	9	39	0	0
0800	13		13		0		2000	7		7		0	
0815	13		13		0		2015	6		6		0	
0830	10		10		0		2030	4		4		0	
0845	14	50	14	50	0	0	2045	7	24	7	24	0	0
0900	10		10		0		2100	6		6		0	
0915	9		9		0		2115	3		3		0	
0930	17		17		0		2130	9		9		0	
0945	9	45	9	45	0	0	2145	4	22	4	22	0	0
1000	13		13		0		2200	2		2		0	
1015	7		7		0		2215	10		10		0	
1030	8		8		0		2230	4		4		0	
1045	9	37	9	37	0	0	2245	3	19	3	19	0	0
1100	9		9		0		2300	2		2		0	
1115	9		9		0		2315	8		8		0	
1130	16		16		0		2330	4		4		0	
1145	22	56	22	56	0	0	2345	1	15	1	15	0	0
							Total	**917**		**917**		**0**	

Classification Report

Job # 1169_2_HSH_ATR A
Area Worcester, MA
Location Mason Street, south of Bluff Street
Direction Northbound
Tuesday, January 31, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	7	0	7	0	0	0	0	0	0	0	0	0	0	0
0100	6	0	6	0	0	0	0	0	0	0	0	0	0	0
0200	4	0	3	0	0	0	1	0	0	0	0	0	0	0
0300	5	0	5	0	0	0	0	0	0	0	0	0	0	0
0400	6	0	6	0	0	0	0	0	0	0	0	0	0	0
0500	23	1	18	4	0	0	0	0	0	0	0	0	0	0
0600	35	0	31	3	1	0	0	0	0	0	0	0	0	0
0700	53	0	42	8	0	0	3	0	0	0	0	0	0	0
0800	60	0	55	2	0	0	3	0	0	0	0	0	0	0
0900	51	0	46	5	0	0	0	0	0	0	0	0	0	0
1000	35	0	32	2	1	0	0	0	0	0	0	0	0	0
1100	45	1	38	4	0	0	1	0	0	1	0	0	0	0
1200	46	1	41	2	0	0	2	0	0	0	0	0	0	0
1300	50	0	49	0	0	0	1	0	0	0	0	0	0	0
1400	62	0	51	7	1	0	3	0	0	0	0	0	0	0
1500	60	1	47	6	1	1	3	1	0	0	0	0	0	0
1600	69	1	59	4	0	0	4	1	0	0	0	0	0	0
1700	73	1	68	2	0	0	1	1	0	0	0	0	0	0
1800	51	0	45	2	0	0	4	0	0	0	0	0	0	0
1900	34	0	33	1	0	0	0	0	0	0	0	0	0	0
2000	37	1	35	1	0	0	0	0	0	0	0	0	0	0
2100	20	0	19	1	0	0	0	0	0	0	0	0	0	0
2200	26	0	22	3	0	0	1	0	0	0	0	0	0	0
2300	9	0	9	0	0	0	0	0	0	0	0	0	0	0
Total	**867**	**7**	**767**	**57**	**4**	**1**	**27**	**3**	**0**	**1**	**0**	**0**	**0**	**0**
	100.00%	**0.81%**	**88.47%**	**6.57%**	**0.46%**	**0.12%**	**3.11%**	**0.35%**	**0.00%**	**0.12%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Classification Report

Job # 1169_2_HSH_ATR A
Area Worcester, MA
Location Mason Street, south of Bluff Street
Direction Northbound
Wednesday, February 1, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
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Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	5	0	5	0	0	0	0	0	0	0	0	0	0	0
0100	5	0	5	0	0	0	0	0	0	0	0	0	0	0
0200	4	0	4	0	0	0	0	0	0	0	0	0	0	0
0300	4	0	4	0	0	0	0	0	0	0	0	0	0	0
0400	7	0	7	0	0	0	0	0	0	0	0	0	0	0
0500	18	0	15	2	0	0	1	0	0	0	0	0	0	0
0600	36	0	28	5	2	0	1	0	0	0	0	0	0	0
0700	55	0	46	6	0	0	2	1	0	0	0	0	0	0
0800	54	0	46	6	0	0	2	0	0	0	0	0	0	0
0900	55	1	46	6	1	0	1	0	0	0	0	0	0	0
1000	36	0	28	6	0	0	1	1	0	0	0	0	0	0
1100	48	0	42	4	0	0	2	0	0	0	0	0	0	0
1200	57	0	47	7	1	0	2	0	0	0	0	0	0	0
1300	64	3	53	5	1	0	2	0	0	0	0	0	0	0
1400	89	0	81	7	1	0	0	0	0	0	0	0	0	0
1500	67	0	62	5	0	0	0	0	0	0	0	0	0	0
1600	68	0	57	6	0	0	4	1	0	0	0	0	0	0
1700	75	0	69	6	0	0	0	0	0	0	0	0	0	0
1800	53	0	47	5	0	0	1	0	0	0	0	0	0	0
1900	25	0	24	1	0	0	0	0	0	0	0	0	0	0
2000	32	0	31	1	0	0	0	0	0	0	0	0	0	0
2100	20	0	17	2	0	1	0	0	0	0	0	0	0	0
2200	17	0	13	3	0	0	1	0	0	0	0	0	0	0
2300	8	0	8	0	0	0	0	0	0	0	0	0	0	0
Total	**902**	**4**	**785**	**83**	**6**	**1**	**20**	**3**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.44%**	**87.03%**	**9.20%**	**0.67%**	**0.11%**	**2.22%**	**0.33%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Classification Report

Job # 1169_2_HSH_ATR A
Area Worcester, MA
Location Mason Street, south of Bluff Street
Direction Southbound
Tuesday, January 31, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	15	0	15	0	0	0	0	0	0	0	0	0	0	0
0100	4	0	2	2	0	0	0	0	0	0	0	0	0	0
0200	8	0	7	1	0	0	0	0	0	0	0	0	0	0
0300	3	0	3	0	0	0	0	0	0	0	0	0	0	0
0400	7	0	7	0	0	0	0	0	0	0	0	0	0	0
0500	17	0	15	2	0	0	0	0	0	0	0	0	0	0
0600	26	0	22	4	0	0	0	0	0	0	0	0	0	0
0700	55	0	47	7	0	0	1	0	0	0	0	0	0	0
0800	53	1	50	1	1	0	0	0	0	0	0	0	0	0
0900	55	0	49	5	0	1	0	0	0	0	0	0	0	0
1000	64	0	59	5	0	0	0	0	0	0	0	0	0	0
1100	57	0	50	4	2	0	1	0	0	0	0	0	0	0
1200	60	0	50	9	0	1	0	0	0	0	0	0	0	0
1300	71	0	62	8	0	1	0	0	0	0	0	0	0	0
1400	98	0	85	10	2	1	0	0	0	0	0	0	0	0
1500	110	0	89	16	3	2	0	0	0	0	0	0	0	0
1600	119	0	107	12	0	0	0	0	0	0	0	0	0	0
1700	123	0	117	5	0	1	0	0	0	0	0	0	0	0
1800	84	0	78	6	0	0	0	0	0	0	0	0	0	0
1900	60	0	50	9	0	1	0	0	0	0	0	0	0	0
2000	38	0	36	2	0	0	0	0	0	0	0	0	0	0
2100	20	0	18	2	0	0	0	0	0	0	0	0	0	0
2200	26	0	25	1	0	0	0	0	0	0	0	0	0	0
2300	21	0	21	0	0	0	0	0	0	0	0	0	0	0
Total	**1194**	**1**	**1064**	**111**	**8**	**8**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.08%**	**89.11%**	**9.30%**	**0.67%**	**0.67%**	**0.17%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Classification Report

Job # 1169_2_HSH_ATR A
Area Worcester, MA
Location Mason Street, south of Bluff Street
Direction Southbound
Wednesday, February 1, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	10	0	10	0	0	0	0	0	0	0	0	0	0	0
0100	10	0	9	1	0	0	0	0	0	0	0	0	0	0
0200	8	0	8	0	0	0	0	0	0	0	0	0	0	0
0300	7	0	7	0	0	0	0	0	0	0	0	0	0	0
0400	6	0	6	0	0	0	0	0	0	0	0	0	0	0
0500	13	0	12	1	0	0	0	0	0	0	0	0	0	0
0600	22	0	16	6	0	0	0	0	0	0	0	0	0	0
0700	57	0	52	4	1	0	0	0	0	0	0	0	0	0
0800	70	0	56	11	1	1	1	0	0	0	0	0	0	0
0900	59	0	54	3	1	0	1	0	0	0	0	0	0	0
1000	73	2	60	8	0	2	1	0	0	0	0	0	0	0
1100	51	0	44	5	2	0	0	0	0	0	0	0	0	0
1200	78	0	72	6	0	0	0	0	0	0	0	0	0	0
1300	83	1	75	5	2	0	0	0	0	0	0	0	0	0
1400	101	0	94	4	2	1	0	0	0	0	0	0	0	0
1500	117	1	104	10	2	0	0	0	0	0	0	0	0	0
1600	141	0	129	12	0	0	0	0	0	0	0	0	0	0
1700	92	1	85	5	0	1	0	0	0	0	0	0	0	0
1800	91	0	83	8	0	0	0	0	0	0	0	0	0	0
1900	57	0	52	3	0	0	0	2	0	0	0	0	0	0
2000	45	0	44	1	0	0	0	0	0	0	0	0	0	0
2100	49	0	45	3	0	1	0	0	0	0	0	0	0	0
2200	24	0	23	1	0	0	0	0	0	0	0	0	0	0
2300	25	0	24	1	0	0	0	0	0	0	0	0	0	0
Total	**1289**	**5**	**1164**	**98**	**11**	**6**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.39%**	**90.30%**	**7.60%**	**0.85%**	**0.47%**	**0.23%**	**0.16%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Classification Report

Job # 1169_2_HSH_ATR B
Area Worcester, MA
Location Winfield Street EB, east of Dewey Street
Direction Eastbound
Tuesday, January 31, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	12	0	12	0	0	0	0	0	0	0	0	0	0	0
0100	3	0	3	0	0	0	0	0	0	0	0	0	0	0
0200	3	0	2	1	0	0	0	0	0	0	0	0	0	0
0300	2	0	1	0	0	0	1	0	0	0	0	0	0	0
0400	3	0	3	0	0	0	0	0	0	0	0	0	0	0
0500	4	0	4	0	0	0	0	0	0	0	0	0	0	0
0600	23	0	19	4	0	0	0	0	0	0	0	0	0	0
0700	48	0	44	4	0	0	0	0	0	0	0	0	0	0
0800	61	0	56	5	0	0	0	0	0	0	0	0	0	0
0900	43	0	34	8	0	1	0	0	0	0	0	0	0	0
1000	56	0	50	6	0	0	0	0	0	0	0	0	0	0
1100	51	0	44	7	0	0	0	0	0	0	0	0	0	0
1200	56	0	49	7	0	0	0	0	0	0	0	0	0	0
1300	56	0	52	4	0	0	0	0	0	0	0	0	0	0
1400	75	0	71	3	1	0	0	0	0	0	0	0	0	0
1500	70	0	60	9	0	1	0	0	0	0	0	0	0	0
1600	66	1	61	4	0	0	0	0	0	0	0	0	0	0
1700	70	0	67	2	0	1	0	0	0	0	0	0	0	0
1800	52	0	50	2	0	0	0	0	0	0	0	0	0	0
1900	38	0	33	5	0	0	0	0	0	0	0	0	0	0
2000	25	0	24	1	0	0	0	0	0	0	0	0	0	0
2100	24	0	22	2	0	0	0	0	0	0	0	0	0	0
2200	9	0	9	0	0	0	0	0	0	0	0	0	0	0
2300	9	0	8	1	0	0	0	0	0	0	0	0	0	0
Total	**859**	**1**	**778**	**75**	**1**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.12%**	**90.57%**	**8.73%**	**0.12%**	**0.35%**	**0.12%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Classification Report

Job # 1169_2_HSH_ATR B
Area Worcester, MA
Location Winfield Street EB, east of Dewey Street
Direction Eastbound
Wednesday, February 1, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	6	0	6	0	0	0	0	0	0	0	0	0	0	0
0100	1	0	1	0	0	0	0	0	0	0	0	0	0	0
0200	5	0	5	0	0	0	0	0	0	0	0	0	0	0
0300	2	0	2	0	0	0	0	0	0	0	0	0	0	0
0400	3	0	2	0	0	0	1	0	0	0	0	0	0	0
0500	2	0	2	0	0	0	0	0	0	0	0	0	0	0
0600	17	0	15	2	0	0	0	0	0	0	0	0	0	0
0700	59	0	52	7	0	0	0	0	0	0	0	0	0	0
0800	50	0	48	2	0	0	0	0	0	0	0	0	0	0
0900	45	0	38	6	0	1	0	0	0	0	0	0	0	0
1000	37	1	30	5	0	0	1	0	0	0	0	0	0	0
1100	56	0	52	4	0	0	0	0	0	0	0	0	0	0
1200	64	1	60	2	0	0	1	0	0	0	0	0	0	0
1300	72	0	66	5	0	1	0	0	0	0	0	0	0	0
1400	89	0	82	7	0	0	0	0	0	0	0	0	0	0
1500	75	0	70	5	0	0	0	0	0	0	0	0	0	0
1600	79	1	73	5	0	0	0	0	0	0	0	0	0	0
1700	69	0	64	4	0	0	1	0	0	0	0	0	0	0
1800	67	0	64	2	0	1	0	0	0	0	0	0	0	0
1900	39	0	39	0	0	0	0	0	0	0	0	0	0	0
2000	24	0	23	1	0	0	0	0	0	0	0	0	0	0
2100	22	0	22	0	0	0	0	0	0	0	0	0	0	0
2200	19	0	18	1	0	0	0	0	0	0	0	0	0	0
2300	15	0	15	0	0	0	0	0	0	0	0	0	0	0
Total	**917**	**3**	**849**	**58**	**0**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.33%**	**92.58%**	**6.32%**	**0.00%**	**0.33%**	**0.44%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Speed Report

Job 1169_2_HSH_ATR A
Area Worcester, MA
Location Mason Street, south of Bluff Street
Dir Northbound
Tuesday, January 31, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	7	0	1	0	1	0	4	0	0	1	0	0	0	0	0	0	0
0100	6	0	0	0	1	2	2	0	1	0	0	0	0	0	0	0	0
0200	4	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0
0300	5	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0	0
0400	6	0	0	0	0	1	4	1	0	0	0	0	0	0	0	0	0
0500	23	1	0	1	4	6	5	4	2	0	0	0	0	0	0	0	0
0600	35	0	0	1	4	8	12	9	1	0	0	0	0	0	0	0	0
0700	53	0	1	3	4	14	13	14	4	0	0	0	0	0	0	0	0
0800	60	0	0	7	10	21	11	9	1	1	0	0	0	0	0	0	0
0900	51	0	0	1	6	20	9	13	2	0	0	0	0	0	0	0	0
1000	35	0	1	8	4	14	5	3	0	0	0	0	0	0	0	0	0
1100	45	0	0	7	8	15	13	2	0	0	0	0	0	0	0	0	0
1200	46	0	4	5	9	15	10	2	1	0	0	0	0	0	0	0	0
1300	50	0	1	4	9	19	9	5	3	0	0	0	0	0	0	0	0
1400	62	0	0	15	14	16	12	4	1	0	0	0	0	0	0	0	0
1500	60	1	3	7	8	16	12	9	3	1	0	0	0	0	0	0	0
1600	69	0	2	16	14	21	12	2	1	1	0	0	0	0	0	0	0
1700	73	0	2	4	17	23	20	7	0	0	0	0	0	0	0	0	0
1800	51	0	0	7	8	25	8	3	0	0	0	0	0	0	0	0	0
1900	34	0	0	3	8	11	7	0	5	0	0	0	0	0	0	0	0
2000	37	0	0	7	9	11	5	4	1	0	0	0	0	0	0	0	0
2100	20	0	0	1	2	5	8	2	1	1	0	0	0	0	0	0	0
2200	26	0	0	0	3	8	11	4	0	0	0	0	0	0	0	0	0
2300	9	0	0	0	1	1	5	2	0	0	0	0	0	0	0	0	0
Total	**867**	**2**	**15**	**98**	**148**	**273**	**200**	**99**	**27**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.23%**	**1.73%**	**11.30%**	**17.07%**	**31.49%**	**23.07%**	**11.42%**	**3.11%**	**0.58%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Maximum = 42.6 mph, Minimum = 2.8 mph, Mean = 23.1 mph
85% Speed = 30.03 mph, 95% Speed = 34.03 mph, Median = 23.32 mph
10 mph Pace = 19 - 29, Number in Pace = 493 (56.86%)
Variance = 44.24, Standard Deviation = 6.65 mph

Speed Report

Job 1169_2_HSH_ATR A
Area Worcester, MA
Location Mason Street, south of Bluff Street
Dir Northbound
Wednesday, February 1, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	5	0	0	0	1	2	0	2	0	0	0	0	0	0	0	0	0
0100	5	0	1	0	0	1	1	2	0	0	0	0	0	0	0	0	0
0200	4	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0
0300	4	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0
0400	7	0	0	0	1	1	2	1	2	0	0	0	0	0	0	0	0
0500	18	0	0	3	2	4	2	5	2	0	0	0	0	0	0	0	0
0600	36	0	0	1	4	7	14	5	4	1	0	0	0	0	0	0	0
0700	55	0	0	3	4	12	22	10	4	0	0	0	0	0	0	0	0
0800	54	0	0	2	7	21	15	7	2	0	0	0	0	0	0	0	0
0900	55	0	1	8	7	15	15	5	2	2	0	0	0	0	0	0	0
1000	36	0	0	6	5	13	9	3	0	0	0	0	0	0	0	0	0
1100	48	0	0	3	2	10	21	8	3	1	0	0	0	0	0	0	0
1200	57	0	0	3	5	27	17	2	2	1	0	0	0	0	0	0	0
1300	64	1	6	10	13	20	10	4	0	0	0	0	0	0	0	0	0
1400	89	0	0	4	16	29	27	10	3	0	0	0	0	0	0	0	0
1500	67	0	0	5	9	20	24	6	3	0	0	0	0	0	0	0	0
1600	68	0	3	16	13	13	17	4	2	0	0	0	0	0	0	0	0
1700	75	0	1	6	12	22	25	9	0	0	0	0	0	0	0	0	0
1800	53	0	0	6	11	13	15	6	2	0	0	0	0	0	0	0	0
1900	25	0	0	0	5	6	10	3	1	0	0	0	0	0	0	0	0
2000	32	0	0	2	5	9	9	4	3	0	0	0	0	0	0	0	0
2100	20	0	0	2	4	10	2	1	1	0	0	0	0	0	0	0	0
2200	17	0	0	3	5	3	3	3	0	0	0	0	0	0	0	0	0
2300	8	0	0	0	1	4	2	1	0	0	0	0	0	0	0	0	0
Total	**902**	**1**	**12**	**85**	**133**	**264**	**264**	**102**	**36**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.11%**	**1.33%**	**9.42%**	**14.75%**	**29.27%**	**29.27%**	**11.31%**	**3.99%**	**0.55%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Maximum = 42.2 mph, Minimum = 4.3 mph, Mean = 24.0 mph
85% Speed = 30.37 mph, 95% Speed = 34.44 mph, Median = 24.33 mph
10 mph Pace = 20 - 30, Number in Pace = 530 (58.76%)
Variance = 42.02, Standard Deviation = 6.48 mph

Speed Report

Job 1169_2_HSH_ATR A
Area Worcester, MA
Location Mason Street, south of Bluff Street
Dir Southbound
Tuesday, January 31, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	15	0	1	2	7	2	1	2	0	0	0	0	0	0	0	0	0
0100	4	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0
0200	8	0	0	3	1	1	1	1	1	0	0	0	0	0	0	0	0
0300	3	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0
0400	7	0	0	1	0	2	3	0	1	0	0	0	0	0	0	0	0
0500	17	0	0	3	3	2	6	3	0	0	0	0	0	0	0	0	0
0600	26	0	1	3	3	8	8	3	0	0	0	0	0	0	0	0	0
0700	55	0	4	12	10	9	15	4	1	0	0	0	0	0	0	0	0
0800	53	0	1	12	5	14	14	5	2	0	0	0	0	0	0	0	0
0900	55	0	1	10	10	11	17	5	1	0	0	0	0	0	0	0	0
1000	64	1	1	14	9	12	14	12	1	0	0	0	0	0	0	0	0
1100	57	0	1	9	4	22	18	2	1	0	0	0	0	0	0	0	0
1200	60	0	1	9	14	17	15	2	1	1	0	0	0	0	0	0	0
1300	71	0	3	21	16	14	8	7	2	0	0	0	0	0	0	0	0
1400	98	0	1	13	11	29	33	11	0	0	0	0	0	0	0	0	0
1500	110	0	2	21	20	24	27	10	3	3	0	0	0	0	0	0	0
1600	119	1	2	25	19	35	22	10	5	0	0	0	0	0	0	0	0
1700	123	0	1	17	19	37	33	14	2	0	0	0	0	0	0	0	0
1800	84	0	2	14	13	28	15	8	3	1	0	0	0	0	0	0	0
1900	60	0	1	11	9	13	17	5	3	1	0	0	0	0	0	0	0
2000	38	0	0	2	1	10	11	7	4	3	0	0	0	0	0	0	0
2100	20	0	0	2	0	6	6	5	1	0	0	0	0	0	0	0	0
2200	26	0	1	0	2	10	5	6	2	0	0	0	0	0	0	0	0
2300	21	0	0	2	1	7	8	2	1	0	0	0	0	0	0	0	0
Total	**1194**	**2**	**24**	**207**	**179**	**313**	**299**	**125**	**36**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.17%**	**2.01%**	**17.34%**	**14.99%**	**26.21%**	**25.04%**	**10.47%**	**3.02%**	**0.75%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Maximum = 43.1 mph, Minimum = 2.6 mph, Mean = 22.6 mph
85% Speed = 29.74 mph, 95% Speed = 33.72 mph, Median = 23.15 mph
10 mph Pace = 20 - 30, Number in Pace = 617 (51.68%)
Variance = 51.59, Standard Deviation = 7.18 mph

Speed Report

Job 1169_2_HSH_ATR A
Area Worcester, MA
Location Mason Street, south of Bluff Street
Dir Southbound
Wednesday, February 1, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	10	0	0	1	0	5	0	1	3	0	0	0	0	0	0	0	0
0100	10	0	0	1	1	3	3	1	0	1	0	0	0	0	0	0	0
0200	8	0	0	1	1	0	0	3	1	2	0	0	0	0	0	0	0
0300	7	0	0	3	1	0	1	1	0	1	0	0	0	0	0	0	0
0400	6	0	0	0	1	1	1	2	1	0	0	0	0	0	0	0	0
0500	13	0	0	4	1	2	2	4	0	0	0	0	0	0	0	0	0
0600	22	0	2	3	2	6	5	4	0	0	0	0	0	0	0	0	0
0700	57	0	2	9	4	21	7	12	1	1	0	0	0	0	0	0	0
0800	70	0	2	16	6	22	16	5	1	2	0	0	0	0	0	0	0
0900	59	0	1	15	8	13	11	10	1	0	0	0	0	0	0	0	0
1000	73	1	1	10	13	23	18	6	1	0	0	0	0	0	0	0	0
1100	51	0	0	8	5	16	12	6	3	1	0	0	0	0	0	0	0
1200	78	0	0	10	11	18	22	11	5	1	0	0	0	0	0	0	0
1300	83	0	5	22	13	22	9	9	2	1	0	0	0	0	0	0	0
1400	101	0	0	18	22	24	20	14	3	0	0	0	0	0	0	0	0
1500	117	0	2	21	18	26	34	10	4	2	0	0	0	0	0	0	0
1600	141	0	2	23	25	35	33	18	3	2	0	0	0	0	0	0	0
1700	92	0	1	16	13	25	24	10	3	0	0	0	0	0	0	0	0
1800	91	0	0	10	9	30	28	8	5	1	0	0	0	0	0	0	0
1900	57	0	0	6	10	14	16	9	2	0	0	0	0	0	0	0	0
2000	45	0	0	6	4	13	17	3	2	0	0	0	0	0	0	0	0
2100	49	0	0	4	5	13	17	8	1	1	0	0	0	0	0	0	0
2200	24	0	0	3	4	4	7	4	2	0	0	0	0	0	0	0	0
2300	25	0	0	0	2	6	7	7	2	1	0	0	0	0	0	0	0
Total	**1289**	**1**	**18**	**210**	**179**	**342**	**310**	**166**	**46**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.08%**	**1.40%**	**16.29%**	**13.89%**	**26.53%**	**24.05%**	**12.88%**	**3.57%**	**1.32%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Maximum = 43.8 mph, Minimum = 4.5 mph, Mean = 23.2 mph
85% Speed = 30.76 mph, 95% Speed = 34.87 mph, Median = 23.66 mph
10 mph Pace = 20 - 30, Number in Pace = 659 (51.12%)
Variance = 53.69, Standard Deviation = 7.33 mph

Speed Report

Job 1169_2_HSH_ATR B
Area Worcester, MA
Location Winfield Street EB, east of Dewey Street
Dir Eastbound
Tuesday, January 31, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	12	0	2	2	3	3	1	1	0	0	0	0	0	0	0	0	0
0100	3	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0
0200	3	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
0300	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
0400	3	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0
0500	4	0	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0
0600	23	0	2	2	9	9	1	0	0	0	0	0	0	0	0	0	0
0700	48	0	0	12	17	15	4	0	0	0	0	0	0	0	0	0	0
0800	61	0	2	9	29	16	5	0	0	0	0	0	0	0	0	0	0
0900	43	0	4	12	17	8	2	0	0	0	0	0	0	0	0	0	0
1000	56	0	4	8	26	15	2	1	0	0	0	0	0	0	0	0	0
1100	51	0	5	20	15	10	1	0	0	0	0	0	0	0	0	0	0
1200	56	1	6	11	19	18	1	0	0	0	0	0	0	0	0	0	0
1300	56	0	2	4	28	18	4	0	0	0	0	0	0	0	0	0	0
1400	75	0	9	7	32	24	3	0	0	0	0	0	0	0	0	0	0
1500	70	0	5	10	27	23	4	0	0	1	0	0	0	0	0	0	0
1600	66	0	2	6	34	21	3	0	0	0	0	0	0	0	0	0	0
1700	70	0	7	15	31	13	4	0	0	0	0	0	0	0	0	0	0
1800	52	0	5	6	24	14	1	1	0	1	0	0	0	0	0	0	0
1900	38	0	0	14	14	9	1	0	0	0	0	0	0	0	0	0	0
2000	25	0	0	6	9	8	2	0	0	0	0	0	0	0	0	0	0
2100	24	0	0	6	11	6	1	0	0	0	0	0	0	0	0	0	0
2200	9	0	1	1	7	0	0	0	0	0	0	0	0	0	0	0	0
2300	9	0	0	1	2	3	3	0	0	0	0	0	0	0	0	0	0
Total	**859**	**2**	**57**	**155**	**359**	**237**	**44**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.23%**	**6.64%**	**18.04%**	**41.79%**	**27.59%**	**5.12%**	**0.35%**	**0.00%**	**0.23%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Maximum = 40.7 mph, Minimum = 4.3 mph, Mean = 17.8 mph
85% Speed = 22.37 mph, 95% Speed = 25.22 mph, Median = 18.06 mph
10 mph Pace = 13 - 23, Number in Pace = 641 (74.62%)
Variance = 22.34, Standard Deviation = 4.73 mph

Speed Report

Job 1169_2_HSH_ATR B
Area Worcester, MA
Location Winfield Street EB, east of Dewey Street
Dir Eastbound
Wednesday, February 1, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	6	0	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0
0100	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
0200	5	0	1	0	1	0	3	0	0	0	0	0	0	0	0	0	0
0300	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
0400	3	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
0500	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
0600	17	0	1	2	1	9	4	0	0	0	0	0	0	0	0	0	0
0700	59	0	0	12	28	15	4	0	0	0	0	0	0	0	0	0	0
0800	50	0	0	6	17	18	9	0	0	0	0	0	0	0	0	0	0
0900	45	1	9	8	17	8	2	0	0	0	0	0	0	0	0	0	0
1000	37	0	7	4	16	9	1	0	0	0	0	0	0	0	0	0	0
1100	56	0	1	8	22	20	5	0	0	0	0	0	0	0	0	0	0
1200	64	0	7	15	28	12	2	0	0	0	0	0	0	0	0	0	0
1300	72	0	1	9	31	24	7	0	0	0	0	0	0	0	0	0	0
1400	89	0	2	10	34	36	6	1	0	0	0	0	0	0	0	0	0
1500	75	0	0	6	37	28	3	1	0	0	0	0	0	0	0	0	0
1600	79	0	3	11	38	23	4	0	0	0	0	0	0	0	0	0	0
1700	69	1	3	8	35	20	2	0	0	0	0	0	0	0	0	0	0
1800	67	1	3	8	36	17	2	0	0	0	0	0	0	0	0	0	0
1900	39	0	3	8	18	10	0	0	0	0	0	0	0	0	0	0	0
2000	24	0	2	5	10	5	2	0	0	0	0	0	0	0	0	0	0
2100	22	0	1	5	8	7	1	0	0	0	0	0	0	0	0	0	0
2200	19	0	0	1	7	10	1	0	0	0	0	0	0	0	0	0	0
2300	15	0	2	2	6	5	0	0	0	0	0	0	0	0	0	0	0
Total	**917**	**3**	**46**	**130**	**394**	**282**	**60**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.33%**	**5.02%**	**14.18%**	**42.97%**	**30.75%**	**6.54%**	**0.22%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Maximum = 30.9 mph, Minimum = 4.3 mph, Mean = 18.5 mph
85% Speed = 22.93 mph, 95% Speed = 25.78 mph, Median = 18.90 mph
10 mph Pace = 14 - 24, Number in Pace = 687 (74.92%)
Variance = 21.71, Standard Deviation = 4.66 mph

HOWARD STEIN HUDSON

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Appendix B

2019 MassDOT Seasonal and Axle Correction Factors

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.

HOWARD STEIN HUDSON

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Appendix C

Crash Data

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Worcester COUNT DATE : 1/31/2023

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Chandler Street

MINOR STREET(S) : Mason Street

INTERSECTION DIAGRAM
(Label Approaches)

North

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES :	493	748	148	94		1,483

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **16,478**

TOTAL # OF CRASHES : 48

OF YEARS : 3

AVERAGE # OF CRASHES PER YEAR (**A**) : **16.00**

CRASH RATE CALCULATION : **2.66**

RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date: 48 Mason Street, Worcester

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Worcester COUNT DATE : 1/31/2023

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Mason Street

MINOR STREET(S) : Bluff Street

INTERSECTION DIAGRAM
(Label Approaches)

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES :	73	106		33		**212**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **2,356**

TOTAL # OF CRASHES : 2

OF YEARS : 3

AVERAGE # OF CRASHES PER YEAR (**A**) : **0.67**

CRASH RATE CALCULATION : **0.78**

RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date: 48 Mason Street, Worcester

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Worcester COUNT DATE : 1/31/2023

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Mason Street

MINOR STREET(S) : Parker Street

INTERSECTION DIAGRAM
(Label Approaches)

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES :	68	121	30	19		238

" K " FACTOR :	0.090	INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME :	2,644

TOTAL # OF CRASHES :	7	# OF YEARS :	3	AVERAGE # OF CRASHES PER YEAR (**A**) :	2.33

CRASH RATE CALCULATION : 2.42 RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date: 48 Mason Street, Worcester

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Worcester COUNT DATE : 1/31/2023

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Park Street

MINOR STREET(S) : Winfield Street

INTERSECTION DIAGRAM
(Label Approaches)

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES :	726	887				1,613

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **17,922**

TOTAL # OF CRASHES : 7

OF YEARS : 3

AVERAGE # OF CRASHES PER YEAR (**A**) : **2.33**

CRASH RATE CALCULATION : **0.36**

$$\text{RATE} = \frac{(A * 1{,}000{,}000)}{(V * 365)}$$

Comments :

Project Title & Date: 48 Mason Street, Worcester

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Worcester COUNT DATE : 1/31/2023

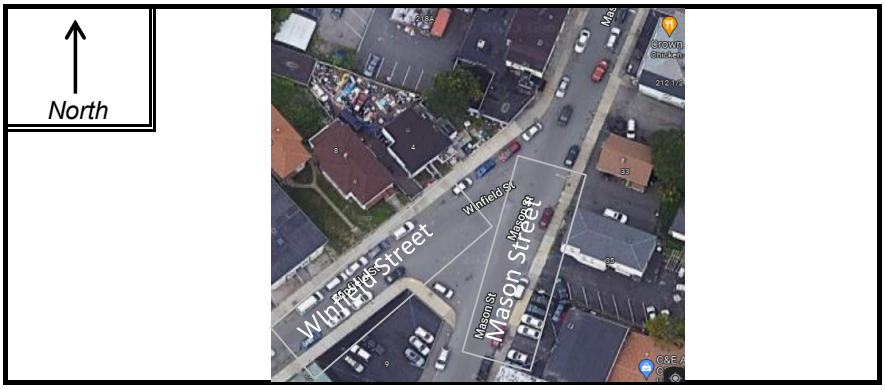
DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Mason Street

MINOR STREET(S) : Winfield Street

INTERSECTION DIAGRAM
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES :	77	104	76			257

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **2,856**

TOTAL # OF CRASHES : 1

OF YEARS : 3

AVERAGE # OF CRASHES PER YEAR (**A**) : **0.33**

CRASH RATE CALCULATION : **0.32**

RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date: 48 Mason Street, Worcester

HOWARD STEIN HUDSON

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Appendix D

Trip Generation

48 Mason Street, Worcester
Trip Generation Assessment

HOWARD STEIN HUDSON
rev. 3/17/2023

xx HARD CODED TO BALANCE (Manually change formatting)

Land Use	Size	Category	Directional Split	Average Trip Rate	Unadjusted Vehicle Trips	Assumed National Vehicle Occupancy Rate[1]	Unadjusted Person-Trips	Transit Share[2]	Transit Person-Trips	Walk/Bike/ Other Share[2]	Walk/ Bike/ Other Trips	Auto Share[2]	Auto Person-Trips	% Taxi/ TNC[3]	Taxi/TNC Person-Trips	Assumed Local Auto Occupancy Rate for Taxis[4]	Private Auto Person-Trips	Assumed Local Auto Occupancy Rate[4]	Taxi/TNC Auto Trips	Primary Non-Taxi Auto Trips	Primary AutoTrips
Daily Peak Hour																					
Affordable Housing[5]	94	Total		4.810	452	1.18	**534**	6%	**32**	24%	**128**	70%	**374**	7%	26	1.18	348	1.18	**44**	**294**	**338**
	units	In	50%	2.405	226	1.18	**267**	6%	**16**	24%	**64**	70%	**187**	7%	13	1.18	174	1.18	**22**	**147**	**169**
		Out	50%	2.405	226	1.18	**267**	6%	**16**	24%	**64**	70%	**187**	7%	13	1.18	174	1.18	**22**	**147**	**169**
Total		Total			**452**		**534**		**32**		**128**		**374**						**44**		**338**
		In			**226**		**267**		**16**		**64**		**187**						**22**		**169**
		Out			**226**		**267**		**16**		**64**		**187**						**22**		**169**
AM Peak Hour																					
Affordable Housing[5]	94	Total		0.360	34	1.18	**40**		**2**		**10**		**28**	7%	2	1.18	26	1.18	**4**	**22**	**26**
	units	In	29%	0.104	10	1.18	**12**	6%	**0**	24%	**3**	70%	**9**	7%	1	1.18	8	1.18	**2**	**7**	**9**
		Out	71%	0.256	24	1.18	**28**	6%	**2**	24%	**7**	70%	**19**	7%	1	1.18	18	1.18	**2**	**15**	**17**
Total		Total			**34**		**40**		**2**		**10**		**28**						**4**		**26**
		In			**10**		**12**		**0**		**3**		**9**						**2**		**9**
		Out			**24**		**28**		**2**		**7**		**19**						**2**		**17**
PM Peak Hour																					
Affordable Housing[5]	94	Total		0.460	44	1.18	**52**		**3**		**12**		**37**	7%	3	1.18	34	1.18	**6**	**29**	**35**
	units	In	59%	0.271	26	1.18	**31**	6%	**2**	24%	**7**	70%	**22**	7%	2	1.18	20	1.18	**3**	**17**	**20**
		Out	41%	0.189	18	1.18	**21**	6%	**1**	24%	**5**	70%	**15**	7%	1	1.18	14	1.18	**3**	**12**	**15**
Total		Total			**44**		**52**		**3**		**12**		**37**						**6**		**35**
		In			**26**		**31**		**2**		**7**		**22**						**3**		**20**
		Out			**18**		**21**		**1**		**5**		**15**						**3**		**15**

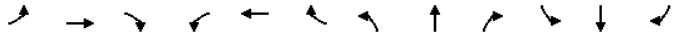
1. 2017 National vehicle occupancy rates - 1.18:home to work; 1.82: family/personal business; 1.82: shopping; 2.1 social/recreational
2. Mode shares based on U.S Census Journey to Work, Tract 7314
3. Assumed Taxi/TNC Percentage
4. Local vehicle occupancy rates based on 2017 National vehicle occupancy rates
5. ITE Trip Generation Manual, 11th Edition, LUC 223 (Affordable Housing), average rate

HOWARD STEIN HUDSON

Engineers + Planners

Appendix E

Synchro Reports



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	579	7	20	461	14	6	28	82	14	15	21
Future Volume (Veh/h)	40	579	7	20	461	14	6	28	82	14	15	21
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.87	0.87	0.87	0.74	0.74	0.74
Hourly flow rate (vph)	44	643	8	21	490	15	7	32	94	19	20	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	505			651			1060	1282	326	1059	1278	252
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	505			651			1060	1282	326	1059	1278	252
tC, single (s)	4.2			4.2			7.5	6.6	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			98			95	79	86	85	87	96
cM capacity (veh/h)	1035			911			150	151	673	124	157	753

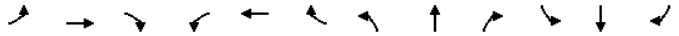
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	366	330	266	260	133	67
Volume Left	44	0	21	0	7	19
Volume Right	0	8	0	15	94	28
cSH	1035	1700	911	1700	334	211
Volume to Capacity	0.04	0.19	0.02	0.15	0.40	0.32
Queue Length 95th (ft)	3	0	2	0	46	33
Control Delay (s)	1.4	0.0	0.9	0.0	22.7	29.8
Lane LOS	A		A		C	D
Approach Delay (s)	0.8		0.5		22.7	29.8
Approach LOS					C	D

Intersection Summary					
Average Delay	4.1				
Intersection Capacity Utilization	49.1%	ICU Level of Service		A	
Analysis Period (min)	15				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	3	54	9	3	40
Future Volume (Veh/h)	17	3	54	9	3	40
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.45	0.45	0.82	0.82	0.72	0.72
Hourly flow rate (vph)	38	7	66	11	4	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	136	72			77	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	136	72			77	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	99			100	
cM capacity (veh/h)	861	996			1535	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	45	77	60
Volume Left	38	0	4
Volume Right	7	11	0
cSH	879	1700	1535
Volume to Capacity	0.05	0.05	0.00
Queue Length 95th (ft)	4	0	0
Control Delay (s)	9.3	0.0	0.5
Lane LOS	A		A
Approach Delay (s)	9.3	0.0	0.5
Approach LOS	A		

Intersection Summary				
Average Delay		2.5		
Intersection Capacity Utilization		14.6%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	10	8	6	7	3	0	48	5	3	42	9
Future Volume (Veh/h)	8	10	8	6	7	3	0	48	5	3	42	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.65	0.65	0.67	0.67	0.67	0.64	0.64	0.64	0.71	0.71	0.71
Hourly flow rate (vph)	12	15	12	9	10	4	0	75	8	4	59	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	162	156	66	172	159	79	72			83		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	162	156	66	172	159	79	72			83		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.5		
p0 queue free %	98	98	99	99	99	100	100			100		
cM capacity (veh/h)	795	737	1004	772	735	987	1541			1340		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	39	23	83	76
Volume Left	12	9	0	4
Volume Right	12	4	8	13
cSH	823	784	1541	1340
Volume to Capacity	0.05	0.03	0.00	0.00
Queue Length 95th (ft)	4	2	0	0
Control Delay (s)	9.6	9.7	0.0	0.4
Lane LOS	A	A		A
Approach Delay (s)	9.6	9.7	0.0	0.4
Approach LOS	A	A		

Intersection Summary					
Average Delay			2.9		
Intersection Capacity Utilization			15.3%	ICU Level of Service	A
Analysis Period (min)			15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	777	115	16	459
Future Volume (Veh/h)	0	0	777	115	16	459
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.93	0.93	0.88	0.88
Hourly flow rate (vph)	0	0	835	124	18	522
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1194	480			959	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1194	480			959	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			97	
cM capacity (veh/h)	175	532			707	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	557	402	192	348
Volume Left	0	0	18	0
Volume Right	0	124	0	0
cSH	1700	1700	707	1700
Volume to Capacity	0.33	0.24	0.03	0.20
Queue Length 95th (ft)	0	0	2	0
Control Delay (s)	0.0	0.0	1.2	0.0
Lane LOS			A	
Approach Delay (s)	0.0		0.4	
Approach LOS				

Intersection Summary					
Average Delay			0.2		
Intersection Capacity Utilization			28.5%	ICU Level of Service	A
Analysis Period (min)			15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	0	61	42	0	61	5
Future Volume (Veh/h)	0	61	42	0	61	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.72	0.72	0.92	0.92
Hourly flow rate (vph)	0	73	58	0	66	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	58				131	58
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	58				131	58
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				92	100
cM capacity (veh/h)	1559				863	1008

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	73	58	71
Volume Left	0	0	66
Volume Right	0	0	5
cSH	1700	1700	872
Volume to Capacity	0.04	0.03	0.08
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	9.5
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.5
Approach LOS			A

Intersection Summary				
Average Delay			3.3	
Intersection Capacity Utilization			13.7%	ICU Level of Service A
Analysis Period (min)			15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	463	11	47	682	26	5	30	114	18	51	26
Future Volume (Veh/h)	25	463	11	47	682	26	5	30	114	18	51	26
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.96	0.96	0.96	0.82	0.82	0.82	0.87	0.87	0.87
Hourly flow rate (vph)	27	498	12	49	710	27	6	37	139	21	59	30
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	737			510			1070	1393	255	1282	1386	368
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	737			510			1070	1393	255	1282	1386	368
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			95			94	72	81	72	56	95
cM capacity (veh/h)	878			1065			105	132	744	75	134	634

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	276	261	404	382	182	110
Volume Left	27	0	49	0	6	21
Volume Right	0	12	0	27	139	30
cSH	878	1700	1065	1700	348	143
Volume to Capacity	0.03	0.15	0.05	0.22	0.52	0.77
Queue Length 95th (ft)	2	0	4	0	72	117
Control Delay (s)	1.2	0.0	1.5	0.0	26.2	84.9
Lane LOS	A		A		D	F
Approach Delay (s)	0.6		0.8		26.2	84.9
Approach LOS					D	F

Intersection Summary					
Average Delay	9.3				
Intersection Capacity Utilization	57.9%	ICU Level of Service		B	
Analysis Period (min)	15				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	24	9	63	11	6	100
Future Volume (Veh/h)	24	9	63	11	6	100
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.87	0.87	0.91	0.91
Hourly flow rate (vph)	32	12	72	13	7	110
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	202	78			85	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202	78			85	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	99			100	
cM capacity (veh/h)	778	988			1524	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	44	85	117
Volume Left	32	0	7
Volume Right	12	13	0
cSH	826	1700	1524
Volume to Capacity	0.05	0.05	0.00
Queue Length 95th (ft)	4	0	0
Control Delay (s)	9.6	0.0	0.5
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	0.5
Approach LOS	A		

Intersection Summary				
Average Delay		1.9		
Intersection Capacity Utilization		20.2%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	14	6	4	13	2	4	60	5	6	100	16
Future Volume (Veh/h)	10	14	6	4	13	2	4	60	5	6	100	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.59	0.59	0.59	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	12	17	7	7	22	3	5	71	6	7	109	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	230	218	118	231	224	74	126			77		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	230	218	118	231	224	74	126			77		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	97	99	99	97	100	100			100		
cM capacity (veh/h)	705	678	940	705	673	993	1473			1535		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	36	32	82	133
Volume Left	12	7	5	7
Volume Right	7	3	6	17
cSH	727	701	1473	1535
Volume to Capacity	0.05	0.05	0.00	0.00
Queue Length 95th (ft)	4	4	0	0
Control Delay (s)	10.2	10.4	0.5	0.4
Lane LOS	B	B	A	A
Approach Delay (s)	10.2	10.4	0.5	0.4
Approach LOS	B	B		

Intersection Summary					
Average Delay			2.8		
Intersection Capacity Utilization			18.1%	ICU Level of Service	A
Analysis Period (min)			15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	660	71	8	888
Future Volume (Veh/h)	0	0	660	71	8	888
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.97	0.97	0.96	0.96
Hourly flow rate (vph)	0	0	680	73	8	925
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1195	376			753	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1195	376			753	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	180	627			866	

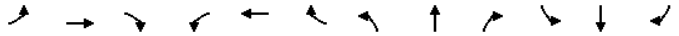
Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	453	300	316	617
Volume Left	0	0	8	0
Volume Right	0	73	0	0
cSH	1700	1700	866	1700
Volume to Capacity	0.27	0.18	0.01	0.36
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	0.0	0.0	0.3	0.0
Lane LOS			A	
Approach Delay (s)	0.0		0.1	
Approach LOS				

Intersection Summary				
Average Delay			0.1	
Intersection Capacity Utilization			33.5%	ICU Level of Service A
Analysis Period (min)			15	

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	0	78	105	0	71	6
Future Volume (Veh/h)	0	78	105	0	71	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92
Hourly flow rate (vph)	0	85	117	0	77	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	117				202	117
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	117				202	117
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				90	99
cM capacity (veh/h)	1484				787	935

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	85	117	84
Volume Left	0	0	77
Volume Right	0	0	7
cSH	1700	1700	797
Volume to Capacity	0.05	0.07	0.11
Queue Length 95th (ft)	0	0	9
Control Delay (s)	0.0	0.0	10.0
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.0
Approach LOS			B

Intersection Summary				
Average Delay			3.0	
Intersection Capacity Utilization			16.5%	ICU Level of Service A
Analysis Period (min)			15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	660	8	21	558	15	6	30	88	15	6	23
Future Volume (Veh/h)	43	660	8	21	558	15	6	30	88	15	6	23
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.87	0.87	0.87	0.74	0.74	0.74
Hourly flow rate (vph)	48	733	9	22	594	16	7	34	101	20	8	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	610			742			1210	1488	371	1226	1484	305
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	610			742			1210	1488	371	1226	1484	305
tC, single (s)	4.2			4.2			7.5	6.6	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			97			94	70	84	76	93	96
cM capacity (veh/h)	945			841			120	112	629	83	117	697

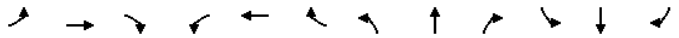
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	414	376	319	313	142	59
Volume Left	48	0	22	0	7	20
Volume Right	0	9	0	16	101	31
cSH	945	1700	841	1700	271	167
Volume to Capacity	0.05	0.22	0.03	0.18	0.52	0.35
Queue Length 95th (ft)	4	0	2	0	70	37
Control Delay (s)	1.6	0.0	0.9	0.0	31.9	38.0
Lane LOS	A		A		D	E
Approach Delay (s)	0.8		0.5		31.9	38.0
Approach LOS					D	E

Intersection Summary					
Average Delay	4.8				
Intersection Capacity Utilization	54.9%	ICU Level of Service		A	
Analysis Period (min)	15				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	3	58	10	3	43
Future Volume (Veh/h)	18	3	58	10	3	43
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.45	0.45	0.82	0.82	0.72	0.72
Hourly flow rate (vph)	40	7	71	12	4	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	145	77			83	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	145	77			83	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	99			100	
cM capacity (veh/h)	850	990			1527	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	47	83	64
Volume Left	40	0	4
Volume Right	7	12	0
cSH	868	1700	1527
Volume to Capacity	0.05	0.05	0.00
Queue Length 95th (ft)	4	0	0
Control Delay (s)	9.4	0.0	0.5
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	0.5
Approach LOS	A		

Intersection Summary				
Average Delay		2.4		
Intersection Capacity Utilization		14.7%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	11	9	6	8	3	0	51	5	3	45	10
Future Volume (Veh/h)	9	11	9	6	8	3	0	51	5	3	45	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.65	0.65	0.67	0.67	0.67	0.64	0.64	0.64	0.71	0.71	0.71
Hourly flow rate (vph)	14	17	14	9	12	4	0	80	8	4	63	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	172	166	70	184	169	84	77			88		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	172	166	70	184	169	84	77			88		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.5		
p0 queue free %	98	98	99	99	98	100	100			100		
cM capacity (veh/h)	781	728	998	754	725	981	1535			1334		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	45	25	88	81
Volume Left	14	9	0	4
Volume Right	14	4	8	14
cSH	814	768	1535	1334
Volume to Capacity	0.06	0.03	0.00	0.00
Queue Length 95th (ft)	4	3	0	0
Control Delay (s)	9.7	9.8	0.0	0.4
Lane LOS	A	A		A
Approach Delay (s)	9.7	9.8	0.0	0.4
Approach LOS	A	A		

Intersection Summary					
Average Delay			3.0		
Intersection Capacity Utilization			15.5%	ICU Level of Service	A
Analysis Period (min)			15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	834	123	17	494
Future Volume (Veh/h)	0	0	834	123	17	494
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.93	0.93	0.88	0.88
Hourly flow rate (vph)	0	0	897	132	19	561
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1282	514			1029	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1282	514			1029	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			97	
cM capacity (veh/h)	153	505			665	

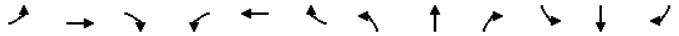
Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	598	431	206	374
Volume Left	0	0	19	0
Volume Right	0	132	0	0
cSH	1700	1700	665	1700
Volume to Capacity	0.35	0.25	0.03	0.22
Queue Length 95th (ft)	0	0	2	0
Control Delay (s)	0.0	0.0	1.3	0.0
Lane LOS			A	
Approach Delay (s)	0.0		0.5	
Approach LOS				

Intersection Summary					
Average Delay			0.2		
Intersection Capacity Utilization			30.3%	ICU Level of Service	A
Analysis Period (min)			15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	0	65	45	0	65	5
Future Volume (Veh/h)	0	65	45	0	65	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.72	0.72	0.92	0.92
Hourly flow rate (vph)	0	78	62	0	71	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	62				140	62
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	62				140	62
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				92	100
cM capacity (veh/h)	1554				853	1003

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	78	62	76
Volume Left	0	0	71
Volume Right	0	0	5
cSH	1700	1700	861
Volume to Capacity	0.05	0.04	0.09
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	9.6
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.6
Approach LOS			A

Intersection Summary				
Average Delay			3.4	
Intersection Capacity Utilization			14.0%	ICU Level of Service A
Analysis Period (min)			15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	581	12	50	799	28	5	32	122	19	55	28
Future Volume (Veh/h)	27	581	12	50	799	28	5	32	122	19	55	28
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.96	0.96	0.96	0.82	0.82	0.82	0.87	0.87	0.87
Hourly flow rate (vph)	29	625	13	52	832	29	6	39	149	22	63	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	861			638			1273	1654	319	1490	1646	430
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	861			638			1273	1654	319	1490	1646	430
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			95			88	57	78	48	31	94
cM capacity (veh/h)	789			956			50	90	677	42	91	579

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	342	326	468	445	194	117
Volume Left	29	0	52	0	6	22
Volume Right	0	13	0	29	149	32
cSH	789	1700	956	1700	251	93
Volume to Capacity	0.04	0.19	0.05	0.26	0.77	1.26
Queue Length 95th (ft)	3	0	4	0	142	208
Control Delay (s)	1.2	0.0	1.6	0.0	55.3	263.5
Lane LOS	A		A		F	F
Approach Delay (s)	0.6		0.8		55.3	263.5
Approach LOS					F	F

Intersection Summary					
Average Delay	22.6				
Intersection Capacity Utilization	65.7%	ICU Level of Service		C	
Analysis Period (min)	15				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	10	68	12	6	107
Future Volume (Veh/h)	26	10	68	12	6	107
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.87	0.87	0.91	0.91
Hourly flow rate (vph)	35	13	78	14	7	118
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	217	85			92	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	217	85			92	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	99			100	
cM capacity (veh/h)	763	980			1515	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	48	92	125
Volume Left	35	0	7
Volume Right	13	14	0
cSH	812	1700	1515
Volume to Capacity	0.06	0.05	0.00
Queue Length 95th (ft)	5	0	0
Control Delay (s)	9.7	0.0	0.4
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	0.4
Approach LOS	A		

Intersection Summary				
Average Delay		2.0		
Intersection Capacity Utilization		20.5%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	15	6	4	14	2	4	64	5	6	107	17
Future Volume (Veh/h)	11	15	6	4	14	2	4	64	5	6	107	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.59	0.59	0.59	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	13	18	7	7	24	3	5	75	6	7	116	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	242	230	125	243	236	78	134			81		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	242	230	125	243	236	78	134			81		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	97	99	99	96	100	100			100		
cM capacity (veh/h)	690	668	931	691	663	988	1463			1529		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	34	86	141
Volume Left	13	7	5	7
Volume Right	7	3	6	18
cSH	713	689	1463	1529
Volume to Capacity	0.05	0.05	0.00	0.00
Queue Length 95th (ft)	4	4	0	0
Control Delay (s)	10.3	10.5	0.5	0.4
Lane LOS	B	B	A	A
Approach Delay (s)	10.3	10.5	0.5	0.4
Approach LOS	B	B		

Intersection Summary					
Average Delay			2.8		
Intersection Capacity Utilization			18.6%	ICU Level of Service	A
Analysis Period (min)			15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	710	76	9	953
Future Volume (Veh/h)	0	0	710	76	9	953
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.97	0.97	0.96	0.96
Hourly flow rate (vph)	0	0	732	78	9	993
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1286	405			810	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1286	405			810	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	157	601			825	

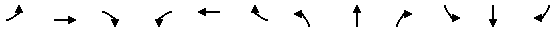
Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	488	322	340	662
Volume Left	0	0	9	0
Volume Right	0	78	0	0
cSH	1700	1700	825	1700
Volume to Capacity	0.29	0.19	0.01	0.39
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	0.0	0.0	0.4	0.0
Lane LOS			A	
Approach Delay (s)	0.0		0.1	
Approach LOS				

Intersection Summary					
Average Delay			0.1		
Intersection Capacity Utilization			36.0%	ICU Level of Service	A
Analysis Period (min)			15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	0	84	113	0	76	6
Future Volume (Veh/h)	0	84	113	0	76	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92
Hourly flow rate (vph)	0	91	126	0	83	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	126				217	126
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	126				217	126
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				89	99
cM capacity (veh/h)	1473				771	924

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	91	126	90
Volume Left	0	0	83
Volume Right	0	0	7
cSH	1700	1700	781
Volume to Capacity	0.05	0.07	0.12
Queue Length 95th (ft)	0	0	10
Control Delay (s)	0.0	0.0	10.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.2
Approach LOS			B

Intersection Summary				
Average Delay			3.0	
Intersection Capacity Utilization			17.2%	ICU Level of Service A
Analysis Period (min)			15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	660	8	23	558	15	6	38	91	15	20	23
Future Volume (Veh/h)	43	660	8	23	558	15	6	38	91	15	20	23
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.87	0.87	0.87	0.74	0.74	0.74
Hourly flow rate (vph)	48	733	9	24	594	16	7	44	105	20	27	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	610			742			1223	1492	371	1240	1488	305
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	610			742			1223	1492	371	1240	1488	305
tC, single (s)	4.2			4.2			7.5	6.6	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			97			93	60	83	73	77	96
cM capacity (veh/h)	945			841			102	111	629	73	116	697

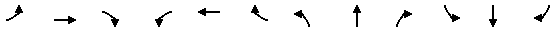
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	414	376	321	313	156	78
Volume Left	48	0	24	0	7	20
Volume Right	0	9	0	16	105	31
cSH	945	1700	841	1700	247	141
Volume to Capacity	0.05	0.22	0.03	0.18	0.63	0.55
Queue Length 95th (ft)	4	0	2	0	96	69
Control Delay (s)	1.6	0.0	1.0	0.0	41.8	58.3
Lane LOS	A		A		E	F
Approach Delay (s)	0.8		0.5		41.8	58.3
Approach LOS					E	F

Intersection Summary					
Average Delay	7.3				
Intersection Capacity Utilization	55.5%	ICU Level of Service		B	
Analysis Period (min)	15				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	3	61	10	3	48
Future Volume (Veh/h)	18	3	61	10	3	48
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.45	0.45	0.82	0.82	0.72	0.72
Hourly flow rate (vph)	40	7	74	12	4	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	155	80			86	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	155	80			86	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	99			100	
cM capacity (veh/h)	839	986			1523	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	47	86	71
Volume Left	40	0	4
Volume Right	7	12	0
cSH	858	1700	1523
Volume to Capacity	0.05	0.05	0.00
Queue Length 95th (ft)	4	0	0
Control Delay (s)	9.4	0.0	0.4
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	0.4
Approach LOS	A		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	15.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	11	9	6	8	3	0	53	5	3	51	10
Future Volume (Veh/h)	9	11	9	6	8	3	0	53	5	3	51	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.65	0.65	0.67	0.67	0.67	0.64	0.64	0.64	0.71	0.71	0.71
Hourly flow rate (vph)	14	17	14	9	12	4	0	83	8	4	72	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	184	178	79	196	181	87	86			91		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	184	178	79	196	181	87	86			91		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.5		
p0 queue free %	98	98	99	99	98	100	100			100		
cM capacity (veh/h)	767	717	987	741	714	977	1523			1330		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	45	25	91	90
Volume Left	14	9	0	4
Volume Right	14	4	8	14
cSH	801	757	1523	1330
Volume to Capacity	0.06	0.03	0.00	0.00
Queue Length 95th (ft)	4	3	0	0
Control Delay (s)	9.8	9.9	0.0	0.4
Lane LOS	A	A		A
Approach Delay (s)	9.8	9.9	0.0	0.4
Approach LOS	A	A		

Intersection Summary					
Average Delay			2.9		
Intersection Capacity Utilization			15.8%	ICU Level of Service	A
Analysis Period (min)			15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	834	124	17	494
Future Volume (Veh/h)	0	0	834	124	17	494
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.93	0.93	0.88	0.88
Hourly flow rate (vph)	0	0	897	133	19	561
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1282	515			1030	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1282	515			1030	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			97	
cM capacity (veh/h)	153	505			664	

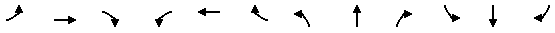
Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	598	432	206	374
Volume Left	0	0	19	0
Volume Right	0	133	0	0
cSH	1700	1700	664	1700
Volume to Capacity	0.35	0.25	0.03	0.22
Queue Length 95th (ft)	0	0	2	0
Control Delay (s)	0.0	0.0	1.3	0.0
Lane LOS			A	
Approach Delay (s)	0.0		0.5	
Approach LOS				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	0	68	51	0	73	5
Future Volume (Veh/h)	0	68	51	0	73	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.72	0.72	0.92	0.92
Hourly flow rate (vph)	0	82	71	0	79	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	71				153	71
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	71				153	71
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				91	99
cM capacity (veh/h)	1542				839	991

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	82	71	84
Volume Left	0	0	79
Volume Right	0	0	5
cSH	1700	1700	846
Volume to Capacity	0.05	0.04	0.10
Queue Length 95th (ft)	0	0	8
Control Delay (s)	0.0	0.0	9.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.7
Approach LOS			A

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	581	12	54	799	28	5	39	125	19	64	28
Future Volume (Veh/h)	27	581	12	54	799	28	5	39	125	19	64	28
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.96	0.96	0.96	0.82	0.82	0.82	0.87	0.87	0.87
Hourly flow rate (vph)	29	625	13	56	832	29	6	48	152	22	74	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	861			638			1286	1662	319	1505	1654	430
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	861			638			1286	1662	319	1505	1654	430
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			94			83	46	78	38	18	94
cM capacity (veh/h)	789			956			34	89	677	35	90	579

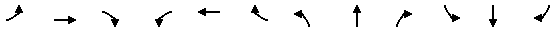
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	342	326	472	445	206	128
Volume Left	29	0	56	0	6	22
Volume Right	0	13	0	29	152	32
cSH	789	1700	956	1700	219	85
Volume to Capacity	0.04	0.19	0.06	0.26	0.94	1.50
Queue Length 95th (ft)	3	0	5	0	200	252
Control Delay (s)	1.2	0.0	1.7	0.0	92.0	361.8
Lane LOS	A		A		F	F
Approach Delay (s)	0.6		0.9		92.0	361.8
Approach LOS					F	F

Intersection Summary					
Average Delay	34.7				
Intersection Capacity Utilization	66.4%	ICU Level of Service		C	
Analysis Period (min)	15				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	10	71	12	6	120
Future Volume (Veh/h)	26	10	71	12	6	120
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.87	0.87	0.91	0.91
Hourly flow rate (vph)	35	13	82	14	7	132
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	235	89			96	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	235	89			96	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	99			100	
cM capacity (veh/h)	745	975			1510	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	48	96	139
Volume Left	35	0	7
Volume Right	13	14	0
cSH	796	1700	1510
Volume to Capacity	0.06	0.06	0.00
Queue Length 95th (ft)	5	0	0
Control Delay (s)	9.8	0.0	0.4
Lane LOS	A		A
Approach Delay (s)	9.8	0.0	0.4
Approach LOS	A		

Intersection Summary			
Average Delay		1.9	
Intersection Capacity Utilization		21.2%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	15	6	4	14	2	4	70	5	6	112	17
Future Volume (Veh/h)	11	15	6	4	14	2	4	70	5	6	112	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.59	0.59	0.59	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	13	18	7	7	24	3	5	82	6	7	122	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	255	243	131	256	249	85	140			88		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	255	243	131	256	249	85	140			88		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	97	99	99	96	100	100			100		
cM capacity (veh/h)	676	657	924	677	652	980	1456			1520		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	34	93	147
Volume Left	13	7	5	7
Volume Right	7	3	6	18
cSH	701	677	1456	1520
Volume to Capacity	0.05	0.05	0.00	0.00
Queue Length 95th (ft)	4	4	0	0
Control Delay (s)	10.4	10.6	0.4	0.4
Lane LOS	B	B	A	A
Approach Delay (s)	10.4	10.6	0.4	0.4
Approach LOS	B	B		

Intersection Summary					
Average Delay			2.7		
Intersection Capacity Utilization			19.0%	ICU Level of Service	A
Analysis Period (min)			15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	710	77	9	953
Future Volume (Veh/h)	0	0	710	77	9	953
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.97	0.97	0.96	0.96
Hourly flow rate (vph)	0	0	732	79	9	993
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1286	406			811	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1286	406			811	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	157	600			824	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	488	323	340	662
Volume Left	0	0	9	0
Volume Right	0	79	0	0
cSH	1700	1700	824	1700
Volume to Capacity	0.29	0.19	0.01	0.39
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	0.0	0.0	0.4	0.0
Lane LOS			A	
Approach Delay (s)	0.0		0.1	
Approach LOS				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	36.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	0	87	126	0	83	6
Future Volume (Veh/h)	0	87	126	0	83	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92
Hourly flow rate (vph)	0	95	140	0	90	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	140				235	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	140				235	140
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				88	99
cM capacity (veh/h)	1456				753	908

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	95	140	97
Volume Left	0	0	90
Volume Right	0	0	7
cSH	1700	1700	763
Volume to Capacity	0.06	0.08	0.13
Queue Length 95th (ft)	0	0	11
Control Delay (s)	0.0	0.0	10.4
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.4
Approach LOS			B

Intersection Summary			
Average Delay		3.0	
Intersection Capacity Utilization		18.3%	ICU Level of Service
Analysis Period (min)		15	

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