MELROSE, MASSACHUSETTS

99 Washington Street

Traffic Impact Study

Prepared for
Oak Grove Mill, LLC

Prepared by
Howard Stein Hudson

November 2019
updated December 10, 2019

HOWARD STEIN HUDSON

Engineers + Planners

99 Washington Street, Melrose Transportation Study

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In accordance with Chapter 235-16.1 of the Zoning Ordinance of the City of Melrose, I certify that this transportation study has been prepared under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering.

Signed,

Keri Pyke, P.E., PTOE
MA PE license #47252
Howard Stein Hudson
November 20, 2019

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Introduction

In accordance with Chapter 235-16.1 of the Zoning Ordinance of the City of Melrose, Massachusetts, proponents of major construction projects are required to submit a transportation study to the City as part of the Site Plan submission criteria that assesses existing and future traffic conditions. Howard Stein Hudson (HSH) has prepared this study for Oak Grove Mill, LLC, a joint venture of Insight Partners and Eastern Real Estate (collectively the Proponent). The study presents the traffic and parking impacts associated with the proposed redevelopment of 99 Washington Street. This report has been prepared as part of the Site Plan Review process submission to the City.

Project Description

The Project Site at 99 Washington Street is currently occupied by a variety of commercial businesses, including a furniture store, several small offices, and a photo studio. Surface parking provided throughout the site serves the existing uses. With the proposed Project, the existing building will be renovated into a residential development as summarized in **Table 1** below.

Table 1. Proposed Development Program

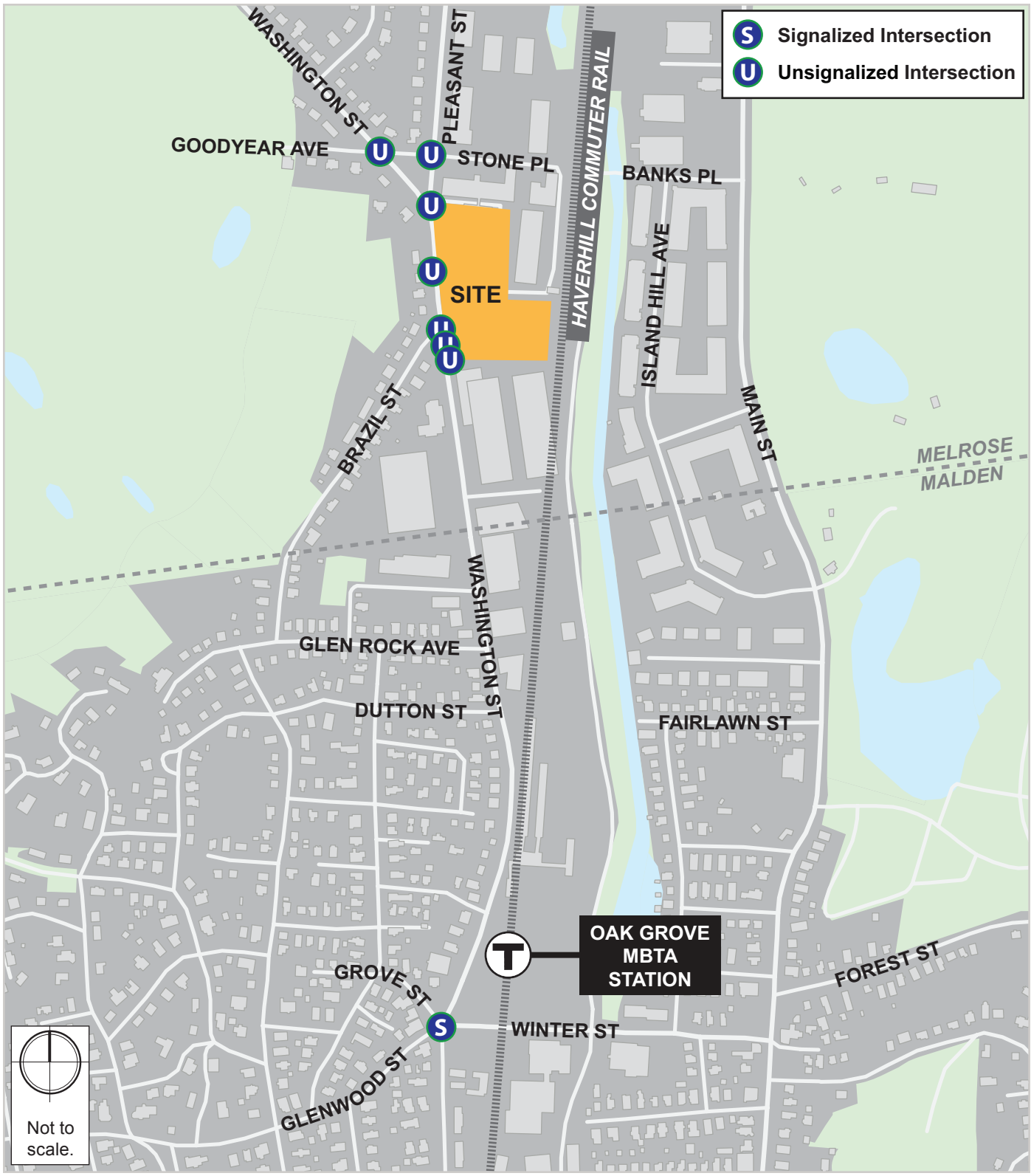
Land Use	Proposed Project
Residential	Up to 141 units
Vehicle Parking	Approx. 172 spaces *Including approx.158 spaces for residents and approx.14 spaces for visitors*

Study Area

The study area intersections, as shown in **Figure 1** and listed below, include one signalized intersection and seven unsignalized intersections:

- Washington Street/Glenwood Street/Winter Street/Grove Street (signalized);
- Washington Street/ /Goodyear Avenue/Stone Place (unsignalized);
- Pleasant Street/Stone Place (unsignalized);
- Washington Street/Pleasant Street/99 Washington Street Site Driveway (unsignalized);
- Washington Street/99 Washington Street Site Driveway (unsignalized);
- Washington Street/Brazil Street/99 Washington Street Site Enter Driveway (unsignalized);
- Washington Street/99 Washington Street Site Exit Driveway (unsignalized); and
- Washington Street/37 Washington Street Site Driveway (unsignalized).

Figure 1. *Study Area*



Summary

Key transportation characteristics of the Project and analysis results include:

- The Project site is located within one of Melrose's Smart Growth Districts. While the primary purposes of such districts are to promote economic development and provide housing options to various income levels, the key transportation-related goals are to create pedestrian-friendly environments that promote walking, bicycling, and transit use and encourage reduced reliance on auto travel and auto ownership. The Proponent supports the goals of Smart Growth zoning and believes the Project will foster the use of alternative travel modes while adequately meeting tenant parking demands.
- The Project will provide a total of approximately 172 vehicle parking spaces, with approximately 158 designated to residential parking and 14 designated to visitor parking. The overall Project parking ratio will be 1.22 spaces per unit (172 spaces/141 units).
- Parking spaces will be rented separately from the units, or "unbundled", such that residents without a vehicle will not pay for parking. Parking spaces will be leased at market rates. Parking stickers will be obtained through the management office and residents will be assigned a specific, numbered space. Parking will not be leased to non-residents.
- In partnership with a car-share company, such as Zipcar, the Proponent is committed to establishing at least one car share space within the parking lot.
- Per the Smart Growth zoning, the Project is required to include seven on-site, secure bicycle parking spaces for residents. The Proponent, however, will construct many more than the zoning minimum and is committed to providing approximately 30 secure residential bicycle parking spaces interior to the building and approximately five visitor bicycle spaces exterior to the building.
- During the a.m. peak hour, the Project will generate 22 net new vehicle trips, and during the p.m. peak hour, the Project will generate 27 net new vehicle trips. The operational level of service at nearby intersections will not change as a result of the new Project vehicle trips.
- The Project's larger deliveries, move-in/move-out activity, and trash pick-up will occur off-street at the rear of the building. Overall, the number of daily truck trips generated at the site is expected to significantly decrease because two existing businesses - Marty's Furniture and Fotronic Electronic Testing Equipment – will vacate the building and no longer generate truck trips.
- The Proponent is committed to implementing Transportation Management Plan (TMP) elements in an effort to minimize the number of Project vehicle trips on the adjacent

roadway network. TMP measures will promote the use of nearby public transportation services (including the MBTA Orange Line, buses, and commuter rail), walking, and bicycling, and other options to reduce single occupant vehicle trips.

- To encourage transit use, the Proponent will provide each new resident with one MBTA pass (monthly link) for one calendar month.
- With the reconfiguration of Project driveways, the total length of curb cut openings along Washington Street will be reduced by about 80 feet, improving the pedestrian realm along this important walking connection between the neighborhood and the MBTA's Oak Grove Station.
- Other pedestrian realm improvements include raised sidewalks across the driveways at the main entrance, and, in the rear parking lot, a crosswalk connecting between the parking area and the rear building entrance. New lighting will be installed throughout the site and along Washington Street to maximize visibility and safeguard pedestrian activity at night. At vehicle driveways, signs will be posted to alert drivers to pedestrian activity.

Existing Condition

Existing Roadway Descriptions

The study area includes the following roadways described below, categorized according to the Massachusetts Office of Transportation Planning classifications. All roadways are under the jurisdiction of the City of Melrose.

Washington Street is an urban minor arterial roadway under local jurisdiction running in a north-south direction from Fellsway East in Melrose to the north and Exchange Street in Malden to the south. Within the project area, Washington Street is a two-way roadway and has a posted speed limit of 25 mph. A radar speed feedback sign near the Project site alerts northbound drivers on Washington Street of their travel speed. Concrete sidewalks are provided on both sides of Washington Street within the study area. On-street parking is only permitted along the west side of Washington Street between Brazil Street and the Malden city limit.

Pleasant Street is a two-way urban minor arterial roadway under local jurisdiction running in a north-south direction from West Wyoming Avenue to the north to Washington Street to the south. Melrose has a citywide speed limit of 25 mph, which applies to Pleasant Street. Concrete sidewalks are provided on both sides of the street within the study area. On-street parking is permitted along the west side of Pleasant Street only between the hours of 8:00 a.m. – 6:00 p.m.

Existing Intersection Description

Washington Street/Winter Street/Glenwood Street/Grove Street, located in Malden, is a signalized intersection with four approaches. The Glenwood Street eastbound approach consists of a shared left-turn/through/right-turn lane. The Winter Street westbound approach consists of a shared left-turn/through lane and a shared through lane with a channelized right-turn. Each of the Washington Street northbound and southbound approaches consist of a wide, unmarked single lane. Drivers, however, treat the approach as having two lanes. An MBTA bus stop is located on the west side Washington Street, north of the intersection. Crosswalks and wheelchair ramps are provided across all legs of the intersection. On-street parking is permitted along Grove Street. On-street resident permit parking is allowed on the east side of the south leg of Washington Street beginning approximately 75 feet south of the intersection.

Pleasant Street/Stone Place is an unsignalized intersection with four approaches. The Stone Place eastbound approach consists of a shared left-turn/through/right-turn lane. Providing access

and egress to a private parking lot, the Stone Place westbound approach consists of a shared left-turn/through/right-turn lane. Both the Stone Place approaches are stop-controlled. The Pleasant Street northbound and southbound approaches consist of a shared left-turn/through/right-turn lane and operate as free movements. A Massachusetts Bay Transportation Authority (MBTA) bus stop is located along each side of Pleasant Street, north of the intersection. A crosswalk and wheelchairs ramps are provided across the southbound approach only. On-street parking is not permitted in the vicinity of the intersection.

Washington Street/Stone Place/Goodyear Avenue is an unsignalized intersection with three approaches. The Goodyear Avenue eastbound approach and the Stone Place westbound approach each consist of a shared left-turn/through lane/right-turn lane. Both approaches are stop-controlled. The Washington Street southbound approach consists of a shared left-turn/through/right-turn lane and operates as a free movement. The south leg of Washington Street is one-way leaving the intersection. Crosswalks and wheelchair ramps are not provided across any of the approaches. On-street parking is not permitted in the vicinity of the intersection.

Washington Street/Pleasant Street/Site Driveway is an unsignalized intersection with four approaches. The Washington Street eastbound approach consists of a shared left-turn/through/right-turn lane. The Site Driveway westbound approach consists of a shared left-turn/right-turn lane. The Washington Street northbound approach consists of a shared through/right-turn lane and the Pleasant Street southbound approach consists of a shared left-turn/through lane. No crosswalks or wheelchair ramps are provided at this intersection. On-street parking is not permitted in the vicinity of the intersection.

Washington Street/Brazil Street/Site Driveway is an unsignalized intersection with three approaches. The Brazil Street eastbound is stop-controlled and consists of a shared left-turn/through/right-turn lane. The Washington Street northbound approach consists of a shared left-turn/through/right-turn lane. An MBTA bus stop is located along each side of Washington Street, south of the intersection. The Washington Street southbound approach consists of a shared left-turn/through/right-turn lane. Crosswalks and wheelchair ramps exist across the Brazil Street eastbound approach and the Washington Street southbound approach. On-street parking is not permitted in the vicinity of the intersection.

Existing Traffic Data

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 the

unsignalized intersections and existing site driveways were collected on Thursday, September 5, 2019. Counts at the signalized intersection of Washington Street/Winter Street/Glenwood Street were conducted on Wednesday, October 16, and October 22, 2019. The detailed traffic counts are provided in **Appendix A**.

As is standard practice to adjust traffic count data by a seasonal factor to obtain average annual volumes. To account for seasonal variation in traffic, the study team reviewed MassDOT's 2017 weekday seasonal adjustment factor for Group U4-U7 (Urban Minor Arterials, Major and Minor Collectors, and Local Road and Streets.). The seasonal adjustment factor for September is 0.92. Because application of this factor would have yielded volumes 8% lower than the actual counts, the study team conservatively chose not to apply a seasonal adjustment and to use the higher count data for analysis.

Figure 2 and **Figure 3** present the existing intersection volumes for the weekday a.m. peak hour and weekday p.m. peak hour, respectively.

Figure 2. ***Existing (2019) Condition Traffic Volumes, Weekday a.m. Peak Hour***

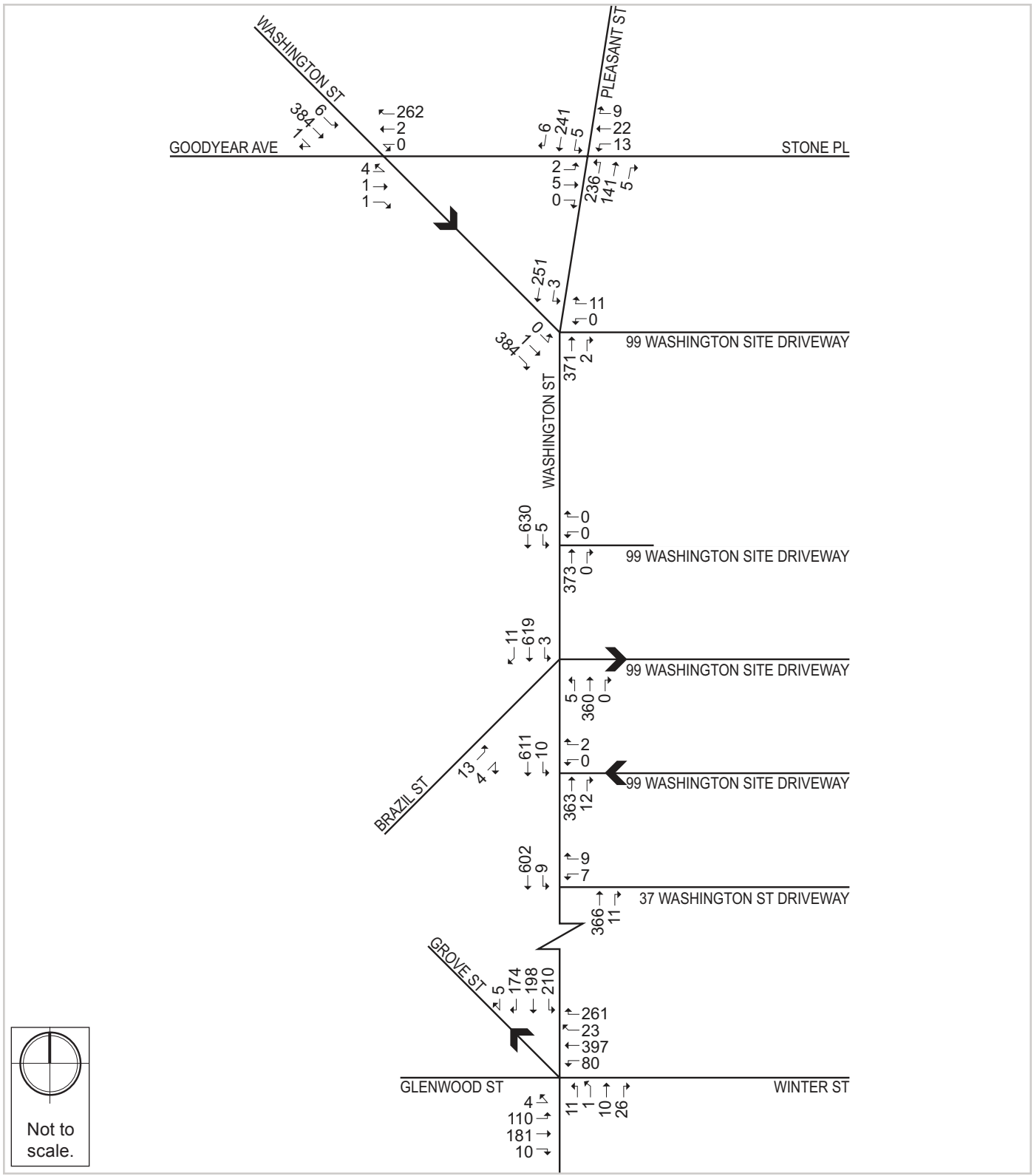
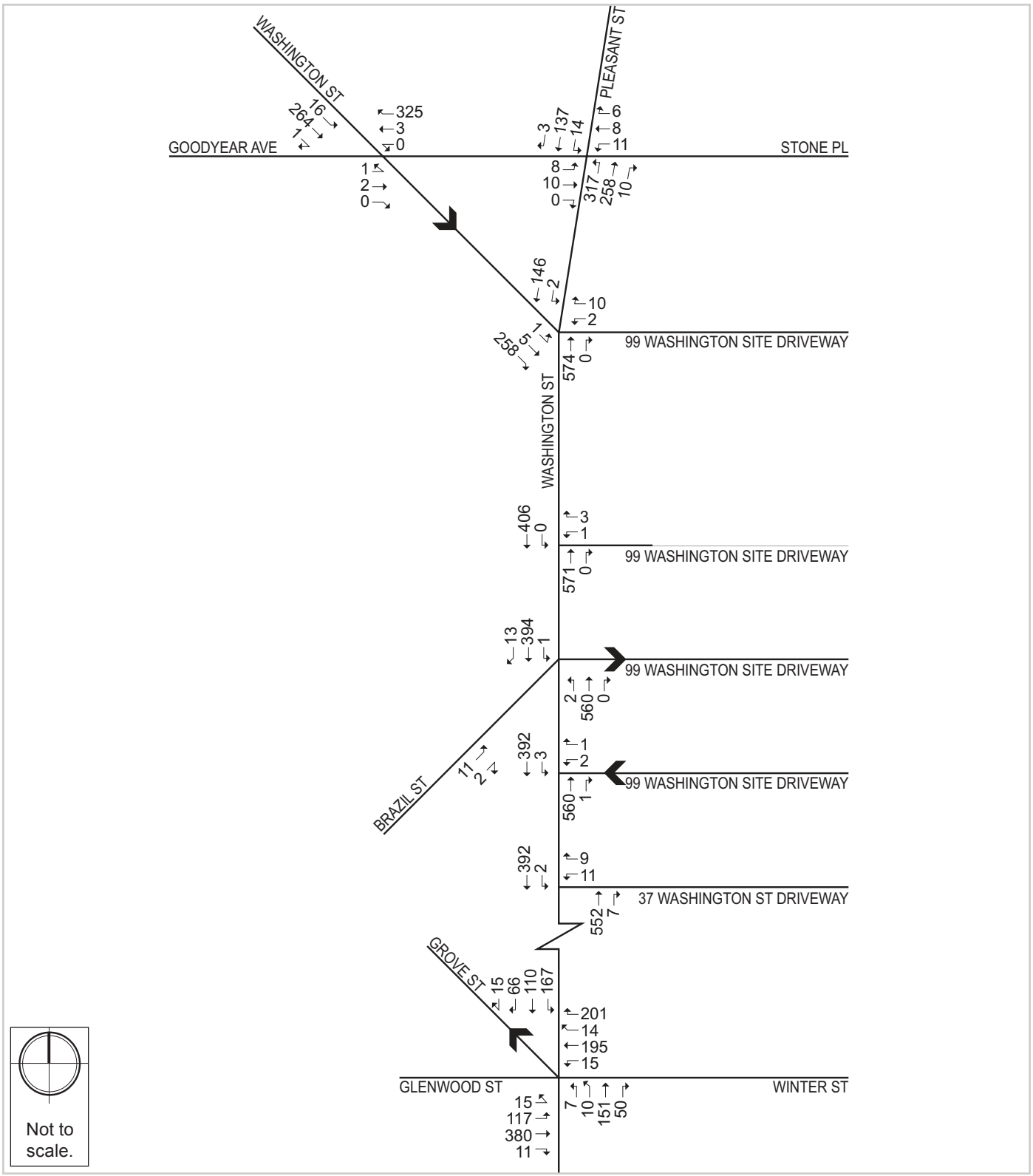


Figure 3. ***Existing (2019) Condition Traffic Volumes, Weekday p.m. Peak Hour***



Crash History

To understand safety conditions at the study intersections, the study team obtained the last full available three years (2016-2018) of crash data from the State of Massachusetts and the Melrose Police Department. In MassDOT District 4, where the Project site is located, the average number of crashes is 0.73 crashes per million entering vehicles (MEV) at signalized intersections and 0.57 crashes per MEV at unsignalized intersections. Typically, study intersections with higher than average crash rates should be studied further by the jurisdictional agency.

Table 2 shows the crash summary information, including the number per location and the associated crash rates. Based on the results, no intersections in the study area exceed the District 4 average crash rate. Note that no pedestrians were involved in any of these crashes. Crash rate worksheets are provided in **Appendix A**.

Table 2. Crash History at Study Intersections, 2016-2018

Characteristic	Signalized	Unsignalized			
	Washington St./ Winter St./ Glenwood St./ Grove St.	Washington St./Goodyear Ave./Stone Pl.	Pleasant St./ Stone Pl.	Washington St./Pleasant St./Site Driveway	Washington St./Brazil St./ Site Driveway
Year					
2016	2	0	2	2	1
2017	1	1	0	1	0
2018	2	0	1	2	0
Crash Type					
Angle	3	0	1	1	0
Rear-end	0	0	0	1	1
Single vehicle	0	1	1	0	0
Sideswipe	0	0	1	0	0
Head-on	2	0	0	1	0
Parked Vehicle	0	0	0	0	0
Pedestrian	0	0	0	0	0
Not Reported	0	0	0	2	0
Weather					
Clear	4	0	3	2	1
Cloudy	0	0	0	1	0
Rain	1	1	0	0	0
Snow	0	0	0	0	0
Not Reported	0	0	0	2	0
Total Crashes	5	1	3	5	1
Crash Rate[1]	0.25	0.13	0.34	0.41	0.08
District Average	0.73	0.57			

1 Crash rate = Crashes per million entering vehicles

Existing Parking

Several surface parking areas, with approximately 128 marked spaces, are located throughout the Project Site. A separate, fenced paved area is located in the rear of the site providing parking for trailer trucks, which could accommodate approximately an additional 90 surface parking spaces. As shown in **Figure 4**, on-street parking consists of residential permit parking and limited availability to the general public in the vicinity of the Project site.

Existing Car Sharing Locations

The increasingly popular car sharing services provide easy access to vehicular transportation for urban residents who do not own cars and employees who commute by transit but need short-term use of a vehicle. Zipcar, a local car-sharing provider, offers vehicles that are rented on an hourly basis, with vehicle costs (gas, maintenance, insurance, and parking) included in the rental fee. Vehicles are checked out for a specific time period and returned to their designated location.

Table 3 lists the two nearby Zipcar locations with a current total of four vehicles available.

Table 3. Existing Zipcar Locations

Zipcar Location	Distance from Site
Oak Grove MBTA Station	Half-mile
Windsor at Oak Grove – 2 Island Hill Avenue	One mile

Existing Public Transportation

The Project area is served by several MBTA public transportation options, including the Orange Line at Oak Grove Station and several bus routes. While the MBTA Haverhill Line tracks are adjacent to the Project site and pass through Oak Grove Station, commuter trains do not stop at Oak Grove Station. The nearest commuter rail station is about one-half mile north at Wyoming Hill. The Project site is located within 1/4-mile (10-minute walk) of the Orange Line and bus services summarized in **Table 4** and mapped in **Figure 5**. The transit-oriented nature of the Project site will allow residents to conveniently choose to forego auto ownership and to rely on public transportation for many of their daily trips.

Figure 4. ***On-street Parking***

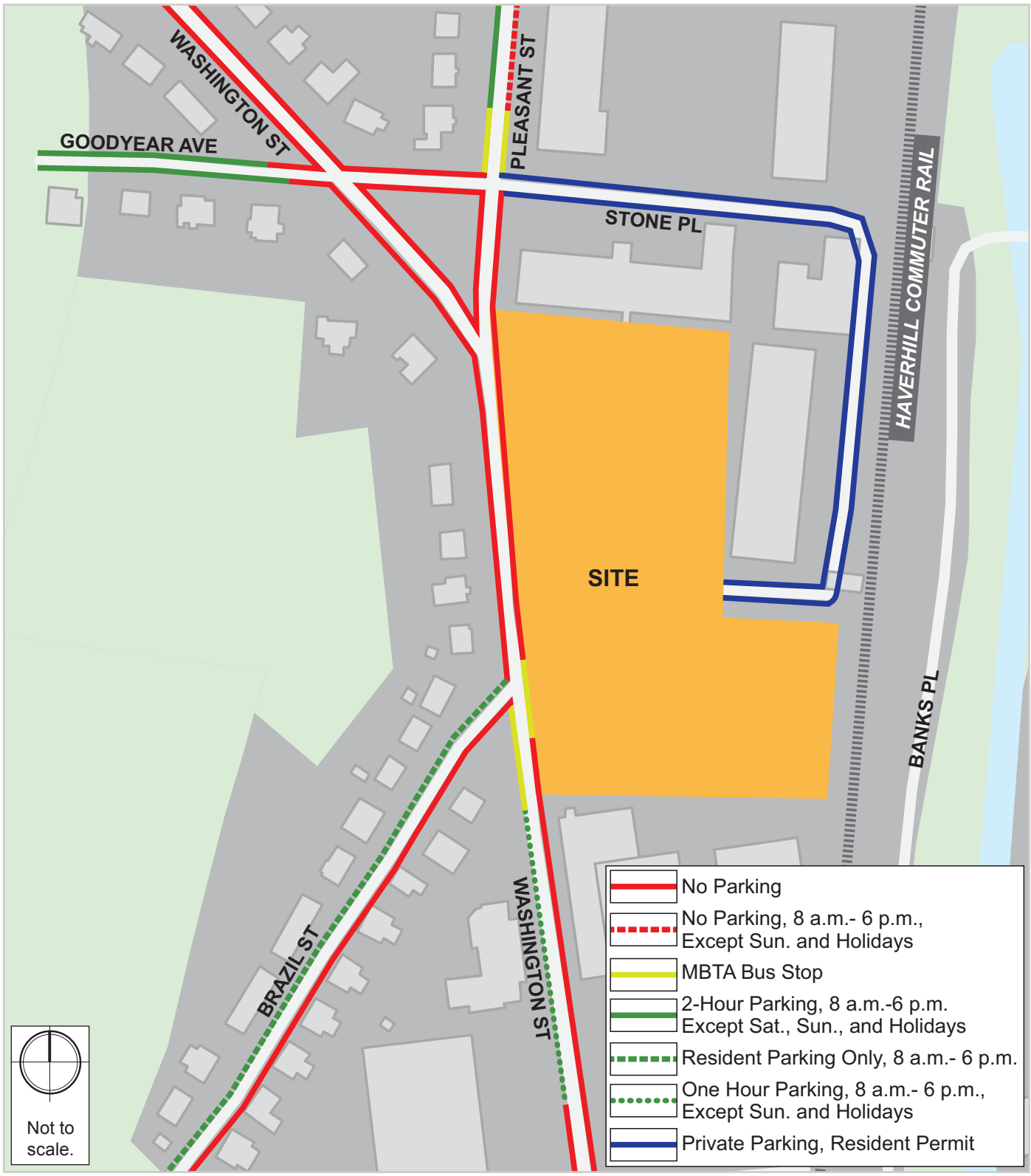


Figure 5. ***Public Transportation***

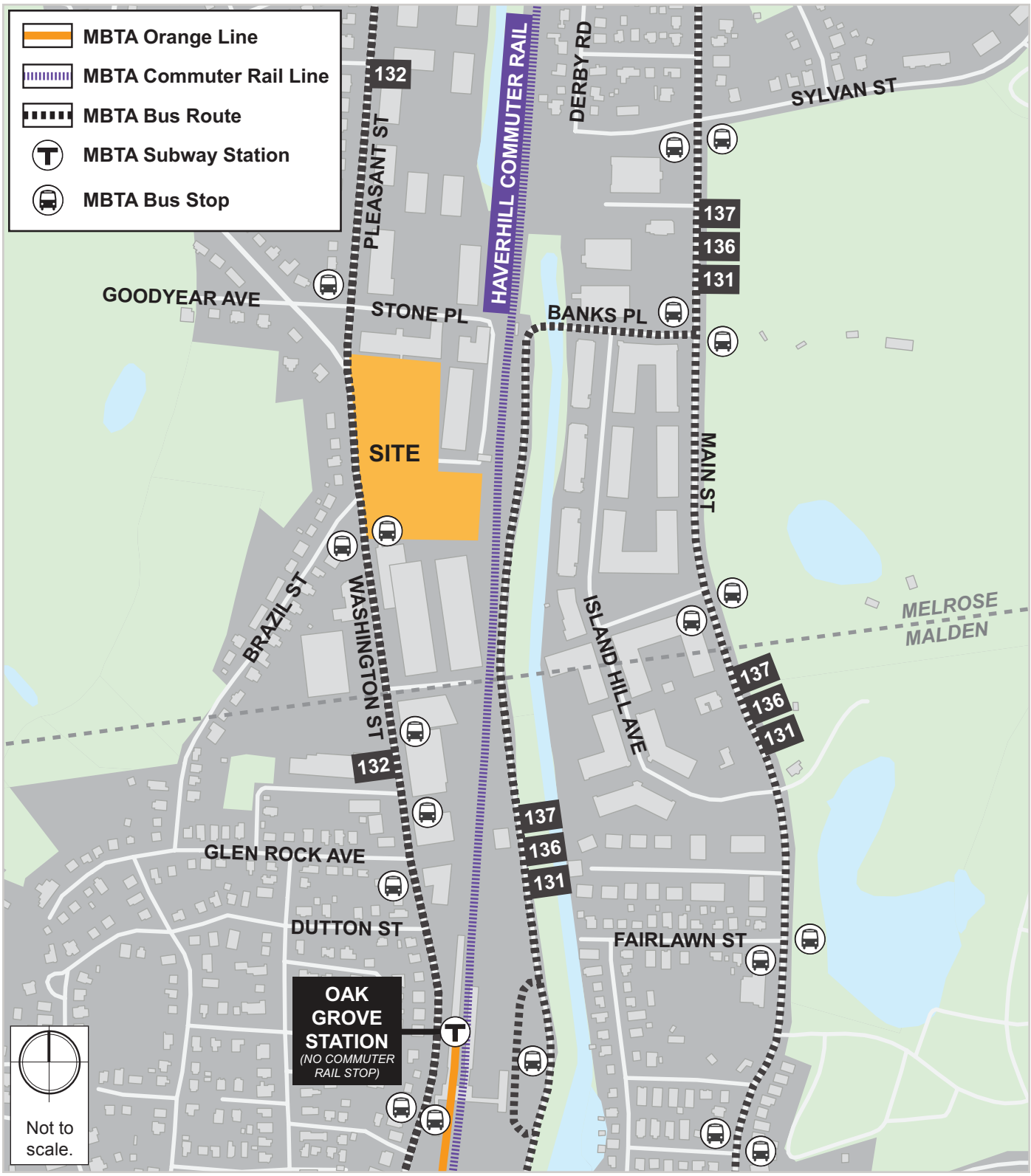


Table 4. MBTA Transit Service in the Study Area

Route	Description	Peak Hour headway (minutes)[1]
Commuter Rail	Haverhill to North Station *Nearest stop is Wyoming Hill Station in Melrose. No service at Oak Grove.*	30
Orange Line	Oak Grove–Forest Hills	6
Route 131	Melrose Highlands Station - Malden Center Station	20
Route 132	Redstone Shopping Center – Malden Center Station	20-35
Route 136	Reading Depot - Malden Station	5-30
Route 137	Reading Depot - Malden Station	30-60

Headway is the time between vehicles. Source MBTA 2019.

Existing Pedestrian and Bicycle Conditions

The Project study area is equipped with adequate pedestrian accommodations. Sidewalks of sufficient width are generally provided along both sides of every study area roadway. Crosswalks are limited in the study area intersections and are usually provided across one or two legs the unsignalized intersections.

In recent years, bicycle use has increased and communities are incorporating bicycle facilities (bicycle lanes/paths) into the public realm. The City of Melrose is currently piloting a dockless bike share program, Lime (formerly known as LimeBike), where users can use their phones to find, unlock, and rent bikes for short-term use. Lime will station bikes in different "hot" spots around Melrose, including downtown and MBTA commuter rail and subway stations.

For this study, pedestrian crosswalk counts and bicycle turning movement counts were collected during peak hours at the study intersections, as shown in **Figure 6** and **Figure 7**, respectively. Pedestrian activity is moderate along Washington Street corridor with approximately 60 pedestrians per hour during the morning and approximately 80 pedestrians per hour during the evening.

Although the study area lacks adequate bicycle accommodations, Washington Street experiences moderate bicycle volumes; between 15-20 bicycles per hour were observed at study intersections during the a.m. and p.m. peak hours.

Figure 6. ***Existing (2019) Condition Pedestrian Volumes, Weekday a.m. and p.m. Peak Hours***

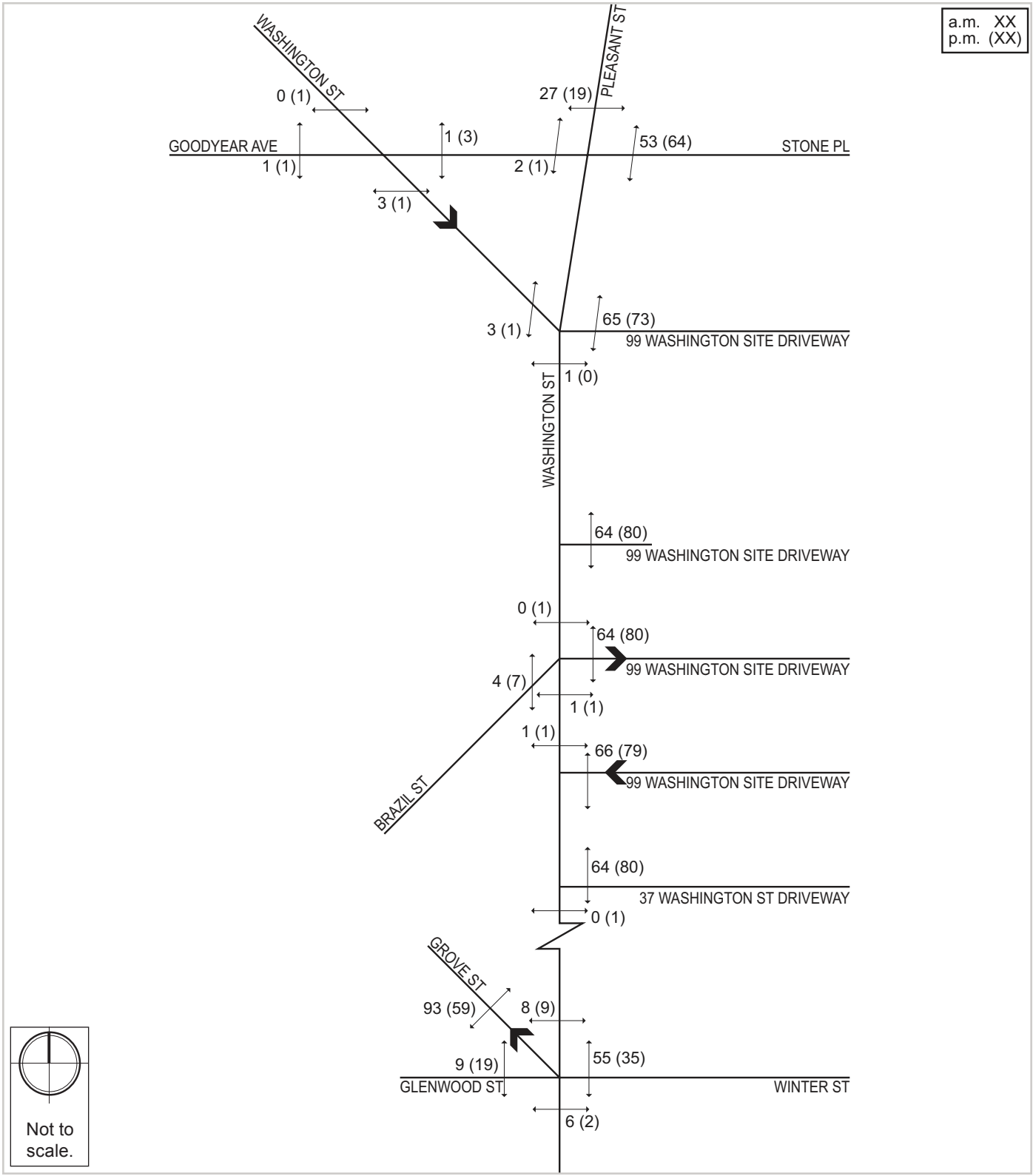
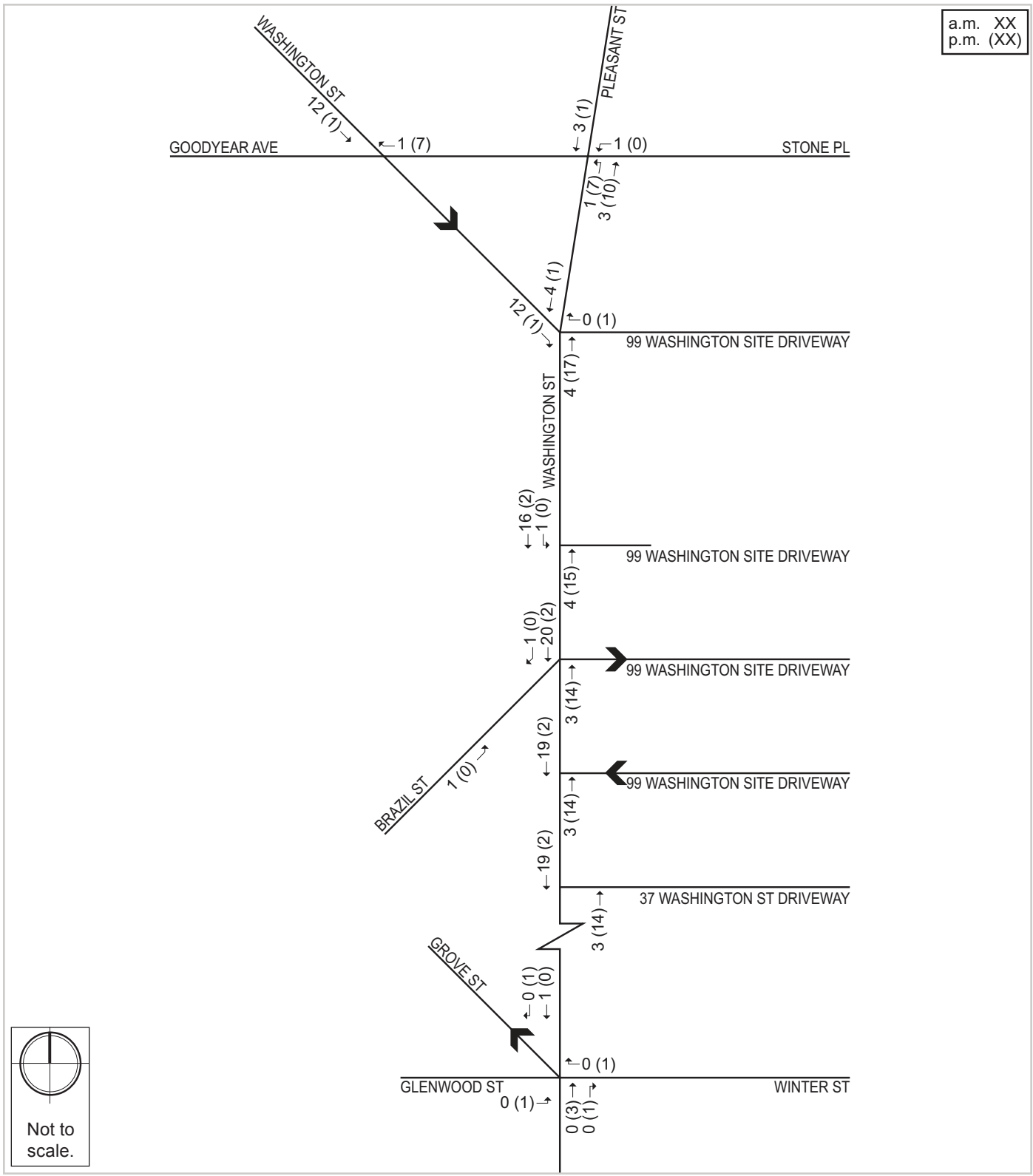


Figure 7. ***Existing (2019) Condition Bicycle Volumes, Weekday a.m. and p.m. Peak Hours***



No-Build (2026) Condition

For transportation impact analyses, standard practice is to evaluate two future conditions: No-Build Condition (without the proposed project) and Build Condition (if the project is built). Typically, these conditions are projected to a future date seven years from the Existing (2019) Condition year. For this study, Year 2026 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 identified new projects in the area.

Background Traffic Growth

The methodology to account for generic future background traffic growth is to evaluate how traffic volumes may be affected by changes in demographics, smaller development projects, or projects unforeseen at this time. Based on a review of recent and historic traffic data collected and to account for any additional unforeseen traffic growth, a 0.25% annual growth rate was applied to the existing intersection volumes over seven years to account for background growth by 2026. No-Build (2026) Condition traffic volumes, which incorporate the background growth rate, are shown in **Figure 8** and **Figure 9** for the a.m. and p.m. peak hours, respectively.

Figure 8. ***No-Build (2026) Condition Traffic Volumes, Weekday a.m. Peak Hour***

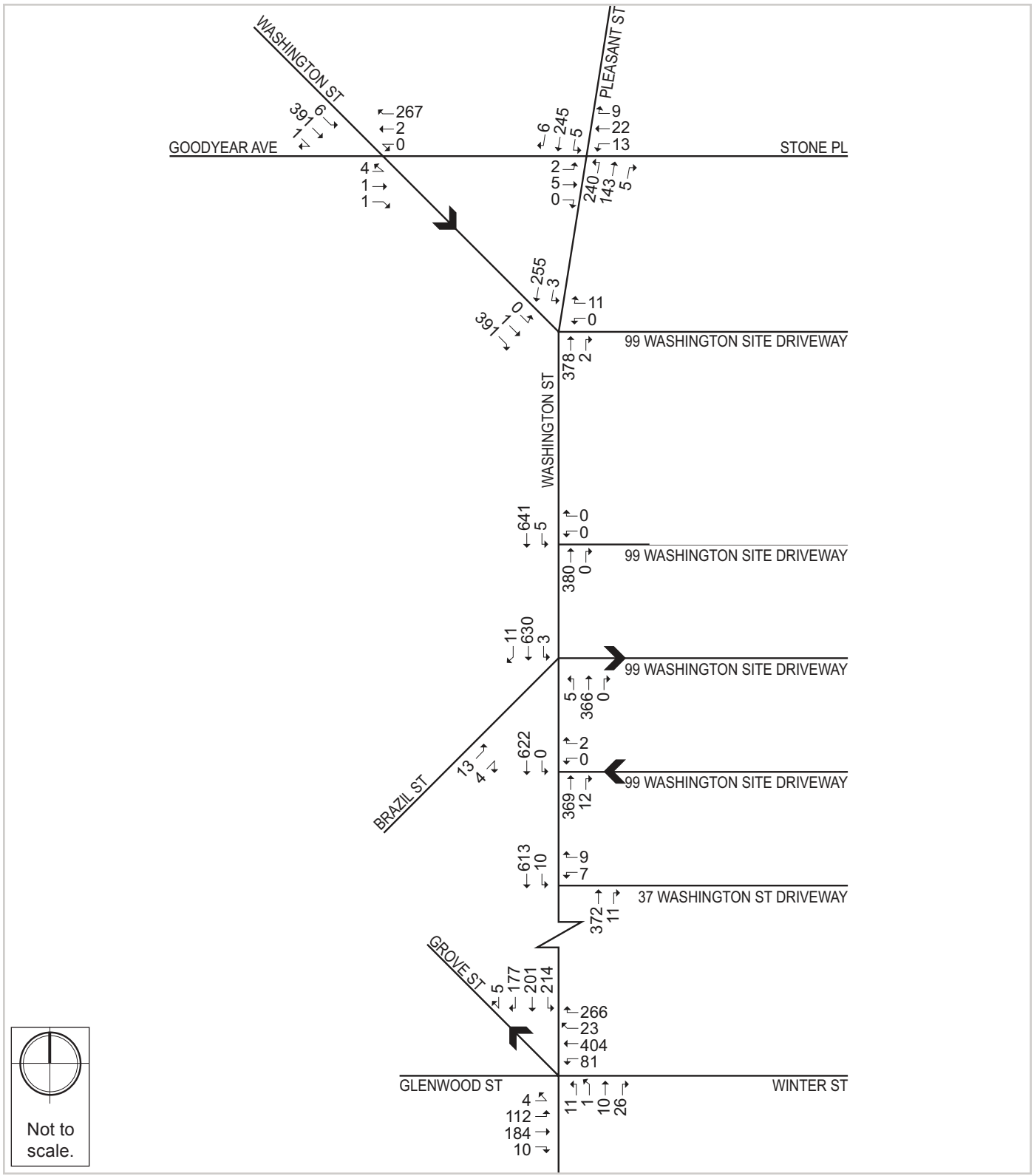
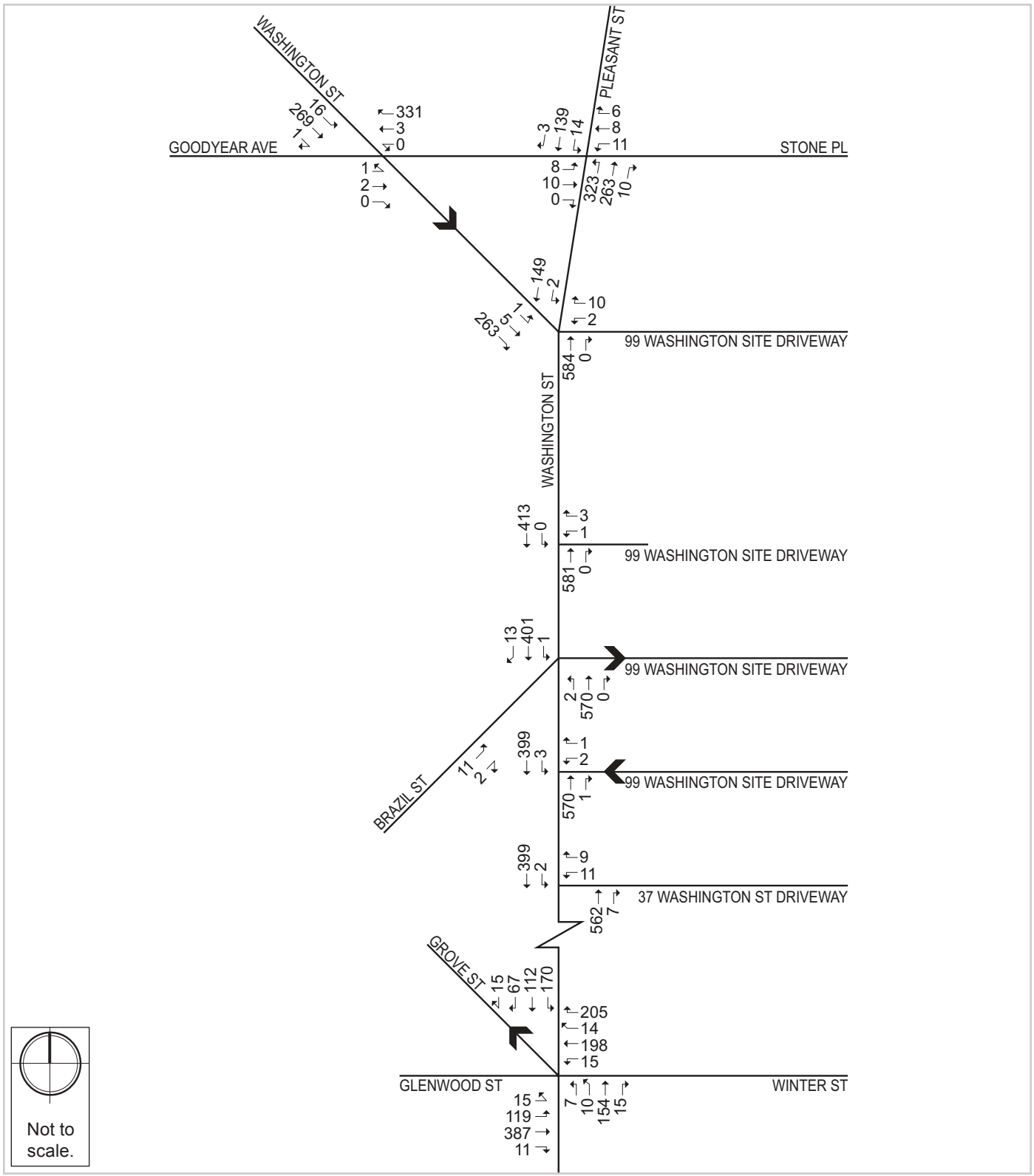


Figure 9. ***No-Build (2026) Condition Traffic Volumes, Weekday p.m. Peak Hour***



Build (2026) Condition

Under the Build Condition new Project trips are incorporated into the traffic evaluation. Intersections volumes are typically the sum of No-Build Condition volumes and new volumes generated by the Project. Additionally, for this study, the trips generated by the active existing uses on the site were removed from the study intersections since those uses will no longer generate trips.

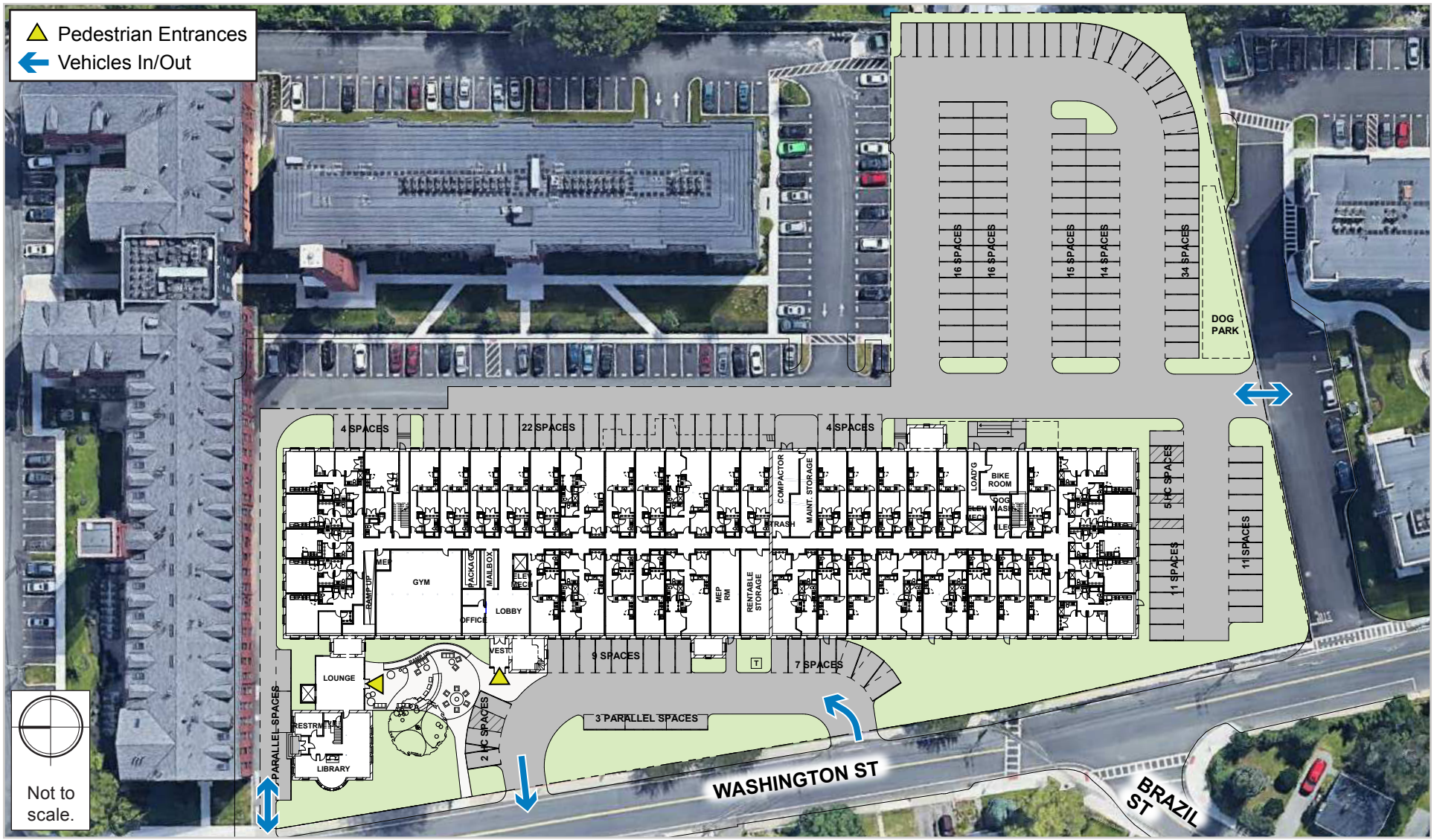
Site Access and Circulation

The site plan for the proposed Project is shown in **Figure 10.** The primary pedestrian entrance to the building will be located on Washington Street at the building's residential lobby. Residents will also have secure access to the building from the rear parking area.

The current Project site has four driveways along Washington Street. With the redevelopment, the number of site driveways will be reduced to three with a reconfiguration that will better serve the Project and provide safer environment for pedestrians. Vehicle access and egress along Washington Street is described below:

- The two driveways (enter only and exit only) currently located at the southern end of the Site, opposite Brazil Street, will be removed. Note that the combined curbcut for these two existing driveways along the eastern side of Washington Street is approximately 90 feet in length. Through a shared easement with the adjacent 37 Washington Street, southern access and egress to the Project Site will occur via the existing 37 Washington Street driveway. Not only does this plan consolidate vehicle activity at one driveway (at 37 Washington Street) and remove the conflicting Site driveway turns opposite from Brazil Street, it also creates a better pedestrian realm by eliminating a 90-foot curb-cut adjacent to the sidewalk.
- As part of an enhanced main entrance to the building, the Proponent will create a one-way, counterclockwise circulation driveway with adjacent parking for about 22 vehicles, primarily designated to visitors and accessible/handicapped users. As part of the one-way circulation plan, the existing curbcut located central to the Site will remain and serve as an enter-only driveway. A new exit only curbcut will be constructed as part of the main entrance improvements.
- The existing site northern driveway, opposite where Washington Street merges into Pleasant Street, will remain in place.

Figure 10. ***Site Plan***



Parking

The Project site is located within one of Melrose's Smart Growth Districts. While the primary purposes of such districts are to promote economic development and provide housing options to various income levels, the key transportation-related goals are to create pedestrian-friendly environments that promotes walking, bicycling and transit use and encourage reduced reliance on auto travel and auto ownership. Under Smart Growth zoning, off-street residential vehicle parking may be provided between 1.0 – 1.5 spaces per unit. A parking ratio below 1.25 spaces per unit requires a Special Permit from the Melrose Planning Board.

The Project will provide a total of approximately 172 parking spaces, with approximately 158 designated to residential parking and 14 designated to visitor parking. With a planned overall parking ratio of 1.22 spaces per unit (172 spaces/141 units), the Proponent will seek a special permit from the Planning Board. The Proponent supports the goals of Smart Growth zoning and believes the Project's planned parking supply will adequately meet resident parking demands while promoting decreased reliance on auto ownership.

Loading and Service Activity

Because many of twelve current building tenants are small businesses, much of the existing delivery activity is limited to small package delivery, such as UPS and FedEX. The two exceptions, however, are 1) Marty's Furniture where large trucks deliver furniture to the site and then out to retail customers, and 2) Fotronic Electronic Testing Equipment, an on-line order based business, that ships new and refurbished electronic equipment nationwide. Combined, these two businesses comprise over 60% of building space and generate a significant number of truck trips throughout the week.

With the redevelopment of the Project Site, the number of daily truck trips generated at the site is expected to significantly decrease. Larger deliveries, move-in/move-out activity, and trash pick-up will continue to occur at the rear of the building. No on-street loading will be permitted. Smaller deliveries such as take-out food, laundry/dry cleaning, etc., will occur at the residential lobby entrance on Washington Street.

Bicycle Accommodations

Per Melrose's Smart Growth zoning, on-site, secure bicycle parking at the Project must be provided at a rate of one space per twenty dwelling units. Therefore, the Project is required to provide seven bicycle parking spaces (141 units/20 spaces). The Proponent, however, will construct many more spaces than the zoning minimum and is committed to providing approximately 30 secure residential

bicycle parking spaces interior to the building and approximately five visitor bicycle spaces exterior to the building.

Trip Generation Methodology

Trip generation is a complex, multi-step process that produces an estimate of vehicle trips, transit trips, walk trips, and bicycle trips associated with a proposed development and a specific land use program. A project's location and proximity to different travel modes determine how people will travel to and from a project site.

EXISTING ACTIVITY

When assessing a site with existing, active land uses, it is standard practice to estimate existing trips (based on land use) and subtract those trips from the projected new future trips. At the existing 95,000 sf building, the two largest tenants are Marty's Furniture and Fotronic Electronic, which together occupy about 60,500 sf. The remaining 34,500 sf is about 90% occupied by twelve other tenants.

Trip generation based on rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation* (10th edition, 2017) were applied to the existing uses. The following ITE Land Use Codes (LUC) were used:

- **LUC 890 – Furniture Store.** A furniture store is a full-service retail facility that specializes in the sale of furniture and often carpeting. Furniture stores are generally large and may include storage areas. The sites surveyed included both traditional retail furniture stores and warehouse stores with showrooms. Although some home accessories may be sold, furniture stores primarily focus on the sale of pre-assembled furniture. A majority of items sold at these facilities must be ordered for delivery. This LUC is most appropriate for Marty's Furniture.
- **LUC 710 – General Office Building.** A general office building houses multiple tenants; it is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building or buildings may contain a mixture of tenants including professional service, insurance companies, investment brokers, and tenant services, such as a bank or savings and loan institution, a restaurant, or cafeteria and service retail facilities. This LUC is most appropriate for the variety of other businesses that occupy 99 Washington Street.

Table 5 shows the vehicle trips, based on the ITE methodology, that the existing site currently generates.

Table 5. Existing Site Vehicle Trip Generation

Land Use	Daily			a.m. Peak Hour			p.m. Peak Hour		
	enter	exit	total	enter	exit	total	enter	exit	total
Office	80	80	160	16	3	19	3	16	19
Furniture Store	69	69	138	4	2	6	5	6	11
Total	**149**	**149**	**298**	**20**	**5**	**25**	**8**	**22**	**30**

PROJECT ACTIVITY

As is standard practice, new trip generation is based on rates published in the ITE *Trip Generation* (10th edition, 2017). The ITE rates, available for a variety of land uses, produce "unadjusted" vehicle trip estimates, which are converted to person trips based on vehicle occupancy. Through application of the appropriate travel mode share information for the specific study area, the total person trips are "adjusted" to vehicle, transit, and walk/bicycle trips. Detailed trip generation worksheets are provided in **Appendix A**.

To estimate the unadjusted number of vehicular trips for the Project, the following ITE LUCs were used:

- **LUC 220 – Multifamily Housing Low-Rise "Residential".** Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels (floors).

Although the Project will have three levels and Mid-Rise Residential (LUC 221) is an alternative choice for buildings with three to ten levels, LUC 220 was chosen as more appropriate for this Project because LUC 220 results in a higher number of trips and, therefore, a more conservative (i.e. higher impact) analysis.

Travel Mode Shares

Travel mode shares reflect the distribution of person trips among automobiles, transit, and walking/bicycling. As previously presented in **Table 4** and **Figure 5**, the Project area is near the MBTA Oak Grove Station and several bus routes. The transit-oriented nature of the Project site will allow some residents to conveniently choose to forego auto ownership and rely on public transit for many of their daily trips.

The American Census Survey (ACS) provides travel mode share rates for residents traveling from home to work and back via walking/biking, transit, and vehicles by census tract. The Site is located in Census Tract 3364.01. An average of the travel mode shares from the census tracts were adopted for the Project's residential land use.

The unadjusted vehicular trips were converted to person-trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA)[1]. The person-trips were then distributed to different modes according to the mode shares shown in **Table 6.**

Table 6. Peak Hour Travel Mode Shares and Vehicle Occupancy

Land Use	Travel Mode Share			Average Vehicle Occupancy (AVO)
	Vehicle	Transit	Walk/Bicycle	
Residential	68%	27%	5%	1.18

Project Trip Generation

The travel mode share percentages shown in **Table 6** were applied to the number of person trips to develop walk/bicycle, transit, and vehicle trip generation estimates for the Project. Vehicle trips include automobiles, taxicabs, and transportation network company (TNC) services, such as Uber and Lyft. The trip generation or the Project by travel mode is shown in **Table 7**. The detailed trip generation information is provided in the **Appendix A**.

[1] Summary of Travel Trends: 2017 National Household Travel Survey; FHWA; Washington, D.C.; July 2018

Table 7. Project Trip Generation – Residential Land Use

Time Period/ Direction		Walk/Bicycle Trips	Transit Trips	Vehicle Trips		
				Private	Taxicab/TNC	Total Vehicle Trips
Daily	In	31	164	333	36	369
	Out	31	164	333	36	369
	Total	**62**	**328**	**666**	**72**	**738**
a.m. Peak Hour	In	1	5	9	3	12
	Out	3	16	32	3	35
	Total	**4**	**21**	**41**	**6**	**47**
p.m. Peak Hour	In	3	16	32	3	35
	Out	2	9	19	3	22
	Total	**5**	**25**	**51**	**6**	**57**

The net vehicle trip generation for the Project was determined by adjusting the Project-generated vehicle trips to account for the removal for the trips associated with the existing uses on the Project site. The net vehicle trip generation for the Project during the weekday a.m. and p.m. peak hours is shown in **Table 8**.

Table 8. Net Vehicle Trip Generation During Peak Hours

Time Period/ Direction		Project-Generated Vehicle Trips	Existing Vehicle Trips (removed)	Net New Vehicle Trips
a.m. Peak Hour	In	12	20	-8
	Out	35	5	30
	Total	**47**	**25**	**22**
p.m. Peak Hour	In	35	8	27
	Out	22	22	0
	Total	**57**	**30**	**27**

As shown in **Table 8**, the Project is expected to generate approximately 22 more vehicle trips than under the Existing Conditions during the weekday a.m. peak hour and 27 more vehicle trips during the weekday p.m. peak hour.

The Project is expected to generate approximately 21 transit person trips during the a.m. peak hour and approximately 25 transit person trips during the p.m. peak hour. These new transit person trips are expected to primarily use the Orange Line to commute into and out of Boston.

It should be noted that the MBTA is currently in the process of replacing old Orange Line cars with new cars and upgrading signals and track. Also, as part of the Encore Casino's mitigation plan with the State, the number of Orange Line trains in operation will increase. With these improvements, which will increase schedule reliability and decrease delays and travel times, the Project's small number of additional transit person trips will not affect operations on the Orange 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 to the Project site will include mostly residents.

The trip distribution for new Project trips was based on previous studies done in the Melrose area, existing counts, and knowledge of the roadway system in the area. **Figure 11** shows the trip distribution pattern for Project trips entering and exiting the site driveways.

Build Traffic Volumes

The Project-generated vehicle trips were distributed throughout the study area according to the trip distribution patterns. The Project-generated trips at the study area intersections are shown for the weekday a.m. peak hour and the weekday p.m. peak hour in **Figure12** and **Figure 13**, respectively.

The trip assignments were added to the No-Build (2026) Condition vehicular traffic volumes to produce the Build (2026) Condition vehicular traffic volumes. The Build (2026) Condition a.m. and p.m. peak hour traffic volumes are shown in **Figure 14** and **Figure 15**, respectively.

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

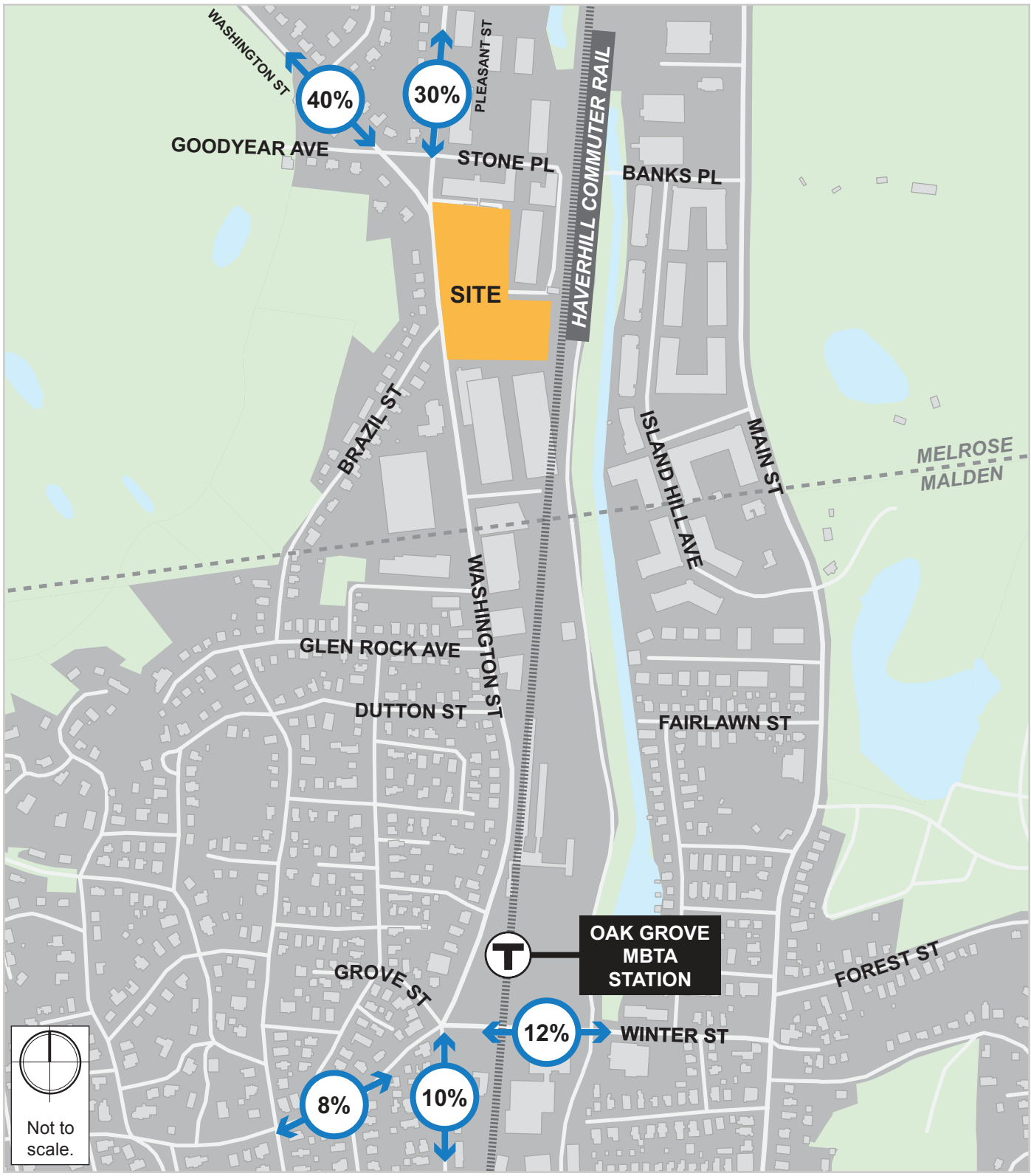


Figure 12. ***Project-generated Vehicle Trips, Weekday a.m. Peak Hour***

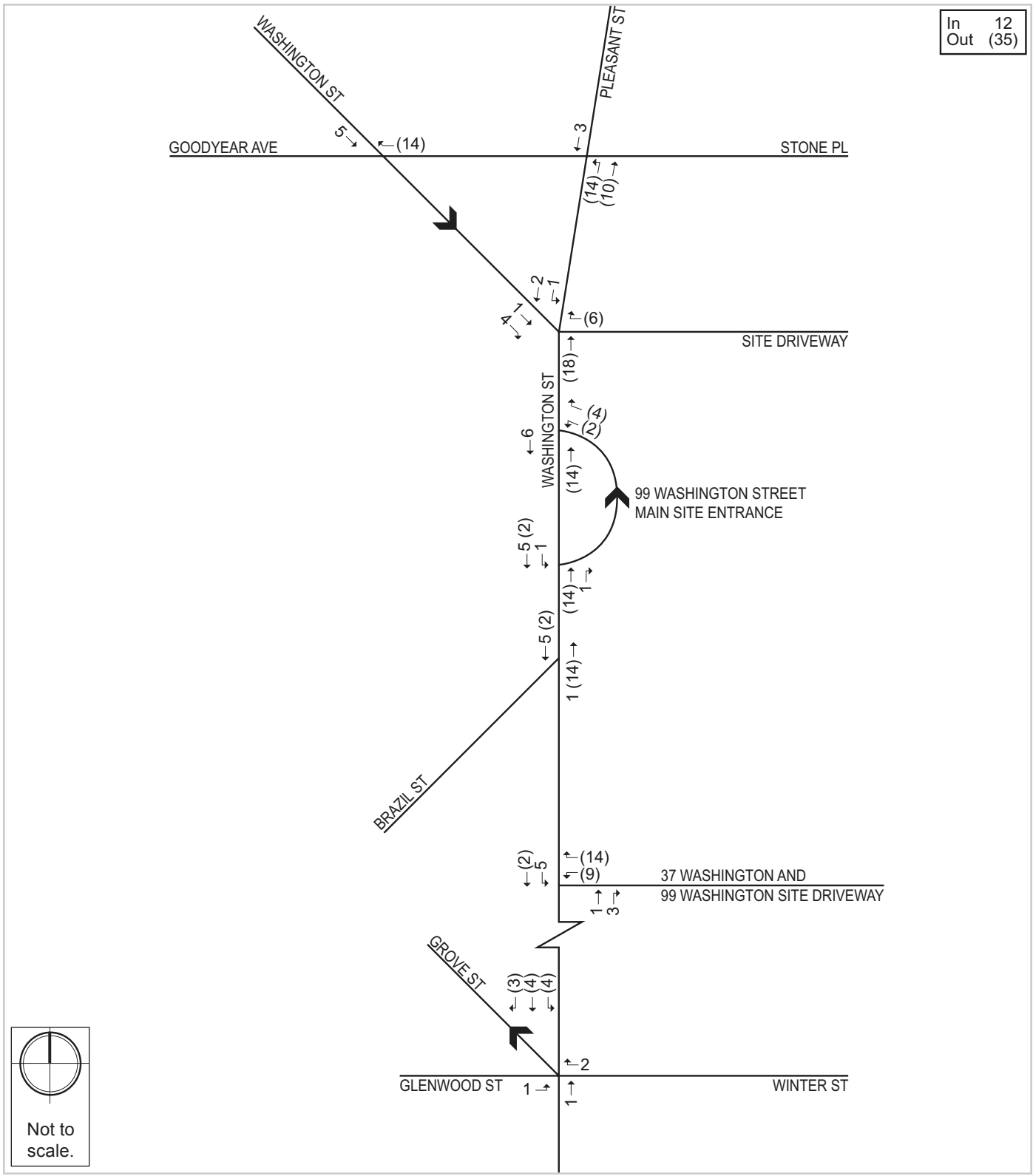


Figure 13. ***Project-generated Vehicle Trips, Weekday p.m. Peak Hour***

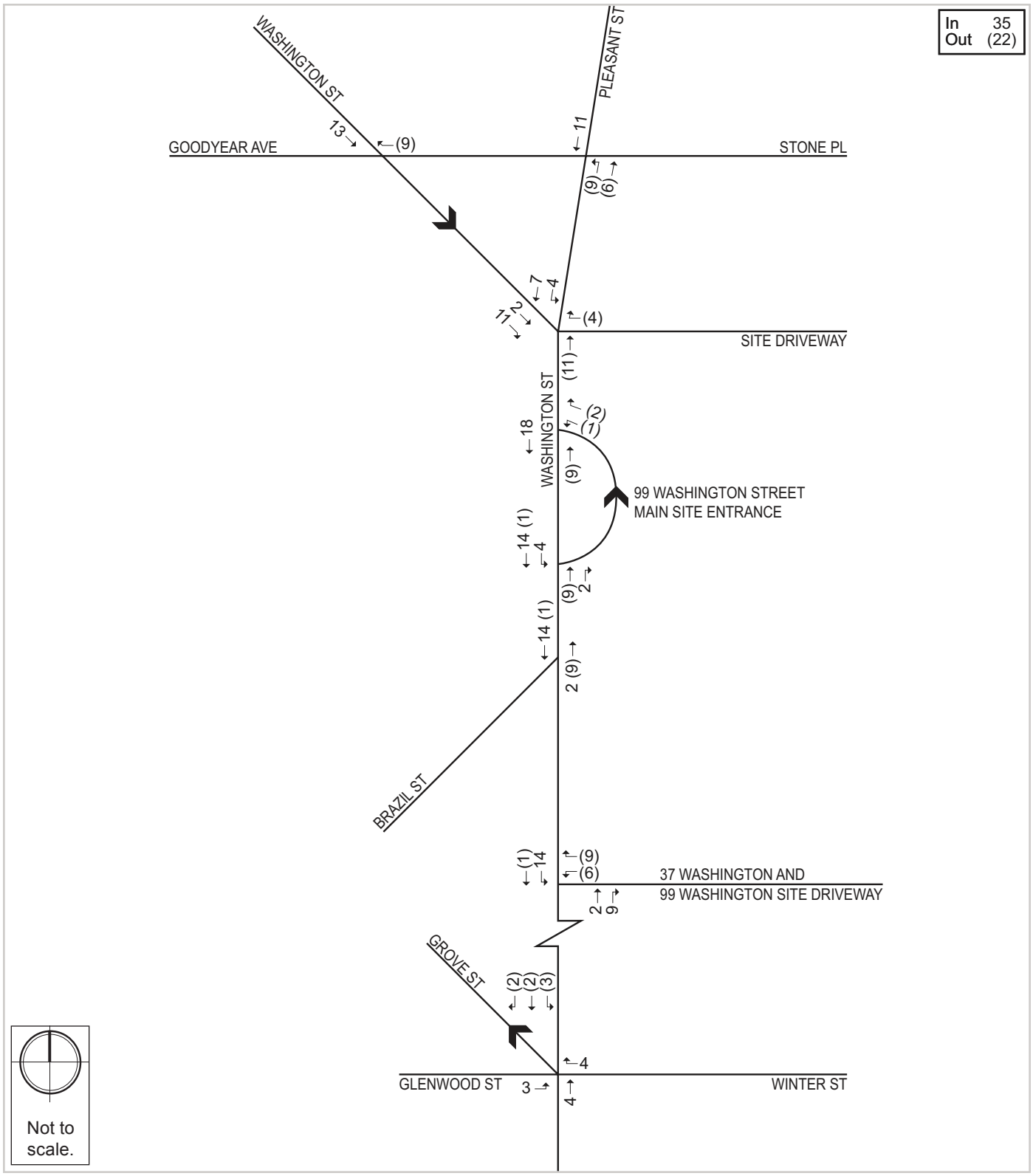


Figure 14. ***Build (2026) Condition Traffic Volumes, Weekday a.m. Peak Hour***

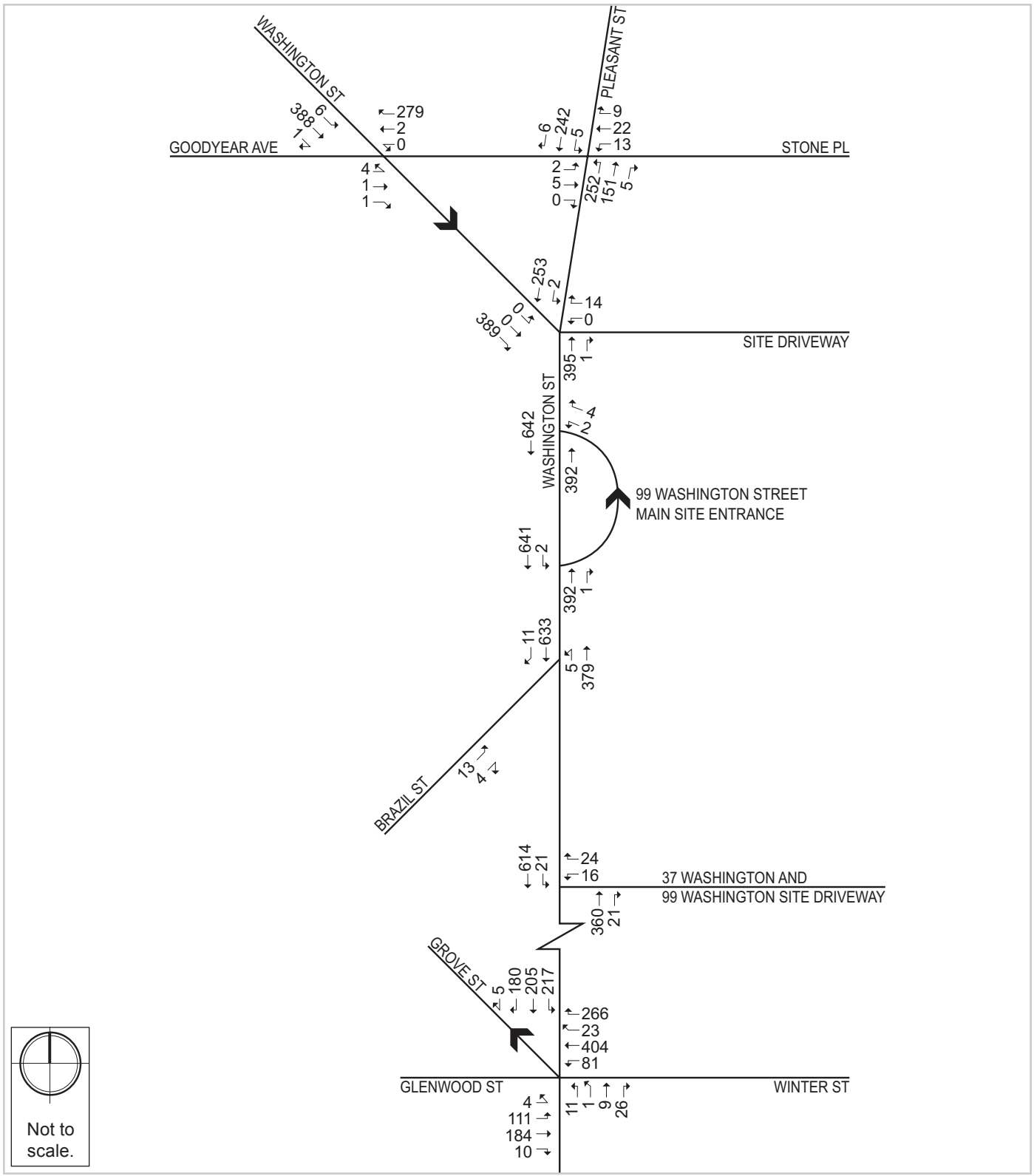
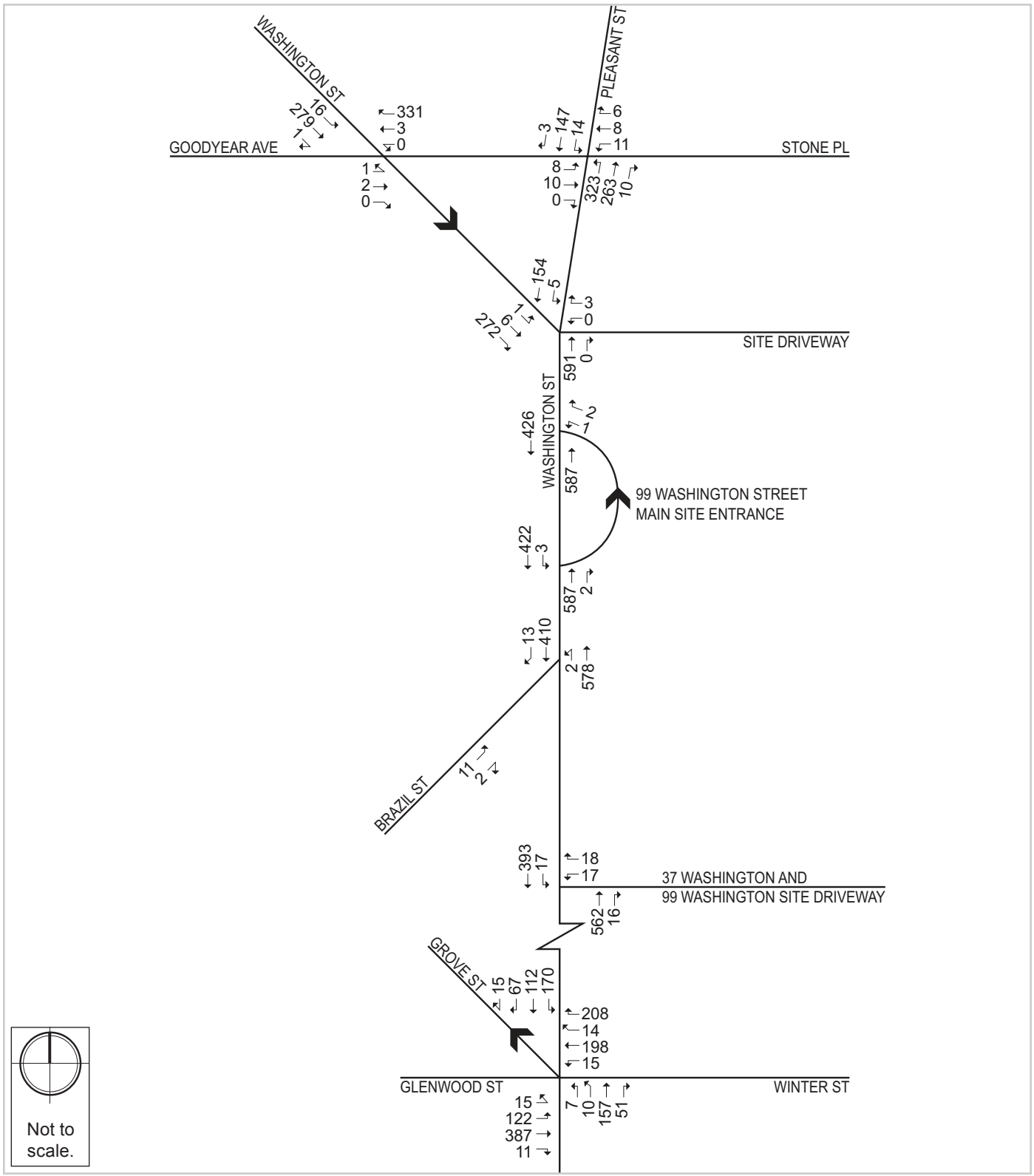


Figure 15. ***Build (2026) Condition Traffic Volumes, Weekday p.m. Peak Hour***



Traffic Capacity Analysis

The measure of effectiveness for evaluating traffic operations is level of service (LOS), which is determined by assessing average delay incurred by vehicles at intersections and along intersection approaches. Trafficware's Synchro (version 9) software was used to calculate average delay and associated LOS at the study area intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's *2010 Highway Capacity Manual (HCM).*

LOS designations are based on average delay per vehicle for all vehicles entering an intersection. **Table 9** displays the intersection level of service criteria. LOS A indicates the most favorable condition, with minimum traffic delay, while LOS F represents the worst condition. LOS E or F, however, is often typical for a stop-controlled minor street that intersects a major roadway.

Table 9. Intersection Level of Service Criteria

Level of Service	Average Stopped Delay (seconds/vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

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 10 and **Table 11** present the a.m. and p.m. peak hour capacity analysis, respectively, for the study area intersections under each analysis condition: Existing (2019) Condition, No-Build (2026) Condition, and the Build (2026) Condition. The detailed analysis sheets are provided in the **Appendix A**. The sections below present the results for each condition.

Existing (2019) Traffic Operations

As shown under the Existing (2019) Conditions in **Table 10** and **Table 11**, a majority of the study intersection approaches operate at acceptable levels of service (LOS D or better) with the exception of the following intersections and movements:

The signalized intersection of **Washington Street/Glenwood Street/Winter Street** operates at LOS F during the a.m. peak hour and LOS E during the p.m. peak hour. The highest volumes at this intersection are in the east-west direction as commuters travel between Melrose/Malden neighborhoods east of the MBTA tracks and regional roadways to the west such as Fellsway East, Fellsway West, and I-93. The Glenwood Street eastbound approach operates at LOS F during the p.m. peak hour. The Winter Street westbound approach operates at LOS F during the a.m. peak hour. The Washington Street southbound shared left-turn/through movement operates at LOS F during both the peak hours.

The eastbound and westbound approaches, at the intersection of **Pleasant Street/Stone Place**, operate at LOS E during the p.m. peak hour only. Note that the eastbound and westbound approaches, controlled by stop signs, primarily serve residents at the Jack Flats residential development. The vehicle trips into and out of Jack Flats are relatively small during the p.m. peak hour (less than 25 per hour) while the northbound volumes along Pleasant Street are high due to background commuter traffic and significant pick-up activity at Oak Grove station. This combined activity results in delays for the side street traffic, which is typical for a stop-controlled minor side street that intersects with a major roadway.

No-Build (2026) Traffic Operations

As shown under the No-Build (2026) Condition, the study area intersections continue to operate at the same LOS as the Existing Condition with the exception of the Stone Place eastbound approach, at the intersection of **Pleasant Street/Stone Place**, which decreases from LOS E to F during the p.m. peak hour only

.

Table 10. Capacity Analysis Summary, Weekday a.m. Peak Hour

Intersection/Movement	Existing (2019) Condition				No-Build (2026) Condition				Build (2026) 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.)
Signalized Intersection												
Washington Street/Glenwood Street/Winter Street/Grove Street	**F**	**>80.0**	**-**	**-**	**F**	**>80.0**	**-**	**-**	**F**	**>80.0**	**-**	**-**
EB Glenwood St left/thru/right	C	33.4	0.79	#269	C	34.6	0.80	#276	C	34.4	0.80	#275
WB Winter St left/thru | thru/right	F	>80.0	>1.00	#364	F	>80.0	>1.00	#386	F	>80.0	>1.00	#386
NB Washington St left/thru	B	19.4	0.10	25	B	19.5	0.11	26	B	19.5	0.11	25
NB Washington St right	B	18.4	0.02	0	B	18.4	0.02	0	B	18.4	0.02	0
SB Washington St left/thru	F	>80.0	>1.00	#453	F	>80.0	>1.00	#462	F	>80.0	>1.00	#471
SB Washington St right/hard right	C	22.1	0.33	97	C	22.2	0.34	100	C	22.3	0.35	102
Unsignalized Intersections												
Washington Street/ Goodyear Avenue/Stone Place	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
EB Goodyear Ave left/thru/right	C	16.5	0.04	3	C	16.7	0.04	3	C	17.1	0.04	3
WB Stone Pl left/thru/right	A	9.5	0.26	25	A	9.5	0.26	26	A	9.6	0.27	28
SB Washington St left/thru/right	A	0.1	0.00	0	A	0.1	0.00	0	A	0.1	0.00	0
Pleasant Street/Stone Place	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
EB Stone Pl left/thru/right	D	28.5	0.05	4	D	29.2	0.05	4	D	30.9	0.05	4
WB Stone Pl left/thru/right	D	31.0	0.32	33	D	32.1	0.33	34	D	34.6	0.35	36
NB Pleasant St left/thru/right	A	6.3	0.23		A	6.3	0.23	22	A	6.4	0.24	24
SB Pleasant St left/thru/right	A	0.2	0.00	0	A	0.2	0.00	0	A	0.2	0.00	0
Washington Street/ Pleasant Street/ 99 Wash. Site Driveway	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
EB Site Driveway left/right	C	16.9	0.58	95	C	17.4	0.60	100	C	17.1	0.59	97
WB Washington St left/thru/right	B	10.9	0.03	2	B	10.9	0.03	2	B	11.2	0.04	3
NB Washington St thru/right	A	0.0	0.25	0	A	0.0	0.26	0	A	0.0	0.27	0
SB Pleasant St left/thru	A	0.1	0.00	0	A	0.1	0.00	0	A	0.1	0.00	0

Table 10. Capacity Analysis Summary, Weekday a.m. Peak Hour (cont'd)

Intersection/Movement`	Existing (2019) Condition				No-Build (2026) Condition				Build (2026) 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.)
Washington Street/New Site Driveway Exit Only									-	-	-	-
WB Site Driveway left/right	**This is a new intersection under Build Condition**								B	14.2	0.02	1
NB Washington St thru									A	0.0	0.25	0
SB Washington St thru									A	0.0	0.41	0
Washington Street/Site Driveway	-	-	-	-	-	-	-	-	-	-	-	-
WB Site Driveway left/right	A	0.0	0.00	0	A	0.0	0.00	0	-	-	-	-
NB Washington St thru/right	A	0.0	0.25	0	A	0.0	0.26	0	A	0.0	0.27	0
SB Washington St left/thru	A	0.1	0.01	0	A	0.1	0.01	0	A	0.0	0.00	0
Washington Street/Brazil Street	-	-	-	-	-	-	-	-	-	-	-	-
EB Brazil St left/thru/right	D	25.5	0.14	12	D	26.3	0.14	12	C	22.2	0.12	10
NB Washington St left/thru/right	A	0.2	0.01	1	A	0.2	0.01	1	A	0.2	0.01	1
SB Washington St left/thru/right	A	0.1	0.00	0	A	0.1	0.00	0	A	0.0	0.45	0
Washington Street/Site Driveway	-	-	-	-	-	-	-	-				
WB Site Driveway left/right	B	10.7	0.01	1	B	10.7	0.01	1	**This driveway will be removed in the Build Condition.**			
NB Washington St thru/right	A	0.0	0.25	0	A	0.0	0.25	0				
SB Washington St left/thru	A	0.3	0.01	1	A	0.3	0.01	1				
Washington Street/ 37 Washington Street Driveway	-	-	-	-	-	-	-	-	-	-	-	-
WB Site Driveway left/right [1)]	C	16.3	0.06	5	C	16.6	0.06	5	C	17.4	0.15	13
NB Washington St thru/right	A	0.0	0.25	0	A	0.0	0.25	0	A	0.0	0.25	0
SB Washington St left/thru	A	0.3	0.01	1	A	0.3	0.01	1	A	0.6	0.02	2

 # 95th percentile queues do not clear after two cycles. Actual queues may be longer.
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.
1) 99 Washington Street will share this driveway with 37 Washington Street under the Build Condition.

Table 11. Capacity Analysis Summary, Weekday p.m. Peak Hour

Intersection/Movement	Existing (2019) Condition				No-Build (2026) Condition				Build (2026) 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.)
Signalized Intersection												
Washington Street/Glenwood Street/Winter Street/Grove Street	**E**	**60.2**	**-**	**-**	**E**	**66.3**	**-**	**-**	**E**	**69.2**	**-**	**-**
EB Glenwood St left/thru/right	F	>80.0	>1.00	#469	F	>80.0	>1.00	#488	F	>80.0	>1.00	#496
WB Winter St left/thru | thru/right	C	32.3	0.64	#126	C	32.5	0.64	#128	C	32.6	0.65	#128
NB Washington St left/thru	C	23.0	0.41	135	C	23.1	0.41	138	C	23.2	0.42	140
NB Washington St right	B	18.5	0.04	0	B	18.5	0.04	10	B	18.5	0.04	10
SB Washington St left/thru	E	79.3	>1.00	#322	F	>80.0	>1.00	#329	F	>80.0	>1.00	#330
SB Washington St right/hard right	B	18.7	0.06	29	B	18.7	0.06	30	B	18.7	0.06	30
Unsignalized Intersections												
Washington Street/ Goodyear Avenue/Stone Place	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
EB Goodyear Ave left/thru/right	C	15.1	0.02	1	C	15.3	0.02	1	C	15.5	0.02	1
WB Stone Pl left/thru/right	B	10.4	0.39	47	B	10.5	0.40	48	B	10.5	0.40	48
SB Washington St left/thru/right	A	0.5	0.01	1	A	0.5	0.01	1	A	0.5	0.01	1
Pleasant Street/Stone Place	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
EB Stone Pl left/thru/right	E	48.0	0.22	20	F	>50.0	0.23	21	F	>50.0	0.24	21
WB Stone Pl left/thru/right	E	42.0	0.29	28	E	44.3	0.31	30	E	45.2	0.31	31
NB Pleasant St left/thru/right	A	5.9	0.27	28	A	5.9	0.28	29	A	6.0	0.28	29
SB Pleasant St left/thru/right	A	0.8	0.01	1	A	0.8	0.01	1	A	0.8	0.01	1
Washington Street/ Pleasant Street/ Site Driveway	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
EB Site Driveway left/right	B	11.5	0.34	38	B	11.6	0.35	39	B	11.9	0.36	42
WB Washington St left/thru/right	C	17.5	0.06	5	C	17.8	0.07	5	B	13.6	0.01	1
NB Washington St thru/right	A	0.0	0.42	0	A	0.0	0.42	0	A	0.0	0.43	0
SB Pleasant St left/thru	A	0.1	0.00	0	A	0.1	0.00	0	A	0.4	0.01	1

Table 11. Capacity Analysis Summary, Weekday p.m. Peak Hour (cont'd)

Intersection/Movement`	Existing (2019) Condition				No-Build (2026) Condition				Build (2026) 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.)
Washington Street/New Site Driveway Exit Only	This is a new intersection in the Build Condition only.								-	-	-	-
WB Site Driveway left/right									C	15.2	0.01	1
NB Washington St thru									A	0.0	0.38	0
SB Washington St thru									A	0.0	0.27	0
Washington Street/Site Driveway	-	-	-	-	-	-	-	-	-	-	-	-
WB Site Driveway left/right	C	15.4	0.02	0	C	15.6	0.02	2	-	-	-	-
NB Washington St thru/right	A	0.0	0.41	0	A	0.0	0.42	0	A	0.0	0.43	0
SB Washington St left/thru	A	0.0	0.00	0	A	0.0	0.00	0	A	0.1	0.00	0
Washington Street/Brazil Street	-	-	-	-	-	-	-	-	-	-	-	-
EB Brazil St left/thru/right	C	24.3	0.08	6	D	25.0	0.08	7	C	21.3	0.07	5
NB Washington St left/thru/right	A	0.0	0.00	0	A	0.0	0.00	0	A	0.0	0.00	0
SB Washington St left/thru/right	A	0.0	0.00	0	A	0.0	0.00	0	A	0.0	0.26	0
Washington Street/Site Driveway	-	-	-	-	-	-	-	-	This driveway will be removed in the Build Condition.			
WB Site Driveway left/right	C	19.0	0.02	1	C	19.4	0.02	1				
NB Washington St thru/right	A	0.0	0.41	0	A	0.0	0.41	0				
SB Washington St left/thru	A	0.1	0.00	0	A	0.1	0.00	0				
Washington Street/ 37 Washington Street Driveway	-	-	-	-	-	-	-	-	-	-	-	-
WB Site Driveway left/right [1)]	C	19.3	0.13	11	C	19.8	0.13	11	C	21.4	0.22	21
NB Washington St thru/right	A	0.0	0.41	0	A	0.0	0.41	0	A	0.0	0.42	0
SB Washington St left/thru	A	0.1	0.00	0	A	0.1	0.00	0	A	0.6	0.02	2

 # 95th percentile queues do not clear after two cycles. Actual queues may be longer.
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.
1) 99 Washington Street will share this driveway with 37 Washington Street under the Build Condition.

Build (2026) Traffic Operations

All intersections continue to operate at the same overall LOS as under the No-Build (2026) Condition during the a.m. and p.m. peak hours, indicating that the Project will not adversely affect traffic operations in the study area.

Transportation Management Plan

While the Project will not impact traffic operations in the study area, the Proponent is committed to implementing a Transportation Management Plan (TMP) program for residents in an effort to minimize the number of Project vehicle trips on the adjacent transportation network. TMP measures will promote the use of public transportation (including the MBTA rapid transit, bus, and commuter rail), walking, and bicycling, and other options to reduce single occupant vehicle trips. TMP 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 related to deliveries and move-in/move-out activity. The transportation coordinator will work with residents as they move in and to raise awareness of public transportation.
- ***Car Share*** - In partnership with a car-share company, such as Zipcar, the Proponent is committed to establishing at least one car share space within the parking lot.
- ***Parking Management*** - Parking spaces will be rented separately from the units, or "unbundled", such that residents without a vehicle will not pay for parking. Parking spaces will be leased at market rates. Parking stickers will be obtained through the management office and residents will be assigned a specific, numbered space. Parking will not be leased to non-residents.
- ***Resident Orientation Packets*** – These packets will provide all new residents with information about available public transportation options (such as the nearby MBTA Orange Line and bus service), as well as local car-sharing services.
- ***Real time MBTA Travel Time information*** – The Proponent will install an electronic display monitor in the residential lobby to provide real time information on nearby transit service.

- ***MBTA Passes*** - To encourage transit use, the Proponent will provide each new resident with one MBTA pass (monthly link) for one calendar month.
- ***Bicycle Storage*** – The Proponent is committed to providing approximately 30 secure residential bicycle parking spaces interior to the building and approximately five visitor bicycle spaces exterior to the building. These 35 spaces exceed the minimum of seven spaces required under Melrose's Smart Growth zoning.
- ***Pedestrian Safety*** - With the reconfiguration of Project driveways, the total length of curb cut openings along Washington Street will be reduced by about 80 feet, improving the pedestrian realm along this important walking connection between the neighborhood and the MBTA's Oak Grove Station. Other pedestrian realm improvements include raised sidewalks across the driveways at the main entrance, and, in the rear parking lot, a crosswalk connecting between the parking area and the rear building entrance. New lighting will be installed throughout the site and along Washington Street to maximize visibility and safeguard pedestrian activity at night. At vehicle driveways, signs will be posted to alert drivers to pedestrian activity.

Appendix A

Appendix A

- Count Data
- Crash Data
- Trip Generation
- Intersection LOS/Synchro Reports

Count Data

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 1
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	Stone Place/Goodyear Avenue
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

BOSTON TRAFFIC DATA
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DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

PASSENGER CARS & HEAVY VEHICLES COMBINED

	Washington Street Northbound				Washington Street Southbound				Goodyear Avenue Eastbound				Stone Place 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	0	0	0	3	81	1	0	1	0	0	0	0	0	63
7:15 AM	0	0	0	0	0	2	102	0	0	0	0	0	0	0	0	65
7:30 AM	0	0	0	0	0	1	103	0	0	2	0	1	0	0	0	69
7:45 AM	0	0	0	0	0	1	94	1	0	0	1	0	0	0	0	68
8:00 AM	0	0	0	0	0	2	85	0	0	2	0	0	0	0	2	60
8:15 AM	0	0	0	0	0	3	87	0	0	0	0	0	0	0	1	67
8:30 AM	0	0	0	0	0	0	77	0	0	0	0	0	0	0	0	61
8:45 AM	0	0	0	0	0	2	67	0	0	0	0	1	0	0	0	54

	Washington Street Northbound				Washington Street Southbound				Goodyear Avenue Eastbound				Stone Place 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	2	57	0	0	1	0	0	0	2	1	62
4:15 PM	0	0	0	0	0	5	45	1	0	0	1	0	0	0	0	80
4:30 PM	0	0	0	0	1	3	52	0	0	1	0	0	0	0	0	67
4:45 PM	0	0	0	0	0	5	60	0	0	0	0	0	0	0	3	75
5:00 PM	0	0	0	0	0	4	71	0	0	0	0	0	0	0	0	105
5:15 PM	0	0	0	0	0	4	57	0	0	0	1	0	0	0	0	76
5:30 PM	0	0	0	0	0	3	66	0	0	1	0	0	0	0	2	58
5:45 PM	0	0	0	0	0	5	70	1	1	0	1	0	0	0	1	86

AM PEAK HOUR 7:15 AM to 8:15 AM	Washington Street Northbound				Washington Street Southbound				Goodyear Avenue Eastbound				Stone Place 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**	**6**	**384**	**1**	**0**	**4**	**1**	**1**	**0**	**0**	**2**	**262**
PHF	**0.00**				**0.94**				**0.50**				**0.96**			
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%**	**0.0%**	**0.0%**	**1.5%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Washington Street Northbound				Washington Street Southbound				Goodyear Avenue Eastbound				Stone Place 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**	**16**	**264**	**1**	**1**	**1**	**2**	**0**	**0**	**0**	**3**	**325**
PHF	**0.00**				**0.92**				**0.50**				**0.78**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 1
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	Stone Place/Goodyear Avenue
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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HEAVY VEHICLES

	Washington Street Northbound				Washington Street Southbound				Goodyear Avenue Eastbound				Stone Place 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	0	0	0	1	0	0	0	0	0	0	0	0	0	2
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	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	1	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	2

	Washington Street Northbound				Washington Street Southbound				Goodyear Avenue Eastbound				Stone Place 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	1	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	3
4:30 PM	0	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	Washington Street Northbound				Washington Street Southbound				Goodyear Avenue Eastbound				Stone Place 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**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
PHF	**0.00**				**0.25**				**0.00**				**0.63**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Washington Street Northbound				Washington Street Southbound				Goodyear Avenue Eastbound				Stone Place 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**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
PHF	**0.00**				**0.50**				**0.00**				**0.33**			

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 1
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	Stone Place/Goodyear Avenue
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PEDESTRIANS & BICYCLES

	Washington Street Northbound					Washington Street Southbound					Goodyear Avenue Eastbound					Stone Place 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	2	0	0		0	0	0	0		0	0	0	1	
7:15 AM	0	0	0	0		0	3	0	0		0	0	0	0		0	0	0	0	
7:30 AM	0	0	0	0		0	3	0	2		0	0	0	1		0	0	0	0	
7:45 AM	0	0	0	0		0	3	0	0		0	0	0	0		0	0	0	1	
8:00 AM	0	0	0	0		0	3	0	1		0	0	0	0		0	0	1	0	
8:15 AM	0	0	0	0		0	6	0	0		0	0	0	0		0	0	0	0	
8:30 AM	0	0	0	0		0	2	0	0		0	0	0	0		0	0	0	0	
8:45 AM	0	0	0	0		0	3	0	0		0	0	0	0		0	0	0	1	

	Washington Street Northbound					Washington Street Southbound					Goodyear Avenue Eastbound					Stone Place 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	1		0	0	0	1		0	0	0	0	
4:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
4:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	1	
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	1		0	0	1	0	
5:15 PM	0	0	0	0		0	1	0	1		0	0	0	0		0	0	1	1	
5:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	2	2	
5:45 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	3	0	

AM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Goodyear Avenue Eastbound					Stone Place Westbound				
7:15 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
8:15 AM	0	0	0	0		0	12	0	3		0	0	0	1		0	0	1	1	

PM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Goodyear Avenue Eastbound					Stone Place Westbound				
5:00 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
6:00 PM	0	0	0	1		0	1	0	1		0	0	0	1		0	0	7	3	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 2
Location:	Melrose, MA
Street 1:	Pleasant Street
Street 2:	Stone Place
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Pleasant Street Northbound				Pleasant Street Southbound				Stone Place Eastbound				Stone Place 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	58	20	0	0	0	48	1	0	1	2	0	0	3	4	2
7:15 AM	0	59	32	0	0	0	83	1	0	1	1	0	0	2	5	1
7:30 AM	0	62	33	1	0	1	61	0	0	0	1	0	0	4	7	5
7:45 AM	0	62	49	1	0	0	46	3	0	1	1	0	0	1	3	0
8:00 AM	0	53	27	3	0	4	51	2	0	0	2	0	0	6	7	3
8:15 AM	0	60	42	2	0	1	58	0	0	0	3	0	0	3	8	1
8:30 AM	0	61	44	3	0	1	45	0	0	0	0	0	0	0	0	0
8:45 AM	0	47	37	0	0	1	62	1	0	0	2	0	0	2	6	4

	Pleasant Street Northbound				Pleasant Street Southbound				Stone Place Eastbound				Stone Place 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	58	60	3	0	2	29	4	0	1	1	0	0	1	3	1
4:15 PM	0	76	44	3	0	1	38	1	0	1	5	0	0	1	3	1
4:30 PM	0	64	46	2	0	2	33	0	0	1	2	0	0	1	3	2
4:45 PM	0	72	60	2	0	2	36	3	0	2	3	0	0	2	3	1
5:00 PM	0	102	75	3	0	4	30	1	0	2	2	0	0	3	2	1
5:15 PM	0	75	59	1	0	2	33	1	0	2	3	0	0	2	0	1
5:30 PM	0	58	56	1	0	2	41	0	0	1	2	0	0	3	2	1
5:45 PM	0	82	68	5	0	6	33	1	0	3	3	0	0	3	4	3

AM PEAK HOUR 7:15 AM to 8:15 AM	Pleasant Street Northbound				Pleasant Street Southbound				Stone Place Eastbound				Stone Place Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**236**	**141**	**5**	**0**	**5**	**241**	**6**	**0**	**2**	**5**	**0**	**0**	**13**	**22**	**9**
PHF	**0.85**				**0.75**				**0.88**				**0.69**			
HV %	**0.0%**	**1.7%**	**4.3%**	**0.0%**	**0.0%**	**0.0%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Pleasant Street Northbound				Pleasant Street Southbound				Stone Place Eastbound				Stone Place Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**317**	**258**	**10**	**0**	**14**	**137**	**3**	**0**	**8**	**10**	**0**	**0**	**11**	**8**	**6**
PHF	**0.81**				**0.90**				**0.75**				**0.63**			
HV %	**0.0%**	**0.0%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**1.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 2
Location:	Melrose, MA
Street 1:	Pleasant Street
Street 2:	Stone Place
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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HEAVY VEHICLES

	Pleasant Street Northbound				Pleasant Street Southbound				Stone Place Eastbound				Stone Place 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	2	1	0	0	0	2	0	0	1	0	0	0	0	0	0
7:15 AM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	2	0	0	0	2	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	2	2	0	0	0	3	0	0	0	0	0	0	0	0	0

	Pleasant Street Northbound				Pleasant Street Southbound				Stone Place Eastbound				Stone Place 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	3	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	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	2	0	0	0	1	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	Pleasant Street Northbound				Pleasant Street Southbound				Stone Place Eastbound				Stone Place Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**5**	**6**	**0**	**0**	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.69**				**0.63**				**0.25**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Pleasant Street Northbound				Pleasant Street Southbound				Stone Place Eastbound				Stone Place Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**4**	**6**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.63**				**0.38**				**0.00**				**0.00**			

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 2
Location:	Melrose, MA
Street 1:	Pleasant Street
Street 2:	Stone Place
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PEDESTRIANS & BICYCLES

	Pleasant Street Northbound					Pleasant Street Southbound					Stone Place Eastbound					Stone Place 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	2	0	3		0	0	0	0		0	0	0	10	
7:15 AM	0	1	0	0		0	0	0	2		0	0	0	0		0	0	0	10	
7:30 AM	0	1	0	0		0	0	0	9		0	0	0	1		1	0	0	11	
7:45 AM	0	1	0	0		0	2	0	5		0	0	0	0		0	0	0	18	
8:00 AM	1	0	0	0		0	1	0	11		0	0	0	1		0	0	0	14	
8:15 AM	0	1	0	0		0	3	0	1		0	0	0	0		0	0	0	12	
8:30 AM	0	0	1	0		0	0	0	9		0	0	0	0		0	0	0	15	
8:45 AM	0	0	0	0		0	1	0	0		0	0	0	0		0	0	0	8	

	Pleasant Street Northbound					Pleasant Street Southbound					Stone Place Eastbound					Stone Place Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	1	0	0		2	0	0	5		0	0	0	1		0	0	0	6	
4:15 PM	1	1	0	0		0	0	0	2		0	0	0	0		0	0	0	5	
4:30 PM	1	1	0	0		0	0	0	3		0	0	0	0		0	0	0	9	
4:45 PM	0	3	0	0		0	0	0	0		0	0	0	0		0	0	0	8	
5:00 PM	1	1	0	0		0	0	0	6		0	0	0	0		0	0	0	15	
5:15 PM	1	2	0	0		0	0	0	3		0	0	0	0		0	0	0	13	
5:30 PM	2	3	0	0		0	0	0	3		0	0	0	0		0	0	0	17	
5:45 PM	3	4	0	0		0	1	0	7		0	0	0	1		0	0	0	19	

AM PEAK HOUR[1]	Pleasant Street Northbound					Pleasant Street Southbound					Stone Place Eastbound					Stone Place Westbound				
7:15 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
8:15 AM	1	3	0	0		0	3	0	27		0	0	0	2		1	0	0	53	

PM PEAK HOUR[1]	Pleasant Street Northbound					Pleasant Street Southbound					Stone Place Eastbound					Stone Place Westbound				
5:00 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
6:00 PM	7	10	0	0		0	1	0	19		0	0	0	1		0	0	0	64	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 3
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	Pleasant Street
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Washington Street Northbound				Pleasant Street Southbound				Washington Street Eastbound				Driveway Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Hard Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	78	0	0	1	50	0	0	0	1	80	0	0	0	0
7:15 AM	0	0	90	0	0	1	84	0	0	0	0	102	0	0	0	1
7:30 AM	0	0	93	0	0	2	63	0	0	0	0	104	0	0	0	3
7:45 AM	0	0	107	0	0	0	47	0	0	0	1	93	0	0	0	5
8:00 AM	0	0	81	2	0	0	57	0	0	0	0	85	0	0	0	2
8:15 AM	0	0	102	0	0	0	61	0	0	1	0	86	0	0	0	1
8:30 AM	0	0	103	0	0	1	44	0	0	1	0	76	0	0	0	4
8:45 AM	0	0	83	0	0	2	62	0	0	0	1	67	0	0	0	1

	Washington Street Northbound				Pleasant Street Southbound				Washington Street Eastbound				Driveway Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Hard Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	120	0	0	1	29	0	0	1	0	58	0	0	0	0
4:15 PM	0	0	122	0	0	0	39	0	0	0	2	43	0	1	0	1
4:30 PM	0	0	110	0	0	0	34	0	0	0	0	52	0	1	0	2
4:45 PM	0	0	130	0	0	2	36	0	0	0	0	60	0	0	0	4
5:00 PM	0	0	177	0	0	1	32	0	0	0	0	71	0	0	0	3
5:15 PM	0	0	131	0	0	1	34	0	0	0	1	56	0	1	0	4
5:30 PM	0	0	113	0	0	0	44	0	0	1	1	64	0	0	0	1
5:45 PM	0	0	153	0	0	0	36	0	0	0	3	67	0	1	0	2

AM PEAK HOUR 7:15 AM to 8:15 AM	Washington Street Northbound				Pleasant Street Southbound				Washington Street Eastbound				Driveway Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Hard Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**371**	**2**	**0**	**3**	**251**	**0**	**0**	**0**	**1**	**384**	**0**	**0**	**0**	**11**
PHF	**0.87**				**0.75**				**0.93**				**0.55**			
HV %	**0.0%**	**0.0%**	**2.7%**	**0.0%**	**0.0%**	**0.0%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Washington Street Northbound				Pleasant Street Southbound				Washington Street Eastbound				Driveway Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Hard Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**574**	**0**	**0**	**2**	**146**	**0**	**0**	**1**	**5**	**258**	**0**	**2**	**0**	**10**
PHF	**0.81**				**0.84**				**0.93**				**0.60**			
HV %	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**1.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 3
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	Pleasant Street
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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HEAVY VEHICLES

	Washington Street Northbound				Pleasant Street Southbound				Washington Street Eastbound				Driveway Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Hard Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
8:45 AM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0

	Washington Street Northbound				Pleasant Street Southbound				Washington Street Eastbound				Driveway Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Hard Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0
4:15 PM	0	0	3	0	0	0	1	0	0	0	1	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0
4:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	1	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	2	0	0	0	1	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	Washington Street Northbound				Pleasant Street Southbound				Washington Street Eastbound				Driveway Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Hard Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**11**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.69**				**0.63**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Washington Street Northbound				Pleasant Street Southbound				Washington Street Eastbound				Driveway Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Hard Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**10**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**
PHF	**0.63**				**0.38**				**0.75**				**0.00**			

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 3
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	Pleasant Street
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PEDESTRIANS & BICYCLES

	Washington Street Northbound					Pleasant Street Southbound					Washington Street Eastbound					Driveway Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Hard Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	0		0	2	0	0		0	0	2	0		0	0	0	11	
7:15 AM	0	1	0	0		0	0	0	0		0	0	3	0		0	0	0	12	
7:30 AM	0	1	0	0		0	1	0	0		0	0	4	1		0	0	0	13	
7:45 AM	0	1	0	1		0	2	0	0		0	0	2	2		0	0	0	19	
8:00 AM	0	1	0	0		0	1	0	0		0	0	3	0		0	0	0	21	
8:15 AM	0	1	0	0		0	3	0	0		0	0	6	0		0	0	0	11	
8:30 AM	0	0	0	0		0	0	0	0		0	0	2	0		0	0	0	18	
8:45 AM	0	0	0	0		0	1	0	0		0	0	3	0		0	0	0	8	

	Washington Street Northbound					Pleasant Street Southbound					Washington Street Eastbound					Driveway Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Hard Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	1	0	0		0	0	0	0		0	0	0	1		0	0	0	6	
4:15 PM	0	2	0	1		0	0	0	0		0	0	0	0		0	0	0	7	
4:30 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	13	
4:45 PM	0	3	0	0		0	0	0	0		0	0	0	0		0	0	0	9	
5:00 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	21	
5:15 PM	0	3	0	0		0	0	0	0		0	0	1	0		0	0	0	11	
5:30 PM	0	5	0	0		0	0	0	0		0	0	0	0		0	0	0	16	
5:45 PM	0	7	0	0		0	1	0	0		0	0	0	1		0	0	1	25	

AM PEAK HOUR[1]	Washington Street Northbound					Pleasant Street Southbound					Washington Street Eastbound					Driveway Westbound				
7:15 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Hard Left	Thru	Right	PED		Left	Thru	Right	PED	
8:15 AM	0	4	0	1		0	4	0	0		0	0	12	3		0	0	0	65	

PM PEAK HOUR[1]	Washington Street Northbound					Pleasant Street Southbound					Washington Street Eastbound					Driveway Westbound				
5:00 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Hard Left	Thru	Right	PED		Left	Thru	Right	PED	
6:00 PM	0	17	0	0		0	1	0	0		0	0	1	1		0	0	1	73	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 4
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	Brazil Street
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Washington Street Northbound				Washington Street Southbound				Brazil 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	1	77	0	0	0	128	0	0	1	0	0	0	0	0	0
7:15 AM	0	2	85	0	0	0	183	2	0	5	0	2	0	0	0	0
7:30 AM	0	1	91	0	0	0	166	1	0	2	0	1	0	0	0	0
7:45 AM	0	1	102	0	0	0	135	2	0	5	0	0	0	0	0	0
8:00 AM	0	1	82	0	0	0	135	6	0	1	0	1	0	0	0	0
8:15 AM	0	2	99	0	0	0	141	4	0	2	0	1	0	0	0	0
8:30 AM	0	3	100	0	0	0	118	2	0	3	0	0	0	0	0	0
8:45 AM	0	1	79	0	0	0	127	2	0	4	0	0	0	0	0	0

	Washington Street Northbound				Washington Street Southbound				Brazil 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	117	0	0	0	84	2	0	1	0	0	0	0	0	0
4:15 PM	0	0	119	0	0	0	77	3	0	5	0	0	0	0	0	0
4:30 PM	0	1	106	0	0	0	84	2	0	2	0	0	0	0	0	0
4:45 PM	0	0	124	0	0	0	94	1	0	5	0	0	0	0	0	0
5:00 PM	0	0	173	0	0	0	100	3	0	4	0	0	0	0	0	0
5:15 PM	0	1	127	0	0	0	87	4	0	3	0	1	0	0	0	0
5:30 PM	0	0	112	0	0	0	107	1	0	0	0	1	0	0	0	0
5:45 PM	0	1	148	0	0	0	100	5	0	4	0	0	0	0	0	0

AM PEAK HOUR 7:15 AM to 8:15 AM	Washington Street Northbound				Washington Street Southbound				Brazil Street Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**5**	**360**	**0**	**0**	**0**	**619**	**11**	**0**	**13**	**0**	**4**	**0**	**0**	**0**	**0**
PHF	**0.89**				**0.85**				**0.61**				**0.00**			
HV %	**0.0%**	**0.0%**	**2.2%**	**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%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Washington Street Northbound				Washington Street Southbound				Brazil Street Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**2**	**560**	**0**	**0**	**0**	**394**	**13**	**0**	**11**	**0**	**2**	**0**	**0**	**0**	**0**
PHF	**0.81**				**0.94**				**0.81**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 4
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	Brazil Street
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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HEAVY VEHICLES

	Washington Street Northbound				Washington Street Southbound				Brazil 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	3	0	0	0	2	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0

	Washington Street Northbound				Washington Street Southbound				Brazil 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	3	0	0	0	2	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	2	0	0	0	2	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	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	0	0	0	1	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	Washington Street Northbound				Washington Street Southbound				Brazil 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**	**9**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.75**				**0.63**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Washington Street Northbound				Washington Street Southbound				Brazil 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**	**8**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.67**				**0.63**				**0.00**				**0.00**			

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 4
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	Brazil Street
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PEDESTRIANS & BICYCLES

	Washington Street Northbound					Washington Street Southbound					Brazil 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	0		0	5	0	0		0	0	0	1		0	0	0	0	
7:15 AM	0	1	0	0		0	3	0	0		0	0	0	1		0	0	0	0	
7:30 AM	0	1	0	0		0	3	0	0		1	0	0	1		0	0	0	0	
7:45 AM	0	1	0	0		0	4	0	0		0	0	0	1		0	0	0	0	
8:00 AM	0	0	0	0		0	10	1	0		0	0	0	1		0	0	0	0	
8:15 AM	0	1	0	0		0	9	0	0		0	0	0	1		0	0	0	0	
8:30 AM	0	1	0	0		0	2	0	0		0	0	0	0		0	0	0	0	
8:45 AM	0	0	0	0		0	3	0	0		0	0	0	0		0	0	0	0	

	Washington Street Northbound					Washington Street Southbound					Brazil 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	1	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
4:15 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
4:30 PM	0	1	0	0		0	0	0	0		0	0	0	3		0	0	0	0	
4:45 PM	0	4	0	0		0	0	0	0		0	0	0	2		0	0	0	0	
5:00 PM	0	3	0	0		0	0	0	0		0	0	0	2		0	0	0	0	
5:15 PM	0	2	0	0		0	1	0	0		0	0	0	1		0	0	0	0	
5:30 PM	0	5	0	0		0	0	0	1		0	0	0	2		0	0	0	0	
5:45 PM	0	4	0	0		0	1	0	0		0	0	0	2		0	0	0	0	

AM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Brazil Street Eastbound					Westbound				
7:15 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
8:15 AM	0	3	0	0		0	20	1	0		1	0	0	4		0	0	0	0	

PM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Brazil Street Eastbound					Westbound				
5:00 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
6:00 PM	0	14	0	0		0	2	0	1		0	0	0	7		0	0	0	0	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 5
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	99 Washington Street Driveway
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Street Driveway 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	78	0	0	2	128	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	90	0	0	1	185	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	93	0	0	0	167	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	107	0	0	3	137	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	83	0	0	1	141	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	101	0	0	2	145	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	102	1	0	0	120	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	83	0	0	0	129	0	0	0	0	0	0	0	0	0

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Street Driveway 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	118	0	0	1	86	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	122	2	0	3	80	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	108	0	0	1	86	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	129	0	0	1	95	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	177	0	0	0	103	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	130	0	0	0	91	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	112	0	0	0	108	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	152	0	0	0	104	0	0	0	0	0	0	1	0	1

AM PEAK HOUR 7:15 AM to 8:15 AM	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Street Driveway Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**373**	**0**	**0**	**5**	**630**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.87**				**0.85**				**0.00**				**0.00**			
HV %	**0.0%**	**0.0%**	**2.7%**	**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%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Street Driveway Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**571**	**0**	**0**	**0**	**406**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**
PHF	**0.81**				**0.94**				**0.00**				**0.50**			
HV %	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 5
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	99 Washington Street Driveway
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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HEAVY VEHICLES

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Street Driveway 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	0	0	0	2	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Street Driveway 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	3	0	0	0	1	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	3	0	0	0	0	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	2	0	0	0	1	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	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Street Driveway 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**	**11**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.69**				**0.63**				**0.00**				**0.00**			

PM PEAK HOUR	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Street Driveway Westbound			
4:00 PM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	**0**	**0**	**8**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.67**				**0.50**				**0.00**				**0.00**			

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 5
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	99 Washington Street Driveway
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PEDESTRIANS & BICYCLES

	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington Street Driveway 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	4	0	0		0	0	0	0		0	0	0	12	
7:15 AM	0	1	0	0		0	3	0	0		0	0	0	0		0	0	0	11	
7:30 AM	0	1	0	0		0	5	0	0		0	0	0	0		0	0	0	14	
7:45 AM	0	1	0	0		0	4	0	0		0	0	0	0		0	0	0	20	
8:00 AM	0	1	0	0		1	4	0	0		0	0	0	0		0	0	0	19	
8:15 AM	0	1	0	0		0	9	0	0		0	0	0	0		0	0	0	12	
8:30 AM	0	0	0	0		0	2	0	0		0	0	0	0		0	0	0	17	
8:45 AM	0	0	0	0		0	4	0	0		0	0	0	0		0	0	0	9	

	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington Street Driveway Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	1	0	0		0	0	0	0		0	0	0	0		0	0	0	5	
4:15 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	9	
4:30 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	14	
4:45 PM	0	3	0	0		0	0	0	0		0	0	0	0		0	0	0	8	
5:00 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	23	
5:15 PM	0	3	0	0		0	1	0	0		0	0	0	0		0	0	0	13	
5:30 PM	0	5	0	0		0	0	0	0		0	0	0	0		0	0	0	19	
5:45 PM	0	5	0	0		0	1	0	0		0	0	0	0		0	0	0	25	

AM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington Street Driveway Westbound				
7:15 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
8:15 AM	0	4	0	0		1	16	0	0		0	0	0	0		0	0	0	64	

PM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington Street Driveway Westbound				
5:00 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
6:00 PM	0	15	0	0		0	2	0	0		0	0	0	0		0	0	0	80	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 6
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	99 Washington Entrance (Fotronic)
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Drive Entrance (Fotronic) 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	78	0	0	0	128	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	87	0	0	0	185	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	92	0	0	0	167	0	0	0	0	0	0	1	0	0
7:45 AM	0	0	103	0	0	0	135	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	83	0	0	3	133	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	101	0	0	1	141	0	0	0	0	0	0	1	0	0
8:30 AM	0	0	102	0	0	0	118	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	80	0	0	0	127	0	0	0	0	0	0	0	0	0

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Drive Entrance (Fotronic) 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	117	0	0	0	84	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	119	0	0	0	77	0	0	0	0	0	0	1	0	0
4:30 PM	0	0	106	0	0	0	84	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	123	0	0	0	94	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	172	0	0	0	100	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	128	0	0	0	88	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	112	0	0	1	107	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	149	0	0	0	100	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:15 AM to 8:15 AM	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Drive Entrance (Fotronic) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**365**	**0**	**0**	**3**	**620**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
PHF	**0.89**				**0.84**				**0.00**				**0.25**			
HV %	**0.0%**	**0.0%**	**1.6%**	**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%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Drive Entrance (Fotronic) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**561**	**0**	**0**	**1**	**395**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
PHF	**0.82**				**0.92**				**0.00**				**0.25**			
HV %	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 6
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	99 Washington Entrance (Fotronic)
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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HEAVY VEHICLES

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Drive Entrance (Fotronic) 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	2	0	0	0	2	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Drive Entrance (Fotronic) 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	1	0	0	0	2	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	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	0	0	0	1	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 8:00 AM to 9:00 AM	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Drive Entrance (Fotronic) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**10**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.63**				**0.38**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington Drive Entrance (Fotronic) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**6**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.75**				**0.63**				**0.00**				**0.00**			

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 6
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	99 Washington Entrance (Fotronic)
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PEDESTRIANS & BICYCLES

	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington Drive Entrance (Fotronic) 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	5	0	0		0	0	0	0		0	0	0	15	
7:15 AM	0	1	0	0		0	3	0	0		0	0	0	0		0	0	0	11	
7:30 AM	0	1	0	0		0	2	0	0		0	0	0	0		0	0	0	16	
7:45 AM	0	1	0	0		0	4	0	0		0	0	0	0		0	0	0	20	
8:00 AM	0	0	0	1		0	10	0	0		0	0	0	0		0	0	0	17	
8:15 AM	0	1	0	0		0	9	0	1		0	0	0	0		0	0	0	12	
8:30 AM	0	1	0	0		0	2	0	0		0	0	0	0		0	0	0	16	
8:45 AM	0	0	0	0		0	3	0	0		0	0	0	0		0	0	0	9	

	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington Drive Entrance (Fotronic) Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	1	0	0		0	0	0	1		0	0	0	0		0	0	0	4	
4:15 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	12	
4:30 PM	0	1	0	0		0	0	0	1		0	0	0	0		0	0	0	13	
4:45 PM	0	4	0	0		0	0	0	2		0	0	0	0		0	0	0	4	
5:00 PM	0	3	0	0		0	0	0	1		0	0	0	0		0	0	0	24	
5:15 PM	0	2	0	0		0	1	0	1		0	0	0	0		0	0	0	15	
5:30 PM	0	5	0	1		0	0	0	1		0	0	0	0		0	0	0	14	
5:45 PM	0	4	0	0		0	1	0	0		0	0	0	0		0	0	0	27	

AM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington Drive Entrance (Fotronic) Westbound				
7:15 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
8:15 AM	0	3	0	1		0	19	0	0		0	0	0	0		0	0	0	64	

PM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington Drive Entrance (Fotronic) Westbound				
5:00 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
6:00 PM	0	14	0	1		0	2	0	3		0	0	0	0		0	0	0	80	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 7
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	99 Washington St Dr Exit (Fotronic)
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington St Driveway Exit (Fotronic) 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	1	0	78	0	0	0	128	0	0	0	0	0	0	1	0	0
7:15 AM	0	0	87	3	0	1	184	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	92	3	0	2	166	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	101	4	0	5	130	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	83	2	0	2	131	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	99	8	0	3	139	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	102	2	0	2	116	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	80	0	0	1	126	0	0	0	0	0	0	0	0	0

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington St Driveway Exit (Fotronic) 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	117	2	0	0	84	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	119	5	0	0	78	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	106	2	0	0	84	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	123	0	0	2	92	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	172	1	0	1	99	0	0	0	0	0	0	1	0	0
5:15 PM	0	0	128	0	0	2	86	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	111	0	0	0	107	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	149	0	0	0	100	0	0	0	0	0	0	1	0	0

AM PEAK HOUR 7:15 AM to 8:15 AM	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington St Driveway Exit (Fotronic) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**363**	**12**	**0**	**10**	**611**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
PHF	**0.89**				**0.84**				**0.00**				**0.25**			
HV %	**0.0%**	**0.0%**	**1.7%**	**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%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington St Driveway Exit (Fotronic) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**560**	**1**	**0**	**3**	**392**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**
PHF	**0.81**				**0.92**				**0.00**				**0.75**			
HV %	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 7
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	99 Washington St Dr Exit (Fotronic)
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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HEAVY VEHICLES

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington St Driveway Exit (Fotronic) 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	2	0	0	0	2	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0

	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington St Driveway Exit (Fotronic) 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	1	0	0	0	2	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	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	0	0	0	1	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 8:00 AM to 9:00 AM	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington St Driveway Exit (Fotronic) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**10**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.63**				**0.38**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Washington Street Northbound				Washington Street Southbound				Eastbound				99 Washington St Driveway Exit (Fotronic) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**6**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.75**				**0.63**				**0.00**				**0.00**			

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 7
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	99 Washington St Dr Exit (Fotronic)
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PEDESTRIANS & BICYCLES

	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington St Driveway Exit (Fotronic) 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	5	0	0		0	0	0	0		0	0	0	14	
7:15 AM	0	1	0	0		0	3	0	0		0	0	0	0		0	0	0	14	
7:30 AM	0	1	0	0		0	2	0	0		0	0	0	0		0	0	0	16	
7:45 AM	0	1	0	0		0	4	0	0		0	0	0	0		0	0	0	19	
8:00 AM	0	0	0	0		0	10	0	1		0	0	0	0		0	0	0	17	
8:15 AM	0	1	0	1		0	9	0	0		0	0	0	0		0	0	0	12	
8:30 AM	0	1	0	0		0	2	0	0		0	0	0	0		0	0	0	17	
8:45 AM	0	0	0	0		0	3	0	0		0	0	0	0		0	0	0	9	

	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington St Driveway Exit (Fotronic) Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	1	0	0		0	0	0	0		0	0	0	0		0	0	0	4	
4:15 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	12	
4:30 PM	0	1	0	0		0	0	0	0		0	0	0	0		0	0	0	13	
4:45 PM	0	4	0	0		0	0	0	0		0	0	0	0		0	0	0	4	
5:00 PM	0	3	0	0		0	0	0	0		0	0	0	0		0	0	0	24	
5:15 PM	0	2	0	0		0	1	0	0		0	0	0	0		0	0	0	14	
5:30 PM	0	5	0	0		0	0	0	1		0	0	0	0		0	0	0	12	
5:45 PM	0	4	0	0		0	1	0	0		0	0	0	0		0	0	0	29	

AM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington St Driveway Exit (Fotronic) Westbound				
7:15 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
8:15 AM	0	3	0	0		0	19	0	1		0	0	0	0		0	0	0	66	

PM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Eastbound					99 Washington St Driveway Exit (Fotronic) Westbound				
5:00 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
6:00 PM	0	14	0	0		0	2	0	1		0	0	0	0		0	0	0	79	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 8
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	37 Washington Street Driveway
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Washington Street Northbound				Washington Street Southbound				Eastbound				37 Washington Street Driveway 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	79	1	0	0	130	0	0	0	0	0	0	2	0	0
7:15 AM	0	0	88	3	0	1	183	0	0	0	0	0	0	1	0	2
7:30 AM	0	0	93	3	0	2	164	0	0	0	0	0	0	2	0	2
7:45 AM	0	0	102	4	0	5	125	0	0	0	0	0	0	1	0	3
8:00 AM	0	0	83	1	0	1	130	0	0	0	0	0	0	3	0	2
8:15 AM	0	0	105	7	0	2	137	0	0	0	0	0	0	1	0	2
8:30 AM	0	0	103	2	0	2	114	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	79	0	0	1	125	0	0	0	0	0	0	1	0	1

	Washington Street Northbound				Washington Street Southbound				Eastbound				37 Washington Street Driveway 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	118	2	0	0	84	0	0	0	0	0	0	2	0	1
4:15 PM	0	0	123	5	0	0	78	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	106	2	0	0	84	0	0	0	0	0	0	1	0	2
4:45 PM	0	0	123	0	0	2	91	0	0	0	0	0	0	2	0	1
5:00 PM	0	0	172	1	0	1	99	0	0	0	0	0	0	3	0	1
5:15 PM	0	0	123	2	0	1	85	0	0	0	0	0	0	4	0	5
5:30 PM	0	0	110	4	0	0	107	0	0	0	0	0	0	1	0	1
5:45 PM	0	0	147	0	0	0	101	0	0	0	0	0	0	3	0	2

AM PEAK HOUR 7:15 AM to 8:15 AM	Washington Street Northbound				Washington Street Southbound				Eastbound				37 Washington Street Driveway Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**366**	**11**	**0**	**9**	**602**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**9**
PHF	**0.89**				**0.83**				**0.00**				**0.80**			
HV %	**0.0%**	**0.0%**	**1.6%**	**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%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Washington Street Northbound				Washington Street Southbound				Eastbound				37 Washington Street Driveway Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**552**	**7**	**0**	**2**	**392**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**9**
PHF	**0.81**				**0.92**				**0.00**				**0.56**			
HV %	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**9.1%**	**0.0%**	**0.0%**

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 8
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	37 Washington Street Driveway
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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HEAVY VEHICLES

	Washington Street Northbound				Washington Street Southbound				Eastbound				37 Washington Street Driveway 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	2	0	0	0	2	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0

	Washington Street Northbound				Washington Street Southbound				Eastbound				37 Washington Street Driveway 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	1	0	0	0	2	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	2	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0
5:30 PM	0	0	2	0	0	0	1	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 8:00 AM to 9:00 AM	Washington Street Northbound				Washington Street Southbound				Eastbound				37 Washington Street Driveway Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**10**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.63**				**0.38**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Washington Street Northbound				Washington Street Southbound				Eastbound				37 Washington Street Driveway Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**6**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
PHF	**0.75**				**0.63**				**0.00**				**0.25**			

Client:	Ben Lippman
Project #:	444_C47_HSH
BTD #:	Location 8
Location:	Melrose, MA
Street 1:	Washington Street
Street 2:	37 Washington Street Driveway
Count Date:	9/5/2019
Day of Week:	Thursday
Weather:	Clouds & Sun, 70°F

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PEDESTRIANS & BICYCLES

	Washington Street Northbound					Washington Street Southbound					Eastbound					37 Washington Street Driveway 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	5	0	0		0	0	0	0		0	0	0	15	
7:15 AM	0	1	0	0		0	3	0	0		0	0	0	0		0	0	0	13	
7:30 AM	0	1	0	0		0	2	0	0		0	0	0	0		0	0	0	16	
7:45 AM	0	1	0	0		0	4	0	0		0	0	0	0		0	0	0	19	
8:00 AM	0	0	0	0		0	10	0	0		0	0	0	0		0	0	0	17	
8:15 AM	0	1	0	1		0	9	0	1		0	0	0	0		0	0	0	12	
8:30 AM	0	1	0	0		0	2	0	0		0	0	0	0		0	0	0	17	
8:45 AM	0	0	0	0		0	3	0	0		0	0	0	0		0	0	0	10	

	Washington Street Northbound					Washington Street Southbound					Eastbound					37 Washington Street Driveway Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	1	0	0		0	0	0	0		0	0	0	0		0	0	0	4	
4:15 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	12	
4:30 PM	0	1	0	0		0	0	0	0		0	0	0	0		0	0	0	14	
4:45 PM	0	4	0	0		0	0	0	0		0	0	0	0		0	0	0	4	
5:00 PM	0	3	0	0		0	0	0	0		0	0	0	0		0	0	0	24	
5:15 PM	0	2	0	0		0	1	0	0		0	0	0	0		0	0	0	14	
5:30 PM	0	5	0	0		0	0	0	0		0	0	0	0		0	0	0	13	
5:45 PM	0	4	0	1		0	1	0	0		0	0	0	0		0	0	0	29	

AM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Eastbound					37 Washington Street Driveway Westbound				
7:15 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
8:15 AM	0	3	0	0		0	19	0	0		0	0	0	0		0	0	0	65	

PM PEAK HOUR[1]	Washington Street Northbound					Washington Street Southbound					Eastbound					37 Washington Street Driveway Westbound				
5:00 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
6:00 PM	0	14	0	1		0	2	0	0		0	0	0	0		0	0	0	80	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Mike White
Project #:	481_C54_HSH
BTD #:	Location 1
Location:	Malden, MA
Street 1:	Washington Street/Glenwood Street
Street 2:	Winter Street/Grove Street
Count Date:	10/22/2019
Day of Week:	Tuesday
Weather:	Mostly Cloudy, 55°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Washington Street Northbound				Washington Street Southbound				Glenwood Street Eastbound				Winter Street Westbound				Grove Street Southeastbound			
Start Time	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
4:00 PM	2	4	36	10	48	15	15	1	1	25	65	2	4	45	1	42	0	0	0	0
4:15 PM	1	1	28	8	32	18	19	3	1	23	97	4	2	48	3	43	0	0	0	0
4:30 PM	0	1	36	16	45	21	16	1	2	28	81	0	3	36	0	51	0	0	0	0
4:45 PM	2	2	27	10	36	28	13	0	3	17	91	0	4	35	0	34	0	0	0	0
5:00 PM	1	2	32	6	44	22	13	5	3	28	95	2	4	65	4	50	0	0	0	0
5:15 PM	1	3	43	15	42	38	16	1	2	28	97	2	4	39	4	59	0	0	0	0
5:30 PM	2	1	41	18	37	27	13	7	6	37	92	4	5	46	1	33	0	0	0	0
5:45 PM	3	4	35	11	44	23	24	2	4	24	96	3	2	45	5	59	0	0	0	0

PM PEAK HOUR	Washington Street Northbound				Washington Street Southbound				Glenwood Street Eastbound				Winter Street Westbound				Grove Street Southeastbound			
5:00 PM																				
to	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
6:00 PM	**7**	**10**	**151**	**50**	**167**	**110**	**66**	**15**	**15**	**117**	**380**	**11**	**15**	**195**	**14**	**201**	**0**	**0**	**0**	**0**
PHF	**0.88**				**0.92**				**0.94**				**0.86**				**0.00**			
HV %	**0.0%**	**0.0%**	**1.3%**	**4.0%**	**0.6%**	**3.6%**	**1.5%**	**6.7%**	**0.0%**	**0.9%**	**0.3%**	**9.1%**	**6.7%**	**1.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Mike White
Project #:	481_C54_HSH
BTD #:	Location 1
Location:	Malden, MA
Street 1:	Washington Street/Glenwood Street
Street 2:	Winter Street/Grove Street
Count Date:	10/22/2019
Day of Week:	Tuesday
Weather:	Mostly Cloudy, 55°F

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

HEAVY VEHICLES

	Washington Street Northbound				Washington Street Southbound				Glenwood Street Eastbound				Winter Street Westbound				Grove Street Southeastbound			
Start Time	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0
4:15 PM	0	0	0	0	2	1	0	0	0	0	0	0	0	0	1	2	0	0	0	0
4:30 PM	0	0	1	1	2	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0
5:00 PM	0	0	0	1	1	2	0	1	0	1	1	0	0	2	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
5:30 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:45 PM	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0

PM PEAK HOUR	Washington Street Northbound				Washington Street Southbound				Glenwood Street Eastbound				Winter Street Westbound				Grove Street Southeastbound			
4:15 PM	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
to	**0**	**0**	**2**	**2**	**5**	**3**	**3**	**1**	**0**	**2**	**2**	**0**	**0**	**3**	**1**	**3**	**0**	**0**	**0**	**0**
5:15 PM																				
PHF	**0.50**				**0.75**				**0.50**				**0.58**				**0.00**			

Client:	Mike White
Project #:	481_C54_HSH
BTD #:	Location 1
Location:	Malden, MA
Street 1:	Washington Street/Glenwood Street
Street 2:	Winter Street/Grove Street
Count Date:	10/22/2019
Day of Week:	Tuesday
Weather:	Mostly Cloudy, 55°F

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PEDESTRIANS & BICYCLES

	Washington Street Northbound					Washington Street Southbound					Glenwood Street Eastbound					Winter Street Westbound					Grove Street Southeastbound			
Start Time	Left	Thru	Right	PED		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	1		0	1	0	0		0	0	0	3		0	0	0	9
4:15 PM	0	0	0	0		0	0	0	0		0	0	0	1		0	0	0	3		0	0	0	7
4:30 PM	0	0	0	3		0	1	0	0		0	1	0	2		0	0	0	9		0	0	0	15
4:45 PM	0	0	0	2		0	0	0	2		0	0	0	3		0	0	0	5		0	0	0	7
5:00 PM	0	0	0	0		0	0	0	2		0	0	0	7		0	0	0	5		0	0	0	17
5:15 PM	0	1	0	1		0	0	0	0		1	0	0	4		0	0	0	11		0	0	0	9
5:30 PM	0	1	1	1		0	0	0	3		0	0	0	6		0	0	0	7		0	0	0	17
5:45 PM	0	1	0	0		0	0	1	4		0	0	0	2		0	0	1	12		0	0	0	16

PM PEAK HOUR	Washington Street Northbound					Washington Street Southbound					Glenwood Street Eastbound					Winter Street Westbound					Grove Street Southeastbound			
5:00 PM																								
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
6:00 PM	0	3	1	2		0	0	1	9		1	0	0	19		0	0	1	35		0	0	0	59

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Mike White
Project #:	481_C54_HSH
BTD #:	Location 1
Location:	Malden, MA
Street 1:	Washington Street/Glenwood Street
Street 2:	Winter Street/Grove Street
Count Date:	10/17/2019
Day of Week:	Thursday
Weather:	Cloudy, 55°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Washington Street Northbound				Washington Street Southbound					Glenwood Street Eastbound			Winter Street Westbound				Grove Street Southeastbound			
Start Time	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	2	3	63	39	52	2	1	23	45	0	4	94	1	39	0	0	0	0
7:15 AM	4	0	1	8	57	50	35	1	0	25	56	1	19	104	2	37	0	0	0	0
7:30 AM	3	0	4	7	58	60	49	1	1	17	59	2	27	99	3	58	0	0	0	0
7:45 AM	6	0	4	7	44	38	38	2	2	29	35	3	19	93	4	68	0	0	0	0
8:00 AM	2	1	1	5	55	58	45	0	0	32	44	5	19	108	6	62	0	0	0	0
8:15 AM	0	0	1	7	53	42	42	2	1	32	43	0	15	97	10	73	0	0	0	0
8:30 AM	1	0	2	5	47	56	39	3	0	35	52	1	12	61	4	58	0	0	0	0
8:45 AM	4	0	4	16	49	49	34	7	3	40	29	3	5	38	0	45	0	0	0	0

	Washington Street Northbound				Washington Street Southbound					Glenwood Street Eastbound			Winter Street Westbound				Grove Street Southeastbound			
Start Time	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
4:00 PM	1	0	2	0	47	0	32	3	2	53	68	1	0	44	2	43	0	0	0	0
4:15 PM	2	0	0	1	38	0	21	3	1	47	61	3	1	49	2	56	0	0	0	0
4:30 PM	2	0	2	1	51	1	24	4	2	48	89	0	0	61	3	58	0	0	0	0
4:45 PM	1	0	2	3	48	0	18	2	2	45	84	1	1	52	3	40	0	0	0	0
5:00 PM	2	0	10	3	65	0	35	2	1	47	101	1	0	51	2	50	0	0	0	0
5:15 PM	0	0	14	3	51	1	54	4	1	40	109	1	1	47	4	55	0	0	0	0
5:30 PM	1	0	7	3	47	0	35	2	7	54	94	0	0	46	3	57	0	0	0	0
5:45 PM	0	0	1	4	54	0	25	4	2	59	84	1	0	53	2	48	0	0	0	0

AM PEAK HOUR	Washington Street Northbound				Washington Street Southbound					Glenwood Street Eastbound			Winter Street Westbound				Grove Street Southeastbound			
7:30 AM																				
to	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
8:30 AM	**11**	**1**	**10**	**26**	**210**	**198**	**174**	**5**	**4**	**110**	**181**	**10**	**80**	**397**	**23**	**261**	**0**	**0**	**0**	**0**
PHF	**0.71**				**0.87**					**0.94**			**0.98**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**0.0%**	**1.7%**	**0.0%**	**0.0%**	**4.5%**	**1.1%**	**0.0%**	**0.0%**	**0.8%**	**4.3%**	**1.1%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR	Washington Street Northbound				Washington Street Southbound					Glenwood Street Eastbound			Winter Street Westbound				Grove Street Southeastbound			
5:00 PM																				
to	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
6:00 PM	**3**	**0**	**32**	**13**	**217**	**1**	**149**	**12**	**11**	**200**	**388**	**3**	**1**	**197**	**11**	**210**	**0**	**0**	**0**	**0**
PHF	**0.71**				**0.86**					**0.97**			**0.98**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**2.7%**	**0.0%**	**0.0%**	**1.5%**	**0.8%**	**0.0%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Notes:

Due to the storm, there was a road block on Northbound leg from 4 pm to 6 pm.

Vehicles were permitted drive Northbound direction. Vehicles were NOT permitted to drive onto Northbound leg.

Client:	Mike White
Project #:	481_C54_HSH
BTD #:	Location 1
Location:	Malden, MA
Street 1:	Washington Street/Glenwood Street
Street 2:	Winter Street/Grove Street
Count Date:	10/17/2019
Day of Week:	Thursday
Weather:	Cloudy, 55°F

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HEAVY VEHICLES

	Washington Street Northbound				Washington Street Southbound				Glenwood Street Eastbound				Winter Street Westbound				Grove Street Southeastbound			
Start Time	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	1	1	4	0	0	1	3	0	0	2	1	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	1	0	0	1	3	0	1	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	1	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	2	1	0	0	0	0	1	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	2	1	0	0	1	1	1	0	0	0	0
8:30 AM	0	0	0	0	1	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0

	Washington Street Northbound				Washington Street Southbound				Glenwood Street Eastbound				Winter Street Westbound				Grove Street Southeastbound			
Start Time	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	1	0	0	0	0
4:15 PM	1	0	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	0	1	1	0	0	0	1	3	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0
5:00 PM	0	0	0	0	0	0	2	0	0	0	1	0	0	1	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	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	1	0	0	0	0	2	1	0	0	1	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Washington Street Northbound				Washington Street Southbound				Glenwood Street Eastbound				Winter Street Westbound				Grove Street Southeastbound			
	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
	0	**0**	**1**	**0**	**2**	**1**	**7**	**0**	**0**	**3**	**6**	**0**	**1**	**4**	**1**	**1**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.42**				**0.56**				**0.58**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Washington Street Northbound				Washington Street Southbound				Glenwood Street Eastbound				Winter Street Westbound				Grove Street Southeastbound			
	Left	Soft Left	Thru	Right	Left	Thru	Right	Hard Right	Hard Left	Left	Thru	Right	Left	Thru	Soft Right	Right	U-Turn	Left	Thru	Right
	2	**0**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**4**	**4**	**1**	**0**	**2**	**0**	**4**	**0**	**0**	**0**	**0**
PHF	**0.50**				**0.50**				**0.56**				**0.50**				**0.00**			

Client:	Mike White
Project #:	481_C54_HSH
BTD #:	Location 1
Location:	Malden, MA
Street 1:	Washington Street/Glenwood Street
Street 2:	Winter Street/Grove Street
Count Date:	10/17/2019
Day of Week:	Thursday
Weather:	Cloudy, 55°F

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PEDESTRIANS & BICYCLES

	Washington Street Northbound					Washington Street Southbound					Glenwood Street Eastbound					Winter Street Westbound					Grove Street Southeastbound			
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
7:00 AM	0	0	0	3		0	0	0	5		0	1	0	4		0	0	0	4		0	0	0	19
7:15 AM	0	0	0	2		0	0	0	0		0	0	0	3		0	0	0	8		0	0	0	15
7:30 AM	0	0	0	0		0	0	0	4		0	0	0	1		0	0	0	11		0	0	0	21
7:45 AM	0	0	0	0		0	1	0	1		0	0	0	3		0	0	0	2		0	0	0	23
8:00 AM	0	0	0	3		0	0	0	2		0	0	0	4		0	0	0	22		0	0	0	26
8:15 AM	0	0	0	3		0	0	0	1		0	0	0	1		0	0	0	20		0	0	0	23
8:30 AM	0	0	0	0		0	0	0	1		0	0	0	2		0	0	0	17		0	0	0	25
8:45 AM	0	0	0	2		0	0	1	0		0	1	0	0		0	0	0	13		0	0	0	20

	Washington Street Northbound					Washington Street Southbound					Glenwood Street Eastbound					Winter Street Westbound					Grove Street Southeastbound			
Start Time	Left	Thru	Right	PED		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	3		0	0	0	15
4:15 PM	0	0	0	1		0	0	0	2		0	0	0	7		0	0	0	3		0	0	0	5
4:30 PM	0	0	0	5		0	0	0	0		0	0	0	3		0	0	0	5		0	0	0	7
4:45 PM	0	0	0	0		0	0	0	0		0	0	0	2		0	0	0	10		0	0	0	15
5:00 PM	0	0	0	1		0	0	0	0		0	0	0	2		0	0	0	13		0	0	0	12
5:15 PM	0	0	0	0		0	0	0	1		0	0	0	3		0	0	0	6		0	0	0	8
5:30 PM	0	1	0	2		0	0	0	2		0	0	0	2		0	0	0	9		0	0	0	7
5:45 PM	0	0	0	2		0	0	0	5		0	0	0	5		0	0	0	10		0	0	0	26

AM PEAK HOUR	Washington Street Northbound					Washington Street Southbound					Glenwood Street Eastbound					Winter Street Westbound					Grove Street Southeastbound			
7:30 AM																								
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
8:30 AM	0	0	0	6		0	1	0	8		0	0	0	9		0	0	0	55		0	0	0	93

PM PEAK HOUR	Washington Street Northbound					Washington Street Southbound					Glenwood Street Eastbound					Winter Street Westbound					Grove Street Southeastbound			
5:00 PM																								
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
6:00 PM	0	1	0	5		0	0	0	8		0	0	0	12		0	0	0	38		0	0	0	53

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Crash Data

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Melrose COUNT DATE : 9/5/2019

DISTRICT : 4 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Washington Street

MINOR STREET(S) : Goodyear Avenue

Stone Place

INTERSECTION DIAGRAM (Label Approaches)

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	AM	PM				
PEAK HOURLY VOLUMES :	661	612				1,273

" K " FACTOR : **0.180** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **7,072**

TOTAL # OF CRASHES : 1 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **0.33**

CRASH RATE CALCULATION : **0.13** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : Below District 4 Average (0.13<0.58). Crashes from 2016-2018.

Project Title & Date: 99 Washington Street, 9/25/2019

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Melrose COUNT DATE : 9/5/2019

DISTRICT : 4 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Pleasant Street

MINOR STREET(S) : Stone Place

INTERSECTION DIAGRAM (Label Approaches)

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	AM	PM				
PEAK HOURLY VOLUMES :	685	782				1,467

" K " FACTOR : **0.180** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **8,150**

TOTAL # OF CRASHES : 3 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **1.00**

CRASH RATE CALCULATION : **0.34** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : Below District 4 Average (0.34<0.58). Crashes from 2016-2018.

Project Title & Date: 99 Washington Street, 9/25/2019

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Melrose COUNT DATE : 9/5/2019

DISTRICT : 4 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Washington Street

MINOR STREET(S) : Pleasant Street

Site Driveway

INTERSECTION DIAGRAM (Label Approaches)

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	AM	PM				
PEAK HOURLY VOLUMES :	1,023	998				**2,021**

" K " FACTOR : **0.180** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **11,228**

TOTAL # OF CRASHES : 5 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **1.67**

CRASH RATE CALCULATION : **0.41** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : Below District 4 Average (0.41<0.58). Crashes from 2016-2018.

Project Title & Date: 99 Washington Street, 9/25/2019

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Melrose COUNT DATE : 9/5/2019

DISTRICT : 4 UNSIGNALIZED : X SIGNALIZED :

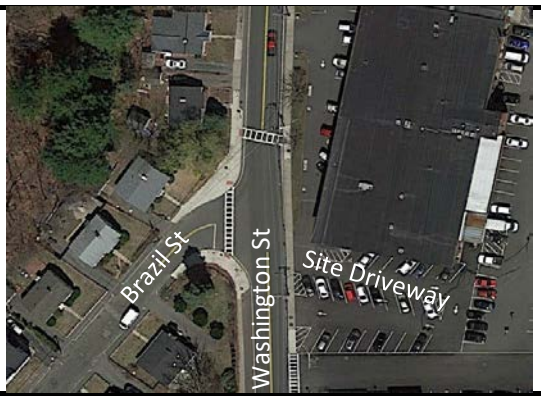
~ INTERSECTION DATA ~

MAJOR STREET : Washington Street

MINOR STREET(S) : Brazil Street

Site Driveway

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	AM	PM				
PEAK HOURLY VOLUMES :	1,015	983				**1,998**

" K " FACTOR : **0.180** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **11,100**

TOTAL # OF CRASHES : 1 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **0.33**

CRASH RATE CALCULATION : **0.08** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : Below District 4 Average (0.08<0.58). Crashes from 2016-2018.

Project Title & Date: 99 Washington Street, 9/25/2019

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Malden COUNT DATE : 10/17/19 & 10/22/19

DISTRICT : 4 UNSIGNALIZED : SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Washington Street

MINOR STREET(S) : Winter Street

Glenwood Street

Grove Street

INTERSECTION DIAGRAM (Label Approaches)

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	AM	PM				
PEAK HOURLY VOLUMES :	1,701	1,524				**3,225**

" K " FACTOR : **0.180** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **17,917**

TOTAL # OF CRASHES : 5 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **1.67**

CRASH RATE CALCULATION : **0.25** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : Below District 4 Average (0.25<0.73). Crashes from 2016-2018.

Project Title & Date: 99 Washington Street, 10/23/2019

Trip Generation

Existing Trip Generation

99 Washington Street, Melrose

Existing Trip Generation Assessment

HOWARD STEIN HUDSON

23-Sep-2019

Land Use	Size	Category	Directional Split	Average Trip Rate	Unadjusted Vehicle Trips	Assumed National Vehicle Occupancy Rate[1]	Primary Person Trips	Transit Share[2]	Transit Person-Trips	Walk/Bike/ Other Share[2]	Walk/ Bike/ Other Trips	Auto Share[2]	Auto Person-Trips	Private Auto Person-Trips	Assumed Local Auto Occupancy Rate[3]	Primary AutoTrips
Daily Peak Hour																
Office Building[4]	16.5	Total		9.740	160	1.18	**188**	0%	**0**	0%	**0**	100%	**188**	188	1.18	**160**
	KSF	In	50%	4.870	80	1.18	**94**	0%	**0**	0%	**0**	100%	**94**	94	1.18	**80**
		Out	50%	4.870	80	1.18	**94**	0%	**0**	0%	**0**	100%	**94**	94	1.18	**80**
Furniture Store[5]	22	Total		6.300	138	1.82	**252**	0%	**0**	0%	**0**	100%	**252**	252	1.82	**138**
	KSF	In	50%	3.150	69	1.82	**126**	0%	**0**	0%	**0**	100%	**126**	126	1.82	**69**
		Out	50%	3.150	69	1.82	**126**	0%	**0**	0%	**0**	100%	**126**	126	1.82	**69**
Total		Total			**298**		**440**		**0**		**0**		**440**			**298**
		In			**149**		**220**		**0**		**0**		**220**			**149**
		Out			**149**		**220**		**0**		**0**		**220**			**149**
AM Peak Hour																
Office Building[4]	16.5	Total		1.16	19	1.18	**23**		**0**		**0**		**23**	23	1.18	**19**
	KSF	In	86%	0.998	16	1.18	**19**	0%	**0**	0%	**0**	100%	**19**	19	1.18	**16**
		Out	14%	0.162	3	1.18	**4**	0%	**0**	0%	**0**	100%	**4**	4	1.18	**3**
Furniture Store[5]	22	Total		0.260	6	1.82	**11**		**0**		**0**		**11**	11	1.82	**6**
	KSF	In	71%	0.185	4	1.82	**7**	0%	**0**	0%	**0**	100%	**7**	7	1.82	**4**
		Out	29%	0.075	2	1.82	**4**	0%	**0**	0%	**0**	100%	**4**	4	1.82	**2**
Total		Total			**25**		**34**		**0**		**0**		**34**			**25**
		In			**20**		**26**		**0**		**0**		**26**			**20**
		Out			**5**		**8**		**0**		**0**		**8**			**5**
PM Peak Hour																
Office Building[4]	16.5	Total		1.15	19	1.18	**23**		**0**		**0**		**23**	23	1.18	**19**
	KSF	In	16%	0.184	3	1.18	**4**	0%	**0**	0%	**0**	100%	**4**	4	1.18	**3**
		Out	84%	0.966	16	1.18	**19**	0%	**0**	0%	**0**	100%	**19**	19	1.18	**16**
Furniture Store[5]	22	Total		0.520	11	1.82	**20**		**0**		**0**		**20**	20	1.82	**11**
	KSF	In	47%	0.244	5	1.82	**9**	0%	**0**	0%	**0**	100%	**9**	9	1.82	**5**
		Out	53%	0.276	6	1.82	**11**	0%	**0**	0%	**0**	100%	**11**	11	1.82	**6**
Total		Total			**30**		**43**		**0**		**0**		**43**			**30**
		In			**8**		**13**		**0**		**0**		**13**			**8**
		Out			**22**		**30**		**0**		**0**		**30**			**22**

1. 2017 National vehicle occupancy rates - 1.18:home to work; 1.82: family/personal business; 1.82: shopping; 2.1 social/recreational
2. Assume all trips to office and furniture are made via auto
3. Local vehicle occupancy rates based on 2017 National vehicle occupancy rates
4. ITE Trip Generation Manual, 10th Edition, LUC 710 (General Office Building), average rate
5. ITE Trip Generation Manual, 10th Edition, LUC 890 (Furniture Store), average rate

Proposed Trip Generation

99 Washington Street, Melrose

Proposed Trip Generation Assessment

HOWARD STEIN HUDSON
23-Sep-2019

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[3]	Transit Person-Trips	Walk/Bike/ Other Share[3]	Walk/ Bike/ Other Trips	Auto Share[3]	Auto Person-Trips	% Taxi/ TNC[4]	Taxi/TNC Person-Trips	Assumed Local Auto Occupancy Rate for Taxis[5]	Primary Auto-Person Trips	Assumed Local Auto Occupancy Rate[5]	Taxi/TNC Auto Trips	Primary AutoTrips	Total Auto + Taxi/TNC Trips	Net New Auto Trips
Daily Peak Hour																						
Multifamily Housing (Low Rise)[6]	141	Total		7.320	1,032	1.18	**1,218**	27%	**328**	5%	**62**	68%	**828**	5%	42	1.18	786	1.18	**72**	**666**	**738**	
	units	In	50%	3.660	516	1.18	**609**	27%	**164**	5%	**31**	68%	**414**	5%	21	1.18	393	1.18	**36**	**333**	**369**	
		Out	50%	3.660	516	1.18	**609**	27%	**164**	5%	**31**	68%	**414**	5%	21	1.18	393	1.18	**36**	**333**	**369**	
Total		Total			**1,032**		**1,218**		**328**		**62**		**828**						**72**	**666**	**738**	**440**
		In			**516**		**609**		**164**		**31**		**414**						**36**	**333**	**369**	**220**
		Out			**516**		**609**		**164**		**31**		**414**						**36**	**333**	**369**	**220**
AM Peak Hour																						
Multifamily Housing (Low Rise)[6]	141	Total		0.460	65	1.18	**77**		**21**		**4**		**52**	5%	3	1.18	49	1.18	**6**	**41**	**47**	
	units	In	23%	0.106	15	1.18	**18**	27%	**5**	5%	**1**	68%	**12**	5%	1	1.18	11	1.18	**3**	**9**	**12**	
		Out	77%	0.354	50	1.18	**59**	27%	**16**	5%	**3**	68%	**40**	5%	2	1.18	38	1.18	**3**	**32**	**35**	
Total		Total			**65**		**77**		**21**		**4**		**52**						**6**	**41**	**47**	**22**
		In			**15**		**18**		**5**		**1**		**12**						**3**	**9**	**12**	**-8**
		Out			**50**		**59**		**16**		**3**		**40**						**3**	**32**	**35**	**30**
PM Peak Hour																						
Multifamily Housing (Low Rise)[6]	141	Total		0.560	79	1.18	**93**		**25**		**5**		**63**	5%	3	1.18	60	1.18	**6**	**51**	**57**	
	units	In	63%	0.353	50	1.18	**59**	27%	**16**	5%	**3**	68%	**40**	5%	2	1.18	38	1.18	**3**	**32**	**35**	
		Out	37%	0.207	29	1.18	**34**	27%	**9**	5%	**2**	68%	**23**	5%	1	1.18	22	1.18	**3**	**19**	**22**	
Total		Total			**79**		**93**		**25**		**5**		**63**						**6**	**51**	**57**	**27**
		In			**50**		**59**		**16**		**3**		**40**						**3**	**32**	**35**	**27**
		Out			**29**		**34**		**9**		**2**		**23**						**3**	**19**	**22**	**0**

1. 2017 National vehicle occupancy rates - 1.18:home to work; 1.82: family/personal business; 1.82: shopping; 2.1 social/recreational
2. Based on ITE Trip Generation Handbook, 3rd Edition method
3. Mode shares for residential based on U.S. Census Bureau, 2013-2017 American Community Survey.
4. Assumed Taxi/TNC percentage
5. Local vehicle occupancy rates based on 2017 National vehicle occupancy rates
6. ITE Trip Generation Manual, 10th Edition, LUC 220 (Multifamily Housing Low-Rise (1-2 floors), average rate

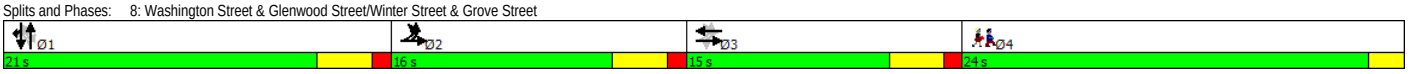
Intersection LOS/Synchro Reports

Existing (2019) Condition

Lane Group	EBL2	EBL	EBT	WBL	WBT	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	4	110	181	80	397	11	1	10	26	210	198	174	
Future Volume (vph)	4	110	181	80	397	11	1	10	26	210	198	174	
Turn Type	D.P+P	D.P+P	NA	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3		3			1			1	1	4
Permitted Phases	3	3		3		1	1		1	1			
Detector Phase	2	2	2 3	3	3	1	1	1	1	1	1	1	
Switch Phase													
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	1.0
Minimum Split (s)	9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	24.0
Total Split (s)	16.0	16.0		15.0	15.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	24.0
Total Split (%)	21.1%	21.1%		19.7%	19.7%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	32%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0	0.0	
Total Lost Time (s)					4.0			4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max	None
Act Effct Green (s)			23.8		11.4			17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36		0.17			0.27	0.27		0.27	0.27	
v/c Ratio			0.78		1.32			0.10	0.07		1.18	0.43	
Control Delay			35.1		180.1			24.4	0.3		133.4	16.5	
Queue Delay			0.0		0.0			0.0	0.0		0.0	0.0	
Total Delay			35.1		180.1			24.4	0.3		133.4	16.5	
LOS			D		F			C	A		F	B	
Approach Delay			35.1		180.1			11.1			97.7		
Approach LOS			D		F			B			F		

Intersection Summary	
Cycle Length: 76	
Actuated Cycle Length: 66.4	
Natural Cycle: 110	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.32	
Intersection Signal Delay: 118.2	Intersection LOS: F
Intersection Capacity Utilization 77.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Washington Street & Glenwood Street/Winter Street & Grove Street

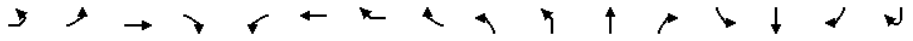


Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	325	776	30	37	469	206
v/c Ratio	0.78	1.32	0.10	0.07	1.18	0.43
Control Delay	35.1	180.1	24.4	0.3	133.4	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	180.1	24.4	0.3	133.4	16.5
Queue Length 50th (ft)	118	~252	11	0	~301	42
Queue Length 95th (ft)	#269	#364	25	0	#453	97
Internal Link Dist (ft)	377	369	306		848	
Turn Bay Length (ft)				65		65
Base Capacity (vph)	416	589	295	501	397	479
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	1.32	0.10	0.07	1.18	0.43

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

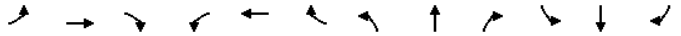
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2
Lane Configurations																
Traffic Volume (vph)	4	110	181	10	80	397	23	261	11	1	10	26	210	198	174	5
Future Volume (vph)	4	110	181	10	80	397	23	261	11	1	10	26	210	198	174	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12	11	11	11	11
Total Lost time (s)			4.0			4.0					4.0	4.0		4.0	4.0	
Lane Util. Factor			1.00			0.95					1.00	1.00		1.00	1.00	
Frpb, ped/bikes			1.00			1.00					1.00	1.00		1.00	1.00	
Flpb, ped/bikes			1.00			1.00					1.00	1.00		1.00	1.00	
Frt			1.00			0.94					1.00	0.85		1.00	0.85	
Flt Protected			0.98			0.99					0.97	1.00		0.97	1.00	
Satd. Flow (prot)			1813			3357					1851	1615		1782	1531	
Flt Permitted			0.24			0.87					0.59	1.00		0.82	1.00	
Satd. Flow (perm)			445			2932					1116	1615		1503	1531	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.98	0.98	0.98	0.98	0.71	0.71	0.71	0.71	0.87	0.87	0.87	0.87
Adj. Flow (vph)	4	117	193	11	82	405	23	266	15	1	14	37	241	228	200	6
RTOR Reduction (vph)	0	0	1	0	0	86	0	0	0	0	0	27	0	0	74	0
Lane Group Flow (vph)	0	0	324	0	0	690	0	0	0	0	30	10	0	469	132	0
Confl. Peds. (#/hr)		10														93
Confl. Bikes (#/hr)															1	1
Heavy Vehicles (%)	0%	5%	1%	0%	0%	1%	4%	1%	0%	0%	0%	0%	1%	0%	2%	0%
Turn Type	D.P+P	D.P+P	NA		Perm	NA			Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3			3					1			1	1	
Permitted Phases	3	3			3				1	1		1	1			
Actuated Green, G (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Effective Green, g (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36			0.17					0.26	0.26		0.26	0.26	
Clearance Time (s)						4.0					4.0	4.0		4.0	4.0	
Vehicle Extension (s)						2.0					2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)			411			499					293	424		395	402	
v/s Ratio Prot			c0.15												0.09	
v/s Ratio Perm			0.13			c0.24					0.03	0.01		c0.31		
v/c Ratio			0.79			1.38					0.10	0.02		1.19	0.33	
Uniform Delay, d1			19.3			27.8					18.7	18.3		24.7	19.9	
Progression Factor			1.00			1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2			14.1			184.2					0.7	0.1		107.0	2.2	
Delay (s)			33.4			211.9					19.4	18.4		131.7	22.1	
Level of Service			C			F					B	B		F	C	
Approach Delay (s)			33.4			211.9					18.8			98.2		
Approach LOS			C			F					B			F		

Intersection Summary			
HCM 2000 Control Delay	131.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

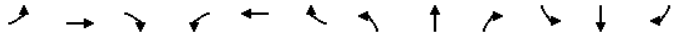
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕						↕	
Traffic Volume (veh/h)	4	1	1	0	2	262	0	0	0	6	384	1
Future Volume (Veh/h)	4	1	1	0	2	262	0	0	0	6	384	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.50	0.50	0.96	0.96	0.96	0.92	0.92	0.92	0.94	0.94	0.94
Hourly flow rate (vph)	8	2	2	0	2	273	0	0	0	6	409	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	696	422	410	424	422	0	410			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	696	422	410	424	422	0	410			0		
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 %	97	100	100	100	100	75	100			100		
cM capacity (veh/h)	267	525	646	539	524	1085	1160			1636		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	12	275	416
Volume Left	8	0	6
Volume Right	2	273	1
cSH	326	1077	1636
Volume to Capacity	0.04	0.26	0.00
Queue Length 95th (ft)	3	25	0
Control Delay (s)	16.5	9.5	0.1
Lane LOS	C	A	A
Approach Delay (s)	16.5	9.5	0.1
Approach LOS	C	A	

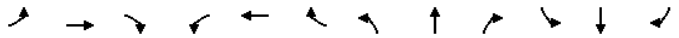
Intersection Summary					
Average Delay		4.1			
Intersection Capacity Utilization		43.6%	ICU Level of Service	A	
Analysis Period (min)		15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	5	0	13	22	9	236	141	5	5	241	6
Future Volume (Veh/h)	2	5	0	13	22	9	236	141	5	5	241	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.69	0.69	0.69	0.85	0.85	0.85	0.75	0.75	0.75
Hourly flow rate (vph)	2	6	0	19	32	13	278	166	6	7	321	8
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	1093	1067	325	1067	1068	169	329			172		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1093	1067	325	1067	1068	169	329			172		
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 %	99	97	100	88	81	99	77			100		
cM capacity (veh/h)	135	172	721	162	172	880	1231			1417		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	64	450	336
Volume Left	2	19	278	7
Volume Right	0	13	6	8
cSH	161	201	1231	1417
Volume to Capacity	0.05	0.32	0.23	0.00
Queue Length 95th (ft)	4	33	22	0
Control Delay (s)	28.5	31.0	6.3	0.2
Lane LOS	D	D	A	A
Approach Delay (s)	28.5	31.0	6.3	0.2
Approach LOS	D	D		

Intersection Summary					
Average Delay			5.9		
Intersection Capacity Utilization			47.4%	ICU Level of Service	A
Analysis Period (min)			15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	384	0	0	11	0	371	2	3	251	0
Future Volume (Veh/h)	0	1	384	0	0	11	0	371	2	3	251	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.55	0.55	0.55	0.87	0.87	0.87	0.75	0.75	0.75
Hourly flow rate (vph)	0	1	413	0	0	20	0	426	2	4	335	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	790	771	335	1184	770	427	335			428		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	790	771	335	1184	770	427	335			428		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	42	100	100	97	100			100		
cM capacity (veh/h)	300	332	712	70	332	632	1236			1142		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	414	20	428	339
Volume Left	0	0	0	4
Volume Right	413	20	2	0
cSH	710	632	1700	1142
Volume to Capacity	0.58	0.03	0.25	0.00
Queue Length 95th (ft)	95	2	0	0
Control Delay (s)	16.9	10.9	0.0	0.1
Lane LOS	C	B		A
Approach Delay (s)	16.9	10.9	0.0	0.1
Approach LOS	C	B		

Intersection Summary					
Average Delay			6.1		
Intersection Capacity Utilization			50.1%	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)	13	0	4	0	0	0	5	360	0	3	619	11
Future Volume (Veh/h)	13	0	4	0	0	0	5	360	0	3	619	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.61	0.61	0.61	0.92	0.92	0.92	0.89	0.89	0.89	0.85	0.85	0.85
Hourly flow rate (vph)	21	0	7	0	0	0	6	404	0	4	728	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	1158	1158	734	1166	1165	404	741			404		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1158	1158	734	1166	1165	404	741			404		
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 %	88	100	98	100	100	100	99			100		
cM capacity (veh/h)	173	196	423	167	192	647	875			1166		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	28	410	745
Volume Left	21	6	4
Volume Right	7	0	13
cSH	203	875	1166
Volume to Capacity	0.14	0.01	0.00
Queue Length 95th (ft)	12	1	0
Control Delay (s)	25.5	0.2	0.1
Lane LOS	D	A	A
Approach Delay (s)	25.5	0.2	0.1
Approach LOS	D		

Intersection Summary					
Average Delay		0.7			
Intersection Capacity Utilization		44.9%	ICU Level of Service	A	
Analysis Period (min)		15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	373	0	5	630
Future Volume (Veh/h)	0	0	373	0	5	630
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.87	0.87	0.85	0.85
Hourly flow rate (vph)	0	0	429	0	6	741
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	1182	429			429	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1182	429			429	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	210	630			1141	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	429	747
Volume Left	0	0	6
Volume Right	0	0	0
cSH	1700	1700	1141
Volume to Capacity	0.00	0.25	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.1
Lane LOS	A		A
Approach Delay (s)	0.0	0.0	0.1
Approach LOS	A		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		40.5%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	363	12	10	611
Future Volume (Veh/h)	0	2	363	12	10	611
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.89	0.89	0.84	0.84
Hourly flow rate (vph)	0	8	408	13	12	727
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	1166	414			421	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1166	414			421	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			99	
cM capacity (veh/h)	214	642			1149	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	8	421	739
Volume Left	0	0	12
Volume Right	8	13	0
cSH	642	1700	1149
Volume to Capacity	0.01	0.25	0.01
Queue Length 95th (ft)	1	0	1
Control Delay (s)	10.7	0.0	0.3
Lane LOS	B		A
Approach Delay (s)	10.7	0.0	0.3
Approach LOS	B		

Intersection Summary				
Average Delay		0.2		
Intersection Capacity Utilization		50.2%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	9	366	11	9	602
Future Volume (Veh/h)	7	9	366	11	9	602
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.80	0.80	0.89	0.89	0.83	0.83
Hourly flow rate (vph)	9	11	411	12	11	725
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	1164	417			423	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1164	417			423	
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	98			99	
cM capacity (veh/h)	215	640			1147	

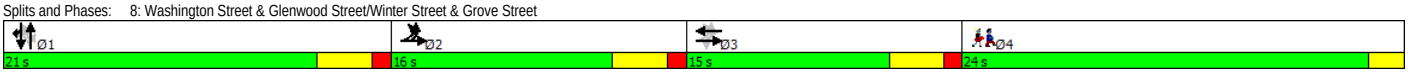
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	423	736
Volume Left	9	0	11
Volume Right	11	12	0
cSH	339	1700	1147
Volume to Capacity	0.06	0.25	0.01
Queue Length 95th (ft)	5	0	1
Control Delay (s)	16.3	0.0	0.3
Lane LOS	C		A
Approach Delay (s)	16.3	0.0	0.3
Approach LOS	C		

Intersection Summary				
Average Delay		0.4		
Intersection Capacity Utilization		48.9%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL2	EBL	EBT	WBL	WBT	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	15	117	380	15	195	7	10	151	50	167	110	66	
Future Volume (vph)	15	117	380	15	195	7	10	151	50	167	110	66	
Turn Type	D.P+P	D.P+P	NA	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3		3			1			1	1	4
Permitted Phases	3	3		3		1	1		1	1			
Detector Phase	2	2	2 3	3	3	1	1	1	1	1	1	1	
Switch Phase													
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	1.0
Minimum Split (s)	9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	24.0
Total Split (s)	16.0	16.0		15.0	15.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	24.0
Total Split (%)	21.1%	21.1%		19.7%	19.7%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	32%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0	0.0	
Total Lost Time (s)					4.0			4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max	None
Act Effct Green (s)			23.8		11.4			17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36		0.17			0.27	0.27		0.27	0.27	
v/c Ratio			1.11		0.75			0.40	0.12		1.00	0.19	
Control Delay			97.8		24.0			26.6	2.4		85.8	6.0	
Queue Delay			0.0		0.0			0.0	0.0		0.0	0.0	
Total Delay			97.8		24.0			26.6	2.4		85.8	6.0	
LOS			F		C			C	A		F	A	
Approach Delay			97.8		24.0			21.1			67.8		
Approach LOS			F		C			C			E		

Intersection Summary	
Cycle Length: 76	
Actuated Cycle Length: 66.4	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.11	
Intersection Signal Delay: 58.0	Intersection LOS: E
Intersection Capacity Utilization 80.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Washington Street & Glenwood Street/Winter Street & Grove Street

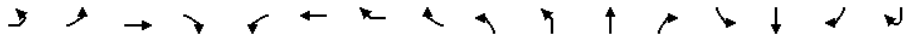


Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	556	494	191	57	302	88
v/c Ratio	1.11	0.75	0.40	0.12	1.00	0.19
Control Delay	97.8	24.0	26.6	2.4	85.8	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.8	24.0	26.6	2.4	85.8	6.0
Queue Length 50th (ft)	~279	62	79	0	~175	0
Queue Length 95th (ft)	#469	#126	135	9	#322	29
Internal Link Dist (ft)	377	369	306		856	
Turn Bay Length (ft)				65		65
Base Capacity (vph)	502	660	472	485	301	475
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.11	0.75	0.40	0.12	1.00	0.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

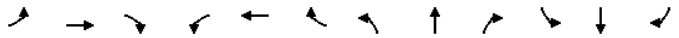
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2
Lane Configurations																
Traffic Volume (vph)	15	117	380	11	15	195	14	201	7	10	151	50	167	110	66	15
Future Volume (vph)	15	117	380	11	15	195	14	201	7	10	151	50	167	110	66	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12	11	11	11	11
Total Lost time (s)			4.0			4.0					4.0	4.0		4.0	4.0	
Lane Util. Factor			1.00			0.95					1.00	1.00		1.00	1.00	
Frpb, ped/bikes			1.00			0.90					1.00	1.00		1.00	1.00	
Flpb, ped/bikes			1.00			1.00					0.99	1.00		1.00	1.00	
Frt			1.00			0.92					1.00	0.85		1.00	0.85	
Flt Protected			0.99			1.00					1.00	1.00		0.97	1.00	
Satd. Flow (prot)			1855			2990					1862	1553		1745	1517	
Flt Permitted			0.48			0.92					0.95	1.00		0.63	1.00	
Satd. Flow (perm)			900			2769					1783	1553		1139	1517	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.86	0.86	0.86	0.86	0.88	0.88	0.88	0.88	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	124	404	12	17	227	16	234	8	11	172	57	182	120	72	16
RTOR Reduction (vph)	0	0	1	0	0	194	0	0	0	0	0	42	0	0	65	0
Lane Group Flow (vph)	0	0	555	0	0	300	0	0	0	0	191	15	0	302	23	0
Confl. Peds. (#/hr)	59						59			59						59
Confl. Bikes (#/hr)																1
Heavy Vehicles (%)	0%	1%	0%	9%	7%	1%	0%	0%	0%	0%	1%	4%	1%	4%	2%	7%
Turn Type	D.P+P	D.P+P	NA		Perm	NA			Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3			3					1			1	1	
Permitted Phases	3	3			3				1	1		1	1			
Actuated Green, G (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Effective Green, g (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36			0.17					0.26	0.26		0.26	0.26	
Clearance Time (s)						4.0					4.0	4.0		4.0	4.0	
Vehicle Extension (s)						2.0					2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)			497			471					469	408		299	399	
v/s Ratio Prot			c0.21												0.02	
v/s Ratio Perm			c0.19			0.11					0.11	0.01		c0.27		
v/c Ratio			1.12			0.64					0.41	0.04		1.01	0.06	
Uniform Delay, d1			21.6			25.8					20.3	18.3		24.7	18.4	
Progression Factor			1.00			1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2			76.6			6.4					2.6	0.2		54.6	0.3	
Delay (s)			98.2			32.3					23.0	18.5		79.3	18.7	
Level of Service			F			C					C	B		E	B	
Approach Delay (s)			98.2			32.3					21.9			65.6		
Approach LOS			F			C					C			E		

Intersection Summary			
HCM 2000 Control Delay	60.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	14.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

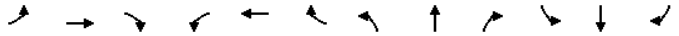
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	0	0	3	325	0	0	0	16	264	1
Future Volume (Veh/h)	1	2	0	0	3	325	0	0	0	16	264	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.50	0.50	0.78	0.78	0.78	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	4	0	0	4	417	0	0	0	17	287	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	740	322	288	324	322	0	288			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	740	322	288	324	322	0	288			0		
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 %	99	99	100	100	99	62	100			99		
cM capacity (veh/h)	204	593	756	625	592	1091	1286			1636		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	6	421	305
Volume Left	2	0	17
Volume Right	0	417	1
cSH	363	1082	1636
Volume to Capacity	0.02	0.39	0.01
Queue Length 95th (ft)	1	47	1
Control Delay (s)	15.1	10.4	0.5
Lane LOS	C	B	A
Approach Delay (s)	15.1	10.4	0.5
Approach LOS	C	B	

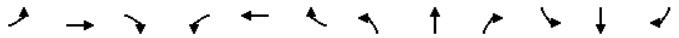
Intersection Summary					
Average Delay	6.3				
Intersection Capacity Utilization	41.8%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	10	0	11	8	6	317	258	10	14	137	3
Future Volume (Veh/h)	8	10	0	11	8	6	317	258	10	14	137	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.63	0.63	0.63	0.81	0.81	0.81	0.90	0.90	0.90
Hourly flow rate (vph)	11	13	0	17	13	10	391	319	12	16	152	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1309	1298	154	1299	1294	325	155			331		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1309	1298	154	1299	1294	325	155			331		
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 %	89	89	100	83	89	99	73			99		
cM capacity (veh/h)	98	117	898	101	118	721	1438			1240		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	24	40	722	171
Volume Left	11	17	391	16
Volume Right	0	10	12	3
cSH	107	136	1438	1240
Volume to Capacity	0.22	0.29	0.27	0.01
Queue Length 95th (ft)	20	28	28	1
Control Delay (s)	48.0	42.0	5.9	0.8
Lane LOS	E	E	A	A
Approach Delay (s)	48.0	42.0	5.9	0.8
Approach LOS	E	E		

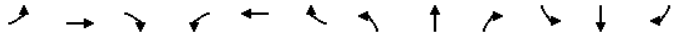
Intersection Summary					
Average Delay			7.5		
Intersection Capacity Utilization			53.2%	ICU Level of Service	A
Analysis Period (min)			15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	5	258	2	0	10	0	574	0	2	146	0
Future Volume (Veh/h)	1	5	258	2	0	10	0	574	0	2	146	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.60	0.60	0.60	0.81	0.81	0.81	0.84	0.84	0.84
Hourly flow rate (vph)	1	5	277	3	0	17	0	709	0	2	174	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	904	887	174	1166	887	709	174			709		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	904	887	174	1166	887	709	174			709		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	68	97	100	96	100			100		
cM capacity (veh/h)	249	285	875	116	285	438	1415			899		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	283	20	709	176
Volume Left	1	3	0	2
Volume Right	277	17	0	0
cSH	837	309	1700	899
Volume to Capacity	0.34	0.06	0.42	0.00
Queue Length 95th (ft)	38	5	0	0
Control Delay (s)	11.5	17.5	0.0	0.1
Lane LOS	B	C		A
Approach Delay (s)	11.5	17.5	0.0	0.1
Approach LOS	B	C		

Intersection Summary					
Average Delay			3.0		
Intersection Capacity Utilization			53.3%	ICU Level of Service	A
Analysis Period (min)			15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	0	2	0	0	0	2	560	0	1	394	13
Future Volume (Veh/h)	11	0	2	0	0	0	2	560	0	1	394	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.92	0.92	0.92	0.81	0.81	0.81	0.94	0.94	0.94
Hourly flow rate (vph)	14	0	2	0	0	0	2	691	0	1	419	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	1123	1123	426	1125	1130	691	433			691		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1123	1123	426	1125	1130	691	433			691		
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 %	92	100	100	100	100	100	100			100		
cM capacity (veh/h)	184	207	633	181	203	445	1137			913		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	16	693	434
Volume Left	14	2	1
Volume Right	2	0	14
cSH	202	1137	913
Volume to Capacity	0.08	0.00	0.00
Queue Length 95th (ft)	6	0	0
Control Delay (s)	24.3	0.0	0.0
Lane LOS	C	A	A
Approach Delay (s)	24.3	0.0	0.0
Approach LOS	C		

Intersection Summary					
Average Delay		0.4			
Intersection Capacity Utilization		41.0%	ICU Level of Service	A	
Analysis Period (min)		15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	3	571	0	0	406
Future Volume (Veh/h)	1	3	571	0	0	406
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.50	0.50	0.81	0.81	0.94	0.94
Hourly flow rate (vph)	2	6	705	0	0	432
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	1137	705			705	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1137	705			705	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			100	
cM capacity (veh/h)	225	440			902	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	8	705	432
Volume Left	2	0	0
Volume Right	6	0	0
cSH	355	1700	902
Volume to Capacity	0.02	0.41	0.00
Queue Length 95th (ft)	2	0	0
Control Delay (s)	15.4	0.0	0.0
Lane LOS	C		
Approach Delay (s)	15.4	0.0	0.0
Approach LOS	C		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		40.1%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	1	560	1	3	392
Future Volume (Veh/h)	2	1	560	1	3	392
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.81	0.81	0.92	0.92
Hourly flow rate (vph)	3	1	691	1	3	426
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	1124	692			692	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1124	692			692	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	229	448			912	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	4	692	429
Volume Left	3	0	3
Volume Right	1	1	0
cSH	261	1700	912
Volume to Capacity	0.02	0.41	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	19.0	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	19.0	0.0	0.1
Approach LOS	C		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		39.5%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	9	552	7	2	392
Future Volume (Veh/h)	11	9	552	7	2	392
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.56	0.56	0.81	0.81	0.92	0.92
Hourly flow rate (vph)	20	16	681	9	2	426
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	1116	686			690	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1116	686			690	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	91	96			100	
cM capacity (veh/h)	222	451			914	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	36	690	428
Volume Left	20	0	2
Volume Right	16	9	0
cSH	287	1700	914
Volume to Capacity	0.13	0.41	0.00
Queue Length 95th (ft)	11	0	0
Control Delay (s)	19.3	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	19.3	0.0	0.1
Approach LOS	C		

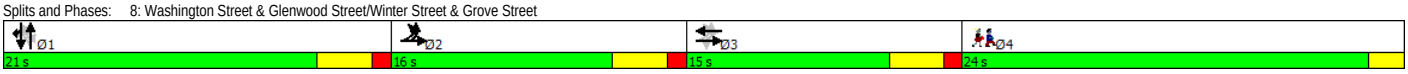
Intersection Summary				
Average Delay		0.6		
Intersection Capacity Utilization		39.5%	ICU Level of Service	A
Analysis Period (min)		15		

No-Build (2026) Condition

Lane Group	EBL2	EBL	EBT	WBL	WBT	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	4	112	184	81	404	11	1	10	26	214	201	177	
Future Volume (vph)	4	112	184	81	404	11	1	10	26	214	201	177	
Turn Type	D.P+P	D.P+P	NA	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3		3			1			1	1	4
Permitted Phases	3	3		3		1	1		1	1			
Detector Phase	2	2	2 3	3	3	1	1	1	1	1	1	1	
Switch Phase													
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	1.0
Minimum Split (s)	9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	24.0
Total Split (s)	16.0	16.0		15.0	15.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	24.0
Total Split (%)	21.1%	21.1%		19.7%	19.7%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	32%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0	0.0	
Total Lost Time (s)					4.0			4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max	None
Act Effct Green (s)			23.8		11.4			17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36		0.17			0.27	0.27		0.27	0.27	
v/c Ratio			0.80		1.50			0.11	0.07		1.20	0.44	
Control Delay			36.3		258.6			24.6	0.3		140.9	16.7	
Queue Delay			0.0		0.0			0.0	0.0		0.0	0.0	
Total Delay			36.3		258.6			24.6	0.3		140.9	16.7	
LOS			D		F			C	A		F	B	
Approach Delay			36.3		258.6			11.2			103.1		
Approach LOS			D		F			B			F		

Intersection Summary	
Cycle Length: 76	
Actuated Cycle Length: 66.4	
Natural Cycle: 120	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.50	
Intersection Signal Delay: 153.6	Intersection LOS: F
Intersection Capacity Utilization 80.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Washington Street & Glenwood Street/Winter Street & Grove Street

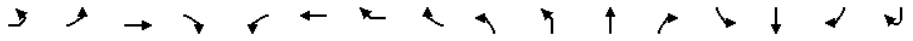


Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	330	789	30	37	477	209
v/c Ratio	0.80	1.50	0.11	0.07	1.20	0.44
Control Delay	36.3	258.6	24.6	0.3	140.9	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.3	258.6	24.6	0.3	140.9	16.7
Queue Length 50th (ft)	121	~274	11	0	~309	43
Queue Length 95th (ft)	#276	#386	26	0	#462	100
Internal Link Dist (ft)	377	369	306		848	
Turn Bay Length (ft)				65		65
Base Capacity (vph)	415	526	280	501	397	479
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	1.50	0.11	0.07	1.20	0.44

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

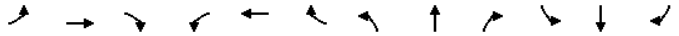
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2
Lane Configurations																
Traffic Volume (vph)	4	112	184	10	81	404	23	266	11	1	10	26	214	201	177	5
Future Volume (vph)	4	112	184	10	81	404	23	266	11	1	10	26	214	201	177	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12	11	11	11	11
Total Lost time (s)			4.0			4.0					4.0	4.0		4.0	4.0	
Lane Util. Factor			1.00			0.95					1.00	1.00		1.00	1.00	
Frpb, ped/bikes			1.00			0.89					1.00	1.00		1.00	1.00	
Flpb, ped/bikes			1.00			1.00					0.97	1.00		1.00	1.00	
Frt			1.00			0.94					1.00	0.85		1.00	0.85	
Flt Protected			0.98			0.99					0.97	1.00		0.97	1.00	
Satd. Flow (prot)			1809			2998					1796	1615		1781	1531	
Flt Permitted			0.24			0.87					0.57	1.00		0.82	1.00	
Satd. Flow (perm)			444			2616					1056	1615		1502	1531	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.98	0.98	0.98	0.98	0.71	0.71	0.71	0.71	0.87	0.87	0.87	0.87
Adj. Flow (vph)	4	119	196	11	83	412	23	271	15	1	14	37	246	231	203	6
RTOR Reduction (vph)	0	0	1	0	0	86	0	0	0	0	0	27	0	0	74	0
Lane Group Flow (vph)	0	0	329	0	0	703	0	0	0	0	30	10	0	477	135	0
Confl. Peds. (#/hr)	93						93			93						93
Confl. Bikes (#/hr)															1	1
Heavy Vehicles (%)	0%	5%	1%	0%	0%	1%	4%	1%	0%	0%	0%	0%	1%	0%	2%	0%
Turn Type	D.P+P	D.P+P	NA		Perm	NA			Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3			3					1			1	1	
Permitted Phases	3	3			3				1	1		1	1			
Actuated Green, G (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Effective Green, g (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36			0.17					0.26	0.26		0.26	0.26	
Clearance Time (s)						4.0					4.0	4.0		4.0	4.0	
Vehicle Extension (s)						2.0					2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)			410			445					277	424		395	402	
v/s Ratio Prot			c0.15												0.09	
v/s Ratio Perm			0.14			c0.27					0.03	0.01		c0.32		
v/c Ratio			0.80			1.58					0.11	0.02		1.21	0.34	
Uniform Delay, d1			19.4			27.8					18.7	18.3		24.7	19.9	
Progression Factor			1.00			1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2			15.2			271.2					0.8	0.1		115.0	2.3	
Delay (s)			34.6			299.0					19.5	18.4		139.6	22.2	
Level of Service			C			F					B	B		F	C	
Approach Delay (s)			34.6			299.0					18.9			103.8		
Approach LOS			C			F					B			F		

Intersection Summary			
HCM 2000 Control Delay	170.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	14.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

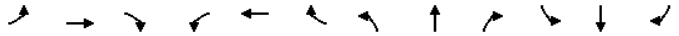
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1	1	0	2	267	0	0	0	6	391	1
Future Volume (Veh/h)	4	1	1	0	2	267	0	0	0	6	391	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.50	0.50	0.96	0.96	0.96	0.92	0.92	0.92	0.94	0.94	0.94
Hourly flow rate (vph)	8	2	2	0	2	278	0	0	0	6	416	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	708	428	416	432	429	0	417			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	708	428	416	432	429	0	417			0		
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 %	97	100	100	100	100	74	100			100		
cM capacity (veh/h)	261	520	641	533	520	1085	1153			1636		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	12	280	423
Volume Left	8	0	6
Volume Right	2	278	1
cSH	319	1077	1636
Volume to Capacity	0.04	0.26	0.00
Queue Length 95th (ft)	3	26	0
Control Delay (s)	16.7	9.5	0.1
Lane LOS	C	A	A
Approach Delay (s)	16.7	9.5	0.1
Approach LOS	C	A	

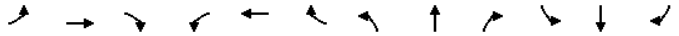
Intersection Summary					
Average Delay		4.1			
Intersection Capacity Utilization	44.3%	ICU Level of Service		A	
Analysis Period (min)		15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	5	0	13	22	9	240	143	5	5	245	6
Future Volume (Veh/h)	2	5	0	13	22	9	240	143	5	5	245	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.69	0.69	0.69	0.85	0.85	0.85	0.75	0.75	0.75
Hourly flow rate (vph)	2	6	0	19	32	13	282	168	6	7	327	8
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	1109	1083	331	1083	1084	171	335			174		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1109	1083	331	1083	1084	171	335			174		
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	96	100	88	81	99	77			100		
cM capacity (veh/h)	131	168	715	157	167	878	1224			1415		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	64	456	342
Volume Left	2	19	282	7
Volume Right	0	13	6	8
cSH	157	196	1224	1415
Volume to Capacity	0.05	0.33	0.23	0.00
Queue Length 95th (ft)	4	34	22	0
Control Delay (s)	29.2	32.1	6.3	0.2
Lane LOS	D	D	A	A
Approach Delay (s)	29.2	32.1	6.3	0.2
Approach LOS	D	D		

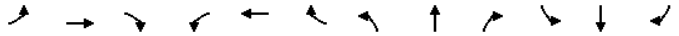
Intersection Summary					
Average Delay	6.0				
Intersection Capacity Utilization	48.0%	ICU Level of Service	A		
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	391	0	0	11	0	378	2	3	255	0
Future Volume (Veh/h)	0	1	391	0	0	11	0	378	2	3	255	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.55	0.55	0.55	0.87	0.87	0.87	0.75	0.75	0.75
Hourly flow rate (vph)	0	1	420	0	0	20	0	434	2	4	340	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	803	784	340	1204	783	435	340			436		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	803	784	340	1204	783	435	340			436		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	41	100	100	97	100			100		
cM capacity (veh/h)	294	326	707	66	327	625	1230			1134		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	421	20	436	344
Volume Left	0	0	0	4
Volume Right	420	20	2	0
cSH	705	625	1700	1134
Volume to Capacity	0.60	0.03	0.26	0.00
Queue Length 95th (ft)	100	2	0	0
Control Delay (s)	17.4	10.9	0.0	0.1
Lane LOS	C	B		A
Approach Delay (s)	17.4	10.9	0.0	0.1
Approach LOS	C	B		

Intersection Summary					
Average Delay			6.2		
Intersection Capacity Utilization			50.9%	ICU Level of Service	A
Analysis Period (min)			15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	0	4	0	0	0	5	366	0	3	630	11
Future Volume (Veh/h)	13	0	4	0	0	0	5	366	0	3	630	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.61	0.61	0.61	0.92	0.92	0.92	0.89	0.89	0.89	0.85	0.85	0.85
Hourly flow rate (vph)	21	0	7	0	0	0	6	411	0	4	741	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	1178	1178	748	1186	1185	411	754			411		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1178	1178	748	1186	1185	411	754			411		
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 %	87	100	98	100	100	100	99			100		
cM capacity (veh/h)	168	190	416	162	187	641	865			1159		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	28	417	758
Volume Left	21	6	4
Volume Right	7	0	13
cSH	197	865	1159
Volume to Capacity	0.14	0.01	0.00
Queue Length 95th (ft)	12	1	0
Control Delay (s)	26.3	0.2	0.1
Lane LOS	D	A	A
Approach Delay (s)	26.3	0.2	0.1
Approach LOS	D		

Intersection Summary					
Average Delay		0.7			
Intersection Capacity Utilization		45.5%	ICU Level of Service	A	
Analysis Period (min)		15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	380	0	5	641
Future Volume (Veh/h)	0	0	380	0	5	641
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.87	0.87	0.85	0.85
Hourly flow rate (vph)	0	0	437	0	6	754
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	1203	437			437	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1203	437			437	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	204	624			1134	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	437	760
Volume Left	0	0	6
Volume Right	0	0	0
cSH	1700	1700	1134
Volume to Capacity	0.00	0.26	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.1
Lane LOS	A		A
Approach Delay (s)	0.0	0.0	0.1
Approach LOS	A		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		41.1%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	369	12	10	622
Future Volume (Veh/h)	0	2	369	12	10	622
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.89	0.89	0.84	0.84
Hourly flow rate (vph)	0	8	415	13	12	740
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	1186	422			428	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1186	422			428	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			99	
cM capacity (veh/h)	208	636			1142	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	8	428	752
Volume Left	0	0	12
Volume Right	8	13	0
cSH	636	1700	1142
Volume to Capacity	0.01	0.25	0.01
Queue Length 95th (ft)	1	0	1
Control Delay (s)	10.7	0.0	0.3
Lane LOS	B		A
Approach Delay (s)	10.7	0.0	0.3
Approach LOS	B		

Intersection Summary				
Average Delay		0.2		
Intersection Capacity Utilization		50.7%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	9	372	11	9	613
Future Volume (Veh/h)	7	9	372	11	9	613
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.80	0.80	0.89	0.89	0.83	0.83
Hourly flow rate (vph)	9	11	418	12	11	739
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	1185	424			430	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1185	424			430	
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	98			99	
cM capacity (veh/h)	209	634			1140	

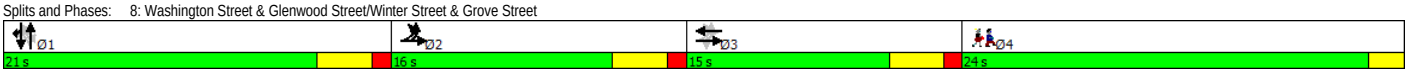
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	430	750
Volume Left	9	0	11
Volume Right	11	12	0
cSH	331	1700	1140
Volume to Capacity	0.06	0.25	0.01
Queue Length 95th (ft)	5	0	1
Control Delay (s)	16.6	0.0	0.3
Lane LOS	C		A
Approach Delay (s)	16.6	0.0	0.3
Approach LOS	C		

Intersection Summary				
Average Delay		0.4		
Intersection Capacity Utilization		49.5%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL2	EBL	EBT	WBL	WBT	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	15	119	387	15	198	7	10	154	51	170	112	67	
Future Volume (vph)	15	119	387	15	198	7	10	154	51	170	112	67	
Turn Type	D.P+P	D.P+P	NA	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3		3			1			1	1	4
Permitted Phases	3	3		3		1	1		1	1			
Detector Phase	2	2	2 3	3	3	1	1	1	1	1	1	1	
Switch Phase													
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	1.0
Minimum Split (s)	9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	24.0
Total Split (s)	16.0	16.0		15.0	15.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	24.0
Total Split (%)	21.1%	21.1%		19.7%	19.7%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	32%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0	0.0	
Total Lost Time (s)					4.0			4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max	None
Act Effct Green (s)			23.8		11.4			17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36		0.17			0.27	0.27		0.27	0.27	
v/c Ratio			1.15		0.76			0.41	0.12		1.03	0.19	
Control Delay			111.3		24.3			26.8	2.5		92.1	6.1	
Queue Delay			0.0		0.0			0.0	0.0		0.0	0.0	
Total Delay			111.3		24.3			26.8	2.5		92.1	6.1	
LOS			F		C			C	A		F	A	
Approach Delay			111.3		24.3			21.2			72.8		
Approach LOS			F		C			C			E		

Intersection Summary	
Cycle Length: 76	
Actuated Cycle Length: 66.4	
Natural Cycle: 110	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 63.8	Intersection LOS: E
Intersection Capacity Utilization 81.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Washington Street & Glenwood Street/Winter Street & Grove Street

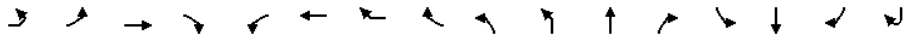


Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	567	501	194	58	307	89
v/c Ratio	1.15	0.76	0.41	0.12	1.03	0.19
Control Delay	111.3	24.3	26.8	2.5	92.1	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.3	24.3	26.8	2.5	92.1	6.1
Queue Length 50th (ft)	~296	63	80	0	~181	0
Queue Length 95th (ft)	#488	#128	138	10	#329	30
Internal Link Dist (ft)	377	369	306		856	
Turn Bay Length (ft)				65		65
Base Capacity (vph)	495	663	472	474	299	475
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.76	0.41	0.12	1.03	0.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

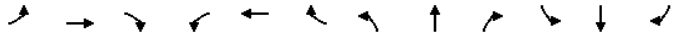
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2
Lane Configurations																
Traffic Volume (vph)	15	119	387	11	15	198	14	205	7	10	154	51	170	112	67	15
Future Volume (vph)	15	119	387	11	15	198	14	205	7	10	154	51	170	112	67	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12	11	11	11	11
Total Lost time (s)			4.0			4.0					4.0	4.0		4.0	4.0	
Lane Util. Factor			1.00			0.95					1.00	1.00		1.00	1.00	
Frpb, ped/bikes			1.00			0.90					1.00	0.98		1.00	1.00	
Flpb, ped/bikes			1.00			1.00					0.99	1.00		1.00	1.00	
Frt			1.00			0.92					1.00	0.85		1.00	0.85	
Flt Protected			0.99			1.00					1.00	1.00		0.97	1.00	
Satd. Flow (prot)			1856			2989					1863	1515		1745	1517	
Flt Permitted			0.46			0.92					0.95	1.00		0.63	1.00	
Satd. Flow (perm)			861			2768					1783	1515		1129	1517	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.86	0.86	0.86	0.86	0.88	0.88	0.88	0.88	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	127	412	12	17	230	16	238	8	11	175	58	185	122	73	16
RTOR Reduction (vph)	0	0	1	0	0	197	0	0	0	0	0	43	0	0	66	0
Lane Group Flow (vph)	0	0	566	0	0	304	0	0	0	0	194	15	0	307	23	0
Confl. Peds. (#/hr)	59						59			59						59
Confl. Bikes (#/hr)												3				
Heavy Vehicles (%)	0%	1%	0%	9%	7%	1%	0%	0%	0%	0%	1%	4%	1%	4%	2%	7%
Turn Type	D.P+P	D.P+P	NA		Perm	NA			Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3			3					1			1	1	
Permitted Phases	3	3			3				1	1		1	1			
Actuated Green, G (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Effective Green, g (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36			0.17					0.26	0.26		0.26	0.26	
Clearance Time (s)						4.0					4.0	4.0		4.0	4.0	
Vehicle Extension (s)						2.0					2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)			490			471					469	398		297	399	
v/s Ratio Prot			c0.21												0.02	
v/s Ratio Perm			c0.20			0.11					0.11	0.01		c0.27		
v/c Ratio			1.16			0.64					0.41	0.04		1.03	0.06	
Uniform Delay, d1			21.6			25.9					20.4	18.4		24.7	18.4	
Progression Factor			1.00			1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2			91.1			6.7					2.7	0.2		61.2	0.3	
Delay (s)			112.6			32.5					23.1	18.5		85.9	18.7	
Level of Service			F			C					C	B		F	B	
Approach Delay (s)			112.6			32.5					22.0			70.8		
Approach LOS			F			C					C			E		

Intersection Summary			
HCM 2000 Control Delay	66.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	14.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

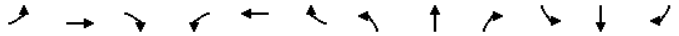
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	0	0	3	331	0	0	0	16	269	1
Future Volume (Veh/h)	1	2	0	0	3	331	0	0	0	16	269	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.50	0.50	0.78	0.78	0.78	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	4	0	0	4	424	0	0	0	17	292	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	752	326	292	328	327	0	293			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	752	326	292	328	327	0	293			0		
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 %	99	99	100	100	99	61	100			99		
cM capacity (veh/h)	198	589	752	620	589	1091	1280			1636		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	6	428	310
Volume Left	2	0	17
Volume Right	0	424	1
cSH	356	1082	1636
Volume to Capacity	0.02	0.40	0.01
Queue Length 95th (ft)	1	48	1
Control Delay (s)	15.3	10.5	0.5
Lane LOS	C	B	A
Approach Delay (s)	15.3	10.5	0.5
Approach LOS	C	B	

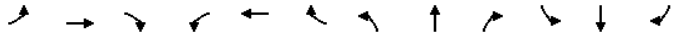
Intersection Summary					
Average Delay	6.4				
Intersection Capacity Utilization	42.4%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	8	10	0	11	8	6	323	263	10	14	139	3
Future Volume (Veh/h)	8	10	0	11	8	6	323	263	10	14	139	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.63	0.63	0.63	0.81	0.81	0.81	0.90	0.90	0.90
Hourly flow rate (vph)	11	13	0	17	13	10	399	325	12	16	154	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1333	1322	156	1323	1318	331	157			337		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1333	1322	156	1323	1318	331	157			337		
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 %	88	88	100	82	89	99	72			99		
cM capacity (veh/h)	93	112	896	96	113	715	1435			1234		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	24	40	736	173
Volume Left	11	17	399	16
Volume Right	0	10	12	3
cSH	103	131	1435	1234
Volume to Capacity	0.23	0.31	0.28	0.01
Queue Length 95th (ft)	21	30	29	1
Control Delay (s)	50.5	44.3	5.9	0.8
Lane LOS	F	E	A	A
Approach Delay (s)	50.5	44.3	5.9	0.8
Approach LOS	F	E		

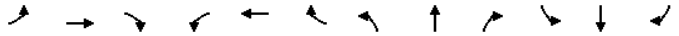
Intersection Summary					
Average Delay	7.7				
Intersection Capacity Utilization	53.9%	ICU Level of Service	A		
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	5	263	2	0	10	0	584	0	2	149	0
Future Volume (Veh/h)	1	5	263	2	0	10	0	584	0	2	149	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.60	0.60	0.60	0.81	0.81	0.81	0.84	0.84	0.84
Hourly flow rate (vph)	1	5	283	3	0	17	0	721	0	2	177	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	919	902	177	1188	902	721	177			721		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	919	902	177	1188	902	721	177			721		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	68	97	100	96	100			100		
cM capacity (veh/h)	244	279	871	111	279	431	1411			890		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	289	20	721	179
Volume Left	1	3	0	2
Volume Right	283	17	0	0
cSH	833	301	1700	890
Volume to Capacity	0.35	0.07	0.42	0.00
Queue Length 95th (ft)	39	5	0	0
Control Delay (s)	11.6	17.8	0.0	0.1
Lane LOS	B	C		A
Approach Delay (s)	11.6	17.8	0.0	0.1
Approach LOS	B	C		

Intersection Summary					
Average Delay			3.1		
Intersection Capacity Utilization			54.1%	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	0	2	0	0	0	2	570	0	1	401	13
Future Volume (Veh/h)	11	0	2	0	0	0	2	570	0	1	401	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.92	0.92	0.92	0.81	0.81	0.81	0.94	0.94	0.94
Hourly flow rate (vph)	14	0	2	0	0	0	2	704	0	1	427	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	1144	1144	434	1146	1151	704	441			704		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1144	1144	434	1146	1151	704	441			704		
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 %	92	100	100	100	100	100	100			100		
cM capacity (veh/h)	178	201	626	175	197	437	1130			903		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	16	706	442
Volume Left	14	2	1
Volume Right	2	0	14
cSH	196	1130	903
Volume to Capacity	0.08	0.00	0.00
Queue Length 95th (ft)	7	0	0
Control Delay (s)	25.0	0.0	0.0
Lane LOS	D	A	A
Approach Delay (s)	25.0	0.0	0.0
Approach LOS	D		

Intersection Summary					
Average Delay		0.4			
Intersection Capacity Utilization		41.5%	ICU Level of Service	A	
Analysis Period (min)		15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	3	581	0	0	413
Future Volume (Veh/h)	1	3	581	0	0	413
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.50	0.50	0.81	0.81	0.94	0.94
Hourly flow rate (vph)	2	6	717	0	0	439
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	1156	717			717	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1156	717			717	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			100	
cM capacity (veh/h)	219	433			893	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	8	717	439
Volume Left	2	0	0
Volume Right	6	0	0
cSH	348	1700	893
Volume to Capacity	0.02	0.42	0.00
Queue Length 95th (ft)	2	0	0
Control Delay (s)	15.6	0.0	0.0
Lane LOS	C		
Approach Delay (s)	15.6	0.0	0.0
Approach LOS	C		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		40.6%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	1	570	1	3	399
Future Volume (Veh/h)	2	1	570	1	3	399
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.81	0.81	0.92	0.92
Hourly flow rate (vph)	3	1	704	1	3	434
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	1144	704			705	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1144	704			705	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	222	440			902	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	4	705	437
Volume Left	3	0	3
Volume Right	1	1	0
cSH	254	1700	902
Volume to Capacity	0.02	0.41	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	19.4	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	19.4	0.0	0.1
Approach LOS	C		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		40.1%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	9	562	7	2	399
Future Volume (Veh/h)	11	9	562	7	2	399
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.56	0.56	0.81	0.81	0.92	0.92
Hourly flow rate (vph)	20	16	694	9	2	434
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	1136	698			703	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1136	698			703	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	91	96			100	
cM capacity (veh/h)	216	444			904	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	36	703	436
Volume Left	20	0	2
Volume Right	16	9	0
cSH	280	1700	904
Volume to Capacity	0.13	0.41	0.00
Queue Length 95th (ft)	11	0	0
Control Delay (s)	19.8	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	19.8	0.0	0.1
Approach LOS	C		

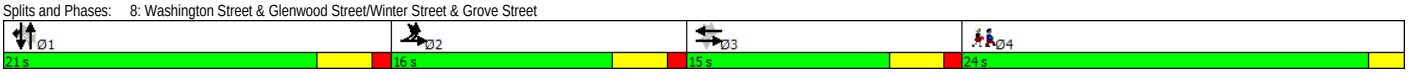
Intersection Summary				
Average Delay		0.6		
Intersection Capacity Utilization		40.0%	ICU Level of Service	A
Analysis Period (min)		15		

Build (2026) Condition

Lane Group	EBL2	EBL	EBT	WBL	WBT	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	4	111	184	81	404	11	1	9	26	217	205	180	
Future Volume (vph)	4	111	184	81	404	11	1	9	26	217	205	180	
Turn Type	D.P+P	D.P+P	NA	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3		3			1			1	1	4
Permitted Phases	3	3		3		1	1		1	1			
Detector Phase	2	2	2 3	3	3	1	1	1	1	1	1	1	
Switch Phase													
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	1.0
Minimum Split (s)	9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	24.0
Total Split (s)	16.0	16.0		15.0	15.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	24.0
Total Split (%)	21.1%	21.1%		19.7%	19.7%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	32%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0	0.0	
Total Lost Time (s)					4.0			4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max	None
Act Effct Green (s)			23.8		11.4			17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36		0.17			0.27	0.27		0.27	0.27	
v/c Ratio			0.79		1.50			0.11	0.07		1.22	0.44	
Control Delay			36.3		258.6			24.7	0.3		147.8	17.0	
Queue Delay			0.0		0.0			0.0	0.0		0.0	0.0	
Total Delay			36.3		258.6			24.7	0.3		147.8	17.0	
LOS			D		F			C	A		F	B	
Approach Delay			36.3		258.6			11.0			107.9		
Approach LOS			D		F			B			F		

Intersection Summary	
Cycle Length: 76	
Actuated Cycle Length: 66.4	
Natural Cycle: 120	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.50	
Intersection Signal Delay: 155.2	Intersection LOS: F
Intersection Capacity Utilization 81.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Washington Street & Glenwood Street/Winter Street & Grove Street

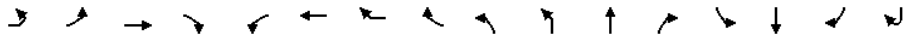


Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	329	789	29	37	485	213
v/c Ratio	0.79	1.50	0.11	0.07	1.22	0.44
Control Delay	36.3	258.6	24.7	0.3	147.8	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.3	258.6	24.7	0.3	147.8	17.0
Queue Length 50th (ft)	120	~274	11	0	~317	45
Queue Length 95th (ft)	#275	#386	25	0	#471	102
Internal Link Dist (ft)	377	369	306		848	
Turn Bay Length (ft)				65		65
Base Capacity (vph)	414	526	271	501	398	479
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	1.50	0.11	0.07	1.22	0.44

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

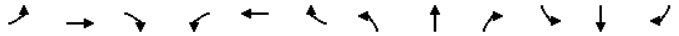
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2
Lane Configurations																
Traffic Volume (vph)	4	111	184	10	81	404	23	266	11	1	9	26	217	205	180	5
Future Volume (vph)	4	111	184	10	81	404	23	266	11	1	9	26	217	205	180	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12	11	11	11	11
Total Lost time (s)			4.0			4.0					4.0	4.0		4.0	4.0	
Lane Util. Factor			1.00			0.95					1.00	1.00		1.00	1.00	
Frpb, ped/bikes			1.00			0.89					1.00	1.00		1.00	1.00	
Flpb, ped/bikes			1.00			1.00					0.97	1.00		1.00	1.00	
Frt			1.00			0.94					1.00	0.85		1.00	0.85	
Flt Protected			0.98			0.99					0.97	1.00		0.97	1.00	
Satd. Flow (prot)			1809			2998					1794	1615		1782	1531	
Flt Permitted			0.24			0.87					0.56	1.00		0.82	1.00	
Satd. Flow (perm)			443			2617					1026	1615		1504	1531	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.98	0.98	0.98	0.98	0.71	0.71	0.71	0.71	0.87	0.87	0.87	0.87
Adj. Flow (vph)	4	118	196	11	83	412	23	271	15	1	13	37	249	236	207	6
RTOR Reduction (vph)	0	0	1	0	0	86	0	0	0	0	0	27	0	0	74	0
Lane Group Flow (vph)	0	0	328	0	0	703	0	0	0	0	29	10	0	485	139	0
Confl. Peds. (#/hr)	93						93			93						93
Confl. Bikes (#/hr)															1	1
Heavy Vehicles (%)	0%	5%	1%	0%	0%	1%	4%	1%	0%	0%	0%	0%	1%	0%	2%	0%
Turn Type	D.P+P	D.P+P	NA		Perm	NA			Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3			3					1			1	1	
Permitted Phases	3	3			3				1	1		1	1			
Actuated Green, G (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Effective Green, g (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36			0.17					0.26	0.26		0.26	0.26	
Clearance Time (s)						4.0					4.0	4.0		4.0	4.0	
Vehicle Extension (s)						2.0					2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)			410			445					269	424		395	402	
v/s Ratio Prot			c0.15												0.09	
v/s Ratio Perm			0.14			c0.27					0.03	0.01		c0.32		
v/c Ratio			0.80			1.58					0.11	0.02		1.23	0.35	
Uniform Delay, d1			19.4			27.8					18.7	18.3		24.7	20.0	
Progression Factor			1.00			1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2			15.0			271.2					0.8	0.1		123.0	2.4	
Delay (s)			34.4			299.0					19.5	18.4		147.7	22.3	
Level of Service			C			F					B	B		F	C	
Approach Delay (s)			34.4			299.0					18.9			109.4		
Approach LOS			C			F					B			F		

Intersection Summary			
HCM 2000 Control Delay	172.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	14.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

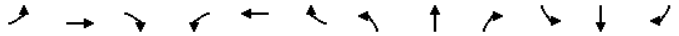
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1	1	0	2	279	0	0	0	6	388	1
Future Volume (Veh/h)	4	1	1	0	2	279	0	0	0	6	388	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.50	0.50	0.96	0.96	0.96	0.92	0.92	0.92	0.94	0.94	0.94
Hourly flow rate (vph)	8	2	2	0	2	291	0	0	0	6	413	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	718	426	414	428	426	0	414			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	718	426	414	428	426	0	414			0		
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 %	97	100	100	100	100	73	100			100		
cM capacity (veh/h)	253	522	643	535	522	1085	1156			1636		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	12	293	420
Volume Left	8	0	6
Volume Right	2	291	1
cSH	311	1077	1636
Volume to Capacity	0.04	0.27	0.00
Queue Length 95th (ft)	3	28	0
Control Delay (s)	17.1	9.6	0.1
Lane LOS	C	A	A
Approach Delay (s)	17.1	9.6	0.1
Approach LOS	C	A	

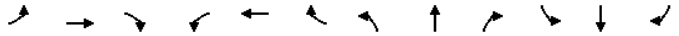
Intersection Summary					
Average Delay		4.2			
Intersection Capacity Utilization	44.9%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	5	0	13	22	9	252	151	5	5	242	6
Future Volume (Veh/h)	2	5	0	13	22	9	252	151	5	5	242	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.69	0.69	0.69	0.85	0.85	0.85	0.75	0.75	0.75
Hourly flow rate (vph)	2	6	0	19	32	13	296	178	6	7	323	8
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	1143	1117	327	1117	1118	181	331			184		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1143	1117	327	1117	1118	181	331			184		
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	96	100	87	80	99	76			100		
cM capacity (veh/h)	121	158	719	147	158	867	1228			1403		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	64	480	338
Volume Left	2	19	296	7
Volume Right	0	13	6	8
cSH	147	184	1228	1403
Volume to Capacity	0.05	0.35	0.24	0.00
Queue Length 95th (ft)	4	36	24	0
Control Delay (s)	30.9	34.6	6.4	0.2
Lane LOS	D	D	A	A
Approach Delay (s)	30.9	34.6	6.4	0.2
Approach LOS	D	D		

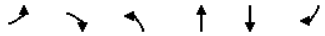
Intersection Summary					
Average Delay	6.3				
Intersection Capacity Utilization	48.9%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	389	0	0	14	0	395	1	2	253	0
Future Volume (Veh/h)	0	0	389	0	0	14	0	395	1	2	253	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.55	0.55	0.55	0.87	0.87	0.87	0.75	0.75	0.75
Hourly flow rate (vph)	0	0	418	0	0	25	0	454	1	3	337	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	822	798	337	1216	798	454	337			455		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	822	798	337	1216	798	454	337			455		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	41	100	100	96	100			100		
cM capacity (veh/h)	282	320	710	65	321	610	1234			1116		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	418	25	455	340
Volume Left	0	0	0	3
Volume Right	418	25	1	0
cSH	710	610	1700	1116
Volume to Capacity	0.59	0.04	0.27	0.00
Queue Length 95th (ft)	97	3	0	0
Control Delay (s)	17.1	11.2	0.0	0.1
Lane LOS	C	B		A
Approach Delay (s)	17.1	11.2	0.0	0.1
Approach LOS	C	B		

Intersection Summary				
Average Delay			6.0	
Intersection Capacity Utilization			51.6%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	4	5	379	633	11
Future Volume (Veh/h)	13	4	5	379	633	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.61	0.61	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	21	7	6	426	745	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	1190	752	758			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1190	752	758			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	98	99			
cM capacity (veh/h)	208	414	862			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	28	432	758
Volume Left	21	6	0
Volume Right	7	0	13
cSH	237	862	1700
Volume to Capacity	0.12	0.01	0.45
Queue Length 95th (ft)	10	1	0
Control Delay (s)	22.2	0.2	0.0
Lane LOS	C	A	
Approach Delay (s)	22.2	0.2	0.0
Approach LOS	C		

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	44.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	392	1	2	641
Future Volume (Veh/h)	0	0	392	1	2	641
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.87	0.87	0.85	0.85
Hourly flow rate (vph)	0	0	451	1	2	754
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	1210	452			452	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1210	452			452	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	203	612			1119	

Direction, Lane #	NB 1	SB 1
Volume Total	452	756
Volume Left	0	2
Volume Right	1	0
cSH	1700	1119
Volume to Capacity	0.27	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		A
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	38.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	4	392	0	0	642
Future Volume (Veh/h)	2	4	392	0	0	642
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	4	426	0	0	698
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	1124	426			426	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1124	426			426	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			100	
cM capacity (veh/h)	227	628			1133	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	426	698
Volume Left	2	0	0
Volume Right	4	0	0
cSH	396	1700	1700
Volume to Capacity	0.02	0.25	0.41
Queue Length 95th (ft)	1	0	0
Control Delay (s)	14.2	0.0	0.0
Lane LOS	B		
Approach Delay (s)	14.2	0.0	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		43.8%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	16	24	360	21	21	614
Future Volume (Veh/h)	16	24	360	21	21	614
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.80	0.80	0.89	0.89	0.83	0.83
Hourly flow rate (vph)	20	30	404	24	25	740
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	1206	416			428	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1206	416			428	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	95			98	
cM capacity (veh/h)	200	641			1142	

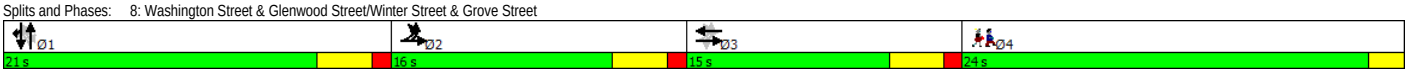
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	50	428	765
Volume Left	20	0	25
Volume Right	30	24	0
cSH	341	1700	1142
Volume to Capacity	0.15	0.25	0.02
Queue Length 95th (ft)	13	0	2
Control Delay (s)	17.4	0.0	0.6
Lane LOS	C		A
Approach Delay (s)	17.4	0.0	0.6
Approach LOS	C		

Intersection Summary				
Average Delay		1.1		
Intersection Capacity Utilization		59.3%	ICU Level of Service	B
Analysis Period (min)		15		

Lane Group	EBL2	EBL	EBT	WBL	WBT	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	15	122	387	15	198	7	10	157	51	170	112	67	
Future Volume (vph)	15	122	387	15	198	7	10	157	51	170	112	67	
Turn Type	D.P+P	D.P+P	NA	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3		3			1			1	1	4
Permitted Phases	3	3		3		1	1		1	1			
Detector Phase	2	2	2 3	3	3	1	1	1	1	1	1	1	
Switch Phase													
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	1.0
Minimum Split (s)	9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	24.0
Total Split (s)	16.0	16.0		15.0	15.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	24.0
Total Split (%)	21.1%	21.1%		19.7%	19.7%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	32%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0	0.0	
Total Lost Time (s)					4.0			4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max	None
Act Effct Green (s)			23.8		11.4			17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36		0.17			0.27	0.27		0.27	0.27	
v/c Ratio			1.17		0.76			0.42	0.12		1.04	0.19	
Control Delay			118.8		24.2			26.9	2.5		94.5	6.1	
Queue Delay			0.0		0.0			0.0	0.0		0.0	0.0	
Total Delay			118.8		24.2			26.9	2.5		94.5	6.1	
LOS			F		C			C	A		F	A	
Approach Delay			118.8		24.2			21.3			74.7		
Approach LOS			F		C			C			E		

Intersection Summary	
Cycle Length: 76	
Actuated Cycle Length: 66.4	
Natural Cycle: 110	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.17	
Intersection Signal Delay: 66.6	Intersection LOS: E
Intersection Capacity Utilization 81.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Washington Street & Glenwood Street/Winter Street & Grove Street

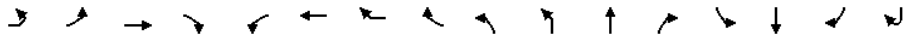


Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	570	505	197	58	307	89
v/c Ratio	1.17	0.76	0.42	0.12	1.04	0.19
Control Delay	118.8	24.2	26.9	2.5	94.5	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	118.8	24.2	26.9	2.5	94.5	6.1
Queue Length 50th (ft)	~304	63	82	0	~182	0
Queue Length 95th (ft)	#496	#128	140	10	#330	30
Internal Link Dist (ft)	377	369	306		856	
Turn Bay Length (ft)				65		65
Base Capacity (vph)	489	666	472	485	296	475
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.17	0.76	0.42	0.12	1.04	0.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

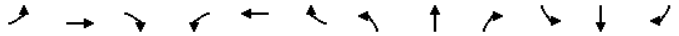
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2
Lane Configurations																
Traffic Volume (vph)	15	122	387	11	15	198	14	208	7	10	157	51	170	112	67	15
Future Volume (vph)	15	122	387	11	15	198	14	208	7	10	157	51	170	112	67	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12	11	11	11	11
Total Lost time (s)			4.0			4.0					4.0	4.0		4.0	4.0	
Lane Util. Factor			1.00			0.95					1.00	1.00		1.00	1.00	
Frpb, ped/bikes			1.00			0.90					1.00	1.00		1.00	1.00	
Flpb, ped/bikes			1.00			1.00					0.99	1.00		1.00	1.00	
Frt			1.00			0.92					1.00	0.85		1.00	0.85	
Flt Protected			0.99			1.00					1.00	1.00		0.97	1.00	
Satd. Flow (prot)			1856			2985					1863	1553		1745	1517	
Flt Permitted			0.44			0.92					0.95	1.00		0.62	1.00	
Satd. Flow (perm)			830			2764					1785	1553		1120	1517	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.86	0.86	0.86	0.86	0.88	0.88	0.88	0.88	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	130	412	12	17	230	16	242	8	11	178	58	185	122	73	16
RTOR Reduction (vph)	0	0	1	0	0	201	0	0	0	0	0	43	0	0	66	0
Lane Group Flow (vph)	0	0	569	0	0	304	0	0	0	0	197	15	0	307	23	0
Confl. Peds. (#/hr)	59						59			59						59
Heavy Vehicles (%)	0%	1%	0%	9%	7%	1%	0%	0%	0%	0%	1%	4%	1%	4%	2%	7%
Turn Type	D.P+P	D.P+P	NA		Perm	NA			Perm	Perm	NA	Perm	Perm	NA	Prot	
Protected Phases	2	2	2 3			3					1			1	1	
Permitted Phases	3	3			3				1	1		1	1			
Actuated Green, G (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Effective Green, g (s)			23.8			11.4					17.6	17.6		17.6	17.6	
Actuated g/C Ratio			0.36			0.17					0.26	0.26		0.26	0.26	
Clearance Time (s)						4.0					4.0	4.0		4.0	4.0	
Vehicle Extension (s)						2.0					2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)			485			470					469	408		294	399	
v/s Ratio Prot			c0.22												0.02	
v/s Ratio Perm			c0.20			0.11					0.11	0.01		c0.27		
v/c Ratio			1.17			0.65					0.42	0.04		1.04	0.06	
Uniform Delay, d1			21.6			25.9					20.4	18.3		24.7	18.4	
Progression Factor			1.00			1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2			98.2			6.7					2.8	0.2		64.5	0.3	
Delay (s)			119.8			32.6					23.2	18.5		89.2	18.7	
Level of Service			F			C					C	B		F	B	
Approach Delay (s)			119.8			32.6					22.1			73.3		
Approach LOS			F			C					C			E		

Intersection Summary			
HCM 2000 Control Delay	69.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	14.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

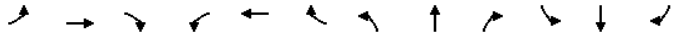
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	0	0	3	331	0	0	0	16	279	1
Future Volume (Veh/h)	1	2	0	0	3	331	0	0	0	16	279	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.50	0.50	0.78	0.78	0.78	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	4	0	0	4	424	0	0	0	17	303	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	764	338	304	340	338	0	304			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	764	338	304	340	338	0	304			0		
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 %	99	99	100	100	99	61	100			99		
cM capacity (veh/h)	195	581	741	610	580	1091	1268			1636		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	6	428	321
Volume Left	2	0	17
Volume Right	0	424	1
cSH	350	1082	1636
Volume to Capacity	0.02	0.40	0.01
Queue Length 95th (ft)	1	48	1
Control Delay (s)	15.5	10.5	0.5
Lane LOS	C	B	A
Approach Delay (s)	15.5	10.5	0.5
Approach LOS	C	B	

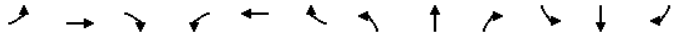
Intersection Summary					
Average Delay	6.3				
Intersection Capacity Utilization	42.9%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	10	0	11	8	6	323	263	10	14	147	3
Future Volume (Veh/h)	8	10	0	11	8	6	323	263	10	14	147	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.63	0.63	0.63	0.81	0.81	0.81	0.90	0.90	0.90
Hourly flow rate (vph)	11	13	0	17	13	10	399	325	12	16	163	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1342	1332	164	1332	1327	331	166			337		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1342	1332	164	1332	1327	331	166			337		
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 %	88	88	100	82	88	99	72			99		
cM capacity (veh/h)	91	111	885	94	111	715	1424			1234		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	24	40	736	182
Volume Left	11	17	399	16
Volume Right	0	10	12	3
cSH	101	129	1424	1234
Volume to Capacity	0.24	0.31	0.28	0.01
Queue Length 95th (ft)	21	31	29	1
Control Delay (s)	51.5	45.2	6.0	0.8
Lane LOS	F	E	A	A
Approach Delay (s)	51.5	45.2	6.0	0.8
Approach LOS	F	E		

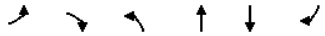
Intersection Summary					
Average Delay	7.7				
Intersection Capacity Utilization	54.3%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	6	272	0	0	3	0	591	0	5	154	0
Future Volume (Veh/h)	1	6	272	0	0	3	0	591	0	5	154	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.60	0.60	0.60	0.81	0.81	0.81	0.84	0.84	0.84
Hourly flow rate (vph)	1	6	292	0	0	5	0	730	0	6	183	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	930	925	183	1220	925	730	183			730		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	930	925	183	1220	925	730	183			730		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	66	100	100	99	100			99		
cM capacity (veh/h)	245	269	865	103	269	426	1404			883		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	299	5	730	189
Volume Left	1	0	0	6
Volume Right	292	5	0	0
cSH	821	426	1700	883
Volume to Capacity	0.36	0.01	0.43	0.01
Queue Length 95th (ft)	42	1	0	1
Control Delay (s)	11.9	13.6	0.0	0.4
Lane LOS	B	B		A
Approach Delay (s)	11.9	13.6	0.0	0.4
Approach LOS	B	B		

Intersection Summary					
Average Delay			3.0		
Intersection Capacity Utilization			55.8%	ICU Level of Service	B
Analysis Period (min)			15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	2	2	578	410	13
Future Volume (Veh/h)	11	2	2	578	410	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.94	0.94
Hourly flow rate (vph)	14	2	2	714	436	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	1161	443	450			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1161	443	450			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	100	100			
cM capacity (veh/h)	217	619	1121			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	16	716	450
Volume Left	14	2	0
Volume Right	2	0	14
cSH	237	1121	1700
Volume to Capacity	0.07	0.00	0.26
Queue Length 95th (ft)	5	0	0
Control Delay (s)	21.3	0.0	0.0
Lane LOS	C	A	
Approach Delay (s)	21.3	0.0	0.0
Approach LOS	C		

Intersection Summary				
Average Delay		0.3		
Intersection Capacity Utilization		42.0%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	587	2	3	422
Future Volume (Veh/h)	0	0	587	2	3	422
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.50	0.50	0.81	0.81	0.94	0.94
Hourly flow rate (vph)	0	0	725	2	3	449
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	1181	726			727	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1181	726			727	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	211	428			886	

Direction, Lane #	NB 1	SB 1
Volume Total	727	452
Volume Left	0	3
Volume Right	2	0
cSH	1700	886
Volume to Capacity	0.43	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.1
Lane LOS		A
Approach Delay (s)	0.0	0.1
Approach LOS		

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	34.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	2	587	0	0	426
Future Volume (Veh/h)	1	2	587	0	0	426
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	2	638	0	0	463
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	1101	638			638	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1101	638			638	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	235	477			946	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	3	638	463
Volume Left	1	0	0
Volume Right	2	0	0
cSH	355	1700	1700
Volume to Capacity	0.01	0.38	0.27
Queue Length 95th (ft)	1	0	0
Control Delay (s)	15.2	0.0	0.0
Lane LOS	C		
Approach Delay (s)	15.2	0.0	0.0
Approach LOS	C		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		40.9%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	18	562	16	17	393
Future Volume (Veh/h)	17	18	562	16	17	393
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.56	0.56	0.81	0.81	0.92	0.92
Hourly flow rate (vph)	30	32	694	20	18	427
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	1167	704			714	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1167	704			714	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	85	93			98	
cM capacity (veh/h)	203	440			895	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	62	714	445
Volume Left	30	0	18
Volume Right	32	20	0
cSH	281	1700	895
Volume to Capacity	0.22	0.42	0.02
Queue Length 95th (ft)	21	0	2
Control Delay (s)	21.4	0.0	0.6
Lane LOS	C		A
Approach Delay (s)	21.4	0.0	0.6
Approach LOS	C		

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	44.5%	ICU Level of Service	A	
Analysis Period (min)	15			

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