TECHNICAL MEMORANDUM

DATE: **August 17, 2023**
TO: **Valerie Oorthuys, Town of Stow**
FROM: **Casey Cooper, MPO Staff**
RE: **Stow Intersection Improvement Study**

This memorandum summarizes the analyses and improvement strategies for the intersection of Route 117 and Route 62 in Stow, also known as the intersection of Great Road, Library Hill Road, and Gleasondale Road.

This memorandum contains the following sections:

The memorandum also includes technical appendices that contain data and methods applied in the study.

1 STUDY BACKGROUND

The purpose of this study is to improve safety and operations at intersections within the Boston Metropolitan Planning Organization (MPO) region with a focus on cost- and time-effective strategies. The intent of the work is to identify simple solutions that can be used to enhance intersection conditions in the short term. These changes have the potential to serve as a first step before municipalities secure funding for larger scale projects to improve conditions at the intersection in the future.

In 2014, the Boston Region MPO participated in an intersection improvement program with the Massachusetts Department of Transportation (MassDOT) Highway Division to provide low-cost, small scale, and quickly implementable improvements, including signal retiming, signing, and pavement markings. The

Civil Rights, nondiscrimination, and accessibility information is on the last page.

program was funded in the Transportation Improvement Program with Congestion Mitigation and Air Quality Improvement Program dollars.

The primary goal of the program was to identify low-cost improvements that would help alleviate congestion at problem intersections. These types of small-scale improvements enjoy a high benefit-to-cost ratio. Through the 2014 iteration of the Intersection Improvement Program, MPO staff selected candidate intersections and contacted the relevant municipalities, using the Congestion Management Process. A consulting firm then visited 35 intersections around the region, implemented signal timing improvements, and proposed other low-cost improvement recommendations that municipalities could implement.

The Intersection Improvement Program was reintroduced through the Federal Fiscal Year 2021 Unified Planning Work Program with modifications to the original work. This project is on a smaller scale than the 2014 effort, conducted solely by MPO staff, and focused on providing recommendations that municipalities can implement themselves to improve the selected intersections.

This work gives the communities in which the intersections are located the opportunity to review the needs of the studied intersections, with a focus on changes that the municipalities themselves can implement quickly and within their current operating budgets to improve safety and operations. This project also highlights significant intersection needs before the municipality commits funds for design and engineering. Eventually, if the project qualifies for federal funds, this study's documentation will be useful to MassDOT. This study supports the MPO's visions and goals, which include increasing transportation safety, maintaining the transportation system, and advancing mobility.

This iteration of the Intersection Improvement Program began with the selection of municipality-owned intersections. MPO staff solicited recommendations from the community and compared the proposed locations based on crash averages, equity data, and consideration of which intersections' needs would be best addressed through this project. MPO staff consulted with municipal staff to validate the poor operations and safety issues at each intersection under consideration before finalizing the location selections. The following locations were selected for study:

1. Route 117 and Route 62 in Stow
2. Linden Street and Weston Road in Wellesley
3. Arlington Road and Pleasant Street in Woburn[1]

[1] MPO staff work for Woburn included additional consultation for Eaton Avenue and Main Street in Woburn.

This memorandum documents the MPO staff's analysis of the selected intersection of Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) in Stow. The recommendations for low-cost improvements outlined in this document can be used by Stow to develop a safety and traffic operation implementation plan for the location that the municipality would be responsible for funding.

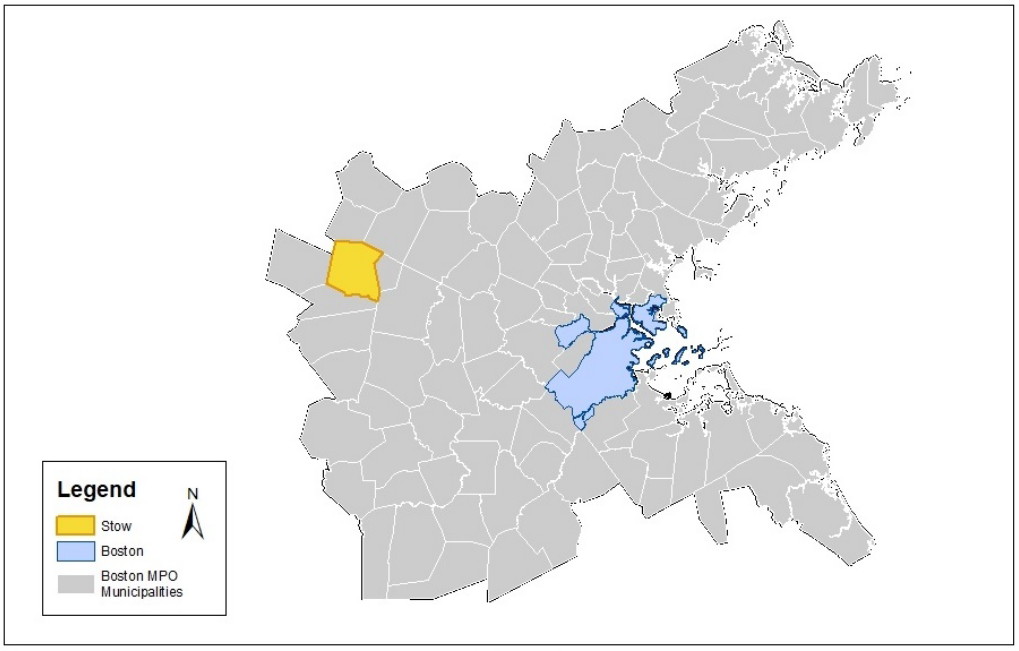
2 EXISTING CONDITIONS

2.1 Regional Transportation Context

Stow is a town located west of Boston with a 2020 population of 7,174. It has a land area of 18.1 square miles, giving it an average population density of 396 people per square mile. The Metropolitan Area Planning Council characterizes Stow as a developing suburb.

Stow is located east of Interstate 495 (I-495) in Bolton and south of the limited-access section of Route 2 in Acton. The study intersection is where Route 62 meets and joins Route 117 and is considered the town center. This location is about 23 miles west of downtown Boston (Figure 1).

Figure 1
Stow within the Boston MPO Region



Route 117 runs through the study intersection in an east-west alignment. Five miles to the west it connects with I-495 at an interchange in the town of Bolton.

Two miles to the east Route 117 enters the town of Maynard and eventually reaches Waltham. In Stow Route 117 is called Great Road.

The southerly branch of the study intersection is Route 62, which is called Gleasondale Road in Stow. Five miles to the south it reaches the town center of the more densely populated community of Hudson. Route 62 leaves the study intersection via the easterly branch, which is designated as both Routes 62 and 117. In Maynard, Route 62 branches from Route 117 and continues north through Maynard center. Route 62 then connects with a signalized intersection of Route 2 in Concord.

The northerly branch of the intersection is Library Hill Road and is not a numbered route. Library Hill Road connects with Crescent Street, which then connects with West Acton Road. Turning to South Acton Road leads to Route 27 and the South Acton commuter rail station. A mile beyond the rail station is the limited-access section of Route 2 and Kelly's Corner, the regional commercial center.

2.2 The Study Intersection

The intersection of Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) is located within the civic center of Stow, with many buildings within walking distance, including the Town Building, Randall Library, two churches, and two schools. The intersection is the most heavily traveled in Stow, with more than 15,000 vehicles passing through the location daily.

The study intersection is a four-legged, signalized intersection. Route 117, or Great Road, travels east and west while Route 62, which shares the easterly branch with Route 117, turns south at the study intersection and is called Gleasondale Road in Stow. Library Hill Road is the northerly branch of the study intersection.

Three of the intersection approaches include two lanes, one for through travel and the other an exclusive turning lane. Route 117's westbound approach features a dedicated left-turn lane while its eastbound approach and Route 62's northbound approach include dedicated right-turn lanes. The intersection approach for Library Hill Road southbound only includes one lane, however due to the existing width of this lane, drivers treat it as two lanes—a left-turn lane and a through right lane. All four legs of the intersection are striped with one departure lane.

On the northeast corner of the intersection is Randall Library. Common Road, which crosses near the library to connect Great Road (Routes 117 and 62) to

Library Hill Road, includes four parking spaces for the library. One additional Randall Library parking space is located off Crescent Street. Town staff noted that parallel parking along Common Road is unofficial. Just east of Randall Library, where Common Road meets Great Road (Routes 117 and 62), is the Children's Horizon's Preschool and the First Parish Church of Stow & Acton. Northwest of the library is Center School. Randall Library is a popular after-school destination because of the proximity of the church and schools.

The northwest corner of the intersection features the former One Main Street Studio florist building; the southwest corner of the intersection is home to a gas station; and the southeast corner of the intersection is residential, with a low stone wall marking the edge of the property. The study intersection and its surrounding destinations are illustrated in Figure 2.

Figure 2
Intersection Study Area

3 ISSUES AND CONCERNS

Stow suggested the intersection of Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) for this study in anticipation of the impact that several development projects will bring to the location, which is already the most heavily trafficked intersection in Stow. A mixed-income redevelopment effort

between the Town and a private developer at Stow Acres Country Club North Course will introduce approximately 190 residential units, and the study intersection is expected to receive the bulk of traffic generated by the development.

There is also the potential for two developments to the west of the intersection. The first is a proposed boarding school for approximately 600 students at the former Bose facility, and the second is a mixed-income housing development on Hudson Road with approximately 140 units. In addition to these anticipated demands, Stow's Complete Street Prioritization Plan includes multiple projects within one-quarter mile of the intersection.

Despite the significance of the location in Stow, the Town is aware of several issues of concern. Pavement is failing in several areas of the intersection, which has led signal sensors to malfunction. The town believes that timing of the traffic signal needs to be adjusted and that the intersection's turning lanes could also use improvement. The current turning lane queues have not been updated in years and the Town of Stow explained that they affect sight lines from various approaches.

According to town staff, Library Hill Road, receives fairly heavy usage despite observed volumes being relatively low. The Town of Stow noted that the main issue on the northern leg of the intersection is the lack of a dedicated left-turn lane and arrow for the movement.

Approximately 500 feet west of the study location is the skewed angle, three-way, stop-controlled intersection of Great Road and Crescent Street. The location introduces complexity to traffic operations of the study area when eastbound Great Road vehicles wait for a break in traffic to turn left onto Crescent Street. The narrow width of Great Road at the location makes it difficult for traffic behind the waiting vehicle to pass around the right of the turning driver and continue traveling eastbound, causing traffic to slow and vehicles to back up along Great Road.

Stow recently received an assessment at the intersection of Great Road and Crescent Street for the installation of a crosswalk and Rectangular Rapid Flashing Beacon (RRFB). The nearest crosswalk currently crosses Great Road about 60 feet east of Crescent Street, which makes pedestrians difficult to see from Crescent Street and introduces an unexpected pedestrian crossing location for drivers traveling along Great Road.

The assessment recommended moving the crosswalk 50 feet to the west so that it would be located on the corner of Crescent Street and proposed adding a

solar-powered RRFB to the crossing. The benefits of the crosswalk relocation include increased space for ADA-compliant ramps, which are not included with the current crosswalk, and a more direct connection to the crosswalk that facilitates pedestrian travel across Crescent Street north of the Great Road intersection. This memorandum will not take into consideration the impact of these proposed improvements as they have not yet been implemented.

East of the Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) intersection is another skewed angle, three-way, stop-controlled intersection with Great Road. This instance features Common Road as the third leg, the street that crosses near Randall Library to connect Great Road (Routes 117 and 62) to Library Hill Road. Stow staff explained that vehicles often use Common Road as a cut-through route to avoid the light at the Great Road, Library Hill Road, and Gleasondale Road intersection, either to go north on Library Hill Road or to travel east along Great Road (Routes 117 and 62). This traffic competes with the Randall Library on-street parking on Common Road.

4 BICYCLE AND PEDESTRIAN TRAVEL

4.1 Bicycle and Pedestrian Overview

On Thursday, November 18, 2021, the AM Peak hour at the Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) intersection was 7:00 AM to 8:00 AM and the PM Peak hour was 4:30 PM to 5:30 PM. The overall peak hour of data collection for all modes occurred during this PM Peak period. During both the AM and PM Peak periods, no pedestrians were counted. The AM Peak featured three bicyclists in the road and zero people bicycling on the intersection’s crosswalks, while the PM Peak included two bicyclists in the road and again zero people bicycling on crosswalks.

The intersection of Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) includes pedestrian accommodations such as crosswalks, sidewalks, and curb ramps for some but not all four intersection legs. The location does not feature bicycle facilities. Although the intersection is signalized for motor-vehicle travel, there is an absence of pedestrian signals.

The northeast corner of the study intersection includes a sidewalk along Library Hill Road, but it does not continue along Great Road (Routes 117 and 62). There are two curb ramps on the northeast corner, both of which include a pedestrian detectable warning strip, but only Library Hill Road is painted with a crosswalk to direct pedestrians across the intersection and increase driver awareness of people walking.

Figure 3
View across Library Hill Road of Northeast Intersection Corner

Figure 4
View across Great Road (Routes 117 and 62) of Northeast Intersection Corner

Figure 5
Pedestrian Facilities for Northeast Intersection Corner's
Library Hill Road Crossing

Figure 6
Great Road (Route 117 and 62) Crossing on Northeast Intersection Corner
with Pedestrian Detectable Warning Strip Lacking Crosswalk

The northwest corner of the study intersection is the only corner that includes a sidewalk, a curb ramp, and both a crosswalk and a pedestrian detectable warning strip for both directions of travel, although the sidewalk does not extend up Library Hill Road and only travels west along Great Road (Route 117).

Figure 7
View across Library Hill Road of Northwest Intersection Corner

Figure 8
View across Great Road (Route 117) of Northwest Intersection Corner

Figure 9
Northwest Intersection Pedestrian Facilities

The intersection's southwest corner does not include sidewalks, curb ramps, or detectable warning strips, but it does feature a crosswalk for both intersection legs. Both crosswalks lead directly into landscaping surrounded by a low curb.

Figure 10
View of Southwest Intersection Corner

Figure 11
View across Great Road (Route 117) of Southwest Intersection Corner

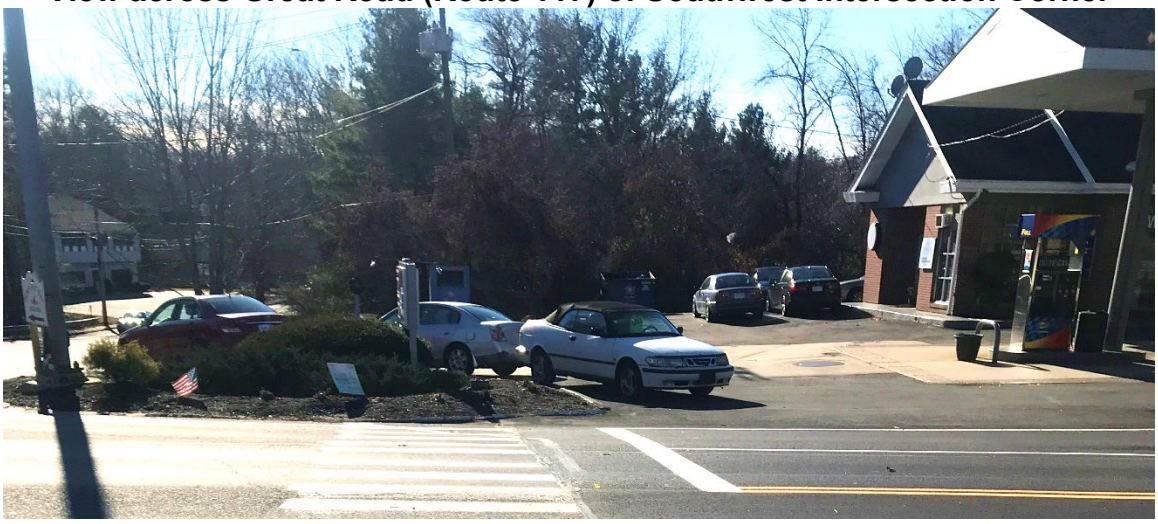


Figure 12
View across Gleasondale Road (Route 62) of Southwest Corner

Figure 13
Lack of Pedestrian Facilities on Southwest Intersection Corner leading to Gleasondale Road (Route 62) Crosswalk

Figure 14
Lack of Pedestrian Facilities on Southwest Intersection Corner leading to Great Road (Route 117) Crosswalk

Finally, the southeast corner of the intersection features a narrow sidewalk with a steep curb that does not include curb ramps or pedestrian detectable warning strips. A crosswalk leads pedestrians across Gleasondale Road. There is no crosswalk to facilitate pedestrian travel across Great Road (Routes 117 and 62) to the northeast intersection corner.

Figure 15
View across Gleasondale Road (Route 62) of Southeast Intersection Corner

Figure 16
Southeast Intersection Corner Crosswalk Lacking Pedestrian Facilities

Generally, the Town of Stow is interested in improving conditions for people cycling at this intersection. The intersection is used by people cycling in the region, especially those traveling to and from neighboring communities, with the towns of Stow and Harvard being regional cycling destinations. It should be noted for safety and utility purposes, however, that bicycle accommodations should be prioritized corridor-wide, not just at this intersection, and connectivity should be improved throughout the Town.

MPO staff graded the intersection of Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) in Stow using the Boston Region MPO's Pedestrian Report Card Assessment (PRCA) and Bicycle Report Card tools to assess the safety and comfort of the location for people walking and bicycling.[2,3] The grading categories reflect the MPO's Long-Range Transportation Plan (LRTP) goals and assess the quality of four different aspects of the environment: Capacity Management and Mobility, Economic Vitality, Safety, and System Preservation. The report cards also prioritize locations based on Transportation Equity factors, incorporating another Boston region LRTP goal.

[2] Boston Region Metropolitan Planning Organization, "Pedestrian Level-of-Service" (Prepared by Ryan Hicks and Casey-Marie Claude, January 2017). https://www.ctps.org/ped-report-card. (Updated in 2019: Boston Region Metropolitan Planning Organization, "Pedestrian Report Card Assessment Interactive Database" [Prepared by Casey-Marie Claude, November 2019]. https://www. https://www.ctps.org/PRCA-interactive-database.)

[3] Boston Region Metropolitan Planning Organization, "Development of a Scoring System for Bicycle Travel in the Boston Region" (Prepared by Casey-Marie Claude, November 2018). https://www.ctps.org/bicycle-level-of-service.

4.2 Pedestrian Report Card Assessment (PRCA)

Figure 17
Signalized Intersection PRCA for Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road)

Grading Categories: Scoring Breakdown
Signalized Intersection

Capacity Management and Mobility			
Performance Measure	**Percentage**	**Score (out of 3.0)**	**Rating**
Pedestrian Delay	43%	0	Not Present
Sidewalk Presence	29%	1	Poor
Curb Ramp Presence	14%	2	Fair
Crosswalk Presence	14%	2	Fair
Total (Pedestrian Delay Score * 0.43) + (Sidewalk Presence Score * 0.29) + (Curb Ramp Presence Score * 0.14) + (Crosswalk Presence Score * 0.14)	**100%**	**0.9**	**Poor**

Economic Vitality			
Performance Measure	**Percentage**	**Score (out of 3.0)**	**Rating**
Pedestrian Volumes	100%	**1**	**Poor**

Meaning of Ratings
Good: 3.0
Fair: 2.0
Poor: 1.0

Transportation Equity Priority
High: Four (4) or Five (5) Factors
Moderate Two (2) or Three (3) Factors
Low: Zero (0) or One (1) Factor

Safety			
Performance Measure	**Percentage**	**Score (out of 3.0)**	**Rating**
Sufficient Crossing Time (Index)	38%	0	Not Present
Pedestrian Crashes	38%	3	Good
Pedestrian Signal Phase	13%	0	Not Present
Vehicle Travel Speed	13%	2	Fair
Total (Sufficient Crossing Time (Index) Score * 0.38) + (Pedestrian Crashes Score * 0.38) + (Pedestrian Signal Presence Score * 0.13) + (Vehicle Travel Speed Score * 0.13)	**100%**	**1.4**	**Poor**

System Preservation			
Performance Measure	**Percentage**	**Score (out of 3.0)**	**Rating**
Sidewalk Condition	100%	**1**	**Poor**

Transportation Equity Priority	
Area Condition	**Yes/No**
Low Income Population =/> 32.32%	No
Minority Population =/> 28.19%	No
6.69%+ of Population > 75 Years of Age	Yes
16.15%+ of Households w/o Vehicle	No
Within ¼ Mile of School/College	Yes

The intersection received a poor score for Capacity Management and Mobility on its PRCA, which was most negatively influenced by the lack of pedestrian signals at the intersection. The existence of curb ramps, pedestrian detectable warnings, and crosswalks at some locations helped the intersection's overall category grade, but the variability of their presence could only earn fair scores for those grading categories. Sidewalks, when present at the intersection, did not meet the minimum five-foot width requirement and lacked continuity, earning the intersection a poor score for sidewalk presence.

For Economic Vitality, the intersection received a poor score because no pedestrians were observed walking through the location during the AM and PM peak travel periods.

The intersection earned another poor score for the Safety category. The lack of pedestrian signals at the intersection made it impossible for the location to earn points for the Sufficient Crossing Time Index and Pedestrian Signal Phase

categories, which significantly affected the overall Safety score. Best practice recommends providing sufficient time for people walking to cross an intersection leg at a pace of 3.5 feet per second if they have left the curb at the end of the WALK phase.[4] In areas known to have pedestrians who walk more slowly or areas with considerable numbers of people using mobility devices, slower speeds should be considered. By not providing pedestrian signals, the study intersection does not allow any time for pedestrians to cross.

The intersection received a fair score for vehicle travel speed in the Safety category because the posted speed limit at the location is 35 miles per hour, which is at the top of the fair range of 25 to 35 miles per hour for average vehicle travel speeds. Finally, there were no pedestrian crashes at the study intersection from 2015 through 2019, so the location earned the maximum number of points possible for the pedestrian crashes factor.

The Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) intersection received a poor score for System Preservation because the sidewalks at the location, when present, were narrow, lacked continuity, and were made up of variable quality pavement.

Overall, the intersection was considered a Moderate Priority area for pedestrian transportation equity. The proportion of the population older than 75 years of age at the study location exceeds the regional average and the intersection is located within one-quarter mile of a school.

[4] Manual on Uniform Traffic Control Devices (MUTCD). 2009. “Pedestrian Control Features: Pedestrian Intervals and Signal Phases.” Accessed October 4, 2022. https://mutcd.fhwa.dot.gov/htm/2009/part4/part4e.htm.

4.3 Bicycle Report Card

Figure 18
Bicycle Report Card for Route 117 and Route 62
(Great Road, Library Hill Road, and Gleasondale Road)

Grading Categories: Scoring Breakdown

Capacity Management and Mobility			
Performance Measure	**Percentage**	**Points**	**Grade**
Bicycle Facility Presence	50%	0	F
Proximity to Bike Network	33%	0	F
Proximity to Transit	17%	0	F
Total	**100%**	**0**	**F**

Economic Vitality			
Performance Measure	**Percentage**	**Points**	**Grade**
Bike Rack Presence	50%	0	F
Land Use	50%	100	A
Total	**100%**	**50**	**F**

Grading
A: 90–100 *Excellent*
B: 80–89 *Satisfactory*
C: 70–79 *Acceptable*
D: 60–69 *Needs Improvement*
F: 59–0 *Not recommended for bicycle travel*

Transportation Equity Priority
High: Four (4) or Five (5) Factors
Moderate Two (2) or Three (3) Factors
Low: Zero (0) or One (1) Factor

Safety			
Performance Measure	**Percentage**	**Points**	**Grade**
Bicycle Facility Presence	33%	0	F
Absence of Bicycle Crashes	33%	100	A
Bicyclist Operating Space	17%	0	F
Number of Travel Lanes	17%	80	B
Total	**100%**	**46.6**	**F**

System Preservation			
Performance Measure	**Percentage**	**Points**	**Grade**
Bicycle Facility Continuity	50%	0	F
Bicycle Facility Condition	50%	0	F
Total	**100%**	**0**	**F**

Transportation Equity Priority	
Area Condition	**Yes/No**
Low Income Population =/> 32.32%	No
Minority Population =/> 28.19%	No
18.2%+ of Population < 16 Years Old	Yes
16.15%+ of Households w/o Vehicle	No
Within ¼ Mile of School/College	Yes

The intersection received a failing score for the Capacity Management and Mobility category of the Bicycle Report Card. This is a result of the lack of bicycle facilities at the study location, the fact that the location is not within one-quarter mile of bicycle facilities, and the absence of a bus stop, transit station, or commuter rail station within one-half mile of the study location. Bicycle travel is difficult from the study location to other destinations throughout the Boston region.

The intersection received another failing score in the Economic Vitality category, in this case because the location does not include bike racks. This performance metric accounts for half of the overall category score, so the lack of safe places to secure bicycles negated the location's positive score for land use. The variety of destinations within the study area, such as Randall Library, Children's Horizon's Preschool, and the First Parish Church of Stow & Acton, indicate that there is reason for people to want to travel to the intersection.

The Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) intersection earned another failing score for the Safety category. The absence of bicycle facilities left the location with zero points for the associated performance metric. Without bicycle facilities at the intersection, the location is not eligible to receive points for the Bicyclist Operating Space performance metric because people riding bicycles are required to share space with people driving, leaving them without dedicated operating space. However, the location scored well in the Absence of Bicycle Crashes performance metric with 100 points because there were no bicycle crashes at the study intersection from 2015 through 2019. For the last Safety category performance metric, Number of Travel Lanes, the intersection received a score of 80 points. While roadways like Library Hill Road, which only include one travel lane per direction, would receive 100 points, the other three intersection legs lower the score for the intersection overall. Great Road and Gleasondale Road both feature two approach lanes and one departure lane. The intersection was deducted 20 points for the additional approach lane at three of its legs because they introduce more opportunities for conflicts between people driving and people bicycling.

The study intersection also failed the System Preservation category. This, once again, is a result of the lack of bicycle facilities at the study location. It is impossible to award points for bicycle facility continuity or condition without the presence of bicycle accommodations.

Overall, the intersection was considered a Moderate Priority area for bicycle transportation equity. The proportion of the population younger than 16 years of age at the study location exceeds the regional average and the intersection is located within one-quarter mile of a school.

5 CRASH DATA ANALYSIS

5.1 An Expanded Crash Analysis Area

The focus of this study is the four-way intersection where east-west Route 117 joins with north-south Route 62, with these two routes sharing the easterly branch of this intersection. The northerly branch of the intersection is Library Hill Road, which connects with Crescent Street, which then connects with West Acton Road, providing access to the South Acton commuter rail station, Route 2, and the Kelly’s Corner commercial area.

Vehicles travelling on Routes 117 or 62 that use this northerly corridor must travel on a leg of a triangle formed by three intersections, illustrated previously in Figure 2:

- The study intersection where Route 117 meets Route 62
- Crescent Street at Route 117 (Great Road)
- Crescent Street at Hartley and Library Hill Roads

Data for 41 crashes on or near this triangle were collected. An additional 12 crashes occurring within a one-quarter mile of the triangle, mostly to the east or west on Route 117, have also been included in the crash analysis.

5.2 Crash Location Summaries

Table 1 summarizes 53 crashes in the crash analysis area for the years 2015–19. The first column characterizes crashes for the entire crash analysis area, and the next four columns subdivide the 53 crashes into four subareas. The first three subareas are for crash locations at or near one of the points of the triangle described above, and the last column summarizes the 12 crashes not associated with the central road triangle.

There were no fatalities at these locations during the five-year period. Crashes with an injury occurred once for every five or six property-damage-only crashes at each of the subareas. At the bottom of Table 1 it shows that there were no pedestrian or bicycle injuries in these subareas. This implies that all the injuries cited above were to drivers or vehicle passengers.

Other than the numbers of crashes, which depend on the amount of traffic, there are some distinctions between the crash experience in the different subareas. For instance, the angle-type crash is the most frequent crash type at three triangle vertex locations. For other study area locations along Route 117, single-vehicle and rear-end crashes are the most numerous. Also, crashes are more likely to take place in the PM-peak period than during the AM peak. The exception is at Route 117 and Crescent Street where twice as many crashes occurred during the AM peak. Appendix A provides information about all 53 crashes in the analysis area.

Table 1
2015–19 Crash Summary

	Study Area Total	Route 117 at Route 62	Route 117 at Crescent Street	Crescent Street at Hartley Road	Other Locations
Crash Severity					
Fatality	0	0	0	0	0
Injury	8	3	2	1	2
Property Damage Only	45	18	12	5	10
Total Crashes	**53**	**21**	**14**	**6**	**12**

Manner of Collision					
Single vehicle	12	5	2	1	4
Rear-end	14	5	4	1	4
Angle	18	7	4	4	3
Sideswipe, same direction	5	3	1	0	1
Sideswipe, opposite direction	1	1	0	0	0
Head-on	2	0	2	0	0
Not Reported/Unknown	1	0	1	0	0
Total Crashes	**53**	**21**	**14**	**6**	**12**
Road Surface Condition					
Dry	39	16	12	3	9
Wet	13	4	2	3	3
Ice	0	0	0	0	0
Snow	1	1	0	0	0
Total Crashes	**53**	**21**	**14**	**6**	**12**
Ambient Condition					
Daylight	43	19	13	2	9
Dark-lighted roadway	9	0	1	4	3
Dusk	0	0	0	0	0
Dawn	0	0	0	0	0
Dark-not-lighted roadway	1	2	0	0	0
Total Crashes	**53**	**21**	**14**	**6**	**12**
Weather Conditions					
Clear	32	14	11	2	7
Cloudy	12	3	2	1	4
Rain	8	3	1	3	1
Snow	1	1	0	0	0
Total Crashes	**53**	**21**	**14**	**6**	**12**
Time Period					
AM Peak (6:00 AM to 9:00 AM)	10	4	6	0	0
PM Peak (3:00 PM to 6:00 PM)	15	10	3	1	1
Off-peak	28	7	5	5	11
Total Crashes	**53**	**21**	**14**	**6**	**12**
Crash Vehicle-Mix					
Vehicle-only	53	21	14	6	12
Pedestrian	0	0	0	0	0
Bicycle	0	0	0	0	0
Total Crashes	**53**	**21**	**14**	**6**	**12**
Average Crashes per Year	**10.6**	**4.2**	**2.8**	**1.2**	**2.4**

Source: Central Transportation Planning Staff

5.3 Travel Direction and Improper Driving

Table 2 shows the total number of vehicles that were involved in the various crashes in each subarea. Each vehicle is characterized by the direction in which

it was traveling and whether its police report indicated any improper driving. The police reports only noted a specific type of improper driving (including inattention) for 37 of the 92 involved vehicles.

At the signalized intersection of Routes 117 and 62, there are 18 crash-involved vehicles traveling north or south, and 18 traveling east or west. The crash experience of vehicles traveling north is similar to those traveling south. However, vehicles traveling west are much more likely to crash than vehicles traveling east. Also, vehicles approaching this intersection from the east or west are more likely to be cited in police reports for improper driving than vehicles approaching from the north or south.

None of the other intersections in the expanded crash analysis area have signalized traffic control. The intersection of Crescent Street and Hartley Road has four-way stop signs. Crescent Street has a stop sign at Route 117 (Great Road), the only stop sign at this T-type intersection. Curb ramps and commercial activity at this intersection may contribute to the fact that 15 eastbound vehicles were involved in a crash here, the greatest number of any of the locations and approach directions.

Table 2
2015–19 Crash Summary by Travel Direction and Driver Errors

	All Vehicles	Traveling West	Traveling East	Traveling North	Traveling South
Study Area Total					
53 Crashes, 92 Vehicles					
All drivers	**92**	**36**	**29**	**11**	**16**
Improper driving noted	37	15	11	5	6
No improper driving noted	55	21	18	6	10
SR 117 / SR 62 Junction					
21 Crashes, 36 Vehicles					
All drivers	**36**	**13**	**5**	**8**	**10**
Improper driving noted	15	7	3	2	3
No improper driving noted	21	6	2	6	7
SR 117 at Crescent Street					
14 Crashes, 26 Vehicles					
All drivers	**26**	**9**	**15**	**1**	**1**
Improper driving noted	7	2	4	1	0
No improper driving noted	19	7	11	0	1
Crescent Street at Hartley Road					
6 Crashes, 10 Vehicles					
All drivers	**10**	**4**	**2**	**2**	**2**
Improper driving noted	7	3	0	2	2
No improper driving noted	3	1	2	0	0
Other Study Area Locations					
12 Crashes, 20 Vehicles					
All drivers	**20**	**10**	**7**	**0**	**3**
Improper driving noted	8	3	4	0	1
No improper driving noted	12	7	3	0	2

Source: Central Transportation Planning Staff.

6 INTERSECTION ANALYSIS

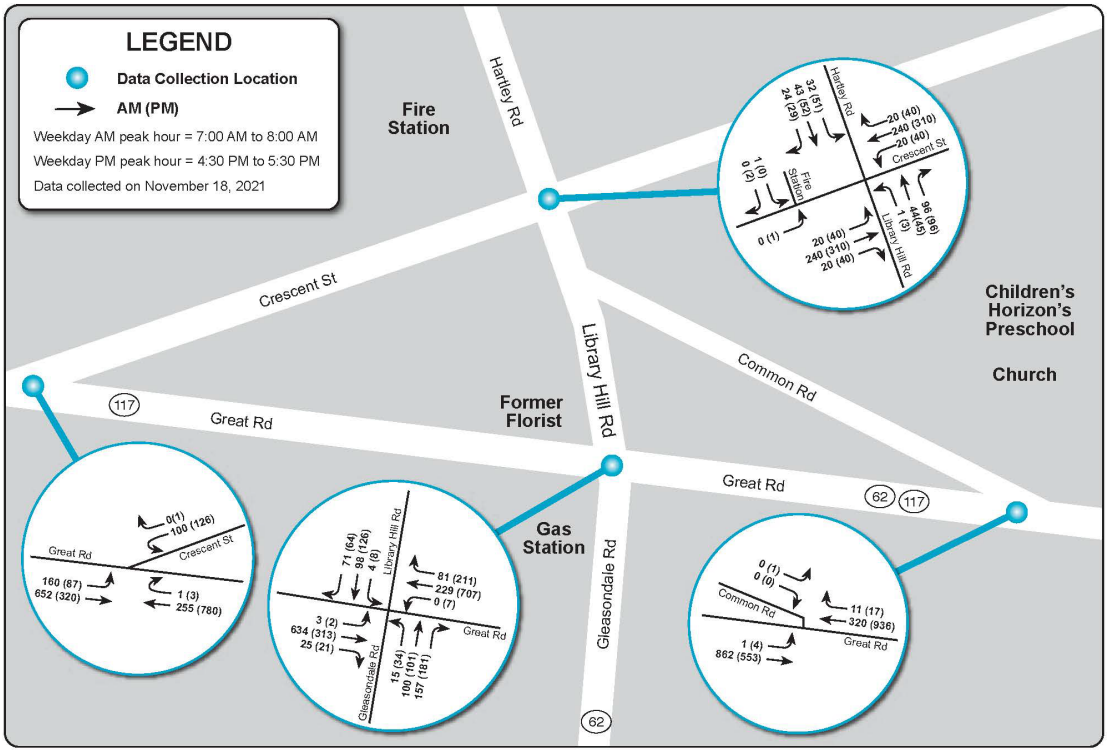
6.1 Vehicular Travel Patterns

MassDOT Highway Division's Traffic Data Collection section collected traffic data for the study. Automatic traffic recorder (ATR) counts were collected during a seven-day period from midday Tuesday, November 16, 2021, to midday Monday, November 22, 2021. The ATR counts included daily traffic volumes and traffic

mix (light and heavy vehicles). MassDOT also collected turning-movement counts (TMC) in the study area on Thursday, November 18, 2021, and Saturday, November 20, 2021. The TMC counts were performed during the weekday AM peak travel period (7:00 AM to 11:00 AM), weekday PM peak travel period (2:00 PM to 6:00 PM), and weekend midday period (10:00 AM to 2:00 PM). In all cases, passenger cars, heavy vehicles, pedestrians, and bicycles were recorded separately. The traffic data are included in Appendix B.

Turning movement counts for the weekday AM and PM peak travel periods are illustrated in Figure 19.[5] The total average number of vehicles that passed through the Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) intersection was 17,245 on weekdays and 12,794 on weekend days. The ATR counts are documented in Figure 20.

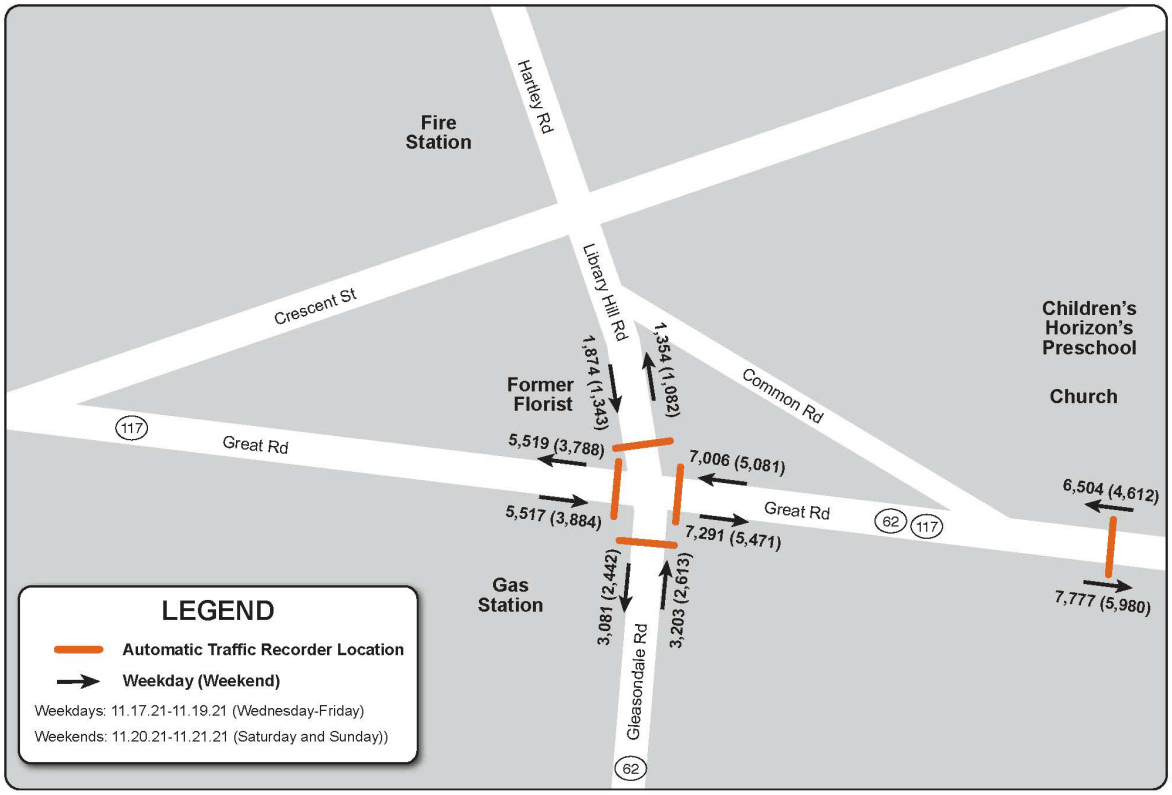
Figure 19
Peak Hour Turning Movement Volumes



[5] The weekday AM peak hour was the same for the intersections of Route 117 at Route 62, Great Road (Route 117) at Crescent Street, and Great Road (Routes 117 and 62) at Common Road. The weekday PM peak hour of 4:30 PM to 5:30 PM was the same for the intersections of Route 117 and Route 62 and Great Road (Routes 117 and 62) and Common Road. The weekday PM peak hour for the Great Road (Route 117) and Crescent Street intersection was 4:45 PM to 5:45 PM. The weekday peak hours for the Crescent Street, Library Hill Road, and Hartley Road intersection were 7:30 AM to 8:30 AM and 2:45 PM to 3:45 PM.

Figure 20

Average Weekday and Weekend Traffic Volumes



The intersection receives a greater amount of traffic during the AM peak than the PM peak travel period. The eastern branch of the intersection experiences the highest vehicle volumes during both peak periods, with the second-largest amount of traffic traveling along Great Road/Route 117 to the west of the intersection. The southern branch, Gleasondale Road/Route 62, is the third most traveled, and Library Hill Road, comprising the intersection's northern branch, receives the lowest volumes.

While approximately 500 vehicles traveled northwest along Common Road during both peak periods (502 during the AM peak period and 469 during the PM peak period), only one vehicle was recorded traveling southeast along the roadway. This motorist turned left onto Great Road/Route117/Route 62 to travel eastbound.

6.2 Intersection Vehicular Levels of Service (LOS)

MPO staff conducted traffic operations analyses consistent with the Highway Capacity Manual (HCM) methodologies.[6] HCM methodology is used to assess traffic conditions at signalized and unsignalized intersections and to rate the LOS from A to F. LOS A represents the best operating conditions (little to no delay), while LOS F represents the worst operating conditions (long delay). LOS E represents operating conditions at capacity (the limit of acceptable delay). Table 3 presents the control delays (standards for comparison) associated with each LOS for signalized and unsignalized intersections.

Table 3
Intersection Level of Service Criteria

Level of Service	Signalized Intersection Control Delay (seconds per vehicle)	Unsignalized Intersection Control Delay (seconds per vehicle)
A	< 10	< 10
B	10–20	10–15
C	20–35	15–25
D	35–55	25–35
E	55–80	35–50
F	> 80	> 50

Source: Highway Capacity Manual 2010.

Using Synchro traffic analysis software, MPO staff assessed the capacity and levels of service of the study area intersections. Appendix D presents the existing conditions LOS analysis worksheets. MPO staff observed a variable signal cycle and inconsistent signal durations for each leg of the Route 117/Route 62 intersection, indicating that the signals are actuated by the presence of vehicular traffic. The Town of Stow provided signal data that had been pulled from the traffic cabinet but there was limited signal information available. MPO staff did their best to approximate observed conditions at the study intersection and then used Synchro traffic analysis software to identify the optimal signal timing for the intersection given the AM and PM peak period volumes.

Based on the traffic operations analyses using approximated signal timing data, the intersection of Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) has an AM peak period LOS of C and a PM peak period LOS of D. The surrounding unsignalized intersections experience the same LOS

[6] Transportation Research Board of the National Academies, *Highway Capacity Manual*, *Sixth Edition: A Guide for Multimodal Mobility Analysis*, Washington, DC, September 2020.

during both AM and PM peak periods. The Library Hill Road, Crescent Street, and Hartley Road intersection has a LOS of B while Great Road's intersections with Crescent Street and Common Road both experience LOS A.

7 IMPROVEMENT RECOMMENDATIONS

The Town of Stow expressed interest in adding a dedicated left-turn lane to the study intersection's southbound approach on Library Hill Road. MPO staff tested the impact of simply adding a left-turn lane but keeping the signal permissive, with both Library Hill Road and Gleasondale Road turning green simultaneously, and the impact of making the Library Hill Road left turn protected and permitted, giving the left turn an exclusive green phase within the signal cycle.

The Town of Stow also discussed the idea of turning Common Road into a one-way street. The idea Stow presented was to allow motorists to turn onto the street from Great Road (Routes 117 and 62) to travel northwest, with the one-way designation preventing vehicles from entering Common Road from Library Hill Road to travel in a southeast direction.

MPO staff modeled the impact of these changes on LOS at the study area intersections and found that modifications to the signalized intersection did not affect conditions at any of the unsignalized intersections. Modeled queues from the study intersection, especially those on Library Hill Road, do not spill into the adjacent unsignalized intersections. Traffic analyses using approximated signal timing data found that every scenario generated the same LOS: C for the AM Peak Travel period and D for the PM Peak Travel period.

Optimizing the signal timing did not change morning conditions but improved LOS during the PM Peak Travel period. While the service increased by one letter grade, from a D to C, when Library Hill Road was given a protected left-turn lane, the greatest LOS improvement occurred for the scenarios without the protected left turn, changing from a D to a B (Table 4).

Table 4

Route 117 at Route 62 Intersection LOS in a Variety of Scenarios

Scenario	AM Peak Travel Period		PM Peak Travel Period	
	Approximated Signal Timing	*Optimized Signal Timing*	*Approximated Signal Timing*	*Optimized Signal Timing*
Existing Layout	C	C	D	B
Add Permissive Left-Turn Lane to Library Hill Road	C	C	D	B
Add Protected Left-Turn Lane to Library Hill Road	C	C	D	**C**
Common Road as One-Way Street	C	C	D	B
Add Permissive Left-Turn Lane and Turn Common Road into a One-Way Street	C	C	D	B
Add Protected Left-Turn Lane and Turn Common Road into a One-Way Street	C	C	D	**C**

LOS = Level of Service.

7.1 Short-Term Recommendations

MPO staff suggest that the Town of Stow optimize the intersection's signal timing. Table 5 compiles the maximum green phases generated by the Synchro modeling software for the intersection of Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road). MPO staff also recommend that Stow does not introduce a protected left turn to the Library Hill Road approach. Adding a permissive left-turn lane to Library Hill Road and converting Common Road to a one-way street, however, are both changes that are not expected to negatively impact LOS at the study intersection, so the Town of Stow should feel comfortable introducing one element or both without concerns about intersection LOS. MPO staff recommend maintaining the existing turn lanes at each intersection approach with the exception of Library Hill Road, where the solitary approach lane should be split into two lanes, one for left turning movements, the other for through and right-turn movements.

MPO staff propose that the Town consider changing Common Road from a two-way street to a one-way street due to traffic volumes. Very little vehicular traffic uses Common Road, especially vehicles traveling southeast towards Great Road. Converting the road to a one-way street will also allow the library to have more space for future landscape or parking changes. These roadway uses, especially if used to add a pinchpoint, chicanes, or a lane shift to the roadway, could be combined with narrowing the travel lane to a maximum width of 11 feet to create a more pleasant environment for library patrons and help discourage speeding along Common Road.

Staff do not believe this change would have significant impact on current traffic patterns nor on Common Road's usage as a cut-through. Existing volumes are low, and converting the street to a one-way would likely not increase the number of northwest-bound drivers using it as a cut-through to avoid the intersection. It should be noted, however, that Sunday traffic data were not collected during this study. Staff recommend a study of Sunday volumes due to the location of the First Parish Church.

Table 5
Optimized Signal Timing

Maximum Green Phase Duration (Minimum Green Duration: 6 Seconds | Yellow Duration: 3 Seconds | Red Duration: 2 Seconds)									
Scenario		**Existing Conditions**		**Add Permissive Left Turn**		**Turn Common Road into One-Way Street**		**Add Permissive Left-Turn Lane and Turn Common Road into One-Way Street**	
Peak Travel Period		**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Eastbound Approach *Great Road (Route 117)*	All Directions	25	14	27	17	25	15	27	17
Westbound Approach *Great Road (Route 117/ Route 62)*	Left-Turn Lane	6	10	6	11	6	11	6	11
	Straight and Right Turns	36	29	38	33	36	31	38	33
Northbound Approach *Gleasondale Road (Route 62)*	Straight and Left Turns	14	11	12	12	14	14	12	12
	-Right-Turn Lane	25	26	23	28	25	30	23	28
Southbound Approach *Library Hill Road*	All Directions	14	11	12	12	14	14	12	12

Listed below are additional low-cost, quickly implementable changes that Stow could make to the study intersection to improve safety. These recommendations are illustrated in Figure 21.

- Restripe travel lanes that are currently wider than 11 feet to ensure 11-foot widths for all lanes. Tightening the visual appearance of the vehicle travel lanes encourages greater driver awareness and slows driving speeds.

Narrowing the roadway space allocated to vehicle travel also creates more areas that could be dedicated to pedestrian and bicycle travel. The widest lanes at the intersection are listed below.

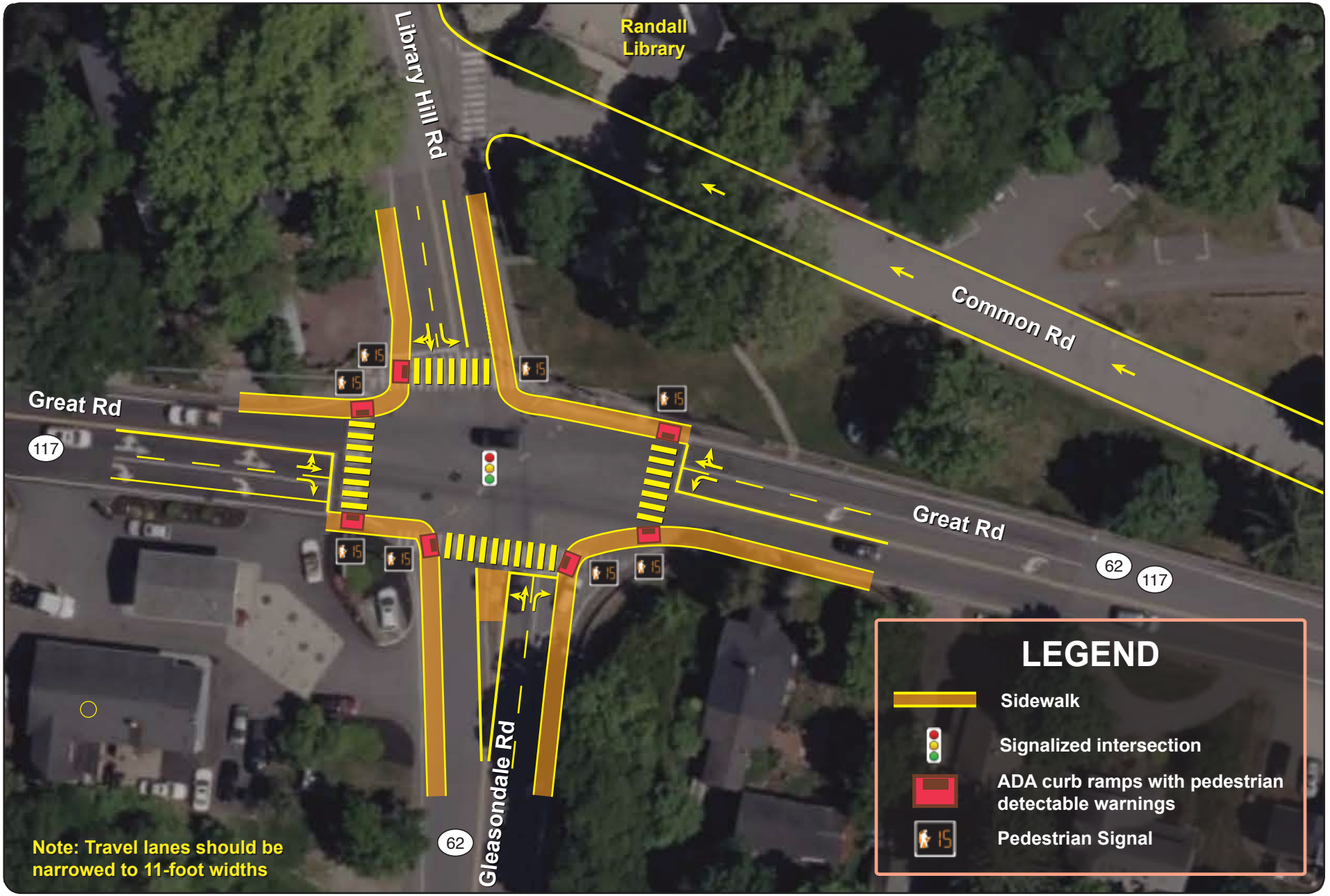
  - The northbound right-turn lane currently measures 19 feet wide.
  - The southbound intersection approach currently measures 22-feet wide and should be split into two 11-foot lanes, one for left turning movements, the other for through and right-turn movements.
  - The southbound departure lane currently measures 26 feet wide.

- Repaint all existing intersection crosswalks.
- Add a crosswalk to the eastern leg of the study intersection.
- Paint pedestrian zones that narrow curb radii at each intersection corner to slow turning vehicle speeds, increase pedestrian visibility, and reduce crosswalk distances. The amount of right-turning heavy vehicles at the study intersection is minimal, so corner radii at the intersection should accommodate vulnerable road users (such as pedestrians and bicyclists) rather than cater to occasional turning trucks (Table 6).
  - Ideally, vertical separation in the form of large planters, flexible bollards, traffic cones, or moveable curbs would separate the pedestrian zones from vehicle traffic. A stronger barrier, such as a temporary traffic barricade, could provide greater protection from trucks and other heavy vehicles.
- Use paint and vertical separation to better define the pedestrian refuge island between the approach and departure lanes of the Gleasondale Road crossing.

Table 6
Heavy Vehicles during Peak Travel Periods

Intersection Approach	Direction	Movement	Number of Heavy Vehicles		Heavy Vehicle Percent of Total Volume	
			AM	PM	AM	PM
Library Hill Road	Southbound	Right	0	0	0%	0%
		Thru	5	1	5%	1%
		Left	3	0	4%	0%
		U-Turn	0	0	0%	0%
		Total	8	1	5%	1%
Great Road (Route 62/117)	Westbound	Right	0	1	0%	14%
		Thru	16	20	7%	3%
		Left	8	1	10%	0%
		U-Turn	0	0	0%	0%

		Total	24	22	8%	2%
Gleasondale Road (Route 62)	Northbound	Right	4	3	3%	2%
		Thru	5	3	5%	3%
		Left	3	2	20%	6%
		U-Turn	0	0	0%	0%
		Total	12	8	4%	3%
Great Road (Route 117)	Eastbound	Right	3	1	12%	5%
		Thru	24	4	4%	1%
		Left	0	0	0%	0%
		U-Turn	0	0	0%	0%
		Total	27	5	4%	1%



BOSTON REGION MPO

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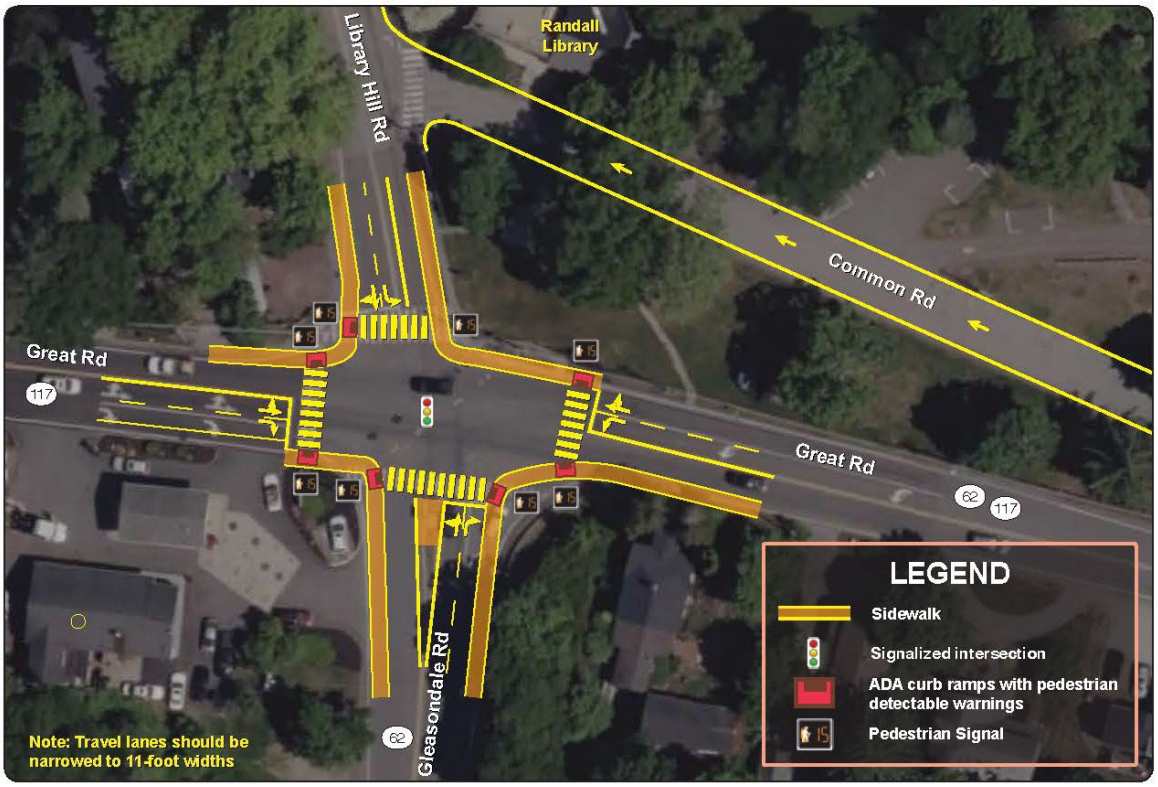
FIGURE 22
Recommended Future Investments
Routes 117 and 62, Stow MA

Intersection Improvement Program

7.2 Long-Term Recommendations

There are several investments in pedestrian travel that the Town of Stow could make to improve safety at the intersection of Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road). As shown in Figure 22, these include the construction of proper sidewalks at least five feet in width along all intersection legs, adding curb ramps with pedestrian detectable warning strips where the sidewalk meets each intersection crosswalk, and installing audible, vibrotactile pedestrian signals with countdown timer displays.

Figure 22
Recommended Future Investments



This last investment would require adding a pedestrian crossing phase to the existing traffic signals to allow people who are walking to safely cross the intersection. The intersection's longest current crossing is Gleasondale Road at the southern approach with a width of approximately 90 feet. It is recommended to allow pedestrians to travel at a pace of 3.5 feet per second, so the duration of the intersection's pedestrian phase should last at least 25.7 seconds. Table 6 documents the optimized signal timings and LOS for the study intersection if a 26 second pedestrian phase is added to the signal cycle. This duration could be shortened if the Town of Stow narrows travel lane widths and creates larger pedestrian zones, reducing the distance that pedestrians need to cross.

Table 7
Optimized Signal Timing and LOS with Pedestrian Phase

Maximum Green Phase Duration and LOS (Pedestrian Phase Duration: 26 Seconds | Yellow Duration: 2 Seconds | Red Duration: 1 Second) (Minimum Green Duration: 6 Seconds | Yellow Duration: 3 Seconds | Red Duration: 2 Seconds)									
Scenario		**Existing Conditions**		**Add Permissive Left Turn**		**Turn Common Road into One-Way Street**		**Add Permissive Left-Turn Lane and Turn Common Road into One-Way Street**	
Peak Travel Period		**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Eastbound Approach *Great Road (Route 117)*	All Directions	42	21	28	22	42	21	28	22
Westbound Approach *Great Road (Route 117/Route 62)*	Left-Turn Lane	8	8	6	11	8	8	6	11
	Straight and Right Turns	55	34	39	38	55	34	39	38
Northbound Approach *Gleasondale Road (Route 62)*	Straight and Left Turns	26	17	12	13	26	17	12	13
	Right-Turn Lane	39	30	23	29	39	30	23	29
Southbound Approach *Library Hill Road*	All Directions	26	17	12	13	26	17	12	13
LOS		**C**	**C**	**C**	**B**	**C**	**C**	**C**	**C**

LOS = level of service.

One element that may warrant additional analysis prior to implementing the pedestrian signal recommendations is the impact of school drop-off and pick-up volumes on intersection queues with the new pedestrian signal timing. However, this will require a greater understanding of the impact that the short-term recommendations have on travel behavior in the area. There is the potential that the improvements to the pedestrian environment encourage more people to walk and even bike to school, reducing roadway congestion at school drop-off and pick-up times.

Finally, to accommodate bicycle travel, Stow could consider adding bicycle facilities to the study intersection. The Town could paint five-foot-wide bike lanes in each direction of travel if roadway width allows after creating pedestrian zones and narrowing vehicle travel lanes. Through this effort, Stow could explore adding a contraflow bike lane to Common Road if the Town converts the

roadway to a one-way street. Ideally, Stow's bike lanes would be accompanied by a painted buffer with a width of at least one foot and vertical separation to prevent motorists from entering the bike lanes. Finally, Stow could consider adding a bike box to Gleasondale Road's intersection approach lane because bicyclists at the location must stop on a steep and potentially dangerous slope.

These bicycle facilities would need to be accompanied by similar bike lanes corridor-wide to encourage bicyclist safety, comfort, and connectivity throughout Stow. Bicycle volumes are currently low at the study intersection, but providing safe bicycle accommodations in the form of buffered bike lanes may encourage more people to travel through the intersection via bicycle. Volumes of people bicycling are even more likely to increase if the intersection becomes part of a larger bicycle-friendly network throughout the Town of Stow.

8 CONCLUSIONS AND NEXT STEPS

8.1 Conclusions

There are several quick fixes that can be made at the intersection of Route 117 and Route 62 (Great Road, Library Hill Road, and Gleasondale Road) that have the potential to improve conditions for all road users. These rapidly implementable improvements can be accomplished using affordable materials, which should keep the overall cost of the short-term updates low. If Stow finds that these intersection modifications yield positive results, the Town could consider allocating funds to construct more permanent versions of the projects to create lasting safety and comfort benefits for all who travel through the intersection.

8.2 Next Steps

The Town of Stow could begin its intersection improvements by implementing the signal timing recommendations documented in this memorandum. This should be accompanied by the roadway paint and striping recommendations to provide more space for and better visibility of people walking and bicycling through the intersection. Stow would need to determine which type of temporary vertical separation feels most appropriate for the study location and the Town as a whole.

Before long-term interventions are explored, the Town should consider collecting vehicle count data on Sundays to better understand impacts of converting Common Road to a one-way street. In addition, Stow should conduct speed studies along Great Road if there is interest in implementing corridor-wide safety improvements.

Stow has reported an interest in exploring microtransit options throughout the Town, including at this intersection. MPO Staff recommend researching current municipal microtransit pilots, specifically the Salem Skipper and NewMo programs. MassDOT offers a Community Transit Grant Program that is used to provide transit to seniors and individuals with disabilities, which Stow could pursue.

Looking ahead at implementing the long-term study recommendations, the travel volume by mode, and turning movement count data provided through this work may be used by Stow to complete applications for regional, state, and federal funding to support infrastructure improvements. If Stow is interested in constructing bicycle facilities within the study area, the town may consider applying for Community Connections Program funding through the Boston Region MPO.

Appendices

- Crash Data
- Traffic Data
- Existing Conditions LOS
- Proposed Conditions LOS

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To request this information in a different language or in an accessible format, please contact

Title VI Specialist
Boston Region MPO
10 Park Plaza, Suite 2150
Boston, MA 02116
civilrights@ctps.org

By Telephone:
857.702.3700 (voice)

For people with hearing or speaking difficulties, connect through the state MassRelay service:

- **Relay Using TTY or Hearing Carry-over:** 800.439.2370
- **Relay Using Voice Carry-over:** 866.887.6619
- **Relay Using Text to Speech: 8**66.645.9870

For more information, including numbers for Spanish speakers, visit https://www.mass.gov/massrelay

Appendix A

Crash Data Summary Table

Crash Data Summary Table

Great Road, Gleasondale Road, and Library Hill Road in Stow, MA

2015–19

Crash Date	Crash Day	Crash Time of Day	Manner of Collision	Nonmotorist	Light Condition	Weather Condition	Road Surface	Driver Contributing Code	Injury Severity
02/04/2015	Wednesday	8:50 AM	Angle	No	Daylight	Cloudy	Wet	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
02/23/2015	Monday	3:59 PM	Unknown	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic)	No Injury
03/22/2015	Sunday	2:39 PM	Single vehicle crash	No	Daylight	Clear	Dry	V1:(Collision with embankment)	No Injury
04/01/2015	Wednesday	5:09 PM	Rear-end	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	Possible Non-Fatal Injury
05/03/2015	Sunday	3:39 AM	Single vehicle crash	No	Dark - lighted roadway	Clear	Dry	V1:(Collision with fence)	No Injury
05/03/2015	Sunday	3:55 AM	Single vehicle crash	No	Dark - lighted roadway	Clear	Dry	V1:(Collision with other fixed object(wall, building, tunnel, etc.)),(Collision with tree),(Collision with curb)	Possible Non-Fatal Injury
05/31/2015	Sunday	5:41 AM	Single vehicle crash	No	Daylight	Cloudy	Wet	V1:(Ran off road right),(Collision with tree)	Non-Incapacitating Non-Fatal Injury
06/11/2015	Thursday	5:22 PM	Angle	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	Non-Incapacitating Non-Fatal Injury
06/20/2015	Saturday	8:48 PM	Single vehicle crash	No	Dark - unknown roadway lighting	Rain/Cloudy	Wet	V1:(Collision with highway traffic sign post)	No Injury
06/30/2015	Tuesday	1:29 PM	Head-on	No	Daylight	Clear/Cloudy	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	Possible Non-Fatal Injury
07/15/2015	Wednesday	4:57 PM	Sideswipe, same direction	No	Daylight	Clear/Other	Dry	V1:(Collision with parked motor vehicle) V2:(Collision with parked motor vehicle)	No Injury
08/03/2015	Monday	8:29 AM	Angle	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
08/20/2015	Thursday	10:47 AM	Rear-end	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic),(Cross median or centerline) V3:(Collision with motor vehicle in traffic)	No Injury

Crash Data Summary Table

Great Road, Gleasondale Road, and Library Hill Road in Stow, MA

2015–19

Crash Date	Crash Day	Crash Time of Day	Manner of Collision	Nonmotorist	Light Condition	Weather Condition	Road Surface	Driver Contributing Code	Injury Severity
10/11/2015	Sunday	9:28 AM	Angle	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
10/24/2015	Saturday	10:30 AM	Sideswipe, same direction	No	Daylight	Cloudy/Other	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
10/26/2015	Monday	9:25 AM	Rear-end	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
11/30/2015	Monday	6:29 AM	Single vehicle crash	No	Daylight	Clear	Dry	V1:(Collision with animal - deer)	No Injury
01/13/2016	Wednesday	9:09 AM	Angle	No	Daylight	Clear	Wet	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
01/20/2016	Wednesday	3:55 PM	Sideswipe, opposite direction	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic)	No Injury
04/04/2016	Monday	5:49 PM	Rear-end	No	Daylight	Snow	Slush	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
05/14/2016	Saturday	3:09 PM	Angle	No	Daylight	Cloudy	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
08/06/2016	Saturday	3:49 PM	Rear-end	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with parked motor vehicle)	No Injury
08/10/2016	Wednesday	10:48 AM	Single vehicle crash	No	Daylight	Rain	Wet	V1:(Collision with curb),(Ran off road right),(Collision with utility pole)	No Injury
09/24/2016	Saturday	8:53 AM	Head-on	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	Possible Non-Fatal Injury
10/05/2016	Wednesday	6:17 PM	Rear-end	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
10/07/2016	Friday	10:47 AM	Rear-end	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	Possible Non-Fatal Injury
02/21/2017	Tuesday	8:00 AM	Sideswipe, same direction	No	Daylight	Cloudy/Other	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury

Crash Data Summary Table

Great Road, Gleasondale Road, and Library Hill Road in Stow, MA

2015–19

Crash Date	Crash Day	Crash Time of Day	Manner of Collision	Nonmotorist	Light Condition	Weather Condition	Road Surface	Driver Contributing Code	Injury Severity
03/05/2017	Sunday	2:05 PM	Rear-end	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
05/27/2017	Saturday	7:45 AM	Rear-end	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
08/02/2017	Wednesday	12:16 AM	Rear-end	No	Dark - lighted roadway	Clear	Dry	V1:(Collision with guardrail),(Collision with parked motor vehicle)	No Injury
09/14/2017	Thursday	2:56 PM	Rear-end	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
09/16/2017	Saturday	10:34 AM	Angle	No	Daylight	Cloudy	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
09/23/2017	Saturday	10:44 AM	Angle	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
10/12/2017	Thursday	7:51 AM	Angle	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
11/10/2017	Friday	5:12 PM	Single vehicle crash	No	Dark - roadway not lighted	Clear	Dry	V1:(Collision with animal - other)	No Injury
12/12/2017	Tuesday	7:43 AM	Rear-end	No	Daylight	Cloudy/Rain	Wet	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
12/22/2017	Friday	11:16 AM	Angle	No	Daylight	Clear/Cloudy	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	Possible Non-Fatal Injury
3/1/2018	Thursday	3:38 PM	Sideswipe, same direction	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with parked motor vehicle)	No Injury
5/29/2018	Tuesday	6:06 PM	Angle	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
6/24/2018	Sunday	5:56 PM	Single vehicle crash	No	Daylight	Rain	Wet	V1:(Collision with median barrier),(Collision with highway traffic sign post)	No Injury

Crash Data Summary Table

Great Road, Gleasondale Road, and Library Hill Road in Stow, MA

2015–19

Crash Date	Crash Day	Crash Time of Day	Manner of Collision	Nonmotorist	Light Condition	Weather Condition	Road Surface	Driver Contributing Code	Injury Severity
7/20/2018	Friday	5:13 PM	Sideswipe, same direction	No	Daylight	Clear/Other	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
8/2/2018	Thursday	3:32 PM	Rear-end	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
8/3/2018	Friday	1:57 PM	Rear-end	No	Daylight	Cloudy	Other	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
10/13/2018	Saturday	10:46 AM	Angle	No	Daylight	Cloudy/Rain	Wet	V1:(Collision with parked motor vehicle) V2:(Other)	No Injury
12/31/2018	Monday	8:02 PM	Angle	No	Dark - lighted roadway	Rain	Wet	V1:(Cross median or centerline),(Collision with motor vehicle in traffic)	No Injury
12/31/2018	Monday	8:02 PM	Angle	No	Dark - lighted roadway	Rain	Wet	V1:(Collision with motor vehicle in traffic) V2:(Cross median or centerline),(Collision with motor vehicle in traffic)	No Injury
02/01/2019	Friday	8:05 AM	Angle	No	Daylight	Clear	Dry	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
03/15/2019	Friday	9:17 PM	Angle	No	Dark - lighted roadway	Rain	Wet	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Injury
06/05/2019	Wednesday	2:50 PM	Single vehicle crash	No	Daylight	Clear	Dry	V1:(Ran off road left),(Collision with utility pole)	No Injury
08/02/2019	Friday	7:21 AM	Angle	No	Daylight	Clear		V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Apparent Injury
11/02/2019	Saturday	9:20 PM	Single vehicle crash	No	Dark - lighted roadway	Clear	Dry	V1:(Collision with utility pole)	No Apparent Injury
11/21/2019	Thursday	3:21 PM	Single vehicle crash	No	Daylight	Clear	Dry	V1:(Collision with median barrier),(Collision with highway traffic sign post)	No Apparent Injury
11/27/2019	Wednesday	5:53 AM	Angle	No	Dark - lighted roadway	Cloudy/Fog, Smog, Smoke	Wet	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	No Apparent Injury

Appendix B

Traffic and Signal Timing Data

1. Automatic Traffic Recorder (ATR) Data
2. Turning Movement Count (TMC) Data

Part 1: Automatic Traffic Recorder (ATR) Data

Mass Highway Department

WEEKLY SUMMARY FOR LANE 1 Page: 1
Starting: 11/16/2021

STA. 1 NB

Station #: 000000000019
Site ID: 000000010102
Location: Library Hill Rd.,Btwn.Great & Common Rds
Direction: NORTH

File: D1116001.prn
City: Stow
County:

TIME	MON 22	TUE 16	WED 17	THU 18	FRI 19	WKDAY AVG	SAT 20	SUN 21	WEEK AVG	TOTAL
01:00	1		1	4	4	2	2	6	3	18
02:00	1		1	1	1	1	1	1	1	6
03:00	1		1	1	1	1	1	1	1	6
04:00	2		0	1	1	1	1	0	1	5
05:00	3		4	1	1	2	1	0	2	10
06:00	11		16	14	16	14	1	2	10	60
07:00	59		63	59	58	60	23	5	44	267
08:00	138		128	121	127	128	54	33	100	601
09:00	109		135	135	116	124	63	62	103	620
10:00	83		84	96	95	90	85	61	84	504
11:00		70	73	83	80	76	73	110	82	489
12:00		54	80	67	70	68	83	77	72	431
13:00		100	86	89	93	92	126	111	101	605
14:00		93	57	81	90	80	127	126	96	574
15:00		94	107	90	101	98	95	91	96	578
16:00		124	142	130	123	130	86	103	118	708
17:00		124	134	141	105	126	104	78	114	686
18:00		109	106	108	77	100	66	57	87	523
19:00		68	50	69	62	62	43	34	54	326
20:00		30	35	44	29	34	28	33	33	199
21:00		11	24	14	27	19	20	25	20	121
22:00		21	21	18	22	20	14	14	18	110
23:00		12	14	11	9	12	11	13	12	70
24:00		2	2	2	9	4	8	4	4	27
TOTALS	408	912	1364	1380	1317	1344	1116	1047	1256	7544
% AVG WKDY	30.4	67.9	101.5	102.7	98.0		83.0	77.9		
% AVG WEEK	32.5	72.6	108.6	109.9	104.9		88.9	83.4		
AM Times	08:00	11:00	09:00	09:00	08:00	08:00	10:00	11:00	09:00	
AM Peaks	138	70	135	135	127	128	85	110	103	
PM Times		16:00	16:00	17:00	16:00	16:00	14:00	14:00	16:00	
PM Peaks		124	142	141	123	130	127	126	118	

4

NB 1344
SB 1856
COMB AWD 3200
FAC .99 (.99)
COMB ADT 3,100

Mass Highway Department

WEEKLY SUMMARY FOR LANE 2 Page: 2
Starting: 11/16/2021

STA. 15B

Station #: 000000000019 File: D1116001.prn
Site ID: 000000010102 City: Stow
Location: Library Hill Rd.,Btwn.Great & Common Rds County:
Direction: SOUTH

TIME	MON 22	TUE 16	WED 17	THU 18	FRI 19	WKDAY AVG	SAT 20	SUN 21	WEEK AVG	TOTAL
01:00	0		3	3	5	3	10	8	5	29
02:00	1		2	2	0	1	1	5	2	11
03:00	1		0	0	1	0	1	0	0	3
04:00	0		0	0	0	0	2	0	0	2
05:00	2		2	1	5	2	0	1	2	11
06:00	12		15	9	10	12	6	4	9	56
07:00	45		57	58	54	54	7	5	38	226
08:00	138		173	178	131	155	32	15	111	667
09:00	140		163	145	169	154	86	56	126	759
10:00	102		118	110	116	112	94	90	105	630
11:00		93	86	97	93	92	121	110	100	600
12:00		108	79	130	108	106	142	107	112	674
13:00		93	119	124	135	118	124	152	124	747
14:00		112	104	104	102	106	132	112	111	666
15:00		135	135	116	148	134	148	130	135	812
16:00		215	175	194	208	198	134	179	184	1105
17:00		212	182	212	153	190	128	112	166	999
18:00		185	206	181	185	189	75	70	150	902
19:00		84	83	101	86	88	59	39	75	452
20:00		46	66	60	60	58	51	19	50	302
21:00		44	40	28	34	36	17	29	32	192
22:00		19	27	37	19	26	24	7	22	133
23:00		12	20	12	16	15	16	8	14	84
24:00		3	9	6	11	7	13	4	8	46
TOTALS	441	1361	1864	1908	1849	1856	1423	1262	1681	10108
% AVG WKDY	23.8	73.3	100.4	102.8	99.6		76.7	68.0		
% AVG WEEK	26.2	81.0	110.9	113.5	110.0		84.7	75.1		
AM Times	09:00	12:00	08:00	08:00	09:00	08:00	12:00	11:00	09:00	
AM Peaks	140	108	173	178	169	155	142	110	126	
PM Times		16:00	18:00	17:00	16:00	16:00	15:00	16:00	16:00	
PM Peaks		215	206	212	208	198	148	179	184	

Mass Highway Department

WEEKLY SUMMARY FOR LANE 1 Page: 1
Starting: 11/16/2021

STA. 2 EB

Station #: 000000000089
Site ID: 000000020304
Location: Great Rd.,E.of Library Hill/Gleason. Rds
Direction: EAST

File: D1116002.prn
City: Stow
County:

TIME	MON 22	TUE 16	WED 17	THU 18	FRI 19	WKDAY AVG	SAT 20	SUN 21	WEEK AVG	TOTAL
01:00	6		17	15	21	15	20	20	16	99
02:00	5		9	5	6	6	13	12	8	50
03:00	1		1	3	5	2	10	6	4	26
04:00	5		7	4	11	7	11	5	7	43
05:00	28		27	24	30	27	26	9	24	144
06:00	148		181	167	176	168	58	23	126	753
07:00	499		623	583	535	560	125	67	405	2432
08:00	801		873	865	769	827	226	112	608	3646
09:00	682		723	694	622	680	315	224	543	3260
10:00	438		426	443	443	438	422	321	416	2493
11:00		410	393	401	413	404	471	392	413	2480
12:00		397	401	416	410	406	510	408	424	2542
13:00		397	395	462	440	424	522	444	443	2660
14:00		390	430	422	445	422	517	529	456	2733
15:00		455	460	472	496	471	512	468	477	2863
16:00		513	479	484	584	515	506	520	514	3086
17:00		502	516	566	496	520	465	408	492	2953
18:00		480	476	462	477	474	386	347	438	2628
19:00		269	282	318	346	304	300	221	289	1736
20:00		160	181	198	228	192	178	177	187	1122
21:00		129	125	129	157	135	134	107	130	781
22:00		91	96	94	109	98	117	85	99	592
23:00		47	57	79	60	61	87	34	61	364
24:00		18	31	29	51	32	53	18	33	200
TOTALS	2613	4258	7209	7335	7330	7188	5984	4957	6613	39686
% AVG WKDY	36.4	59.2	100.3	102.0	102.0		83.2	69.0		
% AVG WEEK	39.5	64.4	109.0	110.9	110.8		90.5	75.0		
AM Times	08:00	11:00	08:00	08:00	08:00	08:00	12:00	12:00	08:00	
AM Peaks	801	410	873	865	769	827	510	408	608	
PM Times		16:00	17:00	17:00	16:00	17:00	13:00	14:00	16:00	
PM Peaks		513	516	566	584	520	522	529	514	

43

EB 7188
WB 6942
COMB AWD 14130
FAC .97 (.98)
COMB ADT 13,400

Mass Highway Department

WEEKLY SUMMARY FOR LANE 2 Page: 2
Starting: 11/16/2021

Station #: 000000000089 STA. 2 WB File: D1116002.prn
Site ID: 000000020304 City: Stow
Location: Great Rd.,E.of Library Hill/Gleason. Rds County:
Direction: WEST

TIME	MON 22	TUE 16	WED 17	THU 18	FRI 19	WKDAY AVG	SAT 20	SUN 21	WEEK AVG	TOTAL
01:00	12		7	19	16	14	19	20	16	93
02:00	4		6	5	6	5	10	12	7	43
03:00	3		2	7	8	5	8	8	6	36
04:00	5		6	8	7	6	4	9	6	39
05:00	9		13	10	7	10	7	7	9	53
06:00	44		54	49	52	50	24	11	39	234
07:00	133		174	157	144	152	64	29	117	701
08:00	318		320	322	297	314	144	99	250	1500
09:00	351		375	362	318	352	240	224	312	1870
10:00	340		298	302	340	320	342	290	319	1912
11:00		331	287	365	363	336	442	402	365	2190
12:00		356	335	422	401	378	527	424	411	2465
13:00		405	430	445	469	437	517	454	453	2720
14:00		438	455	444	537	468	529	490	482	2893
15:00		513	523	566	596	550	498	436	522	3132
16:00		735	724	775	779	753	465	403	647	3881
17:00		832	816	851	887	846	411	348	691	4145
18:00		853	814	888	771	832	423	291	673	4040
19:00		507	460	483	519	492	290	207	411	2466
20:00		210	211	262	247	232	171	151	209	1252
21:00		175	158	174	164	168	140	135	158	946
22:00		96	116	110	125	112	126	87	110	660
23:00		53	59	66	102	70	90	42	69	412
24:00		33	32	44	52	40	71	21	42	253
TOTALS	1219	5537	6675	7136	7207	6942	5562	4600	6324	37936
% AVG WKDY	17.6	79.8	96.2	102.8	103.8		80.1	66.3		
% AVG WEEK	19.3	87.6	105.6	112.8	114.0		88.0	72.7		
AM Times	09:00	12:00	09:00	12:00	12:00	12:00	12:00	12:00	12:00	
AM Peaks	351	356	375	422	401	378	527	424	411	
PM Times		18:00	17:00	18:00	17:00	17:00	14:00	14:00	17:00	
PM Peaks		853	816	888	887	846	529	490	691	

Mass Highway Department

WEEKLY SUMMARY FOR LANE 1 Page: 1
Starting: 11/16/2021

STA. 3 NB

Station #: 000000000043
Site ID: 000000030102
Location: Gleasondale St., S. of Great Rd.
Direction: NORTH

File: D1116003.prn
City: Stow
County:

TIME	MON 22	TUE 16	WED 17	THU 18	FRI 19	WKDAY AVG	SAT 20	SUN 21	WEEK AVG	TOTAL
01:00	1		3	9	9	6	5	9	6	36
02:00	3		3	3	5	4	5	3	4	22
03:00	1		2	1	1	1	2	3	2	10
04:00	2		1	2	4	2	3	1	2	13
05:00	8		4	6	5	6	9	1	6	33
06:00	31		42	34	39	36	16	6	28	168
07:00	136		147	162	156	150	60	20	114	681
08:00	293		299	285	281	290	83	66	218	1307
09:00	262		281	265	244	263	152	129	222	1333
10:00	191		174	200	187	188	217	129	183	1098
11:00		156	174	195	176	175	208	205	186	1114
12:00		144	182	171	182	170	238	204	187	1121
13:00		221	212	218	219	218	302	235	234	1407
14:00		191	192	202	218	201	282	268	226	1353
15:00		231	220	256	258	241	268	220	242	1453
16:00		250	291	277	319	284	256	240	272	1633
17:00		275	282	353	270	295	231	162	262	1573
18:00		235	218	242	199	224	186	166	208	1246
19:00		122	137	148	153	140	112	93	128	765
20:00		74	103	111	91	95	75	69	87	523
21:00		45	74	50	72	60	60	51	59	352
22:00		58	42	44	60	51	39	37	47	280
23:00		30	31	39	28	32	39	24	32	191
24:00		5	11	12	24	13	26	10	15	88
TOTALS	928	2037	3125	3285	3200	3145	2874	2351	2970	17800
% AVG WKDY	29.5	64.8	99.4	104.5	101.7		91.4	74.8		
% AVG WEEK	31.2	68.6	105.2	110.6	107.7		96.8	79.2		
AM Times	08:00	11:00	08:00	08:00	08:00	08:00	12:00	11:00	09:00	
AM Peaks	293	156	299	285	281	290	238	205	222	
PM Times		17:00	16:00	17:00	16:00	17:00	13:00	14:00	16:00	
PM Peaks		275	291	353	319	295	302	268	272	

43

NB 3145
SB 3038
comb AWD 6183
FAC .97 (.98)
comb ADT 5,900

Mass Highway Department

WEEKLY SUMMARY FOR LANE 2 Page: 2
Starting: 11/16/2021

STA. 3 SB

Station #: 000000000043
Site ID: 000000030102
Location: Gleasondale St., S. of.Great Rd.
Direction: SOUTH

File: D1116003.prn
City: Stow
County:

TIME	MON 22	TUE 16	WED 17	THU 18	FRI 19	WKDAY AVG	SAT 20	SUN 21	WEEK AVG	TOTAL
01:00	4		3	10	8	6	11	8	7	44
02:00	2		5	3	2	3	3	8	4	23
03:00	3		0	1	3	2	4	3	2	14
04:00	1		2	2	1	2	3	0	2	9
05:00	5		3	2	5	4	0	2	3	17
06:00	22		20	18	20	20	12	7	16	99
07:00	75		78	76	80	77	22	11	57	342
08:00	156		178	203	155	173	63	34	132	789
09:00	156		185	189	164	174	139	111	157	944
10:00	158		169	157	163	162	164	172	164	983
11:00		161	160	177	158	164	243	189	181	1088
12:00		162	175	224	175	184	310	224	212	1270
13:00		179	202	228	235	211	240	230	219	1314
14:00		195	193	192	216	199	233	229	210	1258
15:00		230	233	210	258	233	274	234	240	1439
16:00		310	292	303	333	310	233	202	279	1673
17:00		334	300	348	324	326	209	170	281	1685
18:00		313	341	328	326	327	174	128	268	1610
19:00		179	155	176	183	173	117	86	149	896
20:00		89	105	114	124	108	75	51	93	558
21:00		78	76	72	77	76	54	46	67	403
22:00		56	55	76	48	59	51	25	52	311
23:00		19	33	28	34	28	31	16	27	161
24:00		15	14	19	19	17	23	10	17	100
TOTALS	582	2320	2977	3156	3111	3038	2688	2196	2839	17030
% AVG WKDY	19.2	76.4	98.0	103.9	102.4		88.5	72.3		
% AVG WEEK	20.5	81.7	104.9	111.2	109.6		94.7	77.4		
AM Times	10:00	12:00	09:00	12:00	12:00	12:00	12:00	12:00	12:00	
AM Peaks	158	162	185	224	175	184	310	224	212	
PM Times		17:00	18:00	17:00	16:00	18:00	15:00	15:00	17:00	
PM Peaks		334	341	348	333	327	274	234	281	

Mass Highway Department

WEEKLY SUMMARY FOR LANE 1 Page: 1
Starting: 11/16/2021

STA. 4 EB

Station #: 000000000075
Site ID: 000000040304
Location: Great Rd.,W.of Library Hill/Gleason. Rds
Direction: EAST

File: D1116004.prn
City: Stow
County:

TIME	MON 22	TUE 16	WED 17	THU 18	FRI 19	WKDAY AVG	SAT 20	SUN 21	WEEK AVG	TOTAL
01:00	7		15	12	15	12	14	18	14	81
02:00	4		8	4	3	5	9	12	7	40
03:00	1		0	2	4	2	9	5	4	21
04:00	5		6	3	7	5	9	4	6	34
05:00	23		25	23	28	25	18	8	21	125
06:00	135		159	146	150	148	40	19	108	649
07:00	428		543	499	447	479	94	51	344	2062
08:00	636		702	701	626	666	188	83	489	2936
09:00	513		546	536	426	505	241	149	402	2411
10:00	310		324	338	338	328	287	251	308	1848
11:00		309	292	276	309	296	338	266	298	1790
12:00		294	302	301	285	296	374	270	304	1826
13:00		273	256	327	293	287	349	281	296	1779
14:00		263	289	303	306	290	329	367	310	1857
15:00		320	315	311	314	315	321	324	318	1905
16:00		329	314	314	349	326	337	320	327	1963
17:00		298	346	335	309	322	320	288	316	1896
18:00		308	320	310	321	315	260	225	291	1744
19:00		192	184	218	236	208	217	158	201	1205
20:00		118	118	130	173	135	127	138	134	804
21:00		89	73	87	119	92	91	79	90	538
22:00		56	69	73	68	66	94	64	71	424
23:00		27	39	49	41	39	61	22	40	239
24:00		15	21	22	34	23	34	13	23	139
TOTALS	2062	2891	5266	5320	5201	5185	4161	3415	4722	28316
% AVG WKDY	39.8	55.8	101.6	102.6	100.3		80.3	65.9		
% AVG WEEK	43.7	61.2	111.5	112.7	110.1		88.1	72.3		
AM Times	08:00	11:00	08:00	08:00	08:00	08:00	12:00	12:00	08:00	
AM Peaks	636	309	702	701	626	666	374	270	489	
PM Times		16:00	17:00	17:00	16:00	16:00	13:00	14:00	16:00	
PM Peaks		329	346	335	349	326	349	367	327	

U3

EB 5185
WB 5468
COMB AWD 10653
FAC .97 (.98)
COMB ADT 10,100

Mass Highway Department

WEEKLY SUMMARY FOR LANE 2 Page: 2
Starting: 11/16/2021

STA. 4 WB

Station #: 000000000075
Site ID: 000000040304
Location: Great Rd.,W.of Library Hill/Gleason. Rds
Direction: WEST

File: D1116004.prn
City: Stow
County:

TIME	MON 22	TUE 16	WED 17	THU 18	FRI 19	WKDAY AVG	SAT 20	SUN 21	WEEK AVG	TOTAL
01:00	9		7	15	10	10	15	20	13	76
02:00	3		4	5	4	4	8	11	6	35
03:00	2		2	4	6	4	5	6	4	25
04:00	4		4	7	6	5	3	9	6	33
05:00	6		12	9	5	8	7	6	8	45
06:00	38		46	41	46	43	17	8	33	196
07:00	102		132	129	109	118	49	21	90	542
08:00	259		270	265	242	259	117	77	205	1230
09:00	288		281	278	239	272	185	161	239	1432
10:00	254		228	223	260	241	262	202	238	1429
11:00		245	216	288	277	256	326	322	279	1674
12:00		268	232	299	321	280	378	310	301	1808
13:00		307	337	328	350	330	410	345	346	2077
14:00		332	351	352	397	358	390	348	362	2170
15:00		389	391	458	465	426	375	325	400	2403
16:00		593	578	627	624	606	365	322	518	3109
17:00		673	670	685	722	688	325	273	558	3348
18:00		705	648	738	611	676	320	217	540	3239
19:00		396	384	391	418	397	230	157	329	1976
20:00		167	173	213	190	186	143	123	168	1009
21:00		130	123	132	127	128	103	106	120	721
22:00		70	85	88	94	84	103	73	86	513
23:00		46	44	51	86	57	75	34	56	336
24:00		21	26	34	45	32	64	17	34	207
TOTALS	965	4342	5244	5660	5654	5468	4275	3493	4939	29633
% AVG WKDY	17.6	79.4	95.9	103.5	103.4		78.2	63.9		
% AVG WEEK	19.5	87.9	106.2	114.6	114.5		86.6	70.7		
AM Times	09:00	12:00	09:00	12:00	12:00	12:00	12:00	11:00	12:00	
AM Peaks	288	268	281	299	321	280	378	322	301	
PM Times		18:00	17:00	18:00	17:00	17:00	13:00	14:00	17:00	
PM Peaks		705	670	738	722	688	410	348	558	

Mass Highway Department

WEEKLY SUMMARY FOR LANE 1 Page: 1
Starting: 11/16/2021

STA 5 EB

Station #: 000000000142
Site ID: 000000050304
Location: Great Rd., E.of Common Rd.
Direction: EAST

File: D1116005.prn
City: Stow
County:

TIME	MON 22	TUE 16	WED 17	THU 18	FRI 19	WKDAY AVG	SAT 20	SUN 21	WEEK AVG	TOTAL
01:00	8		17	16	23	16	23	25	19	112
02:00	5		9	5	6	6	14	13	9	52
03:00	2		1	3	6	3	12	7	5	31
04:00	6		8	6	9	7	11	6	8	46
05:00	28		26	24	28	26	27	10	24	143
06:00	148		177	167	173	166	61	23	125	749
07:00	502		624	585	545	564	127	67	408	2450
08:00	829		891	902	786	852	234	126	628	3768
09:00	705		744	710	636	699	347	243	564	3385
10:00	460		435	462	474	458	446	347	437	2624
11:00			406	445	437	429	507	435	446	2230
12:00		452	430	475	443	450	570	454	471	2824
13:00		451	417	529	494	473	590	506	498	2987
14:00		411	454	488	495	462	580	589	503	3017
15:00		490	504	538	538	518	555	509	522	3134
16:00		547	531	536	598	553	547	560	553	3319
17:00		520	538	619	519	549	498	440	522	3134
18:00		493	476	516	498	496	408	378	462	2769
19:00		299	323	375	375	343	316	263	325	1951
20:00		169	204	235	250	214	191	194	207	1243
21:00		143	139	157	171	152	146	122	146	878
22:00		94	104	116	115	107	124	95	108	648
23:00		52	66	89	71	70	94	41	69	413
24:00		20	35	32	51	34	57	21	36	216
TOTALS	2693	4141	7559	8030	7741	7647	6485	5474	7095	42123
% AVG WKDY	35.2	54.2	98.8	105.0	101.2		84.8	71.6		
% AVG WEEK	38.0	58.4	106.5	113.2	109.1		91.4	77.2		
AM Times	08:00	12:00	08:00	08:00	08:00	08:00	12:00	12:00	08:00	
AM Peaks	829	452	891	902	786	852	570	454	628	
PM Times		16:00	17:00	17:00	16:00	16:00	13:00	14:00	16:00	
PM Peaks		547	538	619	598	553	590	589	553	

U3

EB 7647
WB 6459
COMB AWD 14106

FAC .97(.98)
COMB ADT 13,400

Mass Highway Department

WEEKLY SUMMARY FOR LANE 2 Page: 2
Starting: 11/16/2021

Station #: 000000000142
Site ID: 000000050304
Location: Great Rd., E.of Common Rd.
Direction: WEST

STA. 5 WB

File: D1116005.prn
City: Stow
County:

TIME	MON 22	TUE 16	WED 17	THU 18	FRI 19	WKDAY AVG	SAT 20	SUN 21	WEEK AVG	TOTAL
01:00	10		7	17	15	12	20	16	14	85
02:00	4		5	3	5	4	10	12	6	39
03:00	2		3	6	8	5	6	6	5	31
04:00	4		5	7	8	6	4	7	6	35
05:00	8		10	9	6	8	6	7	8	46
06:00	40		50	42	45	44	20	11	35	208
07:00	123		164	149	131	142	58	26	108	651
08:00	283		315	313	294	301	133	87	238	1425
09:00	323		351	343	296	328	207	211	288	1731
10:00	285		287	267	312	288	315	256	287	1722
11:00			268	309	329	302	410	374	338	1690
12:00		310	295	359	363	332	471	372	362	2170
13:00		352	384	352	394	370	448	411	390	2341
14:00		396	426	383	477	420	480	450	435	2612
15:00		482	496	498	571	512	452	397	483	2896
16:00		696	681	723	752	713	428	344	604	3624
17:00		834	802	795	877	827	395	322	671	4025
18:00		849	805	850	748	813	400	259	652	3911
19:00		491	431	441	500	466	270	173	384	2306
20:00		196	192	228	227	211	163	135	190	1141
21:00		158	146	150	154	152	132	120	143	860
22:00		100	107	86	123	104	118	80	102	614
23:00		48	55	56	93	63	82	37	62	371
24:00		32	27	39	48	36	65	17	38	228
TOTALS	1082	4944	6312	6425	6776	6459	5093	4130	5849	34762
% AVG WKDY	16.8	76.5	97.7	99.5	104.9		78.9	63.9		
% AVG WEEK	18.5	84.5	107.9	109.8	115.8		87.1	70.6		
AM Times	09:00	12:00	09:00	12:00	12:00	12:00	12:00	11:00	12:00	
AM Peaks	323	310	351	359	363	332	471	374	362	
PM Times		18:00	18:00	18:00	17:00	17:00	14:00	14:00	17:00	
PM Peaks		849	805	850	877	827	480	450	671	

Part 2: Turning Movement Count (TMC) Data

218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
Full Length (7 AM-11 AM, 2 PM-6 PM, 10 AM-2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

Leg	Library Hill Road						Great Road (Route 62/117)						Gleasondale Road (Route 62)						Great Road (Route 117)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2021-11-18 7:00AM	4	98	71	0	**173**	0	0	229	81	0	**310**	0	157	100	15	0	**272**	0	25	634	3	0	**662**	0	**1417**
8:00AM	6	70	73	0	**149**	0	6	257	105	0	**368**	0	137	100	23	0	**260**	0	8	472	6	0	**486**	0	**1263**
9:00AM	5	60	27	0	**92**	0	1	211	83	0	**295**	0	105	81	11	0	**197**	0	13	297	5	0	**315**	0	**899**
10:00AM	10	66	17	0	**93**	0	2	258	93	0	**353**	0	116	62	11	0	**189**	0	17	255	2	0	**274**	0	**909**
2:00PM	6	66	30	0	**102**	3	6	428	123	0	**557**	0	171	74	17	0	**262**	2	12	273	7	0	**292**	0	**1213**
3:00PM	6	127	52	0	**185**	4	9	601	165	0	**775**	0	150	100	20	0	**270**	0	15	287	3	0	**305**	5	**1535**
4:00PM	7	128	65	0	**200**	0	3	656	200	0	**859**	0	209	124	18	0	**351**	1	21	315	1	0	**337**	0	**1747**
5:00PM	5	112	52	0	**169**	0	11	692	193	0	**896**	0	128	78	42	0	**248**	0	20	311	6	0	**337**	0	**1650**
2021-11-20 10:00AM	2	78	33	0	**113**	0	1	308	136	0	**445**	0	128	58	15	0	**201**	1	17	308	3	0	**328**	0	**1087**
11:00AM	4	91	43	0	**138**	0	3	349	173	0	**525**	0	137	66	22	0	**225**	0	45	330	1	0	**376**	0	**1264**
12:00PM	8	87	30	0	**125**	0	7	373	133	0	**513**	0	165	111	29	0	**305**	0	14	337	4	0	**355**	0	**1298**
1:00PM	3	89	39	0	**131**	2	16	373	138	0	**527**	0	171	105	11	0	**287**	0	7	319	3	0	**329**	3	**1274**
Total	66	1072	532	0	**1670**	9	65	4735	1623	0	**6423**	0	1774	1059	234	0	**3067**	4	214	4138	44	0	**4396**	8	**15556**
% Approach	4.0%	64.2%	31.9%	0%	**-**	-	1.0%	73.7%	25.3%	0%	**-**	-	57.8%	34.5%	7.6%	0%	**-**	-	4.9%	94.1%	1.0%	0%	**-**	-	-
% Total	0.4%	6.9%	3.4%	0%	**10.7%**	-	0.4%	30.4%	10.4%	0%	**41.3%**	-	11.4%	6.8%	1.5%	0%	**19.7%**	-	1.4%	26.6%	0.3%	0%	**28.3%**	-	-
Motorcycles	0	5	3	0	**8**	-	5	29	4	0	**38**	-	2	10	0	0	**12**	-	1	25	0	0	**26**	-	84
% Motorcycles	0%	0.5%	0.6%	0%	**0.5%**	-	7.7%	0.6%	0.2%	0%	**0.6%**	-	0.1%	0.9%	0%	0%	**0.4%**	-	0.5%	0.6%	0%	0%	**0.6%**	-	0.5%
Lights	66	1030	513	0	**1609**	-	55	4528	1591	0	**6174**	-	1717	1008	214	0	**2939**	-	200	3963	43	0	**4206**	-	14928
% Lights	100%	96.1%	96.4%	0%	**96.3%**	-	84.6%	95.6%	98.0%	0%	**96.1%**	-	96.8%	95.2%	91.5%	0%	**95.8%**	-	93.5%	95.8%	97.7%	0%	**95.7%**	-	96.0%
Single-Unit Trucks	0	21	11	0	**32**	-	4	137	21	0	**162**	-	41	21	13	0	**75**	-	8	98	0	0	**106**	-	375
% Single-Unit Trucks	0%	2.0%	2.1%	0%	**1.9%**	-	6.2%	2.9%	1.3%	0%	**2.5%**	-	2.3%	2.0%	5.6%	0%	**2.4%**	-	3.7%	2.4%	0%	0%	**2.4%**	-	2.4%
Articulated Trucks	0	3	0	0	**3**	-	1	27	3	0	**31**	-	4	2	2	0	**8**	-	0	40	1	0	**41**	-	83
% Articulated Trucks	0%	0.3%	0%	0%	**0.2%**	-	1.5%	0.6%	0.2%	0%	**0.5%**	-	0.2%	0.2%	0.9%	0%	**0.3%**	-	0%	1.0%	2.3%	0%	**0.9%**	-	0.5%
Buses	0	2	5	0	**7**	-	0	9	4	0	**13**	-	9	3	5	0	**17**	-	4	10	0	0	**14**	-	51
% Buses	0%	0.2%	0.9%	0%	**0.4%**	-	0%	0.2%	0.2%	0%	**0.2%**	-	0.5%	0.3%	2.1%	0%	**0.6%**	-	1.9%	0.2%	0%	0%	**0.3%**	-	0.3%
Bicycles on Road	0	11	0	0	**11**	-	0	5	0	0	**5**	-	1	15	0	0	**16**	-	1	2	0	0	**3**	-	35
% Bicycles on Road	0%	1.0%	0%	0%	**0.7%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.1%	1.4%	0%	0%	**0.5%**	-	0.5%	0%	0%	0%	**0.1%**	-	0.2%
Pedestrians	-	-	-	-	-	9	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	8	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
Full Length (7 AM-11 AM, 2 PM-6 PM, 10 AM-2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
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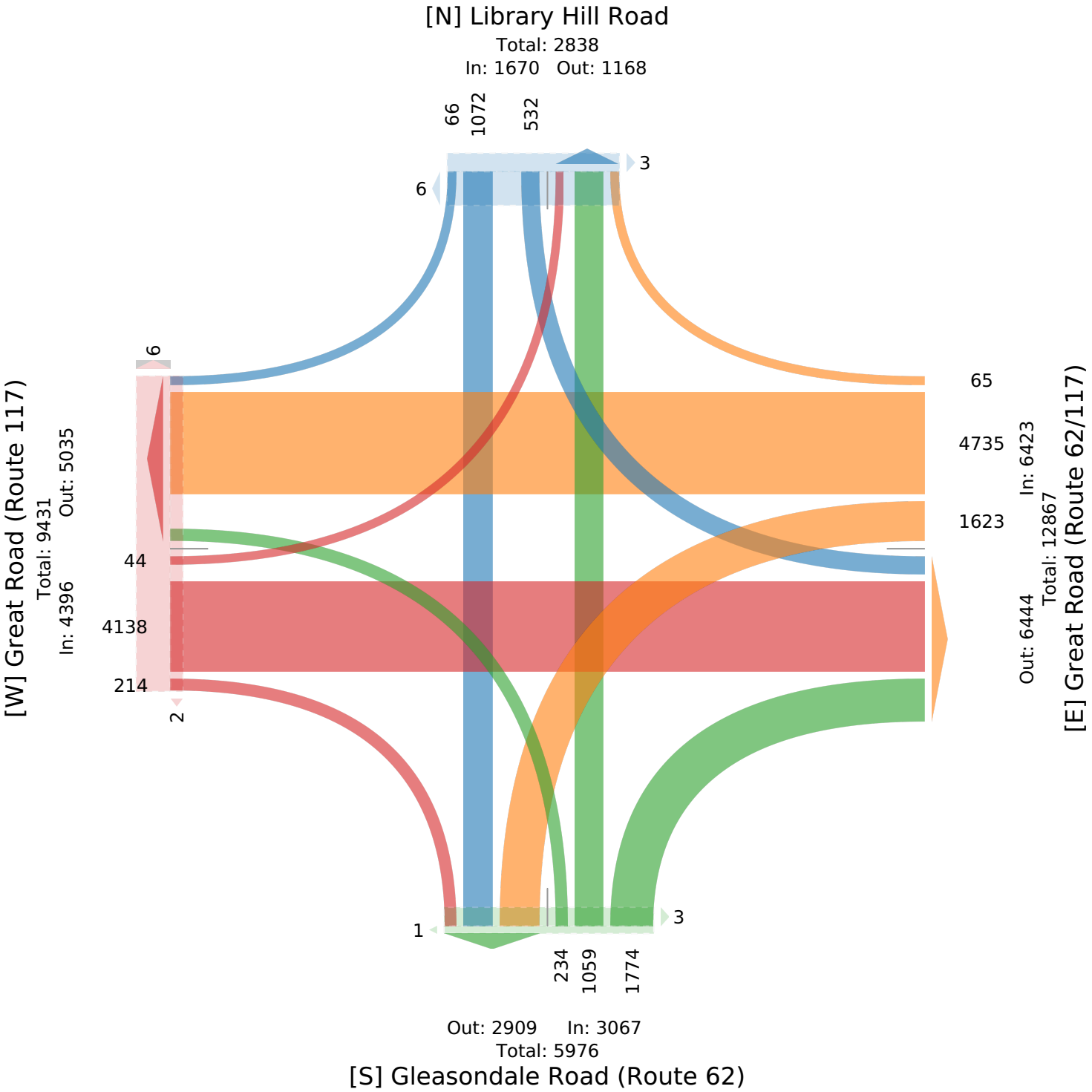


218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
AM Peak (Nov 18 2021 7AM - 8 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

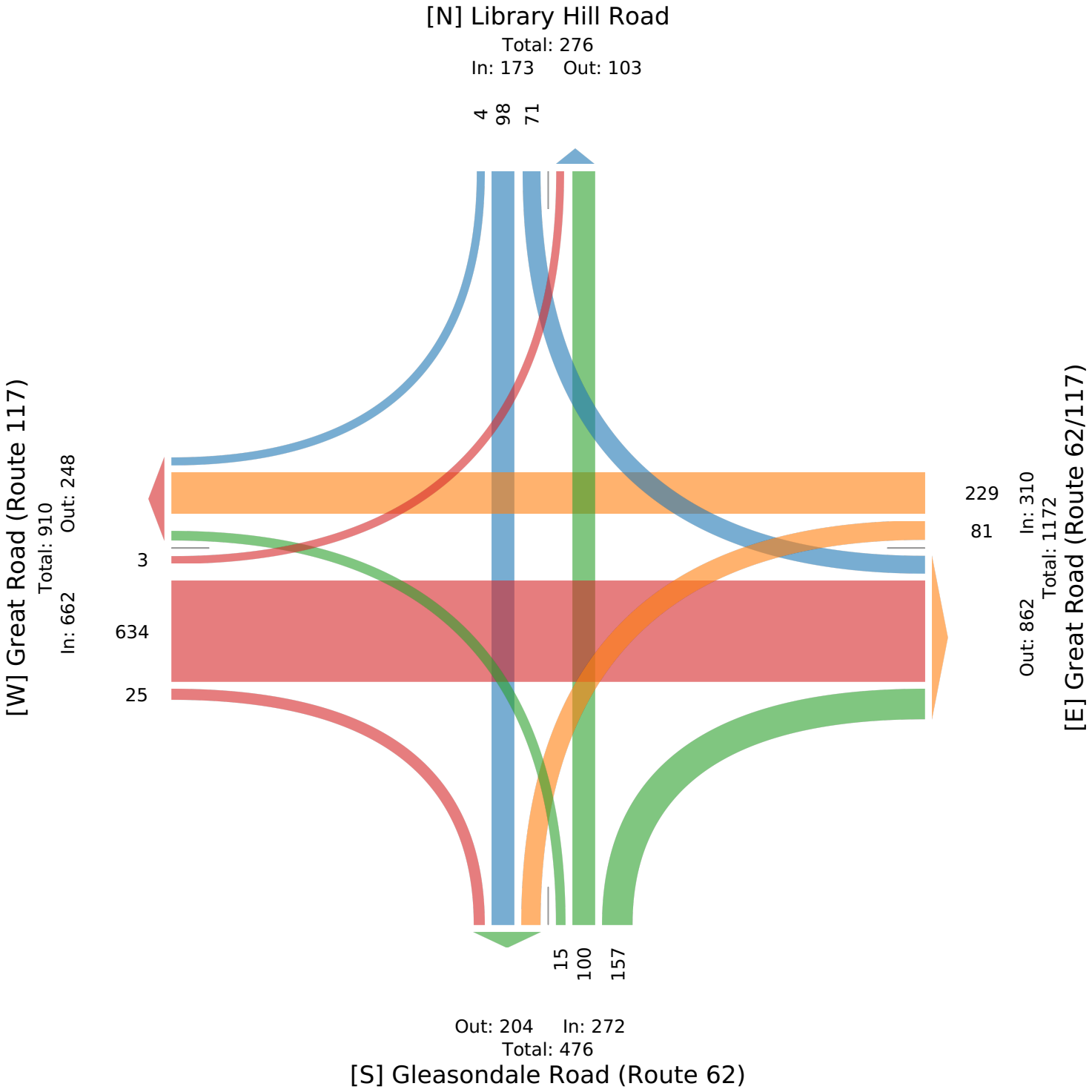
Leg	Library Hill Road						Great Road (Route 62/117)						Gleasondale Road (Route 62)						Great Road (Route 117)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2021-11-18 7:00AM	1	19	14	0	**34**	0	0	63	28	0	**91**	0	41	16	3	0	**60**	0	9	149	1	0	**159**	0	**344**
7:15AM	0	15	14	0	**29**	0	0	53	20	0	**73**	0	35	25	5	0	**65**	0	7	164	0	0	**171**	0	**338**
7:30AM	0	49	23	0	**72**	0	0	69	12	0	**81**	0	33	31	6	0	**70**	0	7	163	1	0	**171**	0	**394**
7:45AM	3	15	20	0	**38**	0	0	44	21	0	**65**	0	48	28	1	0	**77**	0	2	158	1	0	**161**	0	**341**
Total	4	98	71	0	**173**	0	0	229	81	0	**310**	0	157	100	15	0	**272**	0	25	634	3	0	**662**	0	**1417**
% Approach	2.3%	56.6%	41.0%	0%	**-**	-	0%	73.9%	26.1%	0%	**-**	-	57.7%	36.8%	5.5%	0%	**-**	-	3.8%	95.8%	0.5%	0%	**-**	-	-
% Total	0.3%	6.9%	5.0%	0%	**12.2%**	-	0%	16.2%	5.7%	0%	**21.9%**	-	11.1%	7.1%	1.1%	0%	**19.2%**	-	1.8%	44.7%	0.2%	0%	**46.7%**	-	-
PHF	0.333	0.500	0.772	-	**0.601**	-	-	0.826	0.723	-	**0.849**	-	0.813	0.825	0.625	-	**0.877**	-	0.694	0.966	0.750	-	**0.968**	-	0.902
Motorcycles	0	0	1	0	**1**	-	0	0	1	0	**1**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	4
% Motorcycles	0%	0%	1.4%	0%	**0.6%**	-	0%	0%	1.2%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.3%
Lights	4	93	67	0	**164**	-	0	212	72	0	**284**	-	152	94	12	0	**258**	-	22	608	3	0	**633**	-	1339
% Lights	100%	94.9%	94.4%	0%	**94.8%**	-	0%	92.6%	88.9%	0%	**91.6%**	-	96.8%	94.0%	80.0%	0%	**94.9%**	-	88.0%	95.9%	100%	0%	**95.6%**	-	94.5%
Single-Unit Trucks	0	4	1	0	**5**	-	0	15	4	0	**19**	-	1	2	2	0	**5**	-	2	13	0	0	**15**	-	44
% Single-Unit Trucks	0%	4.1%	1.4%	0%	**2.9%**	-	0%	6.6%	4.9%	0%	**6.1%**	-	0.6%	2.0%	13.3%	0%	**1.8%**	-	8.0%	2.1%	0%	0%	**2.3%**	-	3.1%
Articulated Trucks	0	0	0	0	**0**	-	0	1	1	0	**2**	-	1	2	1	0	**4**	-	0	10	0	0	**10**	-	16
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.4%	1.2%	0%	**0.6%**	-	0.6%	2.0%	6.7%	0%	**1.5%**	-	0%	1.6%	0%	0%	**1.5%**	-	1.1%
Buses	0	1	2	0	**3**	-	0	0	3	0	**3**	-	2	1	0	0	**3**	-	1	1	0	0	**2**	-	11
% Buses	0%	1.0%	2.8%	0%	**1.7%**	-	0%	0%	3.7%	0%	**1.0%**	-	1.3%	1.0%	0%	0%	**1.1%**	-	4.0%	0.2%	0%	0%	**0.3%**	-	0.8%
Bicycles on Road	0	0	0	0	**0**	-	0	1	0	0	**1**	-	1	1	0	0	**2**	-	0	0	0	0	**0**	-	3
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0.4%	0%	0%	**0.3%**	-	0.6%	1.0%	0%	0%	**0.7%**	-	0%	0%	0%	0%	**0%**	-	0.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
AM Peak (Nov 18 2021 7AM - 8 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
PM Peak (Nov 18 2021 4:30PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

Leg / Direction	Library Hill Road Southbound						Great Road (Route 62/117) Westbound						Gleasondale Road (Route 62) Northbound						Great Road (Route 117) Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2021-11-18 4:30PM	1	35	13	0	**49**	0	1	168	50	0	**219**	0	51	34	3	0	**88**	0	6	77	0	0	**83**	0	**439**
4:45PM	4	37	18	0	**59**	0	0	169	58	0	**227**	0	65	30	8	0	**103**	0	7	75	0	0	**82**	0	**471**
5:00PM	2	24	16	0	**42**	0	5	190	51	0	**246**	0	27	19	12	0	**58**	0	1	82	1	0	**84**	0	**430**
5:15PM	1	30	17	0	**48**	0	1	180	52	0	**233**	0	38	18	11	0	**67**	0	7	79	1	0	**87**	0	**435**
Total	8	126	64	0	**198**	0	7	707	211	0	**925**	0	181	101	34	0	**316**	0	21	313	2	0	**336**	0	**1775**
% Approach	4.0%	63.6%	32.3%	0%	**-**	-	0.8%	76.4%	22.8%	0%	**-**	-	57.3%	32.0%	10.8%	0%	**-**	-	6.3%	93.2%	0.6%	0%	**-**	-	-
% Total	0.5%	7.1%	3.6%	0%	**11.2%**	-	0.4%	39.8%	11.9%	0%	**52.1%**	-	10.2%	5.7%	1.9%	0%	**17.8%**	-	1.2%	17.6%	0.1%	0%	**18.9%**	-	-
PHF	0.500	0.851	0.889	-	**0.839**	-	0.350	0.930	0.909	-	**0.940**	-	0.696	0.743	0.708	-	**0.767**	-	0.714	0.963	0.500	-	**0.960**	-	0.941
Motorcycles	0	0	0	0	**0**	-	0	2	0	0	**2**	-	0	1	0	0	**1**	-	0	2	0	0	**2**	-	5
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.2%**	-	0%	1.0%	0%	0%	**0.3%**	-	0%	0.6%	0%	0%	**0.6%**	-	0.3%
Lights	8	125	64	0	**197**	-	6	685	210	0	**901**	-	178	97	32	0	**307**	-	19	306	2	0	**327**	-	1732
% Lights	100%	99.2%	100%	0%	**99.5%**	-	85.7%	96.9%	99.5%	0%	**97.4%**	-	98.3%	96.0%	94.1%	0%	**97.2%**	-	90.5%	97.8%	100%	0%	**97.3%**	-	97.6%
Single-Unit Trucks	0	0	0	0	**0**	-	1	16	0	0	**17**	-	3	3	2	0	**8**	-	1	1	0	0	**2**	-	27
% Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	14.3%	2.3%	0%	0%	**1.8%**	-	1.7%	3.0%	5.9%	0%	**2.5%**	-	4.8%	0.3%	0%	0%	**0.6%**	-	1.5%
Articulated Trucks	0	1	0	0	**1**	-	0	3	0	0	**3**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	6
% Articulated Trucks	0%	0.8%	0%	0%	**0.5%**	-	0%	0.4%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0.6%	0%	0%	**0.6%**	-	0.3%
Buses	0	0	0	0	**0**	-	0	1	1	0	**2**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	3
% Buses	0%	0%	0%	0%	**0%**	-	0%	0.1%	0.5%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.2%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1	1	0	0	**2**	-	2
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	4.8%	0.3%	0%	0%	**0.6%**	-	0.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
PM Peak (Nov 18 2021 4:30PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
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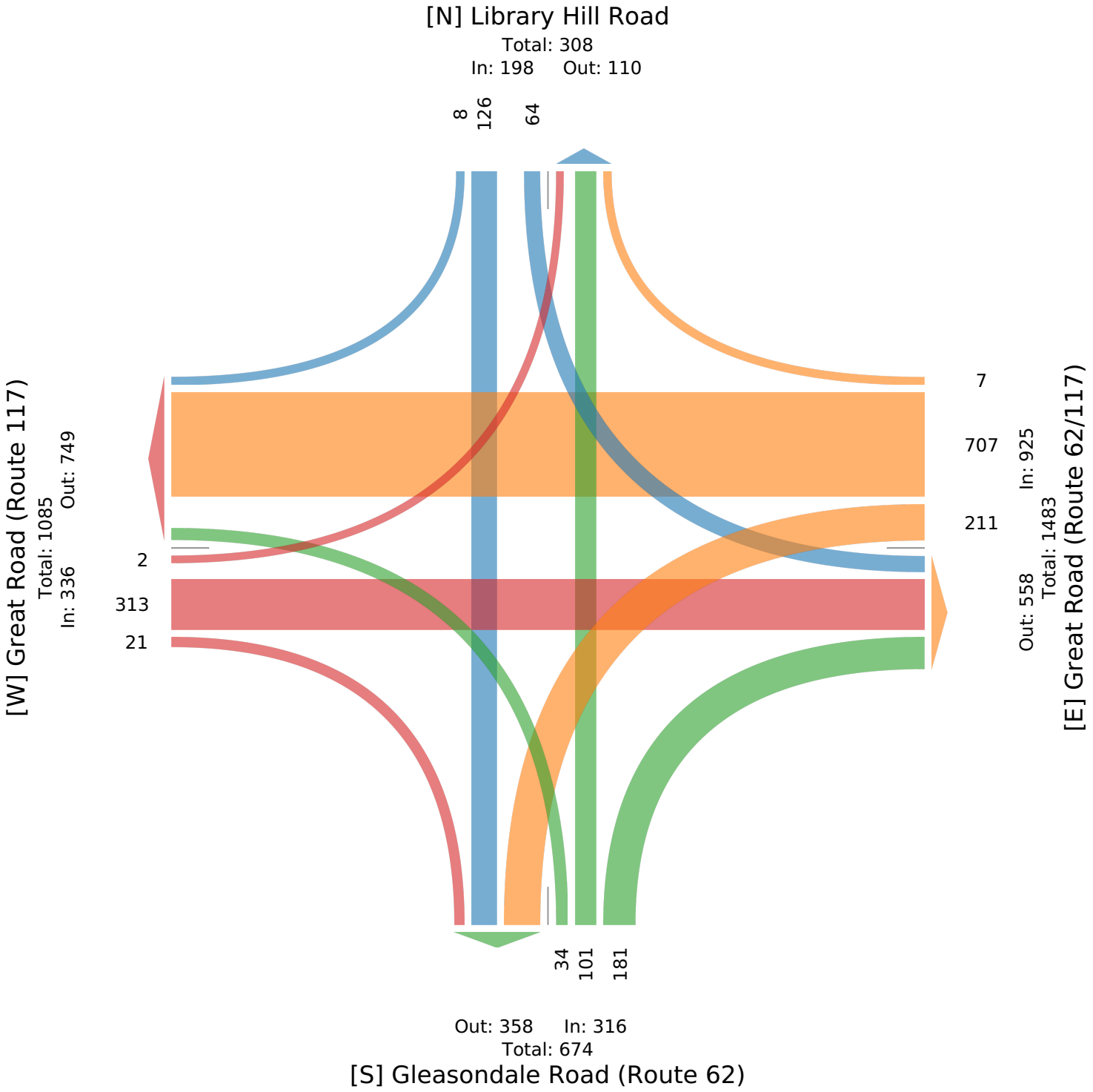

218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
AM Peak (WKND) (Nov 20 2021 10AM - 11 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

Leg	Library Hill Road						Great Road (Route 62/117)						Gleasondale Road (Route 62)						Great Road (Route 117)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2021-11-20 10:00AM	0	18	9	0	**27**	0	1	83	29	0	**113**	0	39	20	1	0	**60**	1	3	68	2	0	**73**	0	**273**
10:15AM	1	16	10	0	**27**	0	0	81	34	0	**115**	0	24	16	5	0	**45**	0	5	67	0	0	**72**	0	**259**
10:30AM	1	22	6	0	**29**	0	0	80	37	0	**117**	0	34	15	2	0	**51**	0	2	86	0	0	**88**	0	**285**
10:45AM	0	22	8	0	**30**	0	0	64	36	0	**100**	0	31	7	7	0	**45**	0	7	87	1	0	**95**	0	**270**
Total	2	78	33	0	**113**	0	1	308	136	0	**445**	0	128	58	15	0	**201**	1	17	308	3	0	**328**	0	**1087**
% Approach	1.8%	69.0%	29.2%	0%	**-**	-	0.2%	69.2%	30.6%	0%	**-**	-	63.7%	28.9%	7.5%	0%	**-**	-	5.2%	93.9%	0.9%	0%	**-**	-	-
% Total	0.2%	7.2%	3.0%	0%	**10.4%**	-	0.1%	28.3%	12.5%	0%	**40.9%**	-	11.8%	5.3%	1.4%	0%	**18.5%**	-	1.6%	28.3%	0.3%	0%	**30.2%**	-	-
PHF	0.500	0.886	0.825	-	**0.942**	-	0.250	0.936	0.919	-	**0.949**	-	0.821	0.725	0.536	-	**0.838**	-	0.607	0.885	0.375	-	**0.863**	-	0.953
Motorcycles	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Lights	2	78	33	0	**113**	-	1	293	133	0	**427**	-	126	58	15	0	**199**	-	17	304	3	0	**324**	-	1063
% Lights	100%	100%	100%	0%	**100%**	-	100%	95.1%	97.8%	0%	**96.0%**	-	98.4%	100%	100%	0%	**99.0%**	-	100%	98.7%	100%	0%	**98.8%**	-	97.8%
Single-Unit Trucks	0	0	0	0	**0**	-	0	11	2	0	**13**	-	2	0	0	0	**2**	-	0	3	0	0	**3**	-	18
% Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	3.6%	1.5%	0%	**2.9%**	-	1.6%	0%	0%	0%	**1.0%**	-	0%	1.0%	0%	0%	**0.9%**	-	1.7%
Articulated Trucks	0	0	0	0	**0**	-	0	3	1	0	**4**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	5
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	1.0%	0.7%	0%	**0.9%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.5%
Buses	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
AM Peak (WKND) (Nov 20 2021 10AM - 11 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

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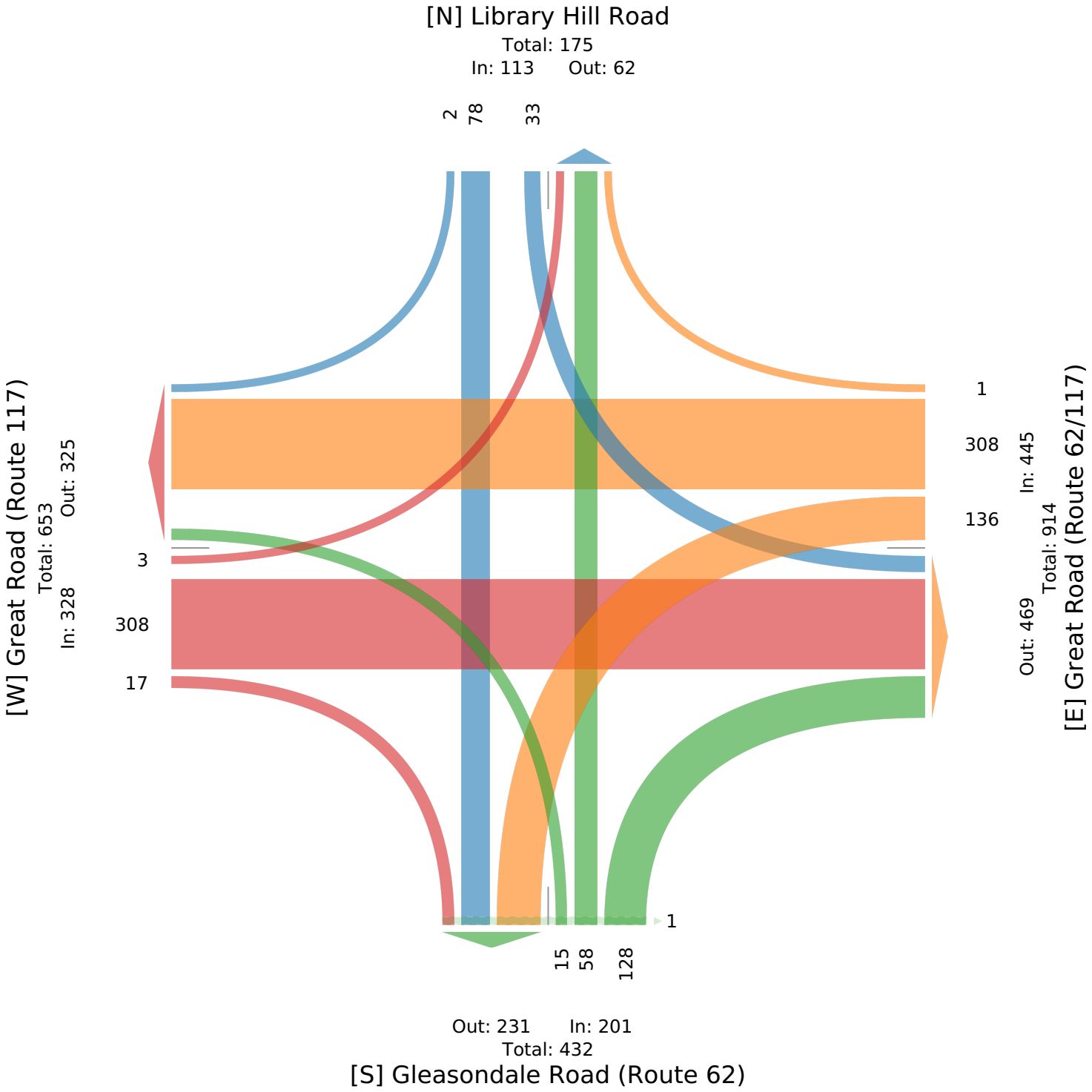

218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
Midday Peak (WKND) (Nov 20 2021 11:30AM - 12:30 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

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157 Washington Street, 2,
Hudson, MA, 01749, US

Leg	Library Hill Road						Great Road (Route 62/117)						Gleasondale Road (Route 62)						Great Road (Route 117)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2021-11-20 11:30AM	2	25	16	0	**43**	0	0	86	38	0	**124**	0	38	12	6	0	**56**	0	5	71	0	0	**76**	0	**299**
11:45AM	0	21	11	0	**32**	0	0	90	47	0	**137**	0	34	15	4	0	**53**	0	28	81	0	0	**109**	0	**331**
12:00PM	4	38	8	0	**50**	0	1	97	28	0	**126**	0	38	20	3	0	**61**	0	3	83	2	0	**88**	0	**325**
12:15PM	0	14	4	0	**18**	0	2	108	38	0	**148**	0	39	43	18	0	**100**	0	4	77	2	0	**83**	0	**349**
Total	6	98	39	0	**143**	0	3	381	151	0	**535**	0	149	90	31	0	**270**	0	40	312	4	0	**356**	0	**1304**
% Approach	4.2%	68.5%	27.3%	0%	**-**	-	0.6%	71.2%	28.2%	0%	**-**	-	55.2%	33.3%	11.5%	0%	**-**	-	11.2%	87.6%	1.1%	0%	**-**	-	**-**
% Total	0.5%	7.5%	3.0%	0%	**11.0%**	-	0.2%	29.2%	11.6%	0%	**41.0%**	-	11.4%	6.9%	2.4%	0%	**20.7%**	-	3.1%	23.9%	0.3%	0%	**27.3%**	-	**-**
PHF	0.375	0.750	0.609	-	**0.785**	-	0.375	0.882	0.803	-	**0.904**	-	0.955	0.539	0.431	-	**0.689**	-	0.357	0.940	0.500	-	**0.817**	-	0.936
Motorcycles	0	0	0	0	**0**	-	0	2	0	0	**2**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	2
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0.5%	0%	0%	**0.4%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.2%
Lights	6	90	39	0	**135**	-	3	371	149	0	**523**	-	148	82	30	0	**260**	-	40	303	4	0	**347**	-	1265
% Lights	100%	91.8%	100%	0%	**94.4%**	-	100%	97.4%	98.7%	0%	**97.8%**	-	99.3%	91.1%	96.8%	0%	**96.3%**	-	100%	97.1%	100%	0%	**97.5%**	-	97.0%
Single-Unit Trucks	0	0	0	0	**0**	-	0	7	2	0	**9**	-	1	0	1	0	**2**	-	0	7	0	0	**7**	-	18
% Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	1.8%	1.3%	0%	**1.7%**	-	0.7%	0%	3.2%	0%	**0.7%**	-	0%	2.2%	0%	0%	**2.0%**	-	1.4%
Articulated Trucks	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	3
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0%	0.6%	0%	0%	**0.6%**	-	0.2%
Buses	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	8	0	0	**8**	-	0	0	0	0	**0**	-	0	8	0	0	**8**	-	0	0	0	0	**0**	-	16
% Bicycles on Road	0%	8.2%	0%	0%	**5.6%**	-	0%	0%	0%	0%	**0%**	-	0%	8.9%	0%	0%	**3.0%**	-	0%	0%	0%	0%	**0%**	-	1.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
Midday Peak (WKND) (Nov 20 2021 11:30AM - 12:30 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

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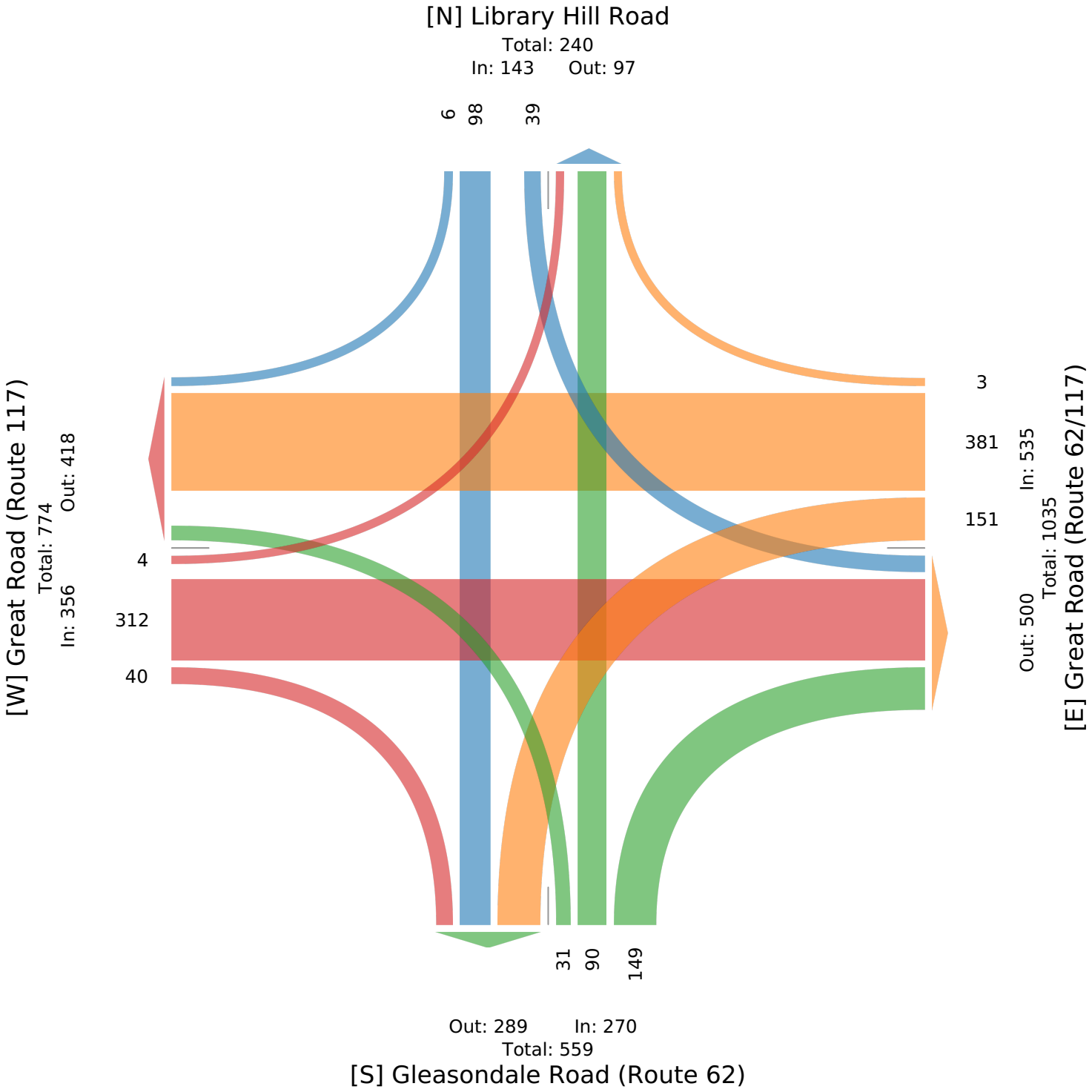


218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
PM Peak (WKND) (Nov 20 2021 1PM - 2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

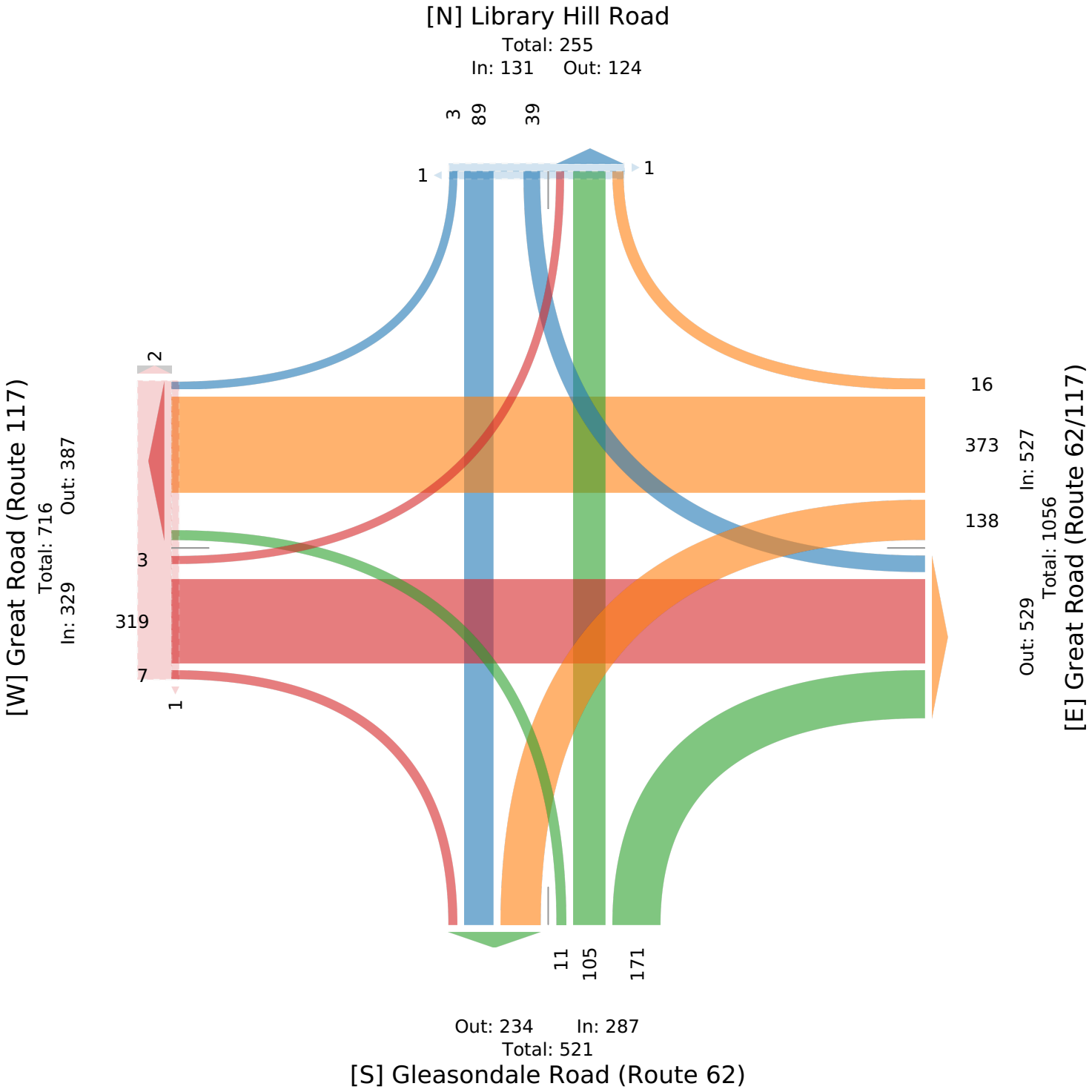
Leg / Direction	Library Hill Road Southbound						Great Road (Route 62/117) Westbound						Gleasondale Road (Route 62) Northbound						Great Road (Route 117) Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2021-11-20 1:00PM	0	21	16	0	**37**	1	4	88	29	0	**121**	0	47	34	0	0	**81**	0	1	75	1	0	**77**	0	**316**
1:15PM	0	22	8	0	**30**	0	6	94	32	0	**132**	0	39	33	2	0	**74**	0	3	66	1	0	**70**	0	**306**
1:30PM	2	22	6	0	**30**	1	4	96	41	0	**141**	0	38	19	6	0	**63**	0	2	86	1	0	**89**	3	**323**
1:45PM	1	24	9	0	**34**	0	2	95	36	0	**133**	0	47	19	3	0	**69**	0	1	92	0	0	**93**	0	**329**
Total	3	89	39	0	**131**	2	16	373	138	0	**527**	0	171	105	11	0	**287**	0	7	319	3	0	**329**	3	**1274**
% Approach	2.3%	67.9%	29.8%	0%	**-**	-	3.0%	70.8%	26.2%	0%	**-**	-	59.6%	36.6%	3.8%	0%	**-**	-	2.1%	97.0%	0.9%	0%	**-**	-	-
% Total	0.2%	7.0%	3.1%	0%	**10.3%**	-	1.3%	29.3%	10.8%	0%	**41.4%**	-	13.4%	8.2%	0.9%	0%	**22.5%**	-	0.5%	25.0%	0.2%	0%	**25.8%**	-	-
PHF	0.375	0.927	0.609	-	**0.885**	-	0.667	0.971	0.841	-	**0.934**	-	0.910	0.765	0.458	-	**0.919**	-	0.583	0.867	0.750	-	**0.884**	-	0.965
Motorcycles	0	0	1	0	**1**	-	1	2	0	0	**3**	-	0	1	0	0	**1**	-	0	1	0	0	**1**	-	6
% Motorcycles	0%	0%	2.6%	0%	**0.8%**	-	6.3%	0.5%	0%	0%	**0.6%**	-	0%	1.0%	0%	0%	**0.3%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.5%
Lights	3	88	38	0	**129**	-	15	361	138	0	**514**	-	169	100	11	0	**280**	-	6	314	3	0	**323**	-	1246
% Lights	100%	98.9%	97.4%	0%	**98.5%**	-	93.8%	96.8%	100%	0%	**97.5%**	-	98.8%	95.2%	100%	0%	**97.6%**	-	85.7%	98.4%	100%	0%	**98.2%**	-	97.8%
Single-Unit Trucks	0	1	0	0	**1**	-	0	9	0	0	**9**	-	2	0	0	0	**2**	-	1	3	0	0	**4**	-	16
% Single-Unit Trucks	0%	1.1%	0%	0%	**0.8%**	-	0%	2.4%	0%	0%	**1.7%**	-	1.2%	0%	0%	0%	**0.7%**	-	14.3%	0.9%	0%	0%	**1.2%**	-	1.3%
Articulated Trucks	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	2
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.2%
Buses	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	4	0	0	**4**	-	0	0	0	0	**0**	-	4
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	3.8%	0%	0%	**1.4%**	-	0%	0%	0%	0%	**0%**	-	0.3%
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218251 (1) Great Rd @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
PM Peak (WKND) (Nov 20 2021 1PM - 2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902917, Location: 42.436534, -71.50495, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
Full Length (7 AM-11 AM, 2 PM-6 PM, 10 AM-2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

Leg	Hartley Road							Crescent Street							Library Hill Road						
Direction	Southbound							Westbound							Northbound						
Time	HR	R	T	L	U	**App**	Ped*	R	BR	T	L	U	**App**	Ped*	R	T	BL	L	U	**App**	Ped*
2021-11-18 7:00AM	0	27	38	20	0	**85**	2	42	0	72	133	0	**247**	1	84	31	0	1	0	**116**	0
8:00AM	0	24	26	17	0	**67**	7	19	1	81	119	0	**220**	5	100	28	0	1	0	**129**	0
9:00AM	0	2	1	3	0	**6**	2	3	1	67	91	0	**162**	2	88	1	0	2	0	**91**	0
10:00AM	0	0	1	1	0	**2**	1	4	0	74	91	0	**169**	1	68	2	0	1	0	**71**	0
2:00PM	0	33	14	11	0	**58**	12	17	0	91	86	0	**194**	10	77	28	0	4	0	**109**	0
3:00PM	0	52	56	30	0	**138**	13	10	2	121	132	0	**265**	29	104	22	0	2	0	**128**	0
4:00PM	0	14	11	4	0	**29**	9	6	0	129	183	0	**318**	15	135	12	0	7	1	**155**	0
5:00PM	0	11	2	3	0	**16**	0	3	1	103	166	0	**273**	0	101	5	0	5	1	**112**	0
2021-11-20 10:00AM	0	3	7	6	0	**16**	5	1	0	83	105	0	**189**	1	77	1	0	1	0	**79**	0
11:00AM	0	6	5	0	0	**11**	0	3	0	93	130	0	**226**	0	75	1	0	1	0	**77**	0
12:00PM	0	0	4	0	0	**4**	2	10	0	100	112	0	**222**	0	116	16	1	1	0	**134**	0
1:00PM	0	2	3	0	0	**5**	11	20	0	99	122	0	**241**	3	116	23	0	5	0	**144**	0
Total	0	174	168	95	0	**437**	64	138	5	1113	1470	0	**2726**	67	1141	170	1	31	2	**1345**	0
% Approach	0%	39.8%	38.4%	21.7%	0%	**-**	-	5.1%	0.2%	40.8%	53.9%	0%	**-**	-	84.8%	12.6%	0.1%	2.3%	0.1%	**-**	-
% Total	0%	3.0%	2.9%	1.6%	0%	**7.4%**	-	2.3%	0.1%	18.9%	25.0%	0%	**46.3%**	-	19.4%	2.9%	0%	0.5%	0%	**22.9%**	-
Motorcycles	0	0	1	0	0	**1**	-	0	0	9	9	0	**18**	-	13	0	0	1	0	**14**	-
% Motorcycles	0%	0%	0.6%	0%	0%	**0.2%**	-	0%	0%	0.8%	0.6%	0%	**0.7%**	-	1.1%	0%	0%	3.2%	0%	**1.0%**	-
Lights	0	165	163	90	0	**418**	-	126	5	1051	1406	0	**2588**	-	1076	163	1	28	2	**1270**	-
% Lights	0%	94.8%	97.0%	94.7%	0%	**95.7%**	-	91.3%	100%	94.4%	95.6%	0%	**94.9%**	-	94.3%	95.9%	100%	90.3%	100%	**94.4%**	-
Single-Unit Trucks	0	2	1	1	0	**4**	-	4	0	28	31	0	**63**	-	29	1	0	0	0	**30**	-
% Single-Unit Trucks	0%	1.1%	0.6%	1.1%	0%	**0.9%**	-	2.9%	0%	2.5%	2.1%	0%	**2.3%**	-	2.5%	0.6%	0%	0%	0%	**2.2%**	-
Articulated Trucks	0	0	0	0	0	**0**	-	0	0	5	8	0	**13**	-	6	0	0	0	0	**6**	-
% Articulated Trucks	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0.4%	0.5%	0%	**0.5%**	-	0.5%	0%	0%	0%	0%	**0.4%**	-
Buses	0	7	3	2	0	**12**	-	3	0	11	3	0	**17**	-	3	4	0	2	0	**9**	-
% Buses	0%	4.0%	1.8%	2.1%	0%	**2.7%**	-	2.2%	0%	1.0%	0.2%	0%	**0.6%**	-	0.3%	2.4%	0%	6.5%	0%	**0.7%**	-
Bicycles on Road	0	0	0	2	0	**2**	-	5	0	9	13	0	**27**	-	14	2	0	0	0	**16**	-
% Bicycles on Road	0%	0%	0%	2.1%	0%	**0.5%**	-	3.6%	0%	0.8%	0.9%	0%	**1.0%**	-	1.2%	1.2%	0%	0%	0%	**1.2%**	-
Pedestrians	-	-	-	-	-	-	60	-	-	-	-	-	-	63	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	93.8%	-	-	-	-	-	-	94.0%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	4	-	-	-	-	-	-	4	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	6.3%	-	-	-	-	-	-	6.0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
Full Length (7 AM-11 AM, 2 PM-6 PM, 10 AM-2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

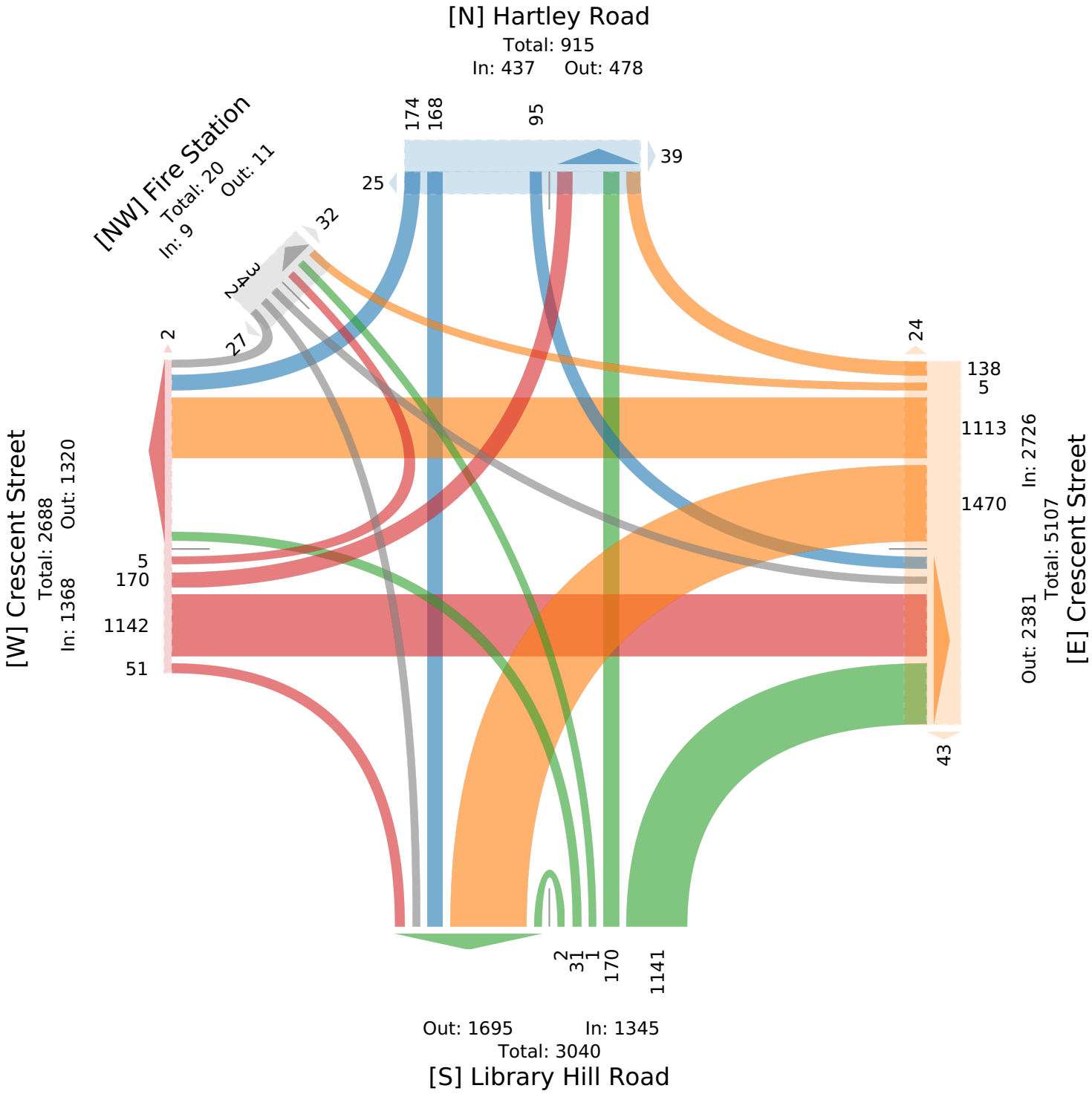
Leg	Crescent Street							Fire Station							
Direction	Eastbound							Southeastbound							
Time	R	T	L	HL	U	**App**	Ped*	HR	BR	BL	HL	U	**App**	Ped*	**Int**
2021-11-18 7:00AM	2	98	51	0	0	**151**	0	0	0	0	0	0	**0**	0	**599**
8:00AM	6	95	37	0	0	**138**	0	0	1	0	0	0	**1**	10	**555**
9:00AM	6	70	4	0	0	**80**	0	0	0	1	0	0	**1**	2	**340**
10:00AM	0	77	1	0	0	**78**	0	0	0	0	0	0	**0**	1	**320**
2:00PM	5	98	23	1	0	**127**	1	0	0	0	0	0	**0**	8	**488**
3:00PM	9	92	19	1	0	**121**	0	0	0	2	0	0	**2**	16	**654**
4:00PM	5	92	7	3	0	**107**	0	1	0	0	0	0	**1**	8	**610**
5:00PM	6	69	7	0	0	**82**	0	1	2	0	0	0	**3**	0	**486**
2021-11-20 10:00AM	1	71	1	0	0	**73**	0	0	0	0	0	0	**0**	5	**357**
11:00AM	3	63	2	0	0	**68**	1	0	0	0	0	0	**0**	1	**382**
12:00PM	5	170	13	0	0	**188**	0	0	1	0	0	0	**1**	2	**549**
1:00PM	3	147	5	0	0	**155**	0	0	0	0	0	0	**0**	6	**545**
Total	51	1142	170	5	0	**1368**	2	2	4	3	0	0	**9**	59	**5885**
% Approach	3.7%	83.5%	12.4%	0.4%	0%	**-**	-	22.2%	44.4%	33.3%	0%	0%	**-**	-	**-**
% Total	0.9%	19.4%	2.9%	0.1%	0%	**23.2%**	-	0%	0.1%	0.1%	0%	0%	**0.2%**	-	**-**
Motorcycles	0	14	1	0	0	**15**	-	0	0	0	0	0	**0**	-	48
% Motorcycles	0%	1.2%	0.6%	0%	0%	**1.1%**	-	0%	0%	0%	0%	0%	**0%**	-	0.8%
Lights	48	1081	166	4	0	**1299**	-	2	3	1	0	0	**6**	-	5581
% Lights	94.1%	94.7%	97.6%	80.0%	0%	**95.0%**	-	100%	75.0%	33.3%	0%	0%	**66.7%**	-	94.8%
Single-Unit Trucks	0	33	0	0	0	**33**	-	0	1	1	0	0	**2**	-	132
% Single-Unit Trucks	0%	2.9%	0%	0%	0%	**2.4%**	-	0%	25.0%	33.3%	0%	0%	**22.2%**	-	2.2%
Articulated Trucks	0	6	0	1	0	**7**	-	0	0	1	0	0	**1**	-	27
% Articulated Trucks	0%	0.5%	0%	20.0%	0%	**0.5%**	-	0%	0%	33.3%	0%	0%	**11.1%**	-	0.5%
Buses	1	7	3	0	0	**11**	-	0	0	0	0	0	**0**	-	49
% Buses	2.0%	0.6%	1.8%	0%	0%	**0.8%**	-	0%	0%	0%	0%	0%	**0%**	-	0.8%
Bicycles on Road	2	1	0	0	0	**3**	-	0	0	0	0	0	**0**	-	48
% Bicycles on Road	3.9%	0.1%	0%	0%	0%	**0.2%**	-	0%	0%	0%	0%	0%	**0%**	-	0.8%
Pedestrians	-	-	-	-	-	-	2	-	-	-	-	-	-	58	
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	98.3%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	1.7%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
Full Length (7 AM-11 AM, 2 PM-6 PM, 10 AM-2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
AM Peak (Nov 18 2021 7:30AM - 8:30 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

Leg	Hartley Road							Crescent Street							Library Hill Road						
Direction	Southbound							Westbound							Northbound						
Time	HR	R	T	L	U	**App**	Ped*	R	BR	T	L	U	**App**	Ped*	R	T	BL	L	U	**App**	Ped*
2021-11-18 7:30AM	0	22	28	16	0	**66**	1	23	0	17	42	0	**82**	0	19	17	0	1	0	**37**	0
7:45AM	0	1	5	3	0	**9**	1	1	0	15	33	0	**49**	1	28	4	0	0	0	**32**	0
8:00AM	0	1	1	0	0	**2**	0	4	0	22	36	0	**62**	0	29	3	0	0	0	**32**	0
8:15AM	0	8	9	5	0	**22**	3	10	0	20	31	0	**61**	3	20	20	0	0	0	**40**	0
Total	0	32	43	24	0	**99**	5	38	0	74	142	0	**254**	4	96	44	0	1	0	**141**	0
% Approach	0%	32.3%	43.4%	24.2%	0%	**-**	-	15.0%	0%	29.1%	55.9%	0%	**-**	-	68.1%	31.2%	0%	0.7%	0%	**-**	-
% Total	0%	5.0%	6.7%	3.7%	0%	**15.3%**	-	5.9%	0%	11.5%	22.0%	0%	**39.3%**	-	14.9%	6.8%	0%	0.2%	0%	**21.8%**	-
PHF	-	0.364	0.384	0.375	-	**0.375**	-	0.413	-	0.841	0.839	-	**0.771**	-	0.819	0.550	-	0.250	-	**0.875**	-
Motorcycles	0	0	0	0	0	**0**	-	0	0	0	1	0	**1**	-	0	0	0	0	0	**0**	-
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0.7%	0%	**0.4%**	-	0%	0%	0%	0%	0%	**0%**	-
Lights	0	29	40	23	0	**92**	-	37	0	68	135	0	**240**	-	90	41	0	1	0	**132**	-
% Lights	0%	90.6%	93.0%	95.8%	0%	**92.9%**	-	97.4%	0%	91.9%	95.1%	0%	**94.5%**	-	93.8%	93.2%	0%	100%	0%	**93.6%**	-
Single-Unit Trucks	0	0	1	0	0	**1**	-	0	0	2	4	0	**6**	-	4	1	0	0	0	**5**	-
% Single-Unit Trucks	0%	0%	2.3%	0%	0%	**1.0%**	-	0%	0%	2.7%	2.8%	0%	**2.4%**	-	4.2%	2.3%	0%	0%	0%	**3.5%**	-
Articulated Trucks	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	1	0	0	0	0	**1**	-
% Articulated Trucks	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	1.0%	0%	0%	0%	0%	**0.7%**	-
Buses	0	3	2	1	0	**6**	-	1	0	4	1	0	**6**	-	0	2	0	0	0	**2**	-
% Buses	0%	9.4%	4.7%	4.2%	0%	**6.1%**	-	2.6%	0%	5.4%	0.7%	0%	**2.4%**	-	0%	4.5%	0%	0%	0%	**1.4%**	-
Bicycles on Road	0	0	0	0	0	**0**	-	0	0	0	1	0	**1**	-	1	0	0	0	0	**1**	-
% Bicycles on Road	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0.7%	0%	**0.4%**	-	1.0%	0%	0%	0%	0%	**0.7%**	-
Pedestrians	-	-	-	-	-	-	5	-	-	-	-	-	-	4	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
AM Peak (Nov 18 2021 7:30AM - 8:30 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

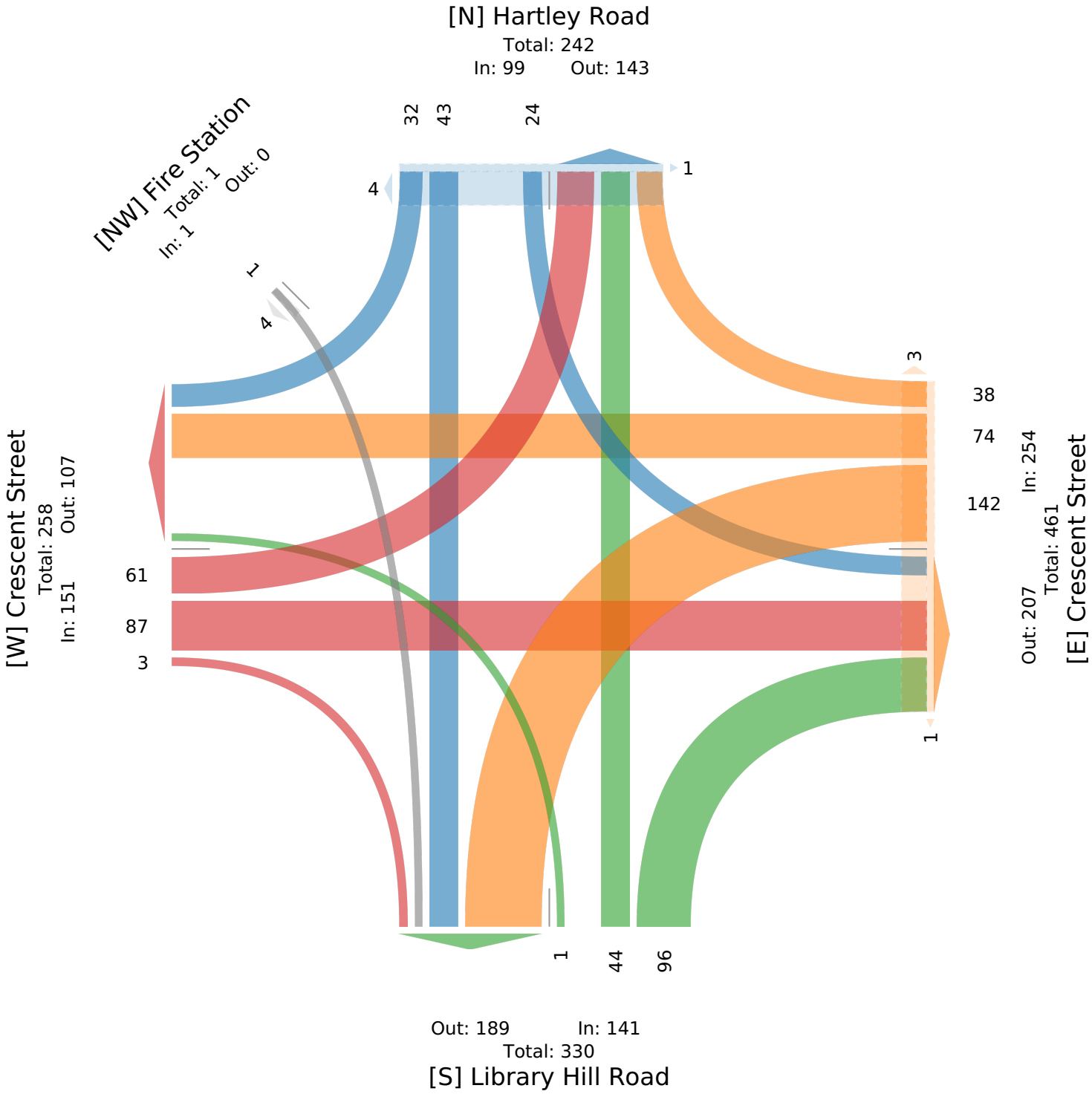
Leg Direction	Crescent Street Eastbound							Fire Station Southeastbound							
Time	R	T	L	HL	U	**App**	Ped*	HR	BR	BL	HL	U	**App**	Ped*	**Int**
2021-11-18 7:30AM	0	23	26	0	0	**49**	0	0	0	0	0	0	**0**	0	**234**
7:45AM	2	23	4	0	0	**29**	0	0	0	0	0	0	**0**	0	**119**
8:00AM	1	17	13	0	0	**31**	0	0	0	0	0	0	**0**	0	**127**
8:15AM	0	24	18	0	0	**42**	0	0	1	0	0	0	**1**	4	**166**
Total	3	87	61	0	0	**151**	0	0	1	0	0	0	**1**	4	**646**
% Approach	2.0%	57.6%	40.4%	0%	0%	**-**	-	0%	100%	0%	0%	0%	**-**	-	**-**
% Total	0.5%	13.5%	9.4%	0%	0%	**23.4%**	-	0%	0.2%	0%	0%	0%	**0.2%**	-	**-**
PHF	0.375	0.906	0.587	-	-	**0.770**	-	-	0.250	-	-	-	**0.250**	-	0.691
Motorcycles	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	1
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0.2%
Lights	3	84	59	0	0	**146**	-	0	0	0	0	0	**0**	-	610
% Lights	100%	96.6%	96.7%	0%	0%	**96.7%**	-	0%	0%	0%	0%	0%	**0%**	-	94.4%
Single-Unit Trucks	0	2	0	0	0	**2**	-	0	1	0	0	0	**1**	-	15
% Single-Unit Trucks	0%	2.3%	0%	0%	0%	**1.3%**	-	0%	100%	0%	0%	0%	**100%**	-	2.3%
Articulated Trucks	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0.2%
Buses	0	1	2	0	0	**3**	-	0	0	0	0	0	**0**	-	17
% Buses	0%	1.1%	3.3%	0%	0%	**2.0%**	-	0%	0%	0%	0%	0%	**0%**	-	2.6%
Bicycles on Road	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	2
% Bicycles on Road	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0.3%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
AM Peak (Nov 18 2021 7:30AM - 8:30 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
PM Peak (Nov 18 2021 2:45PM - 3:45 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

Leg	Hartley Road							Crescent Street							Library Hill Road						
Direction	Southbound							Westbound							Northbound						
Time	HR	R	T	L	U	**App**	Ped*	R	BR	T	L	U	**App**	Ped*	R	T	BL	L	U	**App**	Ped*
2021-11-18 2:45PM	0	4	2	1	0	**7**	0	7	0	30	23	0	**60**	0	22	14	0	2	0	**38**	0
3:00PM	0	18	23	12	0	**53**	0	4	1	39	31	0	**75**	2	22	8	0	1	0	**31**	0
3:15PM	0	20	20	13	0	**53**	5	4	0	30	27	0	**61**	9	26	7	0	0	0	**33**	0
3:30PM	0	9	7	3	0	**19**	6	1	0	22	33	0	**56**	9	26	6	0	0	0	**32**	0
Total	0	51	52	29	0	**132**	11	16	1	121	114	0	**252**	20	96	35	0	3	0	**134**	0
% Approach	0%	38.6%	39.4%	22.0%	0%	**-**	-	6.3%	0.4%	48.0%	45.2%	0%	**-**	-	71.6%	26.1%	0%	2.2%	0%	**-**	-
% Total	0%	7.8%	7.9%	4.4%	0%	**20.1%**	-	2.4%	0.2%	18.4%	17.3%	0%	**38.3%**	-	14.6%	5.3%	0%	0.5%	0%	**20.4%**	-
PHF	-	0.638	0.565	0.558	-	**0.623**	-	0.571	0.250	0.769	0.864	-	**0.837**	-	0.913	0.625	-	0.375	-	**0.899**	-
Motorcycles	0	0	1	0	0	**1**	-	0	0	2	2	0	**4**	-	2	0	0	0	0	**2**	-
% Motorcycles	0%	0%	1.9%	0%	0%	**0.8%**	-	0%	0%	1.7%	1.8%	0%	**1.6%**	-	2.1%	0%	0%	0%	0%	**1.5%**	-
Lights	0	51	51	29	0	**131**	-	16	1	113	111	0	**241**	-	89	35	0	1	0	**125**	-
% Lights	0%	100%	98.1%	100%	0%	**99.2%**	-	100%	100%	93.4%	97.4%	0%	**95.6%**	-	92.7%	100%	0%	33.3%	0%	**93.3%**	-
Single-Unit Trucks	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	3	0	0	0	0	**3**	-
% Single-Unit Trucks	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	3.1%	0%	0%	0%	0%	**2.2%**	-
Articulated Trucks	0	0	0	0	0	**0**	-	0	0	1	1	0	**2**	-	1	0	0	0	0	**1**	-
% Articulated Trucks	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0.8%	0.9%	0%	**0.8%**	-	1.0%	0%	0%	0%	0%	**0.7%**	-
Buses	0	0	0	0	0	**0**	-	0	0	4	0	0	**4**	-	0	0	0	2	0	**2**	-
% Buses	0%	0%	0%	0%	0%	**0%**	-	0%	0%	3.3%	0%	0%	**1.6%**	-	0%	0%	0%	66.7%	0%	**1.5%**	-
Bicycles on Road	0	0	0	0	0	**0**	-	0	0	1	0	0	**1**	-	1	0	0	0	0	**1**	-
% Bicycles on Road	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0.8%	0%	0%	**0.4%**	-	1.0%	0%	0%	0%	0%	**0.7%**	-
Pedestrians	-	-	-	-	-	-	11	-	-	-	-	-	-	20	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
PM Peak (Nov 18 2021 2:45PM - 3:45 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

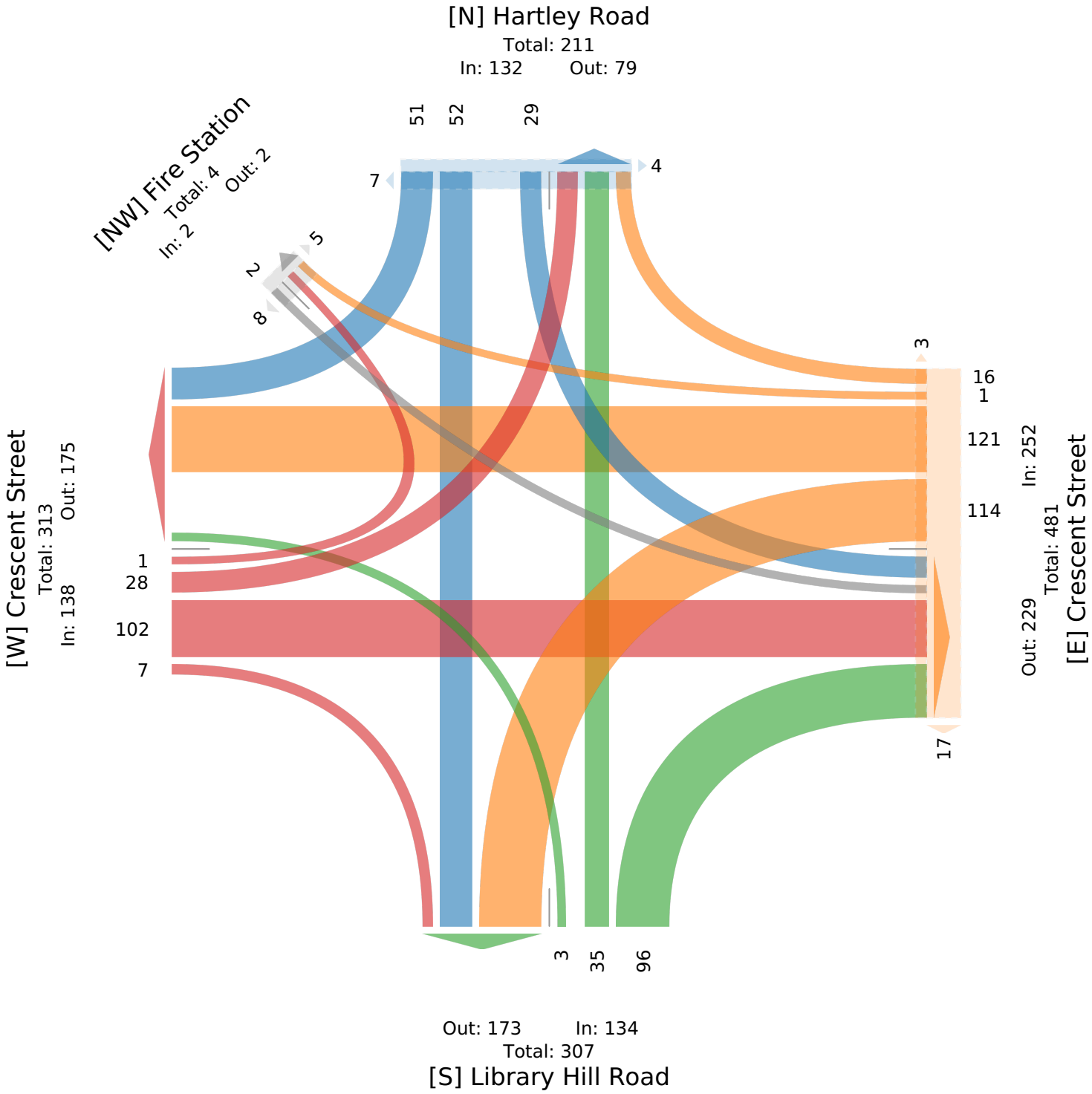
Leg Direction	Crescent Street Eastbound							Fire Station Southeastbound							
Time	R	T	L	HL	U	**App**	Ped*	HR	BR	BL	HL	U	**App**	Ped*	**Int**
2021-11-18 2:45PM	1	34	9	0	0	**44**	0	0	0	0	0	0	**0**	0	**149**
3:00PM	2	30	4	1	0	**37**	0	0	0	2	0	0	**2**	1	**198**
3:15PM	1	20	10	0	0	**31**	0	0	0	0	0	0	**0**	6	**178**
3:30PM	3	18	5	0	0	**26**	0	0	0	0	0	0	**0**	6	**133**
Total	7	102	28	1	0	**138**	0	0	0	2	0	0	**2**	13	**658**
% Approach	5.1%	73.9%	20.3%	0.7%	0%	**-**	-	0%	0%	100%	0%	0%	**-**	-	**-**
% Total	1.1%	15.5%	4.3%	0.2%	0%	**21.0%**	-	0%	0%	0.3%	0%	0%	**0.3%**	-	**-**
PHF	0.500	0.765	0.700	0.250	-	**0.810**	-	-	-	0.250	-	-	**0.250**	-	0.826
Motorcycles	0	6	1	0	0	**7**	-	0	0	0	0	0	**0**	-	14
% Motorcycles	0%	5.9%	3.6%	0%	0%	**5.1%**	-	0%	0%	0%	0%	0%	**0%**	-	2.1%
Lights	6	86	27	0	0	**119**	-	0	0	0	0	0	**0**	-	616
% Lights	85.7%	84.3%	96.4%	0%	0%	**86.2%**	-	0%	0%	0%	0%	0%	**0%**	-	93.6%
Single-Unit Trucks	0	8	0	0	0	**8**	-	0	0	1	0	0	**1**	-	12
% Single-Unit Trucks	0%	7.8%	0%	0%	0%	**5.8%**	-	0%	0%	50.0%	0%	0%	**50.0%**	-	1.8%
Articulated Trucks	0	0	0	1	0	**1**	-	0	0	1	0	0	**1**	-	5
% Articulated Trucks	0%	0%	0%	100%	0%	**0.7%**	-	0%	0%	50.0%	0%	0%	**50.0%**	-	0.8%
Buses	0	1	0	0	0	**1**	-	0	0	0	0	0	**0**	-	7
% Buses	0%	1.0%	0%	0%	0%	**0.7%**	-	0%	0%	0%	0%	0%	**0%**	-	1.1%
Bicycles on Road	1	1	0	0	0	**2**	-	0	0	0	0	0	**0**	-	4
% Bicycles on Road	14.3%	1.0%	0%	0%	0%	**1.4%**	-	0%	0%	0%	0%	0%	**0%**	-	0.6%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	13	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Thu Nov 18, 2021
PM Peak (Nov 18 2021 2:45PM - 3:45 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
AM Peak (WKND) (Nov 20 2021 10AM - 11 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

Leg	Hartley Road							Crescent Street							Library Hill Road						
Direction	Southbound							Westbound							Northbound						
Time	HR	R	T	L	U	App	Ped*	R	BR	T	L	U	App	Ped*	R	T	BL	L	U	App	Ped*
2021-11-20 10:00AM	0	1	3	0	0	**4**	4	1	0	21	24	0	**46**	0	24	0	0	0	0	**24**	0
10:15AM	0	2	2	3	0	**7**	1	0	0	25	26	0	**51**	0	21	1	0	1	0	**23**	0
10:30AM	0	0	1	2	0	**3**	0	0	0	13	28	0	**41**	0	16	0	0	0	0	**16**	0
10:45AM	0	0	1	1	0	**2**	0	0	0	24	27	0	**51**	1	16	0	0	0	0	**16**	0
Total	0	3	7	6	0	**16**	5	1	0	83	105	0	**189**	1	77	1	0	1	0	**79**	0
% Approach	0%	18.8%	43.8%	37.5%	0%	**-**	-	0.5%	0%	43.9%	55.6%	0%	**-**	-	97.5%	1.3%	0%	1.3%	0%	**-**	-
% Total	0%	0.8%	2.0%	1.7%	0%	**4.5%**	-	0.3%	0%	23.2%	29.4%	0%	**52.9%**	-	21.6%	0.3%	0%	0.3%	0%	**22.1%**	-
PHF	-	0.375	0.583	0.500	-	**0.571**	-	0.250	-	0.830	0.938	-	**0.926**	-	0.802	0.250	-	0.250	-	**0.823**	-
Motorcycles	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-
Lights	0	3	7	6	0	**16**	-	1	0	81	104	0	**186**	-	75	1	0	1	0	**77**	-
% Lights	0%	100%	100%	100%	0%	**100%**	-	100%	0%	97.6%	99.0%	0%	**98.4%**	-	97.4%	100%	0%	100%	0%	**97.5%**	-
Single-Unit Trucks	0	0	0	0	0	**0**	-	0	0	2	0	0	**2**	-	2	0	0	0	0	**2**	-
% Single-Unit Trucks	0%	0%	0%	0%	0%	**0%**	-	0%	0%	2.4%	0%	0%	**1.1%**	-	2.6%	0%	0%	0%	0%	**2.5%**	-
Articulated Trucks	0	0	0	0	0	**0**	-	0	0	0	1	0	**1**	-	0	0	0	0	0	**0**	-
% Articulated Trucks	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	1.0%	0%	**0.5%**	-	0%	0%	0%	0%	0%	**0%**	-
Buses	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-
% Buses	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-
Bicycles on Road	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-
% Bicycles on Road	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-
Pedestrians	-	-	-	-	-	-	5	-	-	-	-	-	-	1	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
AM Peak (WKND) (Nov 20 2021 10AM - 11 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

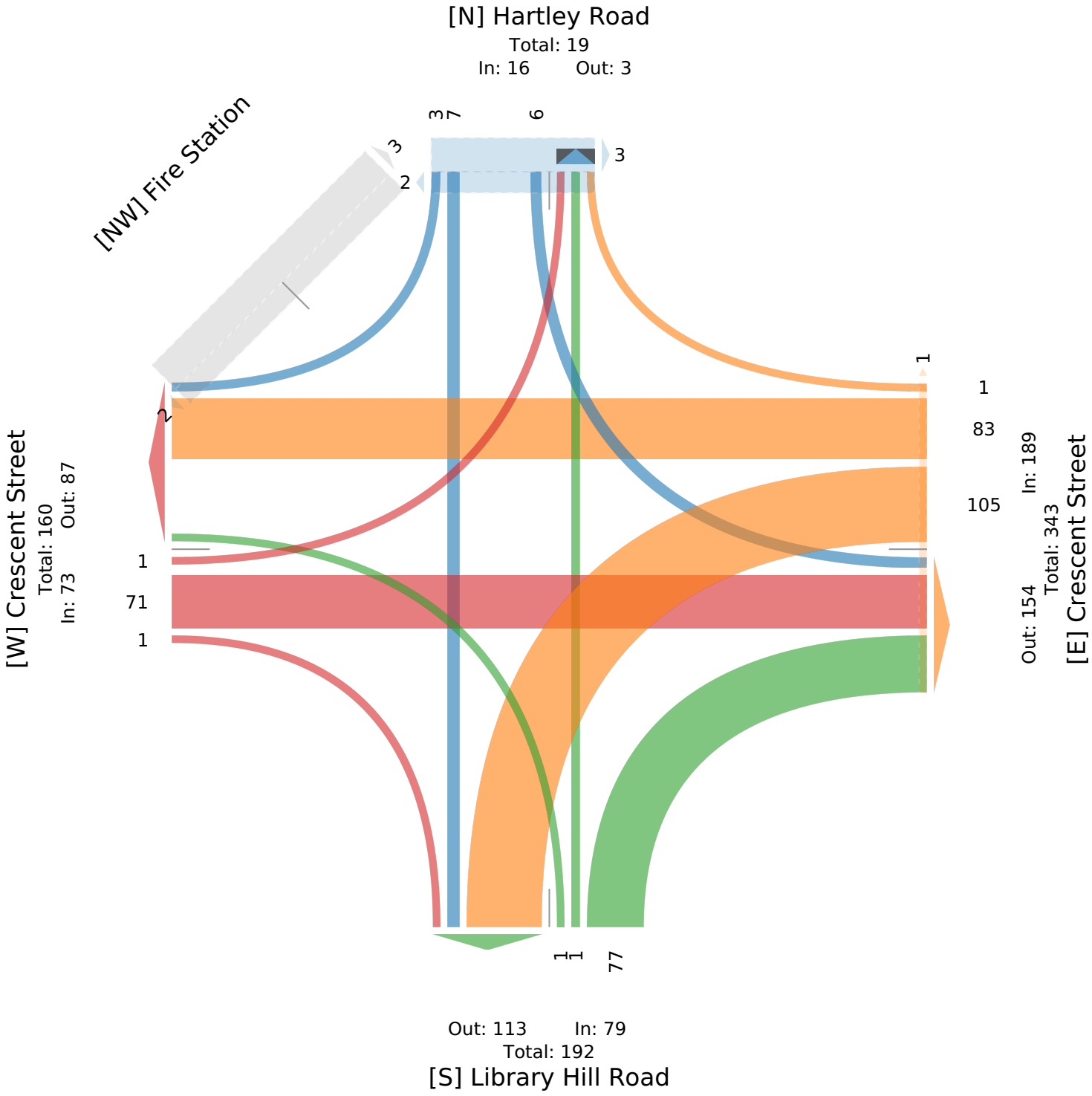
Leg	Crescent Street							Fire Station							
Direction	Eastbound							Southeastbound							
Time	R	T	L	HL	U	**App**	Ped*	HR	BR	BL	HL	U	**App**	Ped*	**Int**
2021-11-20 10:00AM	1	14	1	0	0	**16**	0	0	0	0	0	0	**0**	4	**90**
10:15AM	0	18	0	0	0	**18**	0	0	0	0	0	0	**0**	1	**99**
10:30AM	0	18	0	0	0	**18**	0	0	0	0	0	0	**0**	0	**78**
10:45AM	0	21	0	0	0	**21**	0	0	0	0	0	0	**0**	0	**90**
Total	1	71	1	0	0	**73**	0	0	0	0	0	0	**0**	5	**357**
% Approach	1.4%	97.3%	1.4%	0%	0%	**-**	-	0%	0%	0%	0%	0%	**-**	-	**-**
% Total	0.3%	19.9%	0.3%	0%	0%	**20.4%**	-	0%	0%	0%	0%	0%	**0%**	-	**-**
PHF	0.250	0.845	0.250	-	-	**0.869**	-	-	-	-	-	-	**-**	-	0.902
Motorcycles	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**-**	-	0%
Lights	1	69	1	0	0	**71**	-	0	0	0	0	0	**0**	-	350
% Lights	100%	97.2%	100%	0%	0%	**97.3%**	-	0%	0%	0%	0%	0%	**-**	-	98.0%
Single-Unit Trucks	0	2	0	0	0	**2**	-	0	0	0	0	0	**0**	-	6
% Single-Unit Trucks	0%	2.8%	0%	0%	0%	**2.7%**	-	0%	0%	0%	0%	0%	**-**	-	1.7%
Articulated Trucks	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**-**	-	0.3%
Buses	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0
% Buses	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**-**	-	0%
Bicycles on Road	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**-**	-	0%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	5	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
AM Peak (WKND) (Nov 20 2021 10AM - 11 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
Midday Peak (WKND) (Nov 20 2021 12:30PM - 1:30 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

Leg	Hartley Road							Crescent Street							Library Hill Road						
Direction	Southbound							Westbound							Northbound						
Time	HR	R	T	L	U	**App**	Ped*	R	BR	T	L	U	**App**	Ped*	R	T	BL	L	U	**App**	Ped*
2021-11-20 12:30PM	0	0	0	0	0	**0**	0	4	0	26	24	0	**54**	0	20	4	1	0	0	**25**	0
12:45PM	0	0	1	0	0	**1**	2	3	0	22	25	0	**50**	0	30	4	0	0	0	**34**	0
1:00PM	0	0	1	0	0	**1**	7	11	0	16	33	0	**60**	2	28	12	0	0	0	**40**	0
1:15PM	0	1	1	0	0	**2**	1	5	0	26	28	0	**59**	1	40	4	0	0	0	**44**	0
Total	0	1	3	0	0	**4**	10	23	0	90	110	0	**223**	3	118	24	1	0	0	**143**	0
% Approach	0%	25.0%	75.0%	0%	0%	**-**	-	10.3%	0%	40.4%	49.3%	0%	**-**	-	82.5%	16.8%	0.7%	0%	0%	**-**	-
% Total	0%	0.2%	0.5%	0%	0%	**0.6%**	-	3.7%	0%	14.5%	17.8%	0%	**36.0%**	-	19.1%	3.9%	0.2%	0%	0%	**23.1%**	-
PHF	-	0.250	0.750	-	-	**0.500**	-	0.679	-	0.865	0.833	-	**0.928**	-	0.719	0.523	0.250	-	-	**0.790**	-
Motorcycles	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-
Lights	0	1	3	0	0	**4**	-	18	0	88	108	0	**214**	-	113	23	1	0	0	**137**	-
% Lights	0%	100%	100%	0%	0%	**100%**	-	78.3%	0%	97.8%	98.2%	0%	**96.0%**	-	95.8%	95.8%	100%	0%	0%	**95.8%**	-
Single-Unit Trucks	0	0	0	0	0	**0**	-	1	0	2	2	0	**5**	-	1	0	0	0	0	**1**	-
% Single-Unit Trucks	0%	0%	0%	0%	0%	**0%**	-	4.3%	0%	2.2%	1.8%	0%	**2.2%**	-	0.8%	0%	0%	0%	0%	**0.7%**	-
Articulated Trucks	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	1	0	0	0	0	**1**	-
% Articulated Trucks	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0.8%	0%	0%	0%	0%	**0.7%**	-
Buses	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-
% Buses	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-
Bicycles on Road	0	0	0	0	0	**0**	-	4	0	0	0	0	**4**	-	3	1	0	0	0	**4**	-
% Bicycles on Road	0%	0%	0%	0%	0%	**0%**	-	17.4%	0%	0%	0%	0%	**1.8%**	-	2.5%	4.2%	0%	0%	0%	**2.8%**	-
Pedestrians	-	-	-	-	-	-	6	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	60.0%	-	-	-	-	-	-	0%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	4	-	-	-	-	-	-	3	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	40.0%	-	-	-	-	-	-	100%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
Midday Peak (WKND) (Nov 20 2021 12:30PM - 1:30 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

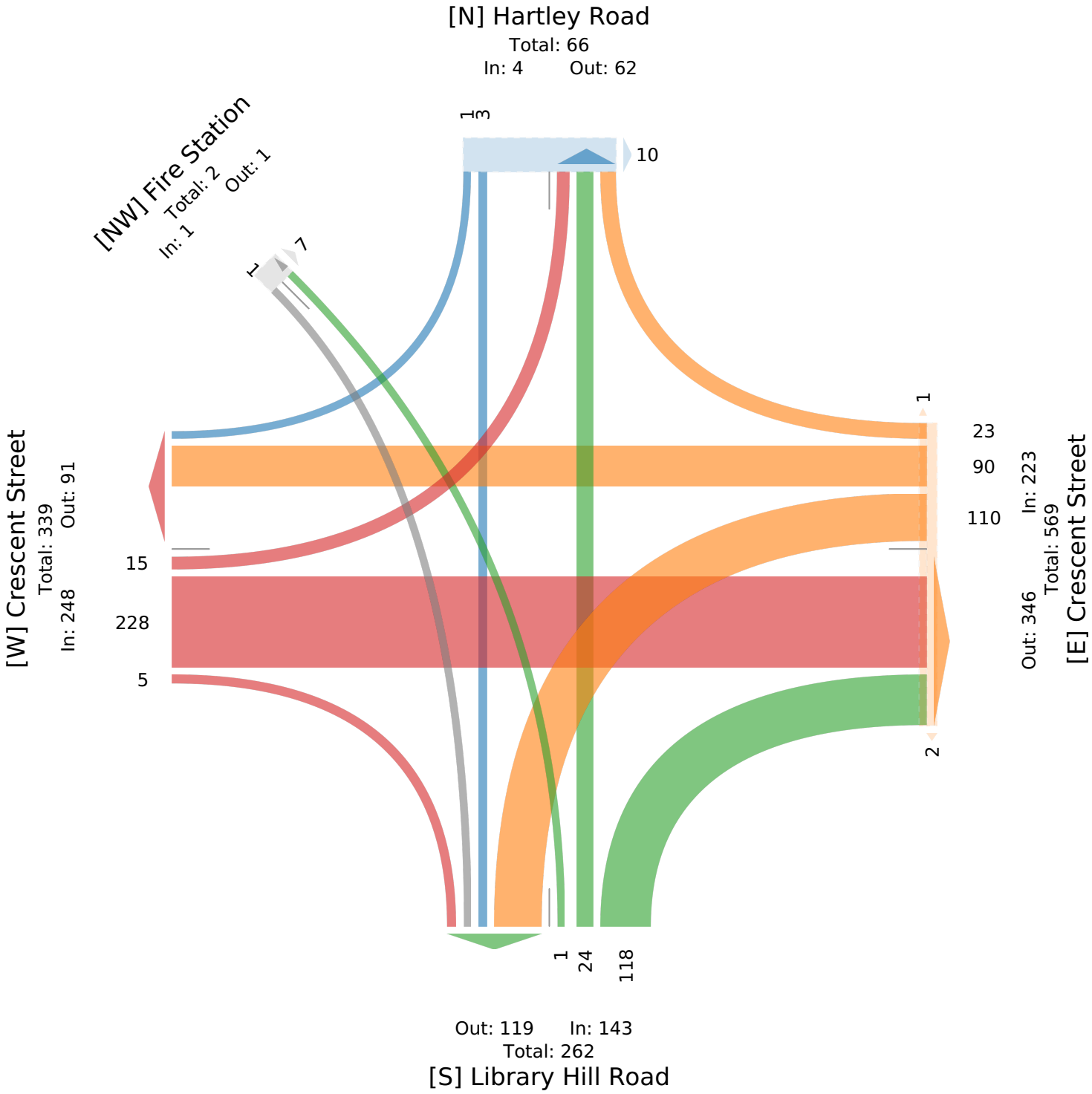
Leg Direction	Crescent Street Eastbound							Fire Station Southeastbound							
Time	R	T	L	HL	U	**App**	Ped*	HR	BR	BL	HL	U	**App**	Ped*	**Int**
2021-11-20 12:30PM	3	60	3	0	0	**66**	0	0	0	0	0	0	**0**	0	**145**
12:45PM	0	65	7	0	0	**72**	0	0	1	0	0	0	**1**	2	**158**
1:00PM	0	52	2	0	0	**54**	0	0	0	0	0	0	**0**	4	**155**
1:15PM	2	51	3	0	0	**56**	0	0	0	0	0	0	**0**	1	**161**
Total	5	228	15	0	0	**248**	0	0	1	0	0	0	**1**	7	**619**
% Approach	2.0%	91.9%	6.0%	0%	0%	**-**	-	0%	100%	0%	0%	0%	**-**	-	**-**
% Total	0.8%	36.8%	2.4%	0%	0%	**40.1%**	-	0%	0.2%	0%	0%	0%	**0.2%**	-	**-**
PHF	0.500	0.877	0.536	-	-	**0.858**	-	-	0.250	-	-	-	**0.250**	-	0.947
Motorcycles	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%
Lights	4	222	15	0	0	**241**	-	0	1	0	0	0	**1**	-	597
% Lights	80.0%	97.4%	100%	0%	0%	**97.2%**	-	0%	100%	0%	0%	0%	**100%**	-	96.4%
Single-Unit Trucks	0	3	0	0	0	**3**	-	0	0	0	0	0	**0**	-	9
% Single-Unit Trucks	0%	1.3%	0%	0%	0%	**1.2%**	-	0%	0%	0%	0%	0%	**0%**	-	1.5%
Articulated Trucks	0	1	0	0	0	**1**	-	0	0	0	0	0	**0**	-	2
% Articulated Trucks	0%	0.4%	0%	0%	0%	**0.4%**	-	0%	0%	0%	0%	0%	**0%**	-	0.3%
Buses	0	2	0	0	0	**2**	-	0	0	0	0	0	**0**	-	2
% Buses	0%	0.9%	0%	0%	0%	**0.8%**	-	0%	0%	0%	0%	0%	**0%**	-	0.3%
Bicycles on Road	1	0	0	0	0	**1**	-	0	0	0	0	0	**0**	-	9
% Bicycles on Road	20.0%	0%	0%	0%	0%	**0.4%**	-	0%	0%	0%	0%	0%	**0%**	-	1.5%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	6	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	85.7%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	14.3%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
Midday Peak (WKND) (Nov 20 2021 12:30PM - 1:30 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
PM Peak (WKND) (Nov 20 2021 1PM - 2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

Leg	Hartley Road							Crescent Street							Library Hill Road						
Direction	Southbound							Westbound							Northbound						
Time	HR	R	T	L	U	App	Ped*	R	BR	T	L	U	App	Ped*	R	T	BL	L	U	App	Ped*
2021-11-20 1:00PM	0	0	1	0	0	**1**	7	11	0	16	33	0	**60**	2	28	12	0	0	0	**40**	0
1:15PM	0	1	1	0	0	**2**	1	5	0	26	28	0	**59**	1	40	4	0	0	0	**44**	0
1:30PM	0	0	0	0	0	**0**	2	2	0	31	27	0	**60**	0	25	5	0	0	0	**30**	0
1:45PM	0	1	1	0	0	**2**	1	2	0	26	34	0	**62**	0	23	2	0	5	0	**30**	0
Total	0	2	3	0	0	**5**	11	20	0	99	122	0	**241**	3	116	23	0	5	0	**144**	0
% Approach	0%	40.0%	60.0%	0%	0%	**-**	-	8.3%	0%	41.1%	50.6%	0%	**-**	-	80.6%	16.0%	0%	3.5%	0%	**-**	-
% Total	0%	0.4%	0.6%	0%	0%	**0.9%**	-	3.7%	0%	18.2%	22.4%	0%	**44.2%**	-	21.3%	4.2%	0%	0.9%	0%	**26.4%**	-
PHF	-	0.500	0.750	-	-	**0.625**	-	0.571	-	0.798	0.897	-	**0.956**	-	0.706	0.500	-	0.250	-	**0.795**	-
Motorcycles	0	0	0	0	0	**0**	-	0	0	0	1	0	**1**	-	1	0	0	1	0	**2**	-
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0.8%	0%	**0.4%**	-	0.9%	0%	0%	20.0%	0%	**1.4%**	-
Lights	0	2	3	0	0	**5**	-	16	0	97	120	0	**233**	-	110	22	0	4	0	**136**	-
% Lights	0%	100%	100%	0%	0%	**100%**	-	80.0%	0%	98.0%	98.4%	0%	**96.7%**	-	94.8%	95.7%	0%	80.0%	0%	**94.4%**	-
Single-Unit Trucks	0	0	0	0	0	**0**	-	0	0	2	1	0	**3**	-	1	0	0	0	0	**1**	-
% Single-Unit Trucks	0%	0%	0%	0%	0%	**0%**	-	0%	0%	2.0%	0.8%	0%	**1.2%**	-	0.9%	0%	0%	0%	0%	**0.7%**	-
Articulated Trucks	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	1	0	0	0	0	**1**	-
% Articulated Trucks	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0.9%	0%	0%	0%	0%	**0.7%**	-
Buses	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-
% Buses	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-
Bicycles on Road	0	0	0	0	0	**0**	-	4	0	0	0	0	**4**	-	3	1	0	0	0	**4**	-
% Bicycles on Road	0%	0%	0%	0%	0%	**0%**	-	20.0%	0%	0%	0%	0%	**1.7%**	-	2.6%	4.3%	0%	0%	0%	**2.8%**	-
Pedestrians	-	-	-	-	-	-	7	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	63.6%	-	-	-	-	-	-	0%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	4	-	-	-	-	-	-	3	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	36.4%	-	-	-	-	-	-	100%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
PM Peak (WKND) (Nov 20 2021 1PM - 2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

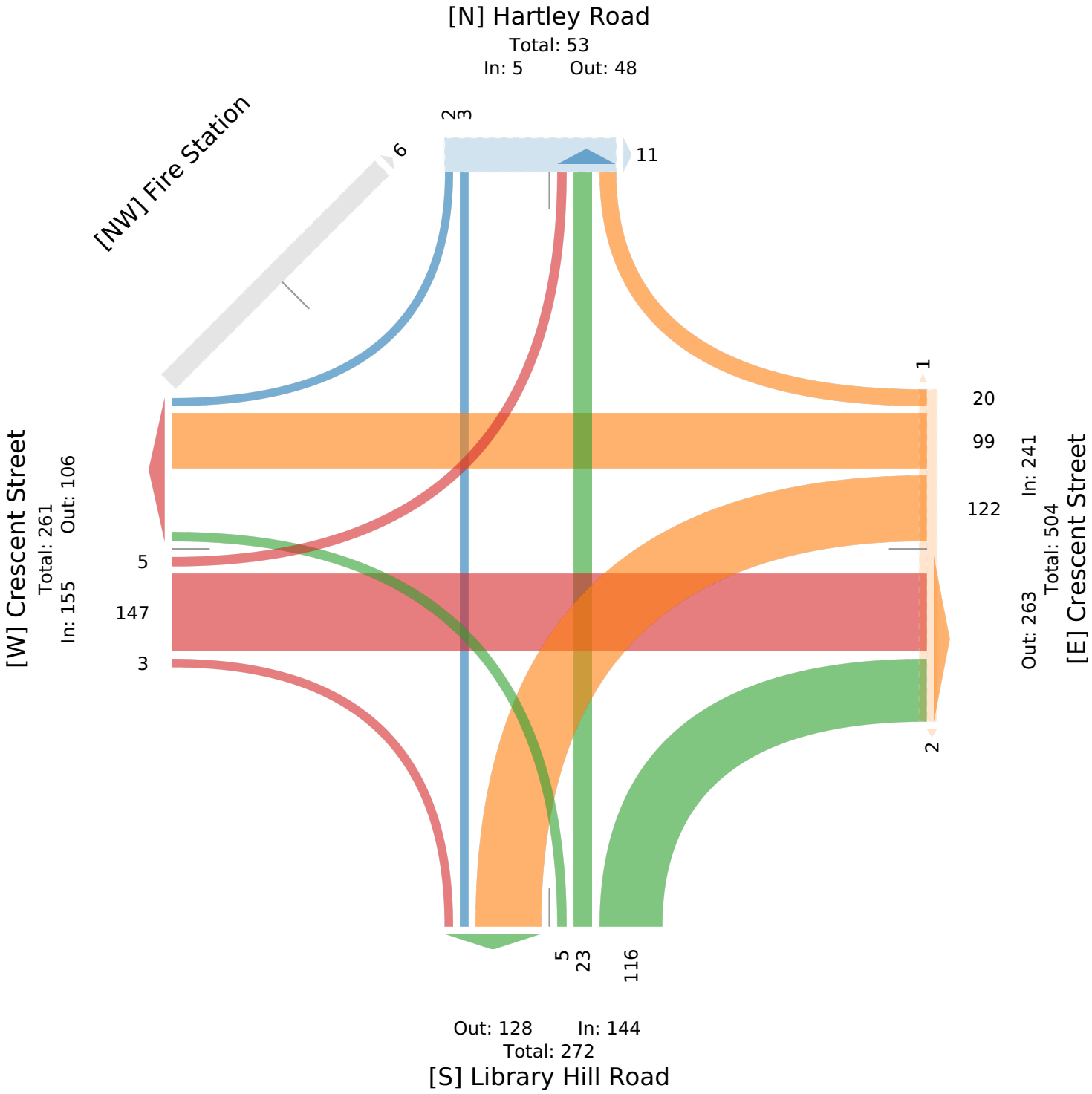
Leg Direction	Crescent Street Eastbound							Fire Station Southeastbound							
Time	R	T	L	HL	U	**App**	Ped*	HR	BR	BL	HL	U	**App**	Ped*	**Int**
2021-11-20 1:00PM	0	52	2	0	0	**54**	0	0	0	0	0	0	**0**	4	**155**
1:15PM	2	51	3	0	0	**56**	0	0	0	0	0	0	**0**	1	**161**
1:30PM	1	22	0	0	0	**23**	0	0	0	0	0	0	**0**	0	**113**
1:45PM	0	22	0	0	0	**22**	0	0	0	0	0	0	**0**	1	**116**
Total	3	147	5	0	0	**155**	0	0	0	0	0	0	**0**	6	**545**
% Approach	1.9%	94.8%	3.2%	0%	0%	**-**	-	0%	0%	0%	0%	0%	**-**	-	-
% Total	0.6%	27.0%	0.9%	0%	0%	**28.4%**	-	0%	0%	0%	0%	0%	**0%**	-	-
PHF	0.375	0.707	0.417	-	-	**0.692**	-	-	-	-	-	-	**-**	-	0.834
Motorcycles	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	3
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**-**	-	0.6%
Lights	3	142	5	0	0	**150**	-	0	0	0	0	0	**0**	-	524
% Lights	100%	96.6%	100%	0%	0%	**96.8%**	-	0%	0%	0%	0%	0%	**-**	-	96.1%
Single-Unit Trucks	0	2	0	0	0	**2**	-	0	0	0	0	0	**0**	-	6
% Single-Unit Trucks	0%	1.4%	0%	0%	0%	**1.3%**	-	0%	0%	0%	0%	0%	**-**	-	1.1%
Articulated Trucks	0	1	0	0	0	**1**	-	0	0	0	0	0	**0**	-	2
% Articulated Trucks	0%	0.7%	0%	0%	0%	**0.6%**	-	0%	0%	0%	0%	0%	**-**	-	0.4%
Buses	0	2	0	0	0	**2**	-	0	0	0	0	0	**0**	-	2
% Buses	0%	1.4%	0%	0%	0%	**1.3%**	-	0%	0%	0%	0%	0%	**-**	-	0.4%
Bicycles on Road	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	8
% Bicycles on Road	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**-**	-	1.5%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	5	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	83.3%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	16.7%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

218251 (2) Crescent St @ Library Hill Rd TMC - TMC

Sat Nov 20, 2021
PM Peak (WKND) (Nov 20 2021 1PM - 2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902918, Location: 42.437208, -71.505149, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218151 (3) Great Rd @ Crescent St TMC - TMC

Thu Nov 18, 2021
Full Length (7 AM-11 AM, 2 PM-6 PM, 10 AM-2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

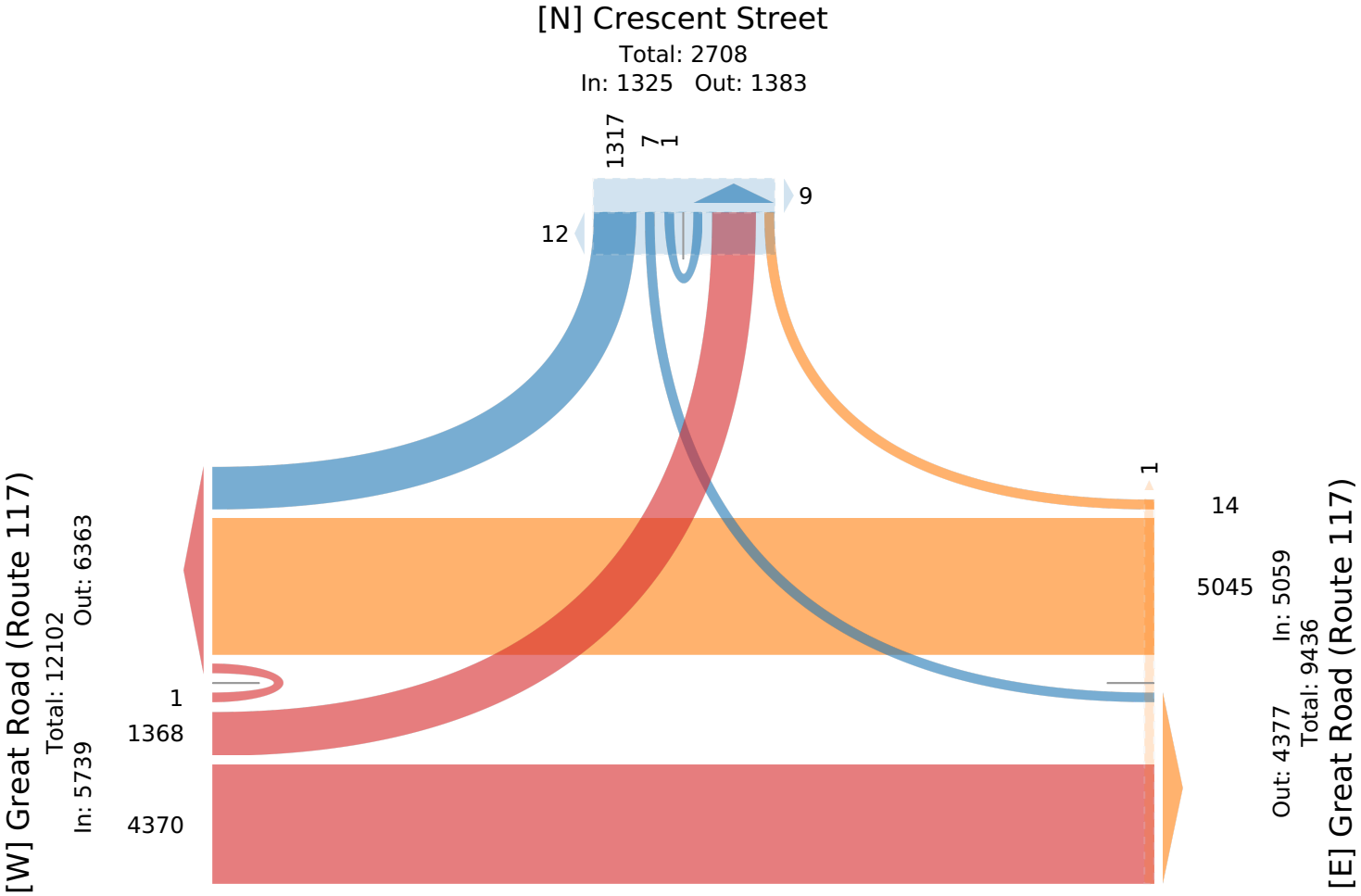
Leg	Crescent Street					Great Road (Route 117)					Great Road (Route 117)					
Direction	Southbound					Westbound					Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-11-18 7:00AM	100	0	1	**101**	0	1	255	0	**256**	0	652	160	0	**812**	-	**1169**
8:00AM	106	0	0	**106**	0	1	269	0	**270**	0	499	140	0	**639**	-	**1015**
9:00AM	72	0	0	**72**	0	1	225	0	**226**	0	320	76	0	**396**	-	**694**
10:00AM	76	0	0	**76**	0	0	277	0	**277**	0	266	79	1	**346**	-	**699**
2:00PM	127	0	0	**127**	2	2	448	0	**450**	1	303	128	0	**431**	-	**1008**
3:00PM	180	0	0	**180**	0	3	628	0	**631**	0	306	122	0	**428**	-	**1239**
4:00PM	152	1	0	**153**	9	1	692	0	**693**	0	335	105	0	**440**	-	**1286**
5:00PM	120	0	0	**120**	7	3	735	0	**738**	0	322	76	0	**398**	-	**1256**
2021-11-20 10:00AM	85	0	0	**85**	0	0	328	0	**328**	0	328	73	0	**401**	-	**814**
11:00AM	96	4	0	**100**	1	1	381	0	**382**	0	366	68	0	**434**	-	**916**
12:00PM	100	2	0	**102**	0	1	415	0	**416**	0	349	188	0	**537**	-	**1055**
1:00PM	103	0	0	**103**	2	0	392	0	**392**	0	324	153	0	**477**	-	**972**
Total	1317	7	1	**1325**	21	14	5045	0	**5059**	1	4370	1368	1	**5739**	-	**12123**
% Approach	99.4%	0.5%	0.1%	**-**	-	0.3%	99.7%	0%	**-**	-	76.1%	23.8%	0%	**-**	-	**-**
% Total	10.9%	0.1%	0%	**10.9%**	-	0.1%	41.6%	0%	**41.7%**	-	36.0%	11.3%	0%	**47.3%**	-	**-**
Motorcycles	7	0	0	**7**	-	0	26	0	**26**	-	22	13	0	**35**	-	68
% Motorcycles	0.5%	0%	0%	**0.5%**	-	0%	0.5%	0%	**0.5%**	-	0.5%	1.0%	0%	**0.6%**	-	0.6%
Lights	1253	7	1	**1261**	-	14	4845	0	**4859**	-	4192	1304	1	**5497**	-	11617
% Lights	95.1%	100%	100%	**95.2%**	-	100%	96.0%	0%	**96.0%**	-	95.9%	95.3%	100%	**95.8%**	-	95.8%
Single-Unit Trucks	26	0	0	**26**	-	0	107	0	**107**	-	100	34	0	**134**	-	267
% Single-Unit Trucks	2.0%	0%	0%	**2.0%**	-	0%	2.1%	0%	**2.1%**	-	2.3%	2.5%	0%	**2.3%**	-	2.2%
Articulated Trucks	3	0	0	**3**	-	0	44	0	**44**	-	38	5	0	**43**	-	90
% Articulated Trucks	0.2%	0%	0%	**0.2%**	-	0%	0.9%	0%	**0.9%**	-	0.9%	0.4%	0%	**0.7%**	-	0.7%
Buses	21	0	0	**21**	-	0	17	0	**17**	-	14	11	0	**25**	-	63
% Buses	1.6%	0%	0%	**1.6%**	-	0%	0.3%	0%	**0.3%**	-	0.3%	0.8%	0%	**0.4%**	-	0.5%
Bicycles on Road	7	0	0	**7**	-	0	6	0	**6**	-	4	1	0	**5**	-	18
% Bicycles on Road	0.5%	0%	0%	**0.5%**	-	0%	0.1%	0%	**0.1%**	-	0.1%	0.1%	0%	**0.1%**	-	0.1%
Pedestrians	-	-	-	-	21	-	-	-	-	1	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218151 (3) Great Rd @ Crescent St TMC - TMC

Thu Nov 18, 2021
Full Length (7 AM-11 AM, 2 PM-6 PM, 10 AM-2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218151 (3) Great Rd @ Crescent St TMC - TMC

Thu Nov 18, 2021
AM Peak (Nov 18 2021 7AM - 8 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

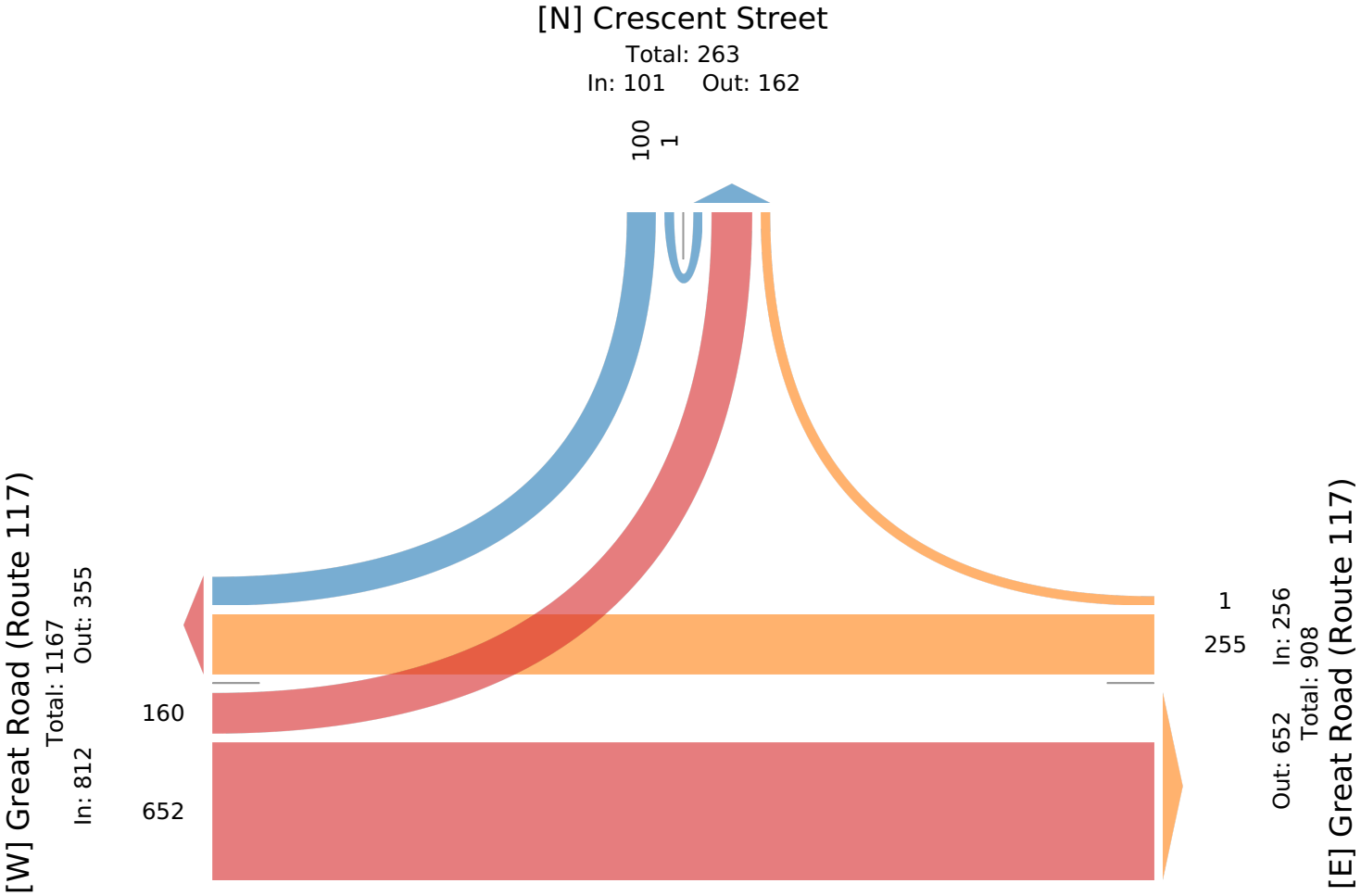
Leg Direction	Crescent Street Southbound					Great Road (Route 117) Westbound					Great Road (Route 117) Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-11-18 7:00AM	23	0	0	**23**	0	1	63	0	**64**	0	159	32	0	**191**	-	**278**
7:15AM	22	0	1	**23**	0	0	64	0	**64**	0	163	40	0	**203**	-	**290**
7:30AM	36	0	0	**36**	0	0	74	0	**74**	0	169	56	0	**225**	-	**335**
7:45AM	19	0	0	**19**	0	0	54	0	**54**	0	161	32	0	**193**	-	**266**
Total	100	0	1	**101**	0	1	255	0	**256**	0	652	160	0	**812**	-	**1169**
% Approach	99.0%	0%	1.0%	**-**	-	0.4%	99.6%	0%	**-**	-	80.3%	19.7%	0%	**-**	-	**-**
% Total	8.6%	0%	0.1%	**8.6%**	-	0.1%	21.8%	0%	**21.9%**	-	55.8%	13.7%	0%	**69.5%**	-	**-**
PHF	0.688	-	0.250	**0.694**	-	0.250	0.866	-	**0.870**	-	0.964	0.714	-	**0.902**	-	0.873
Motorcycles	0	0	0	**0**	-	0	1	0	**1**	-	1	0	0	**1**	-	2
% Motorcycles	0%	0%	0%	**0%**	-	0%	0.4%	0%	**0.4%**	-	0.2%	0%	0%	**0.1%**	-	0.2%
Lights	94	0	1	**95**	-	1	234	0	**235**	-	624	154	0	**778**	-	1108
% Lights	94.0%	0%	100%	**94.1%**	-	100%	91.8%	0%	**91.8%**	-	95.7%	96.3%	0%	**95.8%**	-	94.8%
Single-Unit Trucks	1	0	0	**1**	-	0	11	0	**11**	-	18	4	0	**22**	-	34
% Single-Unit Trucks	1.0%	0%	0%	**1.0%**	-	0%	4.3%	0%	**4.3%**	-	2.8%	2.5%	0%	**2.7%**	-	2.9%
Articulated Trucks	0	0	0	**0**	-	0	7	0	**7**	-	7	0	0	**7**	-	14
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	2.7%	0%	**2.7%**	-	1.1%	0%	0%	**0.9%**	-	1.2%
Buses	4	0	0	**4**	-	0	0	0	**0**	-	2	2	0	**4**	-	8
% Buses	4.0%	0%	0%	**4.0%**	-	0%	0%	0%	**0%**	-	0.3%	1.3%	0%	**0.5%**	-	0.7%
Bicycles on Road	1	0	0	**1**	-	0	2	0	**2**	-	0	0	0	**0**	-	3
% Bicycles on Road	1.0%	0%	0%	**1.0%**	-	0%	0.8%	0%	**0.8%**	-	0%	0%	0%	**0%**	-	0.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218151 (3) Great Rd @ Crescent St TMC - TMC

Thu Nov 18, 2021
AM Peak (Nov 18 2021 7AM - 8 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218151 (3) Great Rd @ Crescent St TMC - TMC

Thu Nov 18, 2021
PM Peak (Nov 18 2021 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

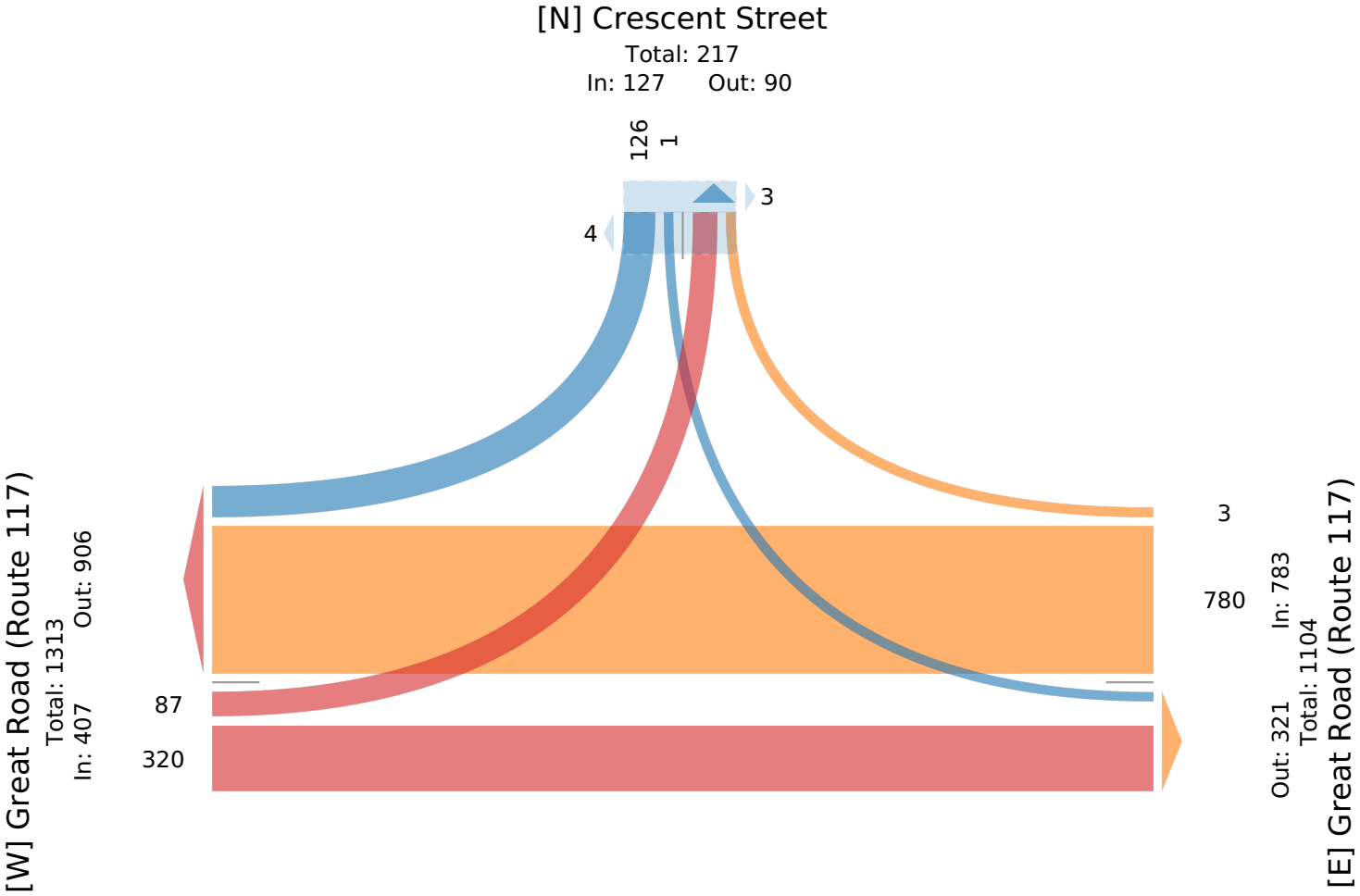
Leg Direction	Crescent Street Southbound					Great Road (Route 117) Westbound					Great Road (Route 117) Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-11-18 4:45PM	37	1	0	**38**	0	0	184	0	**184**	0	80	31	0	**111**	-	**333**
5:00PM	37	0	0	**37**	1	2	201	0	**203**	0	79	16	0	**95**	-	**335**
5:15PM	26	0	0	**26**	4	0	188	0	**188**	0	83	20	0	**103**	-	**317**
5:30PM	26	0	0	**26**	2	1	207	0	**208**	0	78	20	0	**98**	-	**332**
Total	126	1	0	**127**	7	3	780	0	**783**	0	320	87	0	**407**	-	**1317**
% Approach	99.2%	0.8%	0%	**-**	-	0.4%	99.6%	0%	**-**	-	78.6%	21.4%	0%	**-**	-	**-**
% Total	9.6%	0.1%	0%	**9.6%**	-	0.2%	59.2%	0%	**59.5%**	-	24.3%	6.6%	0%	**30.9%**	-	**-**
PHF	0.851	0.250	-	**0.836**	-	0.375	0.942	-	**0.941**	-	0.961	0.702	-	**0.914**	-	0.985
Motorcycles	0	0	0	**0**	-	0	5	0	**5**	-	1	1	0	**2**	-	7
% Motorcycles	0%	0%	0%	**0%**	-	0%	0.6%	0%	**0.6%**	-	0.3%	1.1%	0%	**0.5%**	-	0.5%
Lights	125	1	0	**126**	-	3	758	0	**761**	-	308	86	0	**394**	-	1281
% Lights	99.2%	100%	0%	**99.2%**	-	100%	97.2%	0%	**97.2%**	-	96.3%	98.9%	0%	**96.8%**	-	97.3%
Single-Unit Trucks	1	0	0	**1**	-	0	12	0	**12**	-	8	0	0	**8**	-	21
% Single-Unit Trucks	0.8%	0%	0%	**0.8%**	-	0%	1.5%	0%	**1.5%**	-	2.5%	0%	0%	**2.0%**	-	1.6%
Articulated Trucks	0	0	0	**0**	-	0	3	0	**3**	-	2	0	0	**2**	-	5
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0.4%	0%	**0.4%**	-	0.6%	0%	0%	**0.5%**	-	0.4%
Buses	0	0	0	**0**	-	0	2	0	**2**	-	0	0	0	**0**	-	2
% Buses	0%	0%	0%	**0%**	-	0%	0.3%	0%	**0.3%**	-	0%	0%	0%	**0%**	-	0.2%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	1	0	0	**1**	-	1
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.3%	0%	0%	**0.2%**	-	0.1%
Pedestrians	-	-	-	-	7	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218151 (3) Great Rd @ Crescent St TMC - TMC

Thu Nov 18, 2021
PM Peak (Nov 18 2021 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218151 (3) Great Rd @ Crescent St TMC - TMC

Sat Nov 20, 2021
AM Peak (WKND) (Nov 20 2021 10AM - 11 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

Leg Direction	Crescent Street Southbound					Great Road (Route 117) Westbound					Great Road (Route 117) Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-11-20 10:00AM	23	0	0	**23**	0	0	87	0	**87**	0	69	17	0	**86**	-	**196**
10:15AM	27	0	0	**27**	0	0	84	0	**84**	0	72	17	0	**89**	-	**200**
10:30AM	13	0	0	**13**	0	0	86	0	**86**	0	94	18	0	**112**	-	**211**
10:45AM	22	0	0	**22**	0	0	71	0	**71**	0	93	21	0	**114**	-	**207**
Total	85	0	0	**85**	0	0	328	0	**328**	0	328	73	0	**401**	-	**814**
% Approach	100%	0%	0%	**-**	-	0%	100%	0%	**-**	-	81.8%	18.2%	0%	**-**	-	**-**
% Total	10.4%	0%	0%	**10.4%**	-	0%	40.3%	0%	**40.3%**	-	40.3%	9.0%	0%	**49.3%**	-	**-**
PHF	0.787	-	-	**0.787**	-	-	0.951	-	**0.951**	-	0.872	0.869	-	**0.879**	-	0.963
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	83	0	0	**83**	-	0	313	0	**313**	-	325	73	0	**398**	-	794
% Lights	97.6%	0%	0%	**97.6%**	-	0%	95.4%	0%	**95.4%**	-	99.1%	100%	0%	**99.3%**	-	97.5%
Single-Unit Trucks	2	0	0	**2**	-	0	7	0	**7**	-	2	0	0	**2**	-	11
% Single-Unit Trucks	2.4%	0%	0%	**2.4%**	-	0%	2.1%	0%	**2.1%**	-	0.6%	0%	0%	**0.5%**	-	1.4%
Articulated Trucks	0	0	0	**0**	-	0	7	0	**7**	-	1	0	0	**1**	-	8
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	2.1%	0%	**2.1%**	-	0.3%	0%	0%	**0.2%**	-	1.0%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Buses	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	0	0	**0**	-	0	1	0	**1**	-	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0.3%	0%	**0.3%**	-	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218151 (3) Great Rd @ Crescent St TMC - TMC

Sat Nov 20, 2021
AM Peak (WKND) (Nov 20 2021 10AM - 11 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
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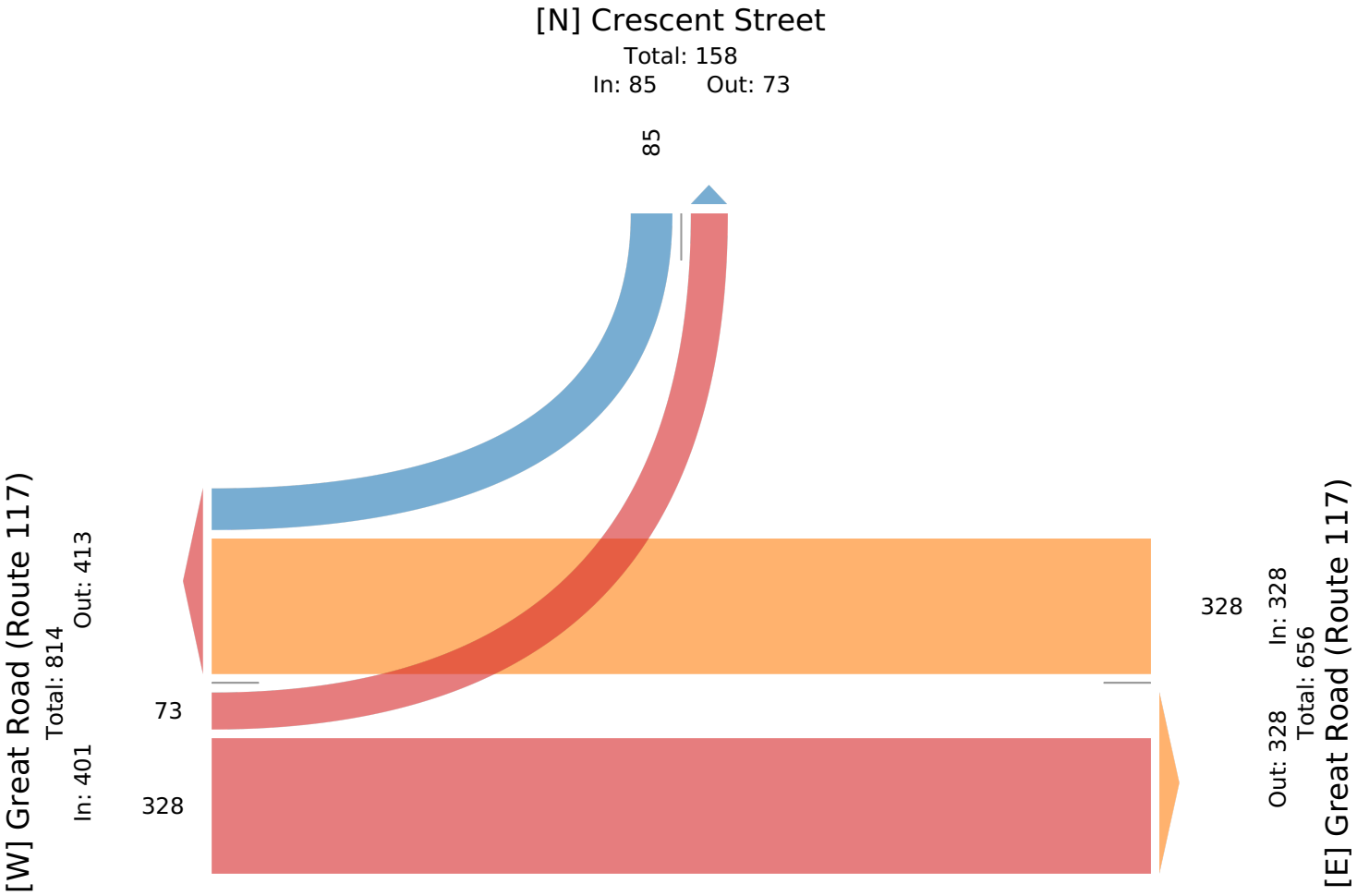


218151 (3) Great Rd @ Crescent St TMC - TMC

Sat Nov 20, 2021
Midday Peak (WKND) (Nov 20 2021 12:15PM - 1:15 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

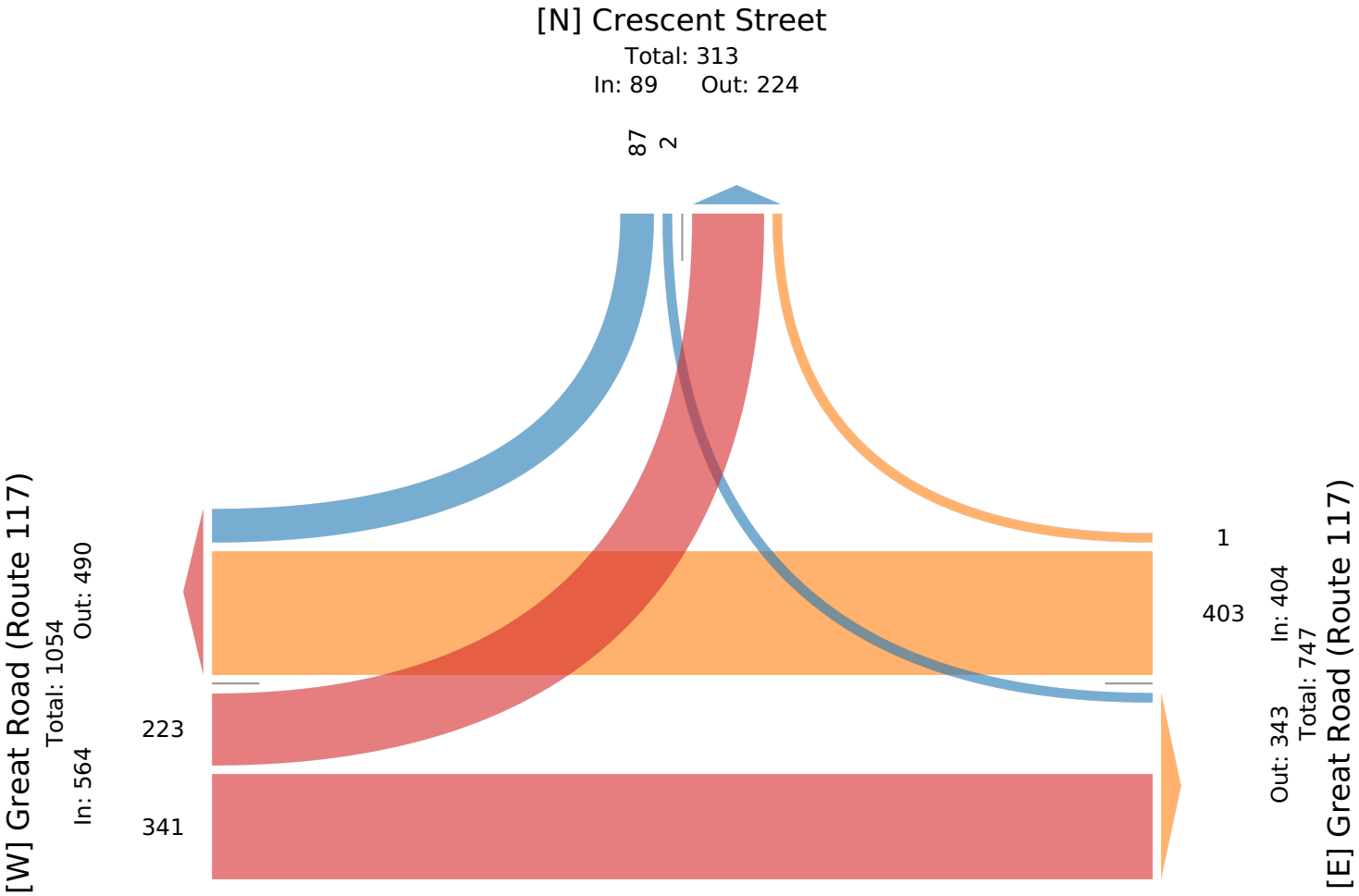
Leg Direction	Crescent Street Southbound					Great Road (Route 117) Westbound					Great Road (Route 117) Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-11-20 12:15PM	24	0	0	**24**	0	0	125	0	**125**	0	81	31	0	**112**	-	**261**
12:30PM	27	0	0	**27**	0	1	95	0	**96**	0	84	64	0	**148**	-	**271**
12:45PM	20	2	0	**22**	0	0	91	0	**91**	0	99	74	0	**173**	-	**286**
1:00PM	16	0	0	**16**	0	0	92	0	**92**	0	77	54	0	**131**	-	**239**
Total	87	2	0	**89**	0	1	403	0	**404**	0	341	223	0	**564**	-	**1057**
% Approach	97.8%	2.2%	0%	**-**	-	0.2%	99.8%	0%	**-**	-	60.5%	39.5%	0%	**-**	-	-
% Total	8.2%	0.2%	0%	**8.4%**	-	0.1%	38.1%	0%	**38.2%**	-	32.3%	21.1%	0%	**53.4%**	-	-
PHF	0.806	0.250	-	**0.824**	-	0.250	0.806	-	**0.808**	-	0.861	0.753	-	**0.815**	-	0.924
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	86	2	0	**88**	-	1	397	0	**398**	-	330	220	0	**550**	-	1036
% Lights	98.9%	100%	0%	**98.9%**	-	100%	98.5%	0%	**98.5%**	-	96.8%	98.7%	0%	**97.5%**	-	98.0%
Single-Unit Trucks	1	0	0	**1**	-	0	6	0	**6**	-	8	3	0	**11**	-	18
% Single-Unit Trucks	1.1%	0%	0%	**1.1%**	-	0%	1.5%	0%	**1.5%**	-	2.3%	1.3%	0%	**2.0%**	-	1.7%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	2	0	0	**2**	-	2
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.6%	0%	0%	**0.4%**	-	0.2%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	1	0	0	**1**	-	1
% Buses	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.3%	0%	0%	**0.2%**	-	0.1%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218151 (3) Great Rd @ Crescent St TMC - TMC

Sat Nov 20, 2021
Midday Peak (WKND) (Nov 20 2021 12:15PM - 1:15 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218151 (3) Great Rd @ Crescent St TMC - TMC

Sat Nov 20, 2021
PM Peak (WKND) (Nov 20 2021 1PM - 2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

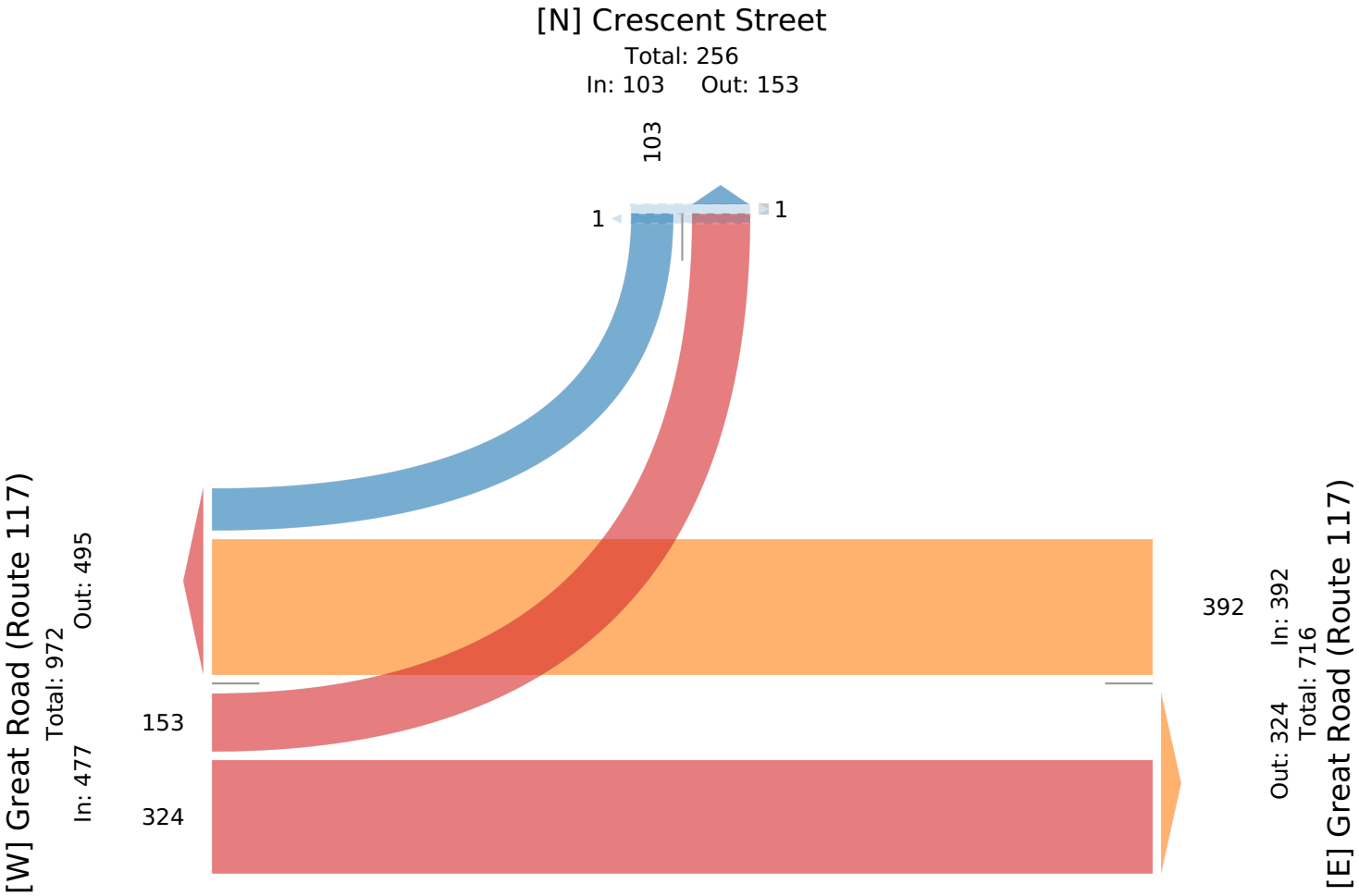
Leg	Crescent Street					Great Road (Route 117)					Great Road (Route 117)					
Direction	Southbound					Westbound					Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-11-20 1:00PM	16	0	0	**16**	0	0	92	0	**92**	0	77	54	0	**131**	-	**239**
1:15PM	26	0	0	**26**	0	0	94	0	**94**	0	75	53	0	**128**	-	**248**
1:30PM	32	0	0	**32**	0	0	108	0	**108**	0	83	24	0	**107**	-	**247**
1:45PM	29	0	0	**29**	2	0	98	0	**98**	0	89	22	0	**111**	-	**238**
Total	103	0	0	**103**	2	0	392	0	**392**	0	324	153	0	**477**	-	**972**
% Approach	100%	0%	0%	**-**	-	0%	100%	0%	**-**	-	67.9%	32.1%	0%	**-**	-	**-**
% Total	10.6%	0%	0%	**10.6%**	-	0%	40.3%	0%	**40.3%**	-	33.3%	15.7%	0%	**49.1%**	-	**-**
PHF	0.805	-	-	**0.805**	-	-	0.907	-	**0.907**	-	0.907	0.708	-	**0.908**	-	0.979
Motorcycles	1	0	0	**1**	-	0	1	0	**1**	-	1	0	0	**1**	-	3
% Motorcycles	1.0%	0%	0%	**1.0%**	-	0%	0.3%	0%	**0.3%**	-	0.3%	0%	0%	**0.2%**	-	0.3%
Lights	101	0	0	**101**	-	0	382	0	**382**	-	317	145	0	**462**	-	945
% Lights	98.1%	0%	0%	**98.1%**	-	0%	97.4%	0%	**97.4%**	-	97.8%	94.8%	0%	**96.9%**	-	97.2%
Single-Unit Trucks	1	0	0	**1**	-	0	8	0	**8**	-	4	5	0	**9**	-	18
% Single-Unit Trucks	1.0%	0%	0%	**1.0%**	-	0%	2.0%	0%	**2.0%**	-	1.2%	3.3%	0%	**1.9%**	-	1.9%
Articulated Trucks	0	0	0	**0**	-	0	1	0	**1**	-	1	1	0	**2**	-	3
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0.3%	0%	**0.3%**	-	0.3%	0.7%	0%	**0.4%**	-	0.3%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	0	2	0	**2**	-	2
% Buses	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	1.3%	0%	**0.4%**	-	0.2%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	1	0	0	**1**	-	1
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.3%	0%	0%	**0.2%**	-	0.1%
Pedestrians	-	-	-	-	2	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218151 (3) Great Rd @ Crescent St TMC - TMC

Sat Nov 20, 2021
PM Peak (WKND) (Nov 20 2021 1PM - 2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902919, Location: 42.436732, -71.506894, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (4) Great Rd @ Common Rd TMC - TMC

Thu Nov 18, 2021
Full Length (7 AM-11 AM, 2 PM-6 PM, 10 AM-2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902920, Location: 42.436237, -71.503126, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

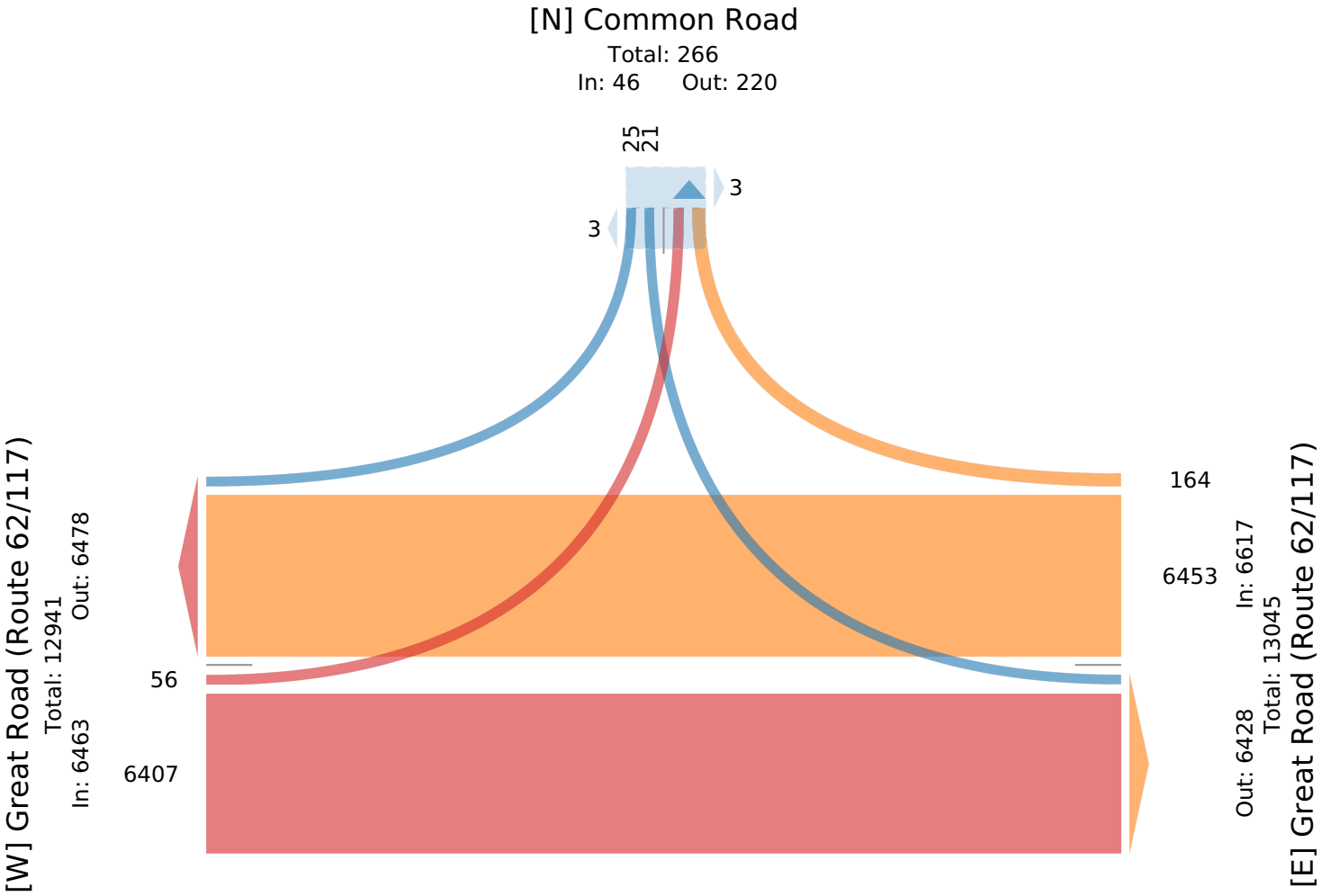
Leg / Direction	Common Road Southbound					Great Road (Route 62/117) Westbound					Great Road (Route 62/117) Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-11-18 7:00AM	0	0	0	**0**	0	11	320	0	**331**	0	862	1	0	**863**	0	**1194**
8:00AM	7	3	0	**10**	0	21	364	0	**385**	0	670	12	0	**682**	0	**1077**
9:00AM	8	3	0	**11**	0	4	293	0	**297**	0	425	11	0	**436**	0	**744**
10:00AM	1	0	0	**1**	2	7	355	0	**362**	0	389	3	0	**392**	0	**755**
2:00PM	3	2	0	**5**	1	15	558	0	**573**	0	471	3	0	**474**	0	**1052**
3:00PM	4	1	0	**5**	1	14	783	0	**797**	0	494	2	0	**496**	0	**1298**
4:00PM	0	3	0	**3**	1	17	856	0	**873**	0	582	7	0	**589**	0	**1465**
5:00PM	0	1	0	**1**	0	12	895	0	**907**	0	486	3	0	**489**	0	**1397**
2021-11-20 10:00AM	0	0	0	**0**	0	12	445	0	**457**	0	470	3	0	**473**	0	**930**
11:00AM	2	2	0	**4**	0	15	530	0	**545**	0	511	1	0	**512**	0	**1061**
12:00PM	0	3	0	**3**	0	14	523	0	**537**	0	522	4	0	**526**	0	**1066**
1:00PM	0	3	0	**3**	1	22	531	0	**553**	0	525	6	0	**531**	0	**1087**
Total	25	21	0	**46**	6	164	6453	0	**6617**	0	6407	56	0	**6463**	0	**13126**
% Approach	54.3%	45.7%	0%	**-**	-	2.5%	97.5%	0%	**-**	-	99.1%	0.9%	0%	**-**	-	**-**
% Total	0.2%	0.2%	0%	**0.4%**	-	1.2%	49.2%	0%	**50.4%**	-	48.8%	0.4%	0%	**49.2%**	-	**-**
Motorcycles	0	0	0	**0**	-	0	42	0	**42**	-	39	0	0	**39**	-	81
% Motorcycles	0%	0%	0%	**0%**	-	0%	0.7%	0%	**0.6%**	-	0.6%	0%	0%	**0.6%**	-	0.6%
Lights	25	20	0	**45**	-	157	6205	0	**6362**	-	6128	54	0	**6182**	-	12589
% Lights	100%	95.2%	0%	**97.8%**	-	95.7%	96.2%	0%	**96.1%**	-	95.6%	96.4%	0%	**95.7%**	-	95.9%
Single-Unit Trucks	0	1	0	**1**	-	1	148	0	**149**	-	163	2	0	**165**	-	315
% Single-Unit Trucks	0%	4.8%	0%	**2.2%**	-	0.6%	2.3%	0%	**2.3%**	-	2.5%	3.6%	0%	**2.6%**	-	2.4%
Articulated Trucks	0	0	0	**0**	-	1	37	0	**38**	-	46	0	0	**46**	-	84
% Articulated Trucks	0%	0%	0%	**0%**	-	0.6%	0.6%	0%	**0.6%**	-	0.7%	0%	0%	**0.7%**	-	0.6%
Buses	0	0	0	**0**	-	4	15	0	**19**	-	26	0	0	**26**	-	45
% Buses	0%	0%	0%	**0%**	-	2.4%	0.2%	0%	**0.3%**	-	0.4%	0%	0%	**0.4%**	-	0.3%
Bicycles on Road	0	0	0	**0**	-	1	6	0	**7**	-	5	0	0	**5**	-	12
% Bicycles on Road	0%	0%	0%	**0%**	-	0.6%	0.1%	0%	**0.1%**	-	0.1%	0%	0%	**0.1%**	-	0.1%
Pedestrians	-	-	-	-	6	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218251 (4) Great Rd @ Common Rd TMC - TMC

Thu Nov 18, 2021
Full Length (7 AM-11 AM, 2 PM-6 PM, 10 AM-2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902920, Location: 42.436237, -71.503126, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (4) Great Rd @ Common Rd TMC - TMC

Thu Nov 18, 2021
AM Peak (Nov 18 2021 7AM - 8 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902920, Location: 42.436237, -71.503126, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

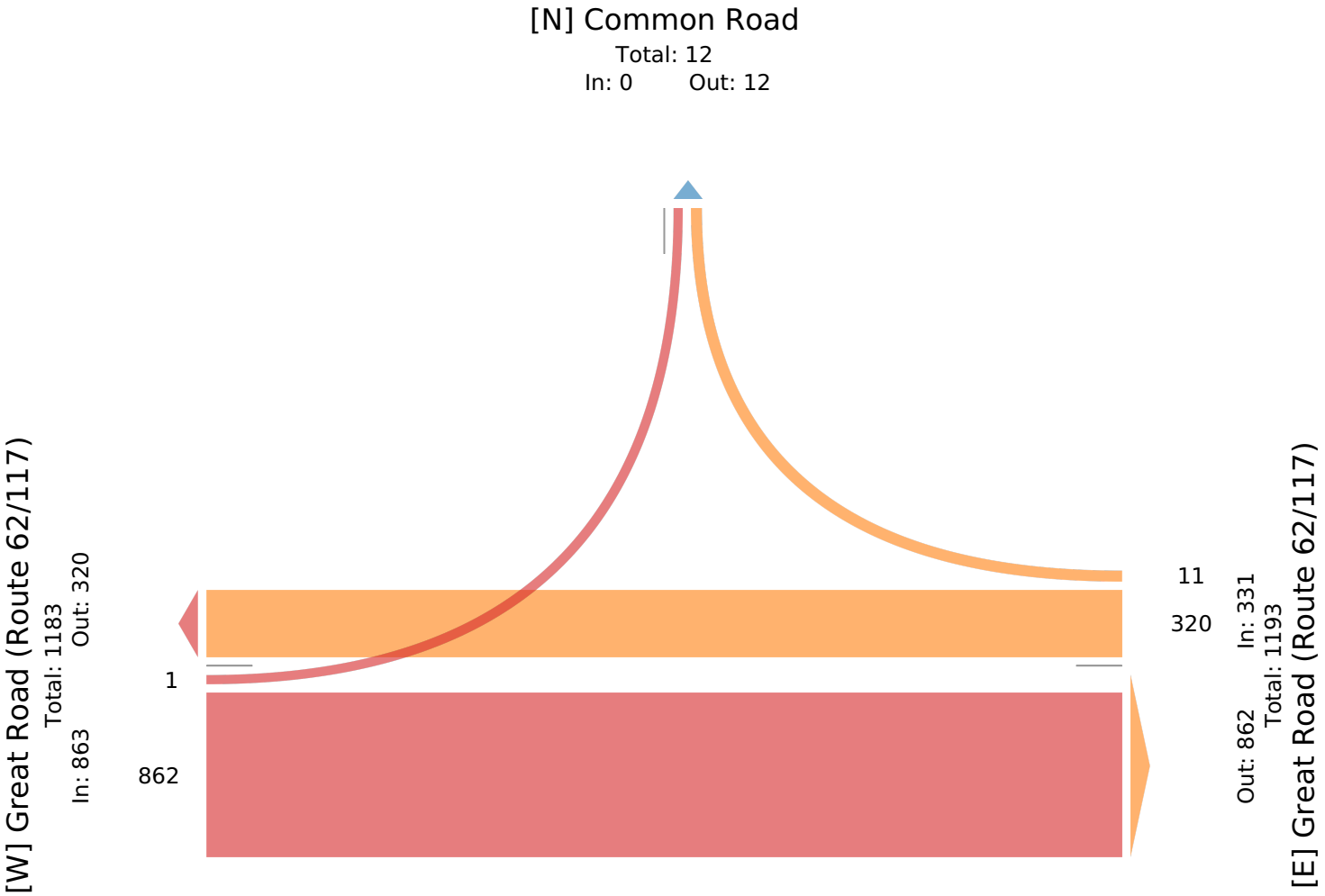
Leg Direction	Common Road Southbound					Great Road (Route 62/117) Westbound					Great Road (Route 62/117) Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-11-18 7:00AM	0	0	0	**0**	0	2	93	0	**95**	0	205	0	0	**205**	0	**300**
7:15AM	0	0	0	**0**	0	3	75	0	**78**	0	216	0	0	**216**	0	**294**
7:30AM	0	0	0	**0**	0	5	82	0	**87**	0	213	0	0	**213**	0	**300**
7:45AM	0	0	0	**0**	0	1	70	0	**71**	0	228	1	0	**229**	0	**300**
Total	0	0	0	**0**	0	11	320	0	**331**	0	862	1	0	**863**	0	**1194**
% Approach	0%	0%	0%	**-**	-	3.3%	96.7%	0%	**-**	-	99.9%	0.1%	0%	**-**	-	**-**
% Total	0%	0%	0%	**0%**	-	0.9%	26.8%	0%	**27.7%**	-	72.2%	0.1%	0%	**72.3%**	-	**-**
PHF	-	-	-	**-**	-	0.550	0.858	-	**0.868**	-	0.948	0.250	-	**0.945**	-	0.993
Motorcycles	0	0	0	**0**	-	0	3	0	**3**	-	3	0	0	**3**	-	6
% Motorcycles	0%	0%	0%	**-**	-	0%	0.9%	0%	**0.9%**	-	0.3%	0%	0%	**0.3%**	-	0.5%
Lights	0	0	0	**0**	-	8	292	0	**300**	-	819	1	0	**820**	-	1120
% Lights	0%	0%	0%	**-**	-	72.7%	91.3%	0%	**90.6%**	-	95.0%	100%	0%	**95.0%**	-	93.8%
Single-Unit Trucks	0	0	0	**0**	-	0	13	0	**13**	-	22	0	0	**22**	-	35
% Single-Unit Trucks	0%	0%	0%	**-**	-	0%	4.1%	0%	**3.9%**	-	2.6%	0%	0%	**2.5%**	-	2.9%
Articulated Trucks	0	0	0	**0**	-	1	8	0	**9**	-	11	0	0	**11**	-	20
% Articulated Trucks	0%	0%	0%	**-**	-	9.1%	2.5%	0%	**2.7%**	-	1.3%	0%	0%	**1.3%**	-	1.7%
Buses	0	0	0	**0**	-	2	3	0	**5**	-	6	0	0	**6**	-	11
% Buses	0%	0%	0%	**-**	-	18.2%	0.9%	0%	**1.5%**	-	0.7%	0%	0%	**0.7%**	-	0.9%
Bicycles on Road	0	0	0	**0**	-	0	1	0	**1**	-	1	0	0	**1**	-	2
% Bicycles on Road	0%	0%	0%	**-**	-	0%	0.3%	0%	**0.3%**	-	0.1%	0%	0%	**0.1%**	-	0.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218251 (4) Great Rd @ Common Rd TMC - TMC

Thu Nov 18, 2021
AM Peak (Nov 18 2021 7AM - 8 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902920, Location: 42.436237, -71.503126, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (4) Great Rd @ Common Rd TMC - TMC

Thu Nov 18, 2021
PM Peak (Nov 18 2021 4:30PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902920, Location: 42.436237, -71.503126, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

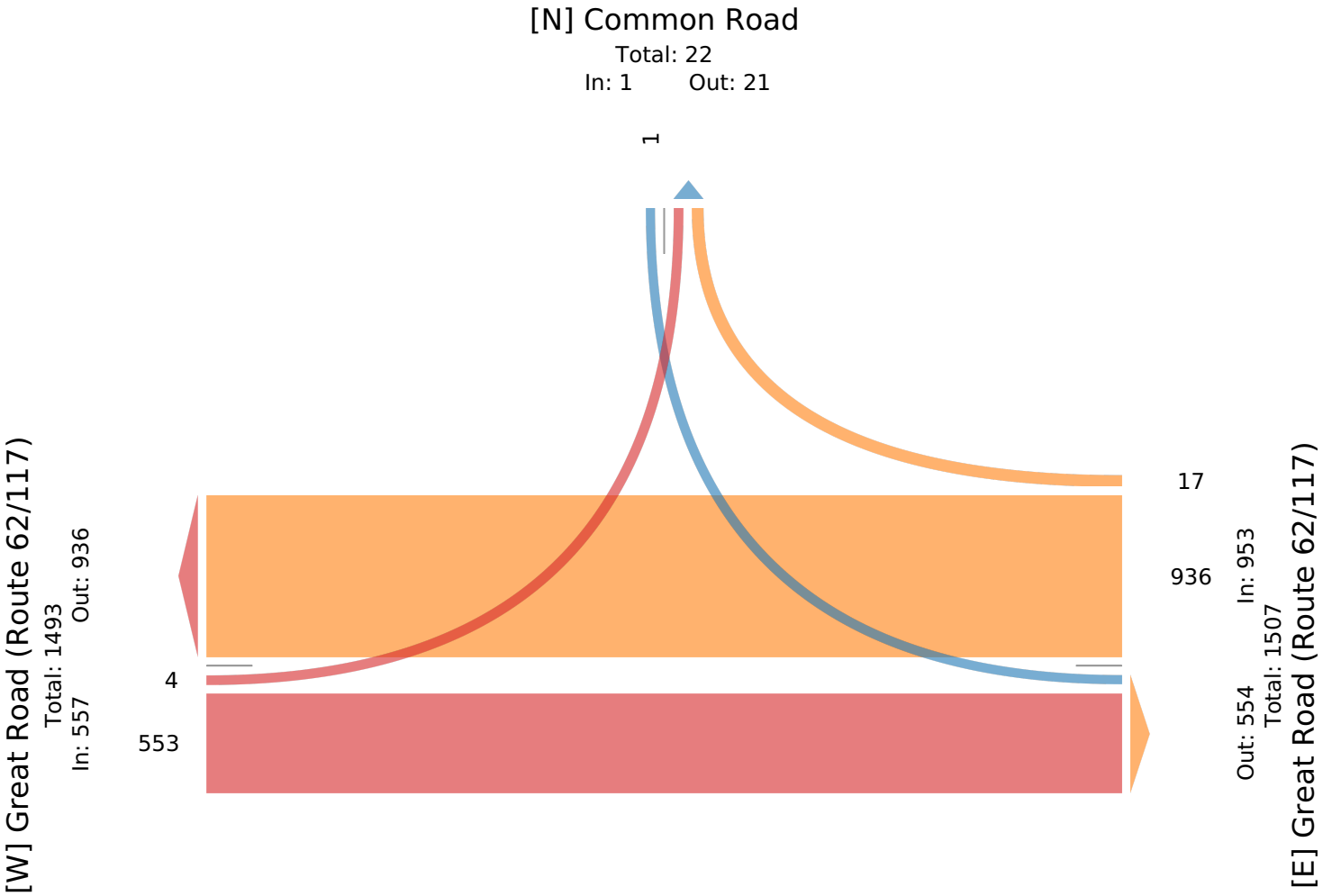
Leg Direction	Common Road Southbound					Great Road (Route 62/117) Westbound					Great Road (Route 62/117) Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-11-18 4:30PM	0	0	0	**0**	0	3	224	0	**227**	0	138	1	0	**139**	0	**366**
4:45PM	0	1	0	**1**	0	5	227	0	**232**	0	160	1	0	**161**	0	**394**
5:00PM	0	0	0	**0**	0	5	251	0	**256**	0	124	1	0	**125**	0	**381**
5:15PM	0	0	0	**0**	0	4	234	0	**238**	0	131	1	0	**132**	0	**370**
Total	0	1	0	**1**	0	17	936	0	**953**	0	553	4	0	**557**	0	**1511**
% Approach	0%	100%	0%	**-**	-	1.8%	98.2%	0%	**-**	-	99.3%	0.7%	0%	**-**	-	**-**
% Total	0%	0.1%	0%	**0.1%**	-	1.1%	61.9%	0%	**63.1%**	-	36.6%	0.3%	0%	**36.9%**	-	**-**
PHF	-	0.250	-	**0.250**	-	0.850	0.932	-	**0.931**	-	0.864	1.000	-	**0.865**	-	0.959
Motorcycles	0	0	0	**0**	-	0	2	0	**2**	-	2	0	0	**2**	-	4
% Motorcycles	0%	0%	0%	**0%**	-	0%	0.2%	0%	**0.2%**	-	0.4%	0%	0%	**0.4%**	-	0.3%
Lights	0	1	0	**1**	-	17	909	0	**926**	-	539	4	0	**543**	-	1470
% Lights	0%	100%	0%	**100%**	-	100%	97.1%	0%	**97.2%**	-	97.5%	100%	0%	**97.5%**	-	97.3%
Single-Unit Trucks	0	0	0	**0**	-	0	18	0	**18**	-	8	0	0	**8**	-	26
% Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	1.9%	0%	**1.9%**	-	1.4%	0%	0%	**1.4%**	-	1.7%
Articulated Trucks	0	0	0	**0**	-	0	5	0	**5**	-	3	0	0	**3**	-	8
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0.5%	0%	**0.5%**	-	0.5%	0%	0%	**0.5%**	-	0.5%
Buses	0	0	0	**0**	-	0	2	0	**2**	-	1	0	0	**1**	-	3
% Buses	0%	0%	0%	**0%**	-	0%	0.2%	0%	**0.2%**	-	0.2%	0%	0%	**0.2%**	-	0.2%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218251 (4) Great Rd @ Common Rd TMC - TMC

Thu Nov 18, 2021
PM Peak (Nov 18 2021 4:30PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902920, Location: 42.436237, -71.503126, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (4) Great Rd @ Common Rd TMC - TMC

Sat Nov 20, 2021
AM Peak (WKND) (Nov 20 2021 10AM - 11 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902920, Location: 42.436237, -71.503126, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

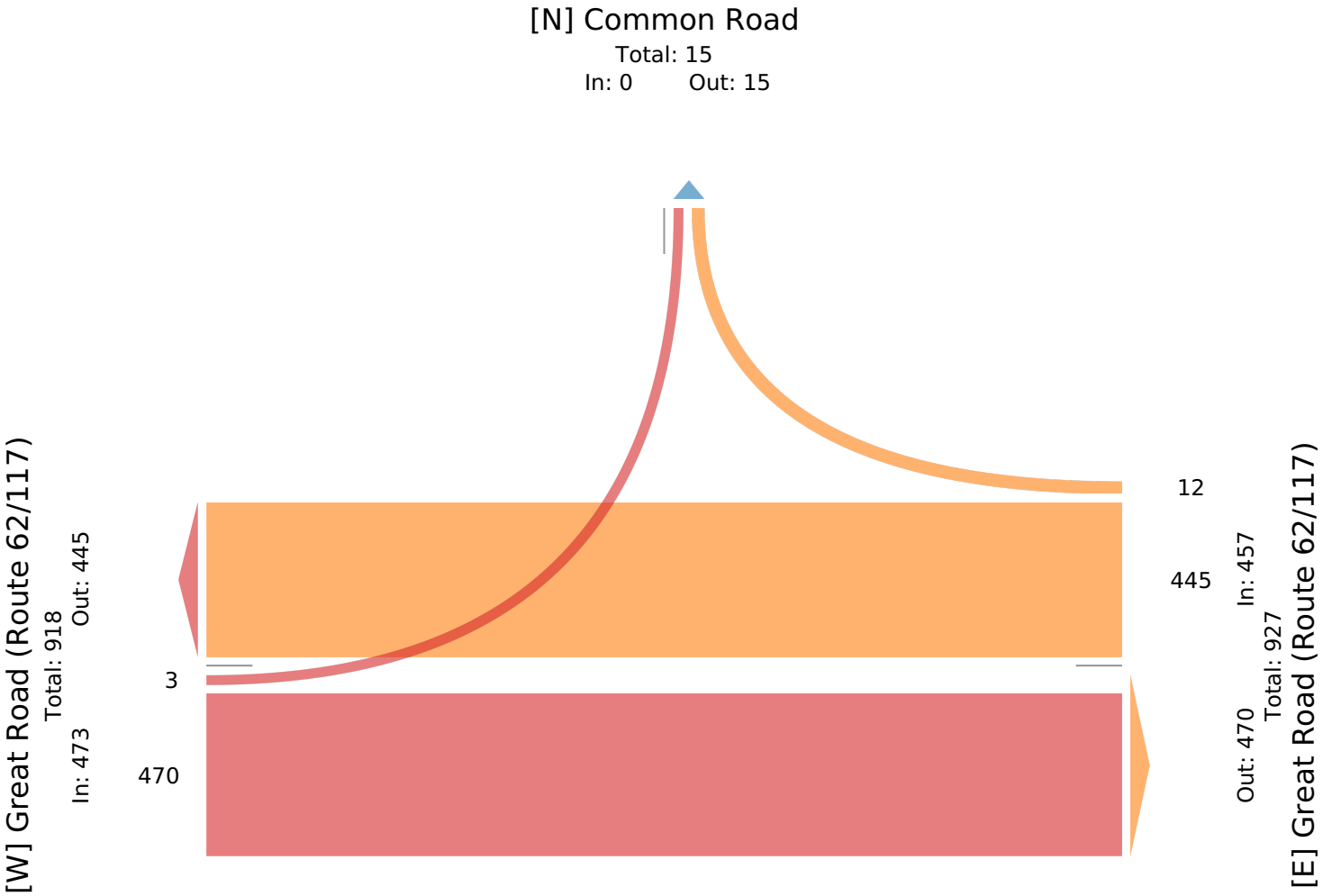
Leg / Direction	Common Road Southbound					Great Road (Route 62/117) Westbound					Great Road (Route 62/117) Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-11-20 10:00AM	0	0	0	**0**	0	4	112	0	**116**	0	118	0	0	**118**	0	**234**
10:15AM	0	0	0	**0**	0	3	116	0	**119**	0	104	0	0	**104**	0	**223**
10:30AM	0	0	0	**0**	0	1	114	0	**115**	0	127	1	0	**128**	0	**243**
10:45AM	0	0	0	**0**	0	4	103	0	**107**	0	121	2	0	**123**	0	**230**
Total	0	0	0	**0**	0	12	445	0	**457**	0	470	3	0	**473**	0	**930**
% Approach	0%	0%	0%	**-**	-	2.6%	97.4%	0%	**-**	-	99.4%	0.6%	0%	**-**	-	**-**
% Total	0%	0%	0%	**0%**	-	1.3%	47.8%	0%	**49.1%**	-	50.5%	0.3%	0%	**50.9%**	-	**-**
PHF	-	-	-	**-**	-	0.750	0.957	-	**0.958**	-	0.925	0.375	-	**0.924**	-	0.956
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**-**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	0	0	0	**0**	-	11	430	0	**441**	-	465	2	0	**467**	-	908
% Lights	0%	0%	0%	**-**	-	91.7%	96.6%	0%	**96.5%**	-	98.9%	66.7%	0%	**98.7%**	-	97.6%
Single-Unit Trucks	0	0	0	**0**	-	1	12	0	**13**	-	4	1	0	**5**	-	18
% Single-Unit Trucks	0%	0%	0%	**-**	-	8.3%	2.7%	0%	**2.8%**	-	0.9%	33.3%	0%	**1.1%**	-	1.9%
Articulated Trucks	0	0	0	**0**	-	0	2	0	**2**	-	1	0	0	**1**	-	3
% Articulated Trucks	0%	0%	0%	**-**	-	0%	0.4%	0%	**0.4%**	-	0.2%	0%	0%	**0.2%**	-	0.3%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Buses	0%	0%	0%	**-**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	0	0	**0**	-	0	1	0	**1**	-	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	**-**	-	0%	0.2%	0%	**0.2%**	-	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218251 (4) Great Rd @ Common Rd TMC - TMC

Sat Nov 20, 2021
AM Peak (WKND) (Nov 20 2021 10AM - 11 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902920, Location: 42.436237, -71.503126, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US



218251 (4) Great Rd @ Common Rd TMC - TMC

Sat Nov 20, 2021
Midday Peak (WKND), PM Peak (WKND) (Nov 20 2021 1PM - 2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902920, Location: 42.436237, -71.503126, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
Hudson, MA, 01749, US

Leg / Direction	Common Road Southbound					Great Road (Route 62/117) Westbound					Great Road (Route 62/117) Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-11-20 1:00PM	0	1	0	**1**	0	9	127	0	**136**	0	138	1	0	**139**	0	**276**
1:15PM	0	1	0	**1**	1	1	126	0	**127**	0	115	1	0	**116**	0	**244**
1:30PM	0	0	0	**0**	0	3	140	0	**143**	0	128	2	0	**130**	0	**273**
1:45PM	0	1	0	**1**	0	9	138	0	**147**	0	144	2	0	**146**	0	**294**
Total	0	3	0	**3**	1	22	531	0	**553**	0	525	6	0	**531**	0	**1087**
% Approach	0%	100%	0%	**-**	-	4.0%	96.0%	0%	**-**	-	98.9%	1.1%	0%	**-**	-	-
% Total	0%	0.3%	0%	**0.3%**	-	2.0%	48.9%	0%	**50.9%**	-	48.3%	0.6%	0%	**48.9%**	-	-
PHF	-	0.750	-	**0.750**	-	0.611	0.946	-	**0.945**	-	0.911	0.750	-	**0.909**	-	0.927
Motorcycles	0	0	0	**0**	-	0	3	0	**3**	-	2	0	0	**2**	-	5
% Motorcycles	0%	0%	0%	**0%**	-	0%	0.6%	0%	**0.5%**	-	0.4%	0%	0%	**0.4%**	-	0.5%
Lights	0	3	0	**3**	-	22	518	0	**540**	-	517	6	0	**523**	-	1066
% Lights	0%	100%	0%	**100%**	-	100%	97.6%	0%	**97.6%**	-	98.5%	100%	0%	**98.5%**	-	98.1%
Single-Unit Trucks	0	0	0	**0**	-	0	9	0	**9**	-	5	0	0	**5**	-	14
% Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	1.7%	0%	**1.6%**	-	1.0%	0%	0%	**0.9%**	-	1.3%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	1	0	0	**1**	-	1
% Buses	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.2%	0%	0%	**0.2%**	-	0.1%
Bicycles on Road	0	0	0	**0**	-	0	1	0	**1**	-	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0.2%	0%	**0.2%**	-	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

218251 (4) Great Rd @ Common Rd TMC - TMC

Sat Nov 20, 2021
Midday Peak (WKND), PM Peak (WKND) (Nov 20 2021 1PM - 2 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 902920, Location: 42.436237, -71.503126, Site Code: S21-041

Provided by: Precision Data Industries, LLC (PDI)
157 Washington Street, 2,
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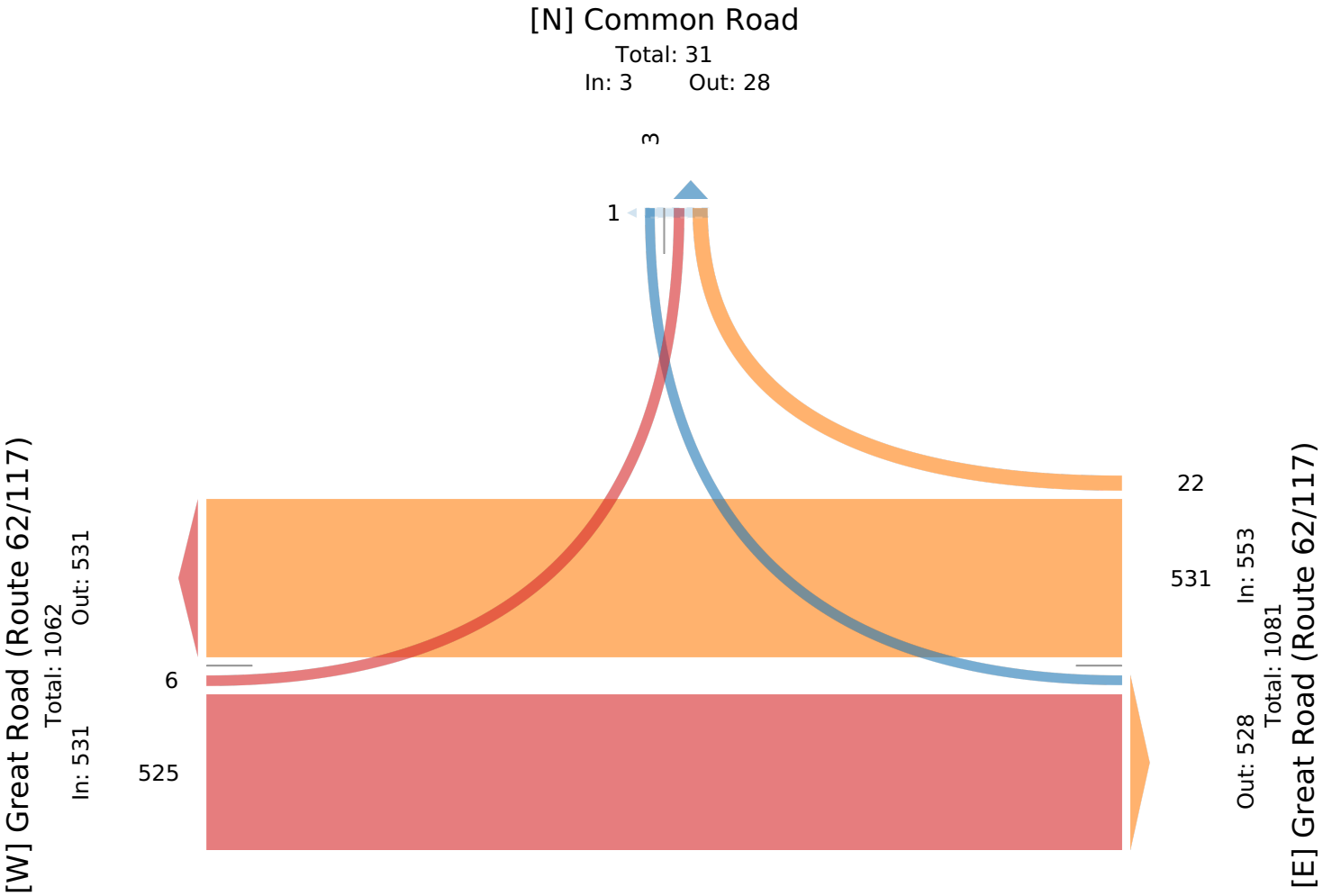
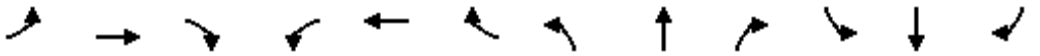


Appendix C

Existing Intersection Level of Service Conditions

1. AM Existing Conditions
2. PM Existing Conditions

Part One: AM Existing Conditions

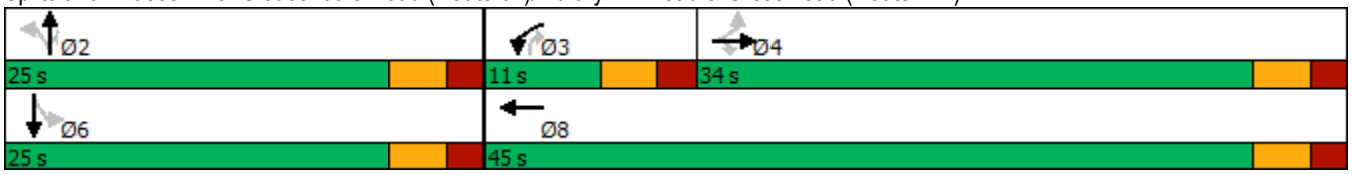


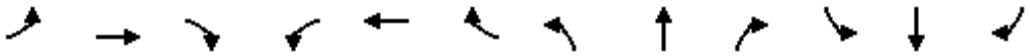
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Future Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850		0.995	
Flt Protected				0.950				0.992			0.985	
Satd. Flow (prot)	0	1827	1442	1641	1776	0	0	1754	1583	0	1782	0
Flt Permitted		0.998		0.950				0.927			0.850	
Satd. Flow (perm)	0	1824	1442	1641	1776	0	0	1639	1583	0	1538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109						136		3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.75	0.97	0.69	0.72	0.83	0.25	0.62	0.82	0.81	0.77	0.50	0.33
Heavy Vehicles (%)	0%	4%	12%	10%	7%	0%	20%	5%	2%	4%	5%	0%
Adj. Flow (vph)	4	654	36	113	276	0	24	122	194	92	196	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	658	36	113	276	0	0	146	194	0	300	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	34.0	34.0	34.0	11.0	45.0		25.0	25.0		25.0	25.0	
Total Split (%)	48.6%	48.6%	48.6%	15.7%	64.3%		35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	29.0	29.0	29.0	6.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		27.1	27.1	6.0	38.1			20.0	31.1		20.0	
Actuated g/C Ratio		0.40	0.40	0.09	0.56			0.29	0.46		0.29	
v/c Ratio		0.91	0.06	0.78	0.28			0.30	0.24		0.66	
Control Delay		38.2	0.2	69.3	8.6			21.6	5.2		30.1	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		38.2	0.2	69.3	8.6			21.6	5.2		30.1	
LOS		D	A	E	A			C	A		C	
Approach Delay		36.2			26.3			12.3			30.1	
Approach LOS		D			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 68.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 28.2		Intersection LOS: C	
Intersection Capacity Utilization 74.1%		ICU Level of Service D	
Analysis Period (min) 15			

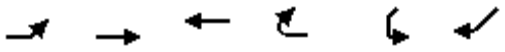
Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Future Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.964			0.921			0.955	
Flt Protected		0.976			0.976			0.999			0.988	
Satd. Flow (prot)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Flt Permitted		0.976			0.976			0.999			0.988	
Satd. Flow (perm)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.59	0.91	0.38	0.84	0.84	0.41	0.25	0.55	0.82	0.38	0.38	0.36
Heavy Vehicles (%)	3%	3%	0%	4%	8%	3%	0%	7%	5%	4%	7%	9%
Adj. Flow (vph)	103	96	8	169	88	93	4	80	117	63	113	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	0	0	350	0	0	201	0	0	265	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.5%		ICU Level of Service A	
Analysis Period (min) 15			

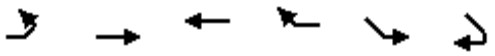


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	160	652	255	1	0	100
Future Volume (vph)	160	652	255	1	0	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998			0.865
Flt Protected		0.988				
Satd. Flow (prot)	0	1805	1774	0	0	1565
Flt Permitted		0.988				
Satd. Flow (perm)	0	1805	1774	0	0	1565
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.71	0.96	0.87	0.25	0.25	0.69
Heavy Vehicles (%)	4%	4%	7%	0%	0%	5%
Adj. Flow (vph)	225	679	293	4	0	145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	904	297	0	0	145
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	38	103	0	15	173
Future Volume (vph)	0	38	103	0	15	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.996
Satd. Flow (prot)	1611	0	1863	0	0	1855
Flt Permitted						0.996
Satd. Flow (perm)	1611	0	1863	0	0	1855
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	41	112	0	16	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	112	0	0	204
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

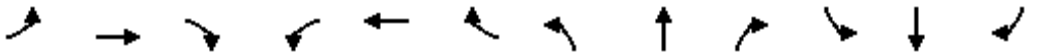
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	1	862	320	11	0	0
Future Volume (vph)	1	862	320	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993			
Flt Protected						
Satd. Flow (prot)	0	1827	1731	0	1900	0
Flt Permitted						
Satd. Flow (perm)	0	1827	1731	0	1900	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	0.25	0.95	0.86	0.55	0.25	0.25
Heavy Vehicles (%)	0%	4%	8%	27%	0%	0%
Adj. Flow (vph)	4	907	372	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	911	392	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Part Two: PM Existing Conditions

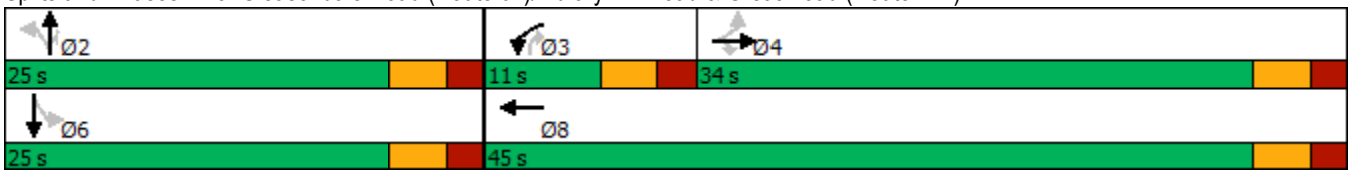


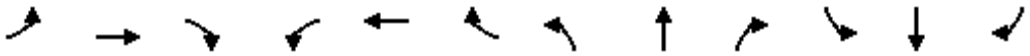
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	313	21	211	707	7	34	101	181	64	126	8
Future Volume (vph)	2	313	21	211	707	7	34	101	181	64	126	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850		0.991	
Flt Protected		0.999		0.950				0.987			0.985	
Satd. Flow (prot)	0	1880	1538	1805	1832	0	0	1807	1583	0	1843	0
Flt Permitted		0.991		0.950				0.871			0.852	
Satd. Flow (perm)	0	1864	1538	1805	1832	0	0	1595	1583	0	1594	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109		3				259		5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.50	0.96	0.71	0.91	0.93	0.35	0.71	0.74	0.70	0.89	0.85	0.50
Heavy Vehicles (%)	0%	1%	5%	0%	3%	14%	6%	3%	2%	0%	1%	0%
Adj. Flow (vph)	4	326	30	232	760	20	48	136	259	72	148	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	330	30	232	780	0	0	184	259	0	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	34.0	34.0	34.0	11.0	45.0		25.0	25.0		25.0	25.0	
Total Split (%)	48.6%	48.6%	48.6%	15.7%	64.3%		35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	29.0	29.0	29.0	6.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		20.0	20.0	6.1	31.2			20.3	31.5		20.3	
Actuated g/C Ratio		0.32	0.32	0.10	0.51			0.33	0.51		0.33	
v/c Ratio		0.55	0.05	1.30	0.84			0.35	0.28		0.45	
Control Delay		19.9	0.2	201.6	22.1			20.4	2.7		21.4	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		19.9	0.2	201.6	22.1			20.4	2.7		21.4	
LOS		B	A	F	C			C	A		C	
Approach Delay		18.3			63.3			10.1			21.4	
Approach LOS		B			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 61.6			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.30			
Intersection Signal Delay: 39.1		Intersection LOS: D	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

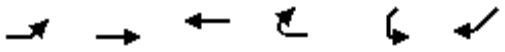
Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Future Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.987			0.916			0.952	
Flt Protected		0.989			0.980			0.998			0.989	
Satd. Flow (prot)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Flt Permitted		0.989			0.980			0.998			0.989	
Satd. Flow (perm)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.68	0.77	0.50	0.86	0.77	0.55	0.38	0.62	0.91	0.56	0.56	0.64
Heavy Vehicles (%)	3%	9%	0%	1%	4%	0%	67%	0%	4%	0%	0%	0%
Adj. Flow (vph)	43	132	14	133	157	31	8	56	105	52	93	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	189	0	0	321	0	0	169	0	0	225	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

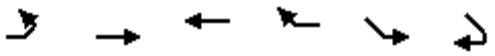


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	87	320	780	3	1	126
Future Volume (vph)	87	320	780	3	1	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			0.865
Flt Protected		0.987			0.950	
Satd. Flow (prot)	0	1835	1861	0	0	1627
Flt Permitted		0.987			0.950	
Satd. Flow (perm)	0	1835	1861	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.70	0.96	0.94	0.38	0.25	0.85
Heavy Vehicles (%)	0%	3%	2%	0%	0%	1%
Adj. Flow (vph)	124	333	830	8	4	148
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	457	838	0	4	148
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization Err%		ICU Level of Service H	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	24	110	0	0	173
Future Volume (vph)	25	24	110	0	0	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934					
Flt Protected	0.975					
Satd. Flow (prot)	1696	0	1863	0	0	1863
Flt Permitted	0.975					
Satd. Flow (perm)	1696	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	26	120	0	0	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	120	0	0	188
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	4	553	936	17	1	0
Future Volume (vph)	4	553	936	17	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1840	0	1805	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1840	0	1805	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	1.00	0.86	0.93	0.85	0.25	0.25
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	4	643	1006	20	4	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	647	1026	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.3%		ICU Level of Service B	
Analysis Period (min) 15			

Appendix D

Intersection Level of Service: Proposed Conditions

1. AM Add Permissive Left Turn Conditions
2. PM Add Permissive Left Turn Conditions
3. AM Turn Common Road into One-Way Street Conditions
4. PM Turn Common Road into One-Way Street Conditions
5. AM Add Permissive Left Turn and Turn Common Road into One-Way Street Conditions
6. PM Add Permissive Left Turn and Turn Common Road into One-Way Street Conditions
7. AM Optimized Existing Intersection with Pedestrian Phase Conditions
8. PM Optimized Existing Intersection with Pedestrian Phase Conditions
9. AM Add Permissive Left Turn with Pedestrian Phase Conditions
10. PM Add Permissive Left Turn with Pedestrian Phase Conditions
11. AM Turn Common Road into One-Way Street with Pedestrian Phase Conditions
12. PM Turn Common Road into One-Way Street with Pedestrian Phase Conditions
13. AM Add Permissive Left Turn and Turn Common Road into One-Way Street with Pedestrian Phase Conditions
14. PM Add Permissive Left Turn and Turn Common Road into One-Way Street with Pedestrian Phase Conditions

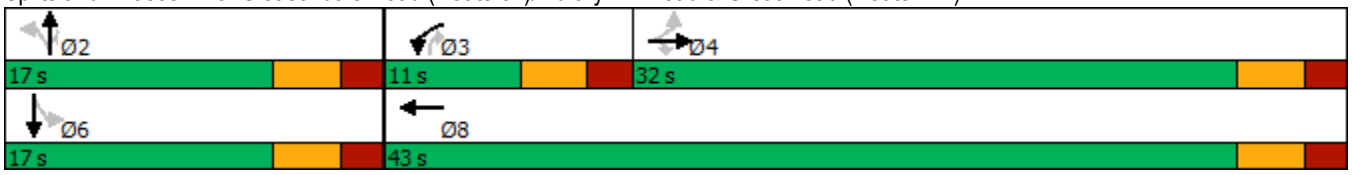
Part One: AM Add Permissive Left Turn Conditions

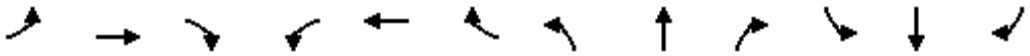
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Future Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850		0.991	
Flt Protected				0.950				0.992		0.950		
Satd. Flow (prot)	0	1827	1442	1641	1776	0	0	1754	1583	1736	1798	0
Flt Permitted		0.998		0.950				0.917		0.664		
Satd. Flow (perm)	0	1824	1442	1641	1776	0	0	1621	1583	1213	1798	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127						161		5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.75	0.97	0.69	0.72	0.83	0.25	0.62	0.82	0.81	0.77	0.50	0.33
Heavy Vehicles (%)	0%	4%	12%	10%	7%	0%	20%	5%	2%	4%	5%	0%
Adj. Flow (vph)	4	654	36	113	276	0	24	122	194	92	196	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	658	36	113	276	0	0	146	194	92	208	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	32.0	32.0	32.0	11.0	43.0		17.0	17.0		17.0	17.0	
Total Split (%)	53.3%	53.3%	53.3%	18.3%	71.7%		28.3%	28.3%		28.3%	28.3%	
Maximum Green (s)	27.0	27.0	27.0	6.0	38.0		12.0	12.0		12.0	12.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		23.9	23.9	6.0	35.0			12.1	23.1	12.1	12.1	
Actuated g/C Ratio		0.42	0.42	0.11	0.61			0.21	0.40	0.21	0.21	
v/c Ratio		0.86	0.05	0.65	0.25			0.43	0.26	0.36	0.54	
Control Delay		28.6	0.2	47.2	5.6			25.3	4.7	25.4	26.8	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		28.6	0.2	47.2	5.6			25.3	4.7	25.4	26.8	
LOS		C	A	D	A			C	A	C	C	
Approach Delay		27.1			17.7			13.6			26.3	
Approach LOS		C			B			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 57.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 22.2		Intersection LOS: C	
Intersection Capacity Utilization 70.8%		ICU Level of Service C	
Analysis Period (min) 15			

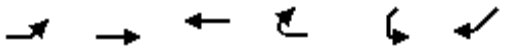
Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Future Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.964			0.921			0.955	
Flt Protected		0.976			0.976			0.999			0.988	
Satd. Flow (prot)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Flt Permitted		0.976			0.976			0.999			0.988	
Satd. Flow (perm)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.59	0.91	0.38	0.84	0.84	0.41	0.25	0.55	0.82	0.38	0.38	0.36
Heavy Vehicles (%)	3%	3%	0%	4%	8%	3%	0%	7%	5%	4%	7%	9%
Adj. Flow (vph)	103	96	8	169	88	93	4	80	117	63	113	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	0	0	350	0	0	201	0	0	265	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.5%		ICU Level of Service A	
Analysis Period (min) 15			

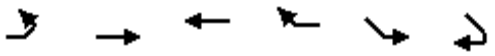


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	160	652	255	1	0	100
Future Volume (vph)	160	652	255	1	0	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998			0.865
Flt Protected		0.988				
Satd. Flow (prot)	0	1805	1774	0	0	1565
Flt Permitted		0.988				
Satd. Flow (perm)	0	1805	1774	0	0	1565
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.71	0.96	0.87	0.25	0.25	0.69
Heavy Vehicles (%)	4%	4%	7%	0%	0%	5%
Adj. Flow (vph)	225	679	293	4	0	145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	904	297	0	0	145
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	38	103	0	15	173
Future Volume (vph)	0	38	103	0	15	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.996
Satd. Flow (prot)	1611	0	1863	0	0	1855
Flt Permitted						0.996
Satd. Flow (perm)	1611	0	1863	0	0	1855
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	41	112	0	16	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	112	0	0	204
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

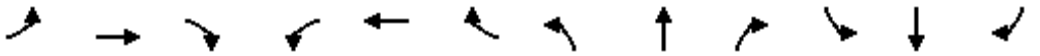
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	1	862	320	11	0	0
Future Volume (vph)	1	862	320	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993			
Flt Protected						
Satd. Flow (prot)	0	1827	1731	0	1900	0
Flt Permitted						
Satd. Flow (perm)	0	1827	1731	0	1900	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	0.25	0.95	0.86	0.55	0.25	0.25
Heavy Vehicles (%)	0%	4%	8%	27%	0%	0%
Adj. Flow (vph)	4	907	372	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	911	392	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Part Two: PM Add Permissive Left Turn Conditions

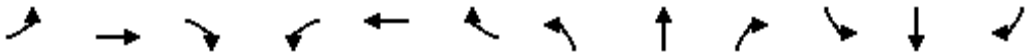


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	313	21	211	707	7	34	101	181	64	126	8
Future Volume (vph)	2	313	21	211	707	7	34	101	181	64	126	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850		0.985	
Flt Protected		0.999		0.950				0.987		0.950		
Satd. Flow (prot)	0	1880	1538	1805	1832	0	0	1807	1583	1805	1855	0
Flt Permitted		0.988		0.950				0.872		0.641		
Satd. Flow (perm)	0	1859	1538	1805	1832	0	0	1596	1583	1218	1855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			139		4				259		9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.50	0.96	0.71	0.91	0.93	0.35	0.71	0.74	0.70	0.89	0.85	0.50
Heavy Vehicles (%)	0%	1%	5%	0%	3%	14%	6%	3%	2%	0%	1%	0%
Adj. Flow (vph)	4	326	30	232	760	20	48	136	259	72	148	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	330	30	232	780	0	0	184	259	72	164	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	22.0	22.0	22.0	16.0	38.0		17.0	17.0		17.0	17.0	
Total Split (%)	40.0%	40.0%	40.0%	29.1%	69.1%		30.9%	30.9%		30.9%	30.9%	
Maximum Green (s)	17.0	17.0	17.0	11.0	33.0		12.0	12.0		12.0	12.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		13.5	13.5	10.0	28.5			12.1	27.1	12.1	12.1	
Actuated g/C Ratio		0.27	0.27	0.20	0.56			0.24	0.53	0.24	0.24	
v/c Ratio		0.67	0.06	0.65	0.76			0.48	0.27	0.25	0.37	
Control Delay		24.0	0.2	30.0	13.9			23.2	2.0	20.1	19.5	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		24.0	0.2	30.0	13.9			23.2	2.0	20.1	19.5	
LOS		C	A	C	B			C	A	C	B	
Approach Delay		22.0			17.6			10.8			19.7	
Approach LOS		C			B			B			B	

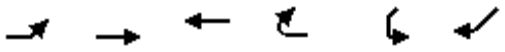
Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 50.7			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Future Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.987			0.916			0.952	
Flt Protected		0.989			0.980			0.998			0.989	
Satd. Flow (prot)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Flt Permitted		0.989			0.980			0.998			0.989	
Satd. Flow (perm)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.68	0.77	0.50	0.86	0.77	0.55	0.38	0.62	0.91	0.56	0.56	0.64
Heavy Vehicles (%)	3%	9%	0%	1%	4%	0%	67%	0%	4%	0%	0%	0%
Adj. Flow (vph)	43	132	14	133	157	31	8	56	105	52	93	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	189	0	0	321	0	0	169	0	0	225	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

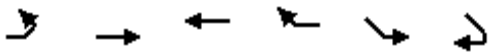


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	87	320	780	3	1	126
Future Volume (vph)	87	320	780	3	1	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			0.865
Flt Protected		0.987			0.950	
Satd. Flow (prot)	0	1835	1861	0	0	1627
Flt Permitted		0.987			0.950	
Satd. Flow (perm)	0	1835	1861	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.70	0.96	0.94	0.38	0.25	0.85
Heavy Vehicles (%)	0%	3%	2%	0%	0%	1%
Adj. Flow (vph)	124	333	830	8	4	148
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	457	838	0	4	148
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization Err%		ICU Level of Service H	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	24	110	0	0	173
Future Volume (vph)	25	24	110	0	0	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934					
Flt Protected	0.975					
Satd. Flow (prot)	1696	0	1863	0	0	1863
Flt Permitted	0.975					
Satd. Flow (perm)	1696	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	26	120	0	0	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	120	0	0	188
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

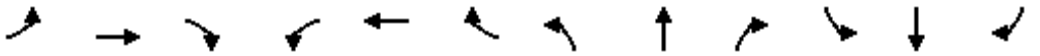
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	4	553	936	17	1	0
Future Volume (vph)	4	553	936	17	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1840	0	1805	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1840	0	1805	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	1.00	0.86	0.93	0.85	0.25	0.25
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	4	643	1006	20	4	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	647	1026	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.3%		ICU Level of Service B	
Analysis Period (min) 15			

Part Three: AM Turn Common Road into One-Way Street Conditions

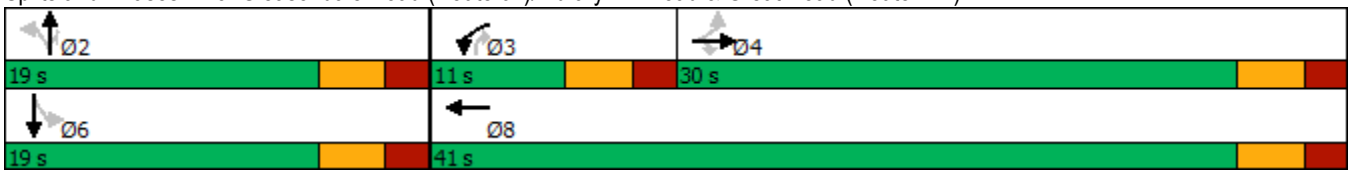


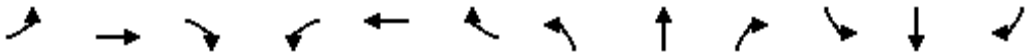
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Future Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850		0.995	
Flt Protected				0.950				0.992			0.985	
Satd. Flow (prot)	0	1827	1442	1641	1776	0	0	1754	1583	0	1782	0
Flt Permitted		0.998		0.950				0.916			0.843	
Satd. Flow (perm)	0	1824	1442	1641	1776	0	0	1619	1583	0	1525	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127						138		3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.75	0.97	0.69	0.72	0.83	0.25	0.62	0.82	0.81	0.77	0.50	0.33
Heavy Vehicles (%)	0%	4%	12%	10%	7%	0%	20%	5%	2%	4%	5%	0%
Adj. Flow (vph)	4	654	36	113	276	0	24	122	194	92	196	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	658	36	113	276	0	0	146	194	0	300	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	30.0	30.0	30.0	11.0	41.0		19.0	19.0		19.0	19.0	
Total Split (%)	50.0%	50.0%	50.0%	18.3%	68.3%		31.7%	31.7%		31.7%	31.7%	
Maximum Green (s)	25.0	25.0	25.0	6.0	36.0		14.0	14.0		14.0	14.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		23.6	23.6	6.0	34.6			14.0	25.1		14.0	
Actuated g/C Ratio		0.40	0.40	0.10	0.59			0.24	0.43		0.24	
v/c Ratio		0.90	0.05	0.67	0.26			0.38	0.26		0.82	
Control Delay		34.3	0.2	49.2	6.6			22.8	5.1		42.8	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		34.3	0.2	49.2	6.6			22.8	5.1		42.8	
LOS		C	A	D	A			C	A		D	
Approach Delay		32.6			18.9			12.7			42.8	
Approach LOS		C			B			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 27.3		Intersection LOS: C	
Intersection Capacity Utilization 74.1%		ICU Level of Service D	
Analysis Period (min) 15			

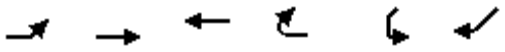
Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Future Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.964			0.921			0.955	
Flt Protected		0.976			0.976			0.999			0.988	
Satd. Flow (prot)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Flt Permitted		0.976			0.976			0.999			0.988	
Satd. Flow (perm)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.59	0.91	0.38	0.84	0.84	0.41	0.25	0.55	0.82	0.38	0.38	0.36
Heavy Vehicles (%)	3%	3%	0%	4%	8%	3%	0%	7%	5%	4%	7%	9%
Adj. Flow (vph)	103	96	8	169	88	93	4	80	117	63	113	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	0	0	350	0	0	201	0	0	265	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.5%		ICU Level of Service A	
Analysis Period (min) 15			

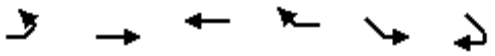


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	160	652	255	1	0	100
Future Volume (vph)	160	652	255	1	0	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998			0.865
Flt Protected		0.988				
Satd. Flow (prot)	0	1805	1774	0	0	1565
Flt Permitted		0.988				
Satd. Flow (perm)	0	1805	1774	0	0	1565
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.71	0.96	0.87	0.25	0.25	0.69
Heavy Vehicles (%)	4%	4%	7%	0%	0%	5%
Adj. Flow (vph)	225	679	293	4	0	145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	904	297	0	0	145
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	38	103	0	15	173
Future Volume (vph)	0	38	103	0	15	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.996
Satd. Flow (prot)	1611	0	1863	0	0	1855
Flt Permitted						0.996
Satd. Flow (perm)	1611	0	1863	0	0	1855
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	41	112	0	16	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	112	0	0	204
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	1	862	320	11	0	0
Future Volume (vph)	1	862	320	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993			
Flt Protected						
Satd. Flow (prot)	0	1827	1731	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1827	1731	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	0.25	0.95	0.86	0.55	0.25	0.25
Heavy Vehicles (%)	0%	4%	8%	27%	0%	0%
Adj. Flow (vph)	4	907	372	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	911	392	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

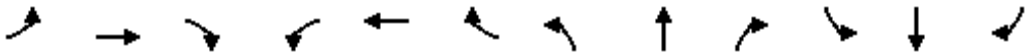
Part Four: PM Turn Common Road into One-Way Street Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	313	21	211	707	7	34	101	181	65	126	8
Future Volume (vph)	2	313	21	211	707	7	34	101	181	65	126	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850		0.991	
Flt Protected		0.999		0.950				0.987			0.985	
Satd. Flow (prot)	0	1880	1538	1805	1832	0	0	1807	1583	0	1843	0
Flt Permitted		0.988		0.950				0.882			0.838	
Satd. Flow (perm)	0	1859	1538	1805	1832	0	0	1615	1583	0	1568	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			139		4				229		6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.50	0.96	0.71	0.91	0.93	0.35	0.71	0.74	0.70	0.89	0.85	0.50
Heavy Vehicles (%)	0%	1%	5%	0%	3%	14%	6%	3%	2%	0%	1%	0%
Adj. Flow (vph)	4	326	30	232	760	20	48	136	259	73	148	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	330	30	232	780	0	0	184	259	0	237	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	20.0	20.0	20.0	16.0	36.0		19.0	19.0		19.0	19.0	
Total Split (%)	36.4%	36.4%	36.4%	29.1%	65.5%		34.5%	34.5%		34.5%	34.5%	
Maximum Green (s)	15.0	15.0	15.0	11.0	31.0		14.0	14.0		14.0	14.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		13.0	13.0	10.0	28.1			14.1	29.1		14.1	
Actuated g/C Ratio		0.25	0.25	0.19	0.54			0.27	0.56		0.27	
v/c Ratio		0.71	0.06	0.67	0.79			0.42	0.26		0.56	
Control Delay		27.8	0.2	31.3	16.9			20.5	2.3		22.9	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		27.8	0.2	31.3	16.9			20.5	2.3		22.9	
LOS		C	A	C	B			C	A		C	
Approach Delay		25.5			20.2			9.9			22.9	
Approach LOS		C			C			A			C	

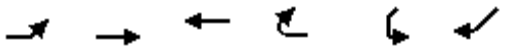
Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 52.2			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 19.2		Intersection LOS: B	
Intersection Capacity Utilization 84.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Future Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.987			0.916			0.952	
Flt Protected		0.989			0.980			0.998			0.989	
Satd. Flow (prot)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Flt Permitted		0.989			0.980			0.998			0.989	
Satd. Flow (perm)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.68	0.77	0.50	0.86	0.77	0.55	0.38	0.62	0.91	0.56	0.56	0.64
Heavy Vehicles (%)	3%	9%	0%	1%	4%	0%	67%	0%	4%	0%	0%	0%
Adj. Flow (vph)	43	132	14	133	157	31	8	56	105	52	93	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	189	0	0	321	0	0	169	0	0	225	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

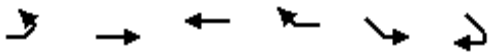


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	87	320	780	3	1	126
Future Volume (vph)	87	320	780	3	1	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			0.865
Flt Protected		0.987			0.950	
Satd. Flow (prot)	0	1835	1861	0	0	1627
Flt Permitted		0.987			0.950	
Satd. Flow (perm)	0	1835	1861	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.70	0.96	0.94	0.38	0.25	0.85
Heavy Vehicles (%)	0%	3%	2%	0%	0%	1%
Adj. Flow (vph)	124	333	830	8	4	148
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	457	838	0	4	148
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization Err%		ICU Level of Service H	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	24	110	0	0	173
Future Volume (vph)	25	24	110	0	0	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934					
Flt Protected	0.975					
Satd. Flow (prot)	1696	0	1863	0	0	1863
Flt Permitted	0.975					
Satd. Flow (perm)	1696	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	26	120	0	0	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	120	0	0	188
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	4	553	936	17	0	0
Future Volume (vph)	4	553	936	17	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997			
Flt Protected						
Satd. Flow (prot)	0	1863	1840	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1840	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	1.00	0.86	0.93	0.85	0.25	0.25
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	4	643	1006	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	647	1026	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.6%		ICU Level of Service A	
Analysis Period (min) 15			

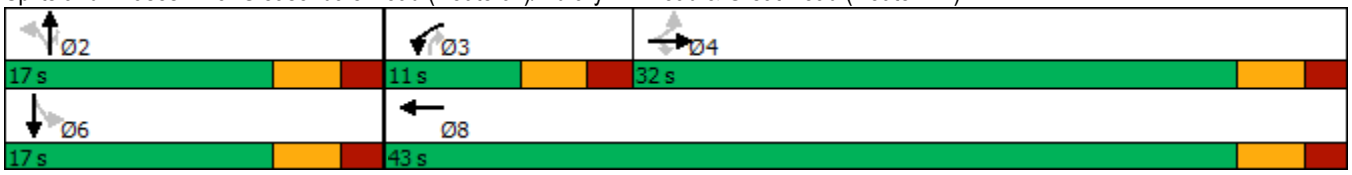
Part Five: AM Add Permissive Left Turn and Turn Common Road into One-Way Street Conditions

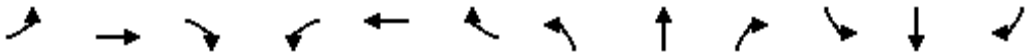
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Future Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850		0.991	
Flt Protected				0.950				0.992		0.950		
Satd. Flow (prot)	0	1827	1442	1641	1776	0	0	1754	1583	1736	1798	0
Flt Permitted		0.998		0.950				0.917		0.664		
Satd. Flow (perm)	0	1824	1442	1641	1776	0	0	1621	1583	1213	1798	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127						161		5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.75	0.97	0.69	0.72	0.83	0.25	0.62	0.82	0.81	0.77	0.50	0.33
Heavy Vehicles (%)	0%	4%	12%	10%	7%	0%	20%	5%	2%	4%	5%	0%
Adj. Flow (vph)	4	654	36	113	276	0	24	122	194	92	196	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	658	36	113	276	0	0	146	194	92	208	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	32.0	32.0	32.0	11.0	43.0		17.0	17.0		17.0	17.0	
Total Split (%)	53.3%	53.3%	53.3%	18.3%	71.7%		28.3%	28.3%		28.3%	28.3%	
Maximum Green (s)	27.0	27.0	27.0	6.0	38.0		12.0	12.0		12.0	12.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		23.9	23.9	6.0	35.0			12.1	23.1	12.1	12.1	
Actuated g/C Ratio		0.42	0.42	0.11	0.61			0.21	0.40	0.21	0.21	
v/c Ratio		0.86	0.05	0.65	0.25			0.43	0.26	0.36	0.54	
Control Delay		28.6	0.2	47.2	5.6			25.3	4.7	25.4	26.8	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		28.6	0.2	47.2	5.6			25.3	4.7	25.4	26.8	
LOS		C	A	D	A			C	A	C	C	
Approach Delay		27.1			17.7			13.6			26.3	
Approach LOS		C			B			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 57.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 22.2		Intersection LOS: C	
Intersection Capacity Utilization 70.8%		ICU Level of Service C	
Analysis Period (min) 15			

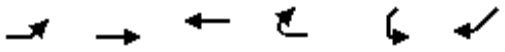
Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Future Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.964			0.921			0.955	
Flt Protected		0.976			0.976			0.999			0.988	
Satd. Flow (prot)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Flt Permitted		0.976			0.976			0.999			0.988	
Satd. Flow (perm)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.59	0.91	0.38	0.84	0.84	0.41	0.25	0.55	0.82	0.38	0.38	0.36
Heavy Vehicles (%)	3%	3%	0%	4%	8%	3%	0%	7%	5%	4%	7%	9%
Adj. Flow (vph)	103	96	8	169	88	93	4	80	117	63	113	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	0	0	350	0	0	201	0	0	265	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.5%		ICU Level of Service A	
Analysis Period (min) 15			

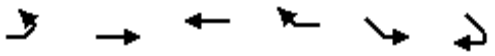


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	160	652	255	1	0	100
Future Volume (vph)	160	652	255	1	0	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998			0.865
Flt Protected		0.988				
Satd. Flow (prot)	0	1805	1774	0	0	1565
Flt Permitted		0.988				
Satd. Flow (perm)	0	1805	1774	0	0	1565
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.71	0.96	0.87	0.25	0.25	0.69
Heavy Vehicles (%)	4%	4%	7%	0%	0%	5%
Adj. Flow (vph)	225	679	293	4	0	145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	904	297	0	0	145
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	38	103	0	15	173
Future Volume (vph)	0	38	103	0	15	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.996
Satd. Flow (prot)	1611	0	1863	0	0	1855
Flt Permitted						0.996
Satd. Flow (perm)	1611	0	1863	0	0	1855
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	41	112	0	16	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	112	0	0	204
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

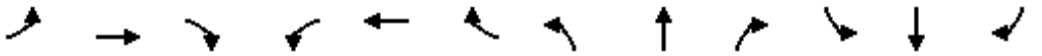
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	1	862	320	11	0	0
Future Volume (vph)	1	862	320	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993			
Flt Protected						
Satd. Flow (prot)	0	1827	1731	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1827	1731	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	0.25	0.95	0.86	0.55	0.25	0.25
Heavy Vehicles (%)	0%	4%	8%	27%	0%	0%
Adj. Flow (vph)	4	907	372	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	911	392	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Part Six: PM Add Permissive Left Turn and Turn Common Road into One-Way Street Conditions

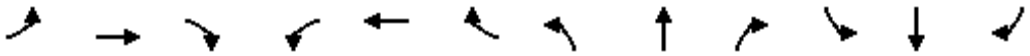


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	313	21	211	707	7	34	101	181	65	126	8
Future Volume (vph)	2	313	21	211	707	7	34	101	181	65	126	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850		0.985	
Flt Protected		0.999		0.950				0.987		0.950		
Satd. Flow (prot)	0	1880	1538	1805	1832	0	0	1807	1583	1805	1855	0
Flt Permitted		0.988		0.950				0.872		0.641		
Satd. Flow (perm)	0	1859	1538	1805	1832	0	0	1596	1583	1218	1855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			139		4				259		9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.50	0.96	0.71	0.91	0.93	0.35	0.71	0.74	0.70	0.89	0.85	0.50
Heavy Vehicles (%)	0%	1%	5%	0%	3%	14%	6%	3%	2%	0%	1%	0%
Adj. Flow (vph)	4	326	30	232	760	20	48	136	259	73	148	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	330	30	232	780	0	0	184	259	73	164	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	22.0	22.0	22.0	16.0	38.0		17.0	17.0		17.0	17.0	
Total Split (%)	40.0%	40.0%	40.0%	29.1%	69.1%		30.9%	30.9%		30.9%	30.9%	
Maximum Green (s)	17.0	17.0	17.0	11.0	33.0		12.0	12.0		12.0	12.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		13.5	13.5	10.0	28.5			12.1	27.1	12.1	12.1	
Actuated g/C Ratio		0.27	0.27	0.20	0.56			0.24	0.53	0.24	0.24	
v/c Ratio		0.67	0.06	0.65	0.76			0.48	0.27	0.25	0.37	
Control Delay		24.0	0.2	30.0	13.9			23.2	2.0	20.1	19.5	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		24.0	0.2	30.0	13.9			23.2	2.0	20.1	19.5	
LOS		C	A	C	B			C	A	C	B	
Approach Delay		22.0			17.6			10.8			19.7	
Approach LOS		C			B			B			B	

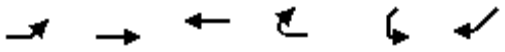
Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 50.7			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Future Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.987			0.916			0.952	
Flt Protected		0.989			0.980			0.998			0.989	
Satd. Flow (prot)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Flt Permitted		0.989			0.980			0.998			0.989	
Satd. Flow (perm)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.68	0.77	0.50	0.86	0.77	0.55	0.38	0.62	0.91	0.56	0.56	0.64
Heavy Vehicles (%)	3%	9%	0%	1%	4%	0%	67%	0%	4%	0%	0%	0%
Adj. Flow (vph)	43	132	14	133	157	31	8	56	105	52	93	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	189	0	0	321	0	0	169	0	0	225	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

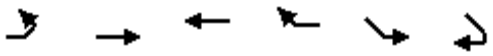


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	87	320	780	3	1	126
Future Volume (vph)	87	320	780	3	1	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			0.865
Flt Protected		0.987			0.950	
Satd. Flow (prot)	0	1835	1861	0	0	1627
Flt Permitted		0.987			0.950	
Satd. Flow (perm)	0	1835	1861	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.70	0.96	0.94	0.38	0.25	0.85
Heavy Vehicles (%)	0%	3%	2%	0%	0%	1%
Adj. Flow (vph)	124	333	830	8	4	148
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	457	838	0	4	148
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization Err%		ICU Level of Service H	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	24	110	0	0	173
Future Volume (vph)	25	24	110	0	0	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934					
Flt Protected	0.975					
Satd. Flow (prot)	1696	0	1863	0	0	1863
Flt Permitted	0.975					
Satd. Flow (perm)	1696	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	26	120	0	0	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	120	0	0	188
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

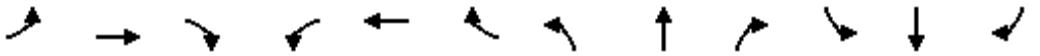
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	4	553	936	17	0	0
Future Volume (vph)	4	553	936	17	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997			
Flt Protected						
Satd. Flow (prot)	0	1863	1840	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1840	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	1.00	0.86	0.93	0.85	0.25	0.25
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	4	643	1006	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	647	1026	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.6%		ICU Level of Service A	
Analysis Period (min) 15			

Part Seven: AM Optimized Existing Intersection with Pedestrian Phase Conditions



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Future Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850		0.995	
Flt Protected				0.950				0.992			0.985	
Satd. Flow (prot)	0	1827	1442	1641	1776	0	0	1754	1583	0	1782	0
Flt Permitted		0.998		0.950				0.926			0.850	
Satd. Flow (perm)	0	1824	1442	1641	1776	0	0	1637	1583	0	1538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91						194		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.75	0.97	0.69	0.72	0.83	0.25	0.62	0.82	0.81	0.77	0.50	0.33
Heavy Vehicles (%)	0%	4%	12%	10%	7%	0%	20%	5%	2%	4%	5%	0%
Adj. Flow (vph)	4	654	36	113	276	0	24	122	194	92	196	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	658	36	113	276	0	0	146	194	0	300	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9

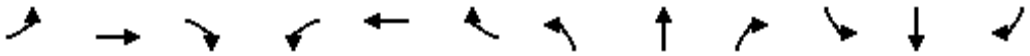
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	47.0	47.0	47.0	13.0	60.0		31.0	31.0		31.0	31.0	
Total Split (%)	39.2%	39.2%	39.2%	10.8%	50.0%		25.8%	25.8%		25.8%	25.8%	
Maximum Green (s)	42.0	42.0	42.0	8.0	55.0		26.0	26.0		26.0	26.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		42.0	42.0	8.0	55.0			26.0	39.0		26.0	
Actuated g/C Ratio		0.46	0.46	0.09	0.60			0.29	0.43		0.29	
v/c Ratio		0.78	0.05	0.78	0.26			0.31	0.25		0.68	
Control Delay		28.8	0.1	76.6	9.2			27.8	3.3		37.8	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		28.8	0.1	76.6	9.2			27.8	3.3		37.8	
LOS		C	A	E	A			C	A		D	
Approach Delay		27.3			28.8			13.8			37.8	
Approach LOS		C			C			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 91			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 26.8		Intersection LOS: C	
Intersection Capacity Utilization 74.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)

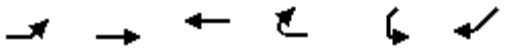
Lane Group	Ø9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	26.0
Minimum Split (s)	29.0
Total Split (s)	29.0
Total Split (%)	24%
Maximum Green (s)	26.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Future Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.964			0.921			0.955	
Flt Protected		0.976			0.976			0.999			0.988	
Satd. Flow (prot)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Flt Permitted		0.976			0.976			0.999			0.988	
Satd. Flow (perm)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.59	0.91	0.38	0.84	0.84	0.41	0.25	0.55	0.82	0.38	0.38	0.36
Heavy Vehicles (%)	3%	3%	0%	4%	8%	3%	0%	7%	5%	4%	7%	9%
Adj. Flow (vph)	103	96	8	169	88	93	4	80	117	63	113	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	0	0	350	0	0	201	0	0	265	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.5%		ICU Level of Service A	
Analysis Period (min) 15			

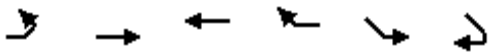


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	160	652	255	1	0	100
Future Volume (vph)	160	652	255	1	0	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998			0.865
Flt Protected		0.988				
Satd. Flow (prot)	0	1805	1774	0	0	1565
Flt Permitted		0.988				
Satd. Flow (perm)	0	1805	1774	0	0	1565
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.71	0.96	0.87	0.25	0.25	0.69
Heavy Vehicles (%)	4%	4%	7%	0%	0%	5%
Adj. Flow (vph)	225	679	293	4	0	145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	904	297	0	0	145
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	38	103	0	15	173
Future Volume (vph)	0	38	103	0	15	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.996
Satd. Flow (prot)	1611	0	1863	0	0	1855
Flt Permitted						0.996
Satd. Flow (perm)	1611	0	1863	0	0	1855
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	41	112	0	16	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	112	0	0	204
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

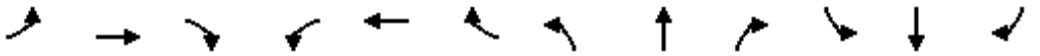
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	1	862	320	11	0	0
Future Volume (vph)	1	862	320	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993			
Flt Protected						
Satd. Flow (prot)	0	1827	1731	0	1900	0
Flt Permitted						
Satd. Flow (perm)	0	1827	1731	0	1900	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	0.25	0.95	0.86	0.55	0.25	0.25
Heavy Vehicles (%)	0%	4%	8%	27%	0%	0%
Adj. Flow (vph)	4	907	372	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	911	392	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Part Eight: PM Optimized Existing Intersection with Pedestrian Phase Conditions



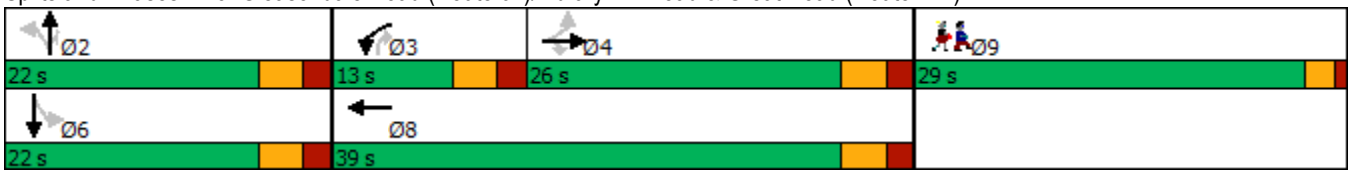
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	313	21	211	707	7	34	101	181	64	126	8
Future Volume (vph)	2	313	21	211	707	7	34	101	181	64	126	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850		0.991	
Flt Protected		0.999		0.950				0.987			0.985	
Satd. Flow (prot)	0	1880	1538	1805	1832	0	0	1807	1583	0	1843	0
Flt Permitted		0.991		0.950				0.883			0.844	
Satd. Flow (perm)	0	1864	1538	1805	1832	0	0	1617	1583	0	1579	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121		2				259		4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.50	0.96	0.71	0.91	0.93	0.35	0.71	0.74	0.70	0.89	0.85	0.50
Heavy Vehicles (%)	0%	1%	5%	0%	3%	14%	6%	3%	2%	0%	1%	0%
Adj. Flow (vph)	4	326	30	232	760	20	48	136	259	72	148	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	330	30	232	780	0	0	184	259	0	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	26.0	26.0	26.0	13.0	39.0		22.0	22.0		22.0	22.0	
Total Split (%)	28.9%	28.9%	28.9%	14.4%	43.3%		24.4%	24.4%		24.4%	24.4%	
Maximum Green (s)	21.0	21.0	21.0	8.0	34.0		17.0	17.0		17.0	17.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		21.0	21.0	8.0	34.0			17.0	30.0		17.0	
Actuated g/C Ratio		0.34	0.34	0.13	0.56			0.28	0.49		0.28	
v/c Ratio		0.51	0.05	0.98	0.76			0.41	0.28		0.53	
Control Delay		19.4	0.1	86.4	16.8			21.3	2.3		23.6	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		19.4	0.1	86.4	16.8			21.3	2.3		23.6	
LOS		B	A	F	B			C	A		C	
Approach Delay		17.8			32.8			10.2			23.6	
Approach LOS		B			C			B			C	

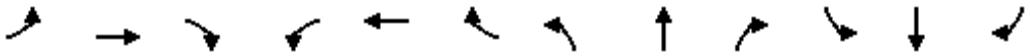
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 61			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 24.2		Intersection LOS: C	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)



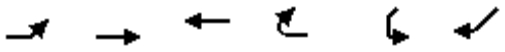
Lane Group	Ø9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	26.0
Minimum Split (s)	29.0
Total Split (s)	29.0
Total Split (%)	32%
Maximum Green (s)	26.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Future Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.987			0.916			0.952	
Flt Protected		0.989			0.980			0.998			0.989	
Satd. Flow (prot)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Flt Permitted		0.989			0.980			0.998			0.989	
Satd. Flow (perm)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.68	0.77	0.50	0.86	0.77	0.55	0.38	0.62	0.91	0.56	0.56	0.64
Heavy Vehicles (%)	3%	9%	0%	1%	4%	0%	67%	0%	4%	0%	0%	0%
Adj. Flow (vph)	43	132	14	133	157	31	8	56	105	52	93	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	189	0	0	321	0	0	169	0	0	225	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

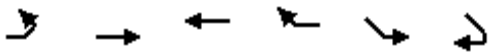


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	87	320	780	3	1	126
Future Volume (vph)	87	320	780	3	1	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			0.865
Flt Protected		0.987			0.950	
Satd. Flow (prot)	0	1835	1861	0	0	1627
Flt Permitted		0.987			0.950	
Satd. Flow (perm)	0	1835	1861	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.70	0.96	0.94	0.38	0.25	0.85
Heavy Vehicles (%)	0%	3%	2%	0%	0%	1%
Adj. Flow (vph)	124	333	830	8	4	148
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	457	838	0	4	148
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization Err%		ICU Level of Service H	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	24	110	0	0	173
Future Volume (vph)	25	24	110	0	0	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934					
Flt Protected	0.975					
Satd. Flow (prot)	1696	0	1863	0	0	1863
Flt Permitted	0.975					
Satd. Flow (perm)	1696	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	26	120	0	0	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	120	0	0	188
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

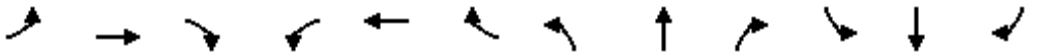
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	4	553	936	17	1	0
Future Volume (vph)	4	553	936	17	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1840	0	1805	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1840	0	1805	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	1.00	0.86	0.93	0.85	0.25	0.25
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	4	643	1006	20	4	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	647	1026	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.3%		ICU Level of Service B	
Analysis Period (min) 15			

Part Nine: AM Add Permissive Left Turn with Pedestrian Phase Conditions



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Future Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850		0.991	
Flt Protected				0.950				0.992		0.950		
Satd. Flow (prot)	0	1827	1442	1641	1776	0	0	1754	1583	1736	1798	0
Flt Permitted		0.998		0.950				0.916		0.664		
Satd. Flow (perm)	0	1824	1442	1641	1776	0	0	1619	1583	1213	1798	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121						194		3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.75	0.97	0.69	0.72	0.83	0.25	0.62	0.82	0.81	0.77	0.50	0.33
Heavy Vehicles (%)	0%	4%	12%	10%	7%	0%	20%	5%	2%	4%	5%	0%
Adj. Flow (vph)	4	654	36	113	276	0	24	122	194	92	196	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	658	36	113	276	0	0	146	194	92	208	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9

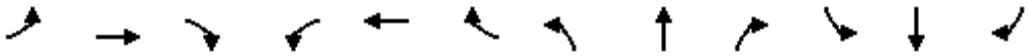
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	33.0	33.0	33.0	11.0	44.0		17.0	17.0		17.0	17.0	
Total Split (%)	36.7%	36.7%	36.7%	12.2%	48.9%		18.9%	18.9%		18.9%	18.9%	
Maximum Green (s)	28.0	28.0	28.0	6.0	39.0		12.0	12.0		12.0	12.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		28.0	28.0	6.0	39.0			12.0	23.0	12.0	12.0	
Actuated g/C Ratio		0.46	0.46	0.10	0.64			0.20	0.38	0.20	0.20	
v/c Ratio		0.79	0.05	0.70	0.24			0.46	0.27	0.39	0.58	
Control Delay		22.8	0.1	52.8	5.4			27.1	3.5	26.9	29.5	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		22.8	0.1	52.8	5.4			27.1	3.5	26.9	29.5	
LOS		C	A	D	A			C	A	C	C	
Approach Delay		21.6			19.2			13.6			28.7	
Approach LOS		C			B			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 61			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 20.7		Intersection LOS: C	
Intersection Capacity Utilization 70.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)

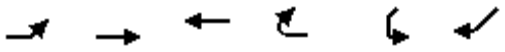
Lane Group	Ø9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	26.0
Minimum Split (s)	29.0
Total Split (s)	29.0
Total Split (%)	32%
Maximum Green (s)	26.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Future Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.964			0.921			0.955	
Flt Protected		0.976			0.976			0.999			0.988	
Satd. Flow (prot)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Flt Permitted		0.976			0.976			0.999			0.988	
Satd. Flow (perm)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.59	0.91	0.38	0.84	0.84	0.41	0.25	0.55	0.82	0.38	0.38	0.36
Heavy Vehicles (%)	3%	3%	0%	4%	8%	3%	0%	7%	5%	4%	7%	9%
Adj. Flow (vph)	103	96	8	169	88	93	4	80	117	63	113	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	0	0	350	0	0	201	0	0	265	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.5%		ICU Level of Service A	
Analysis Period (min) 15			

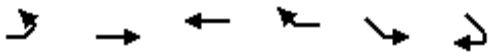


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	160	652	255	1	0	100
Future Volume (vph)	160	652	255	1	0	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998			0.865
Flt Protected		0.988				
Satd. Flow (prot)	0	1805	1774	0	0	1565
Flt Permitted		0.988				
Satd. Flow (perm)	0	1805	1774	0	0	1565
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.71	0.96	0.87	0.25	0.25	0.69
Heavy Vehicles (%)	4%	4%	7%	0%	0%	5%
Adj. Flow (vph)	225	679	293	4	0	145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	904	297	0	0	145
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	38	103	0	15	173
Future Volume (vph)	0	38	103	0	15	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.996
Satd. Flow (prot)	1611	0	1863	0	0	1855
Flt Permitted						0.996
Satd. Flow (perm)	1611	0	1863	0	0	1855
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	41	112	0	16	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	112	0	0	204
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

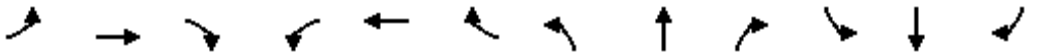
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	1	862	320	11	0	0
Future Volume (vph)	1	862	320	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993			
Flt Protected						
Satd. Flow (prot)	0	1827	1731	0	1900	0
Flt Permitted						
Satd. Flow (perm)	0	1827	1731	0	1900	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	0.25	0.95	0.86	0.55	0.25	0.25
Heavy Vehicles (%)	0%	4%	8%	27%	0%	0%
Adj. Flow (vph)	4	907	372	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	911	392	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Part Ten: PM Add Permissive Left Turn with Pedestrian Phase Conditions



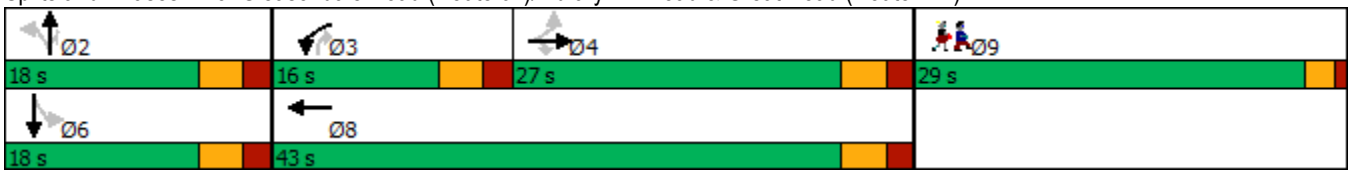
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	313	21	211	707	7	34	101	181	64	126	8
Future Volume (vph)	2	313	21	211	707	7	34	101	181	64	126	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850		0.985	
Flt Protected		0.999		0.950				0.987		0.950		
Satd. Flow (prot)	0	1880	1538	1805	1832	0	0	1807	1583	1805	1855	0
Flt Permitted		0.991		0.950				0.870		0.620		
Satd. Flow (perm)	0	1864	1538	1805	1832	0	0	1593	1583	1178	1855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121		2				259		5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.50	0.96	0.71	0.91	0.93	0.35	0.71	0.74	0.70	0.89	0.85	0.50
Heavy Vehicles (%)	0%	1%	5%	0%	3%	14%	6%	3%	2%	0%	1%	0%
Adj. Flow (vph)	4	326	30	232	760	20	48	136	259	72	148	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	330	30	232	780	0	0	184	259	72	164	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	27.0	27.0	27.0	16.0	43.0		18.0	18.0		18.0	18.0	
Total Split (%)	30.0%	30.0%	30.0%	17.8%	47.8%		20.0%	20.0%		20.0%	20.0%	
Maximum Green (s)	22.0	22.0	22.0	11.0	38.0		13.0	13.0		13.0	13.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		21.8	21.8	11.0	37.8			13.0	29.0	13.0	13.0	
Actuated g/C Ratio		0.36	0.36	0.18	0.62			0.21	0.48	0.21	0.21	
v/c Ratio		0.49	0.05	0.71	0.68			0.54	0.29	0.29	0.41	
Control Delay		18.3	0.1	38.0	11.5			28.1	2.4	23.8	23.7	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		18.3	0.1	38.0	11.5			28.1	2.4	23.8	23.7	
LOS		B	A	D	B			C	A	C	C	
Approach Delay		16.8			17.6			13.1			23.7	
Approach LOS		B			B			B			C	

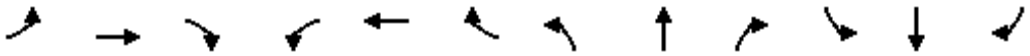
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 60.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 17.2		Intersection LOS: B	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)



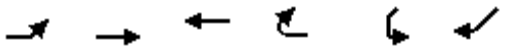
Lane Group	Ø9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	26.0
Minimum Split (s)	29.0
Total Split (s)	29.0
Total Split (%)	32%
Maximum Green (s)	26.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Future Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.987			0.916			0.952	
Flt Protected		0.989			0.980			0.998			0.989	
Satd. Flow (prot)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Flt Permitted		0.989			0.980			0.998			0.989	
Satd. Flow (perm)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.68	0.77	0.50	0.86	0.77	0.55	0.38	0.62	0.91	0.56	0.56	0.64
Heavy Vehicles (%)	3%	9%	0%	1%	4%	0%	67%	0%	4%	0%	0%	0%
Adj. Flow (vph)	43	132	14	133	157	31	8	56	105	52	93	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	189	0	0	321	0	0	169	0	0	225	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

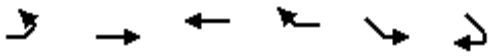


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	87	320	780	3	1	126
Future Volume (vph)	87	320	780	3	1	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			0.865
Flt Protected		0.987			0.950	
Satd. Flow (prot)	0	1835	1861	0	0	1627
Flt Permitted		0.987			0.950	
Satd. Flow (perm)	0	1835	1861	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.70	0.96	0.94	0.38	0.25	0.85
Heavy Vehicles (%)	0%	3%	2%	0%	0%	1%
Adj. Flow (vph)	124	333	830	8	4	148
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	457	838	0	4	148
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization Err%		ICU Level of Service H	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	24	110	0	0	173
Future Volume (vph)	25	24	110	0	0	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934					
Flt Protected	0.975					
Satd. Flow (prot)	1696	0	1863	0	0	1863
Flt Permitted	0.975					
Satd. Flow (perm)	1696	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	26	120	0	0	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	120	0	0	188
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

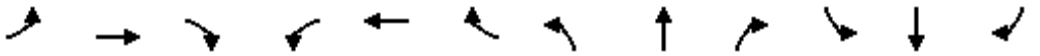
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	4	553	936	17	1	0
Future Volume (vph)	4	553	936	17	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1840	0	1805	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1840	0	1805	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	1.00	0.86	0.93	0.85	0.25	0.25
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	4	643	1006	20	4	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	647	1026	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.3%		ICU Level of Service B	
Analysis Period (min) 15			

Part Eleven: AM Turn Common Road into One-Way Street with Pedestrian Phase Conditions



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Future Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850		0.995	
Flt Protected				0.950				0.992			0.985	
Satd. Flow (prot)	0	1827	1442	1641	1776	0	0	1754	1583	0	1782	0
Flt Permitted		0.998		0.950				0.926			0.850	
Satd. Flow (perm)	0	1824	1442	1641	1776	0	0	1637	1583	0	1538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91						194		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.75	0.97	0.69	0.72	0.83	0.25	0.62	0.82	0.81	0.77	0.50	0.33
Heavy Vehicles (%)	0%	4%	12%	10%	7%	0%	20%	5%	2%	4%	5%	0%
Adj. Flow (vph)	4	654	36	113	276	0	24	122	194	92	196	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	658	36	113	276	0	0	146	194	0	300	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9

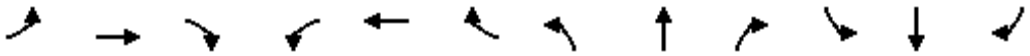
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	47.0	47.0	47.0	13.0	60.0		31.0	31.0		31.0	31.0	
Total Split (%)	39.2%	39.2%	39.2%	10.8%	50.0%		25.8%	25.8%		25.8%	25.8%	
Maximum Green (s)	42.0	42.0	42.0	8.0	55.0		26.0	26.0		26.0	26.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		42.0	42.0	8.0	55.0			26.0	39.0		26.0	
Actuated g/C Ratio		0.46	0.46	0.09	0.60			0.29	0.43		0.29	
v/c Ratio		0.78	0.05	0.78	0.26			0.31	0.25		0.68	
Control Delay		28.8	0.1	76.6	9.2			27.8	3.3		37.8	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		28.8	0.1	76.6	9.2			27.8	3.3		37.8	
LOS		C	A	E	A			C	A		D	
Approach Delay		27.3			28.8			13.8			37.8	
Approach LOS		C			C			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 91			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 26.8		Intersection LOS: C	
Intersection Capacity Utilization 74.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)

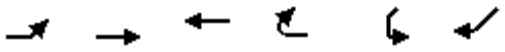
Lane Group	Ø9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	26.0
Minimum Split (s)	29.0
Total Split (s)	29.0
Total Split (%)	24%
Maximum Green (s)	26.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Future Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.964			0.921			0.955	
Flt Protected		0.976			0.976			0.999			0.988	
Satd. Flow (prot)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Flt Permitted		0.976			0.976			0.999			0.988	
Satd. Flow (perm)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.59	0.91	0.38	0.84	0.84	0.41	0.25	0.55	0.82	0.38	0.38	0.36
Heavy Vehicles (%)	3%	3%	0%	4%	8%	3%	0%	7%	5%	4%	7%	9%
Adj. Flow (vph)	103	96	8	169	88	93	4	80	117	63	113	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	0	0	350	0	0	201	0	0	265	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.5%		ICU Level of Service A	
Analysis Period (min) 15			

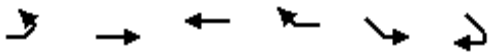


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	160	652	255	1	0	100
Future Volume (vph)	160	652	255	1	0	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998			0.865
Flt Protected		0.988				
Satd. Flow (prot)	0	1805	1774	0	0	1565
Flt Permitted		0.988				
Satd. Flow (perm)	0	1805	1774	0	0	1565
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.71	0.96	0.87	0.25	0.25	0.69
Heavy Vehicles (%)	4%	4%	7%	0%	0%	5%
Adj. Flow (vph)	225	679	293	4	0	145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	904	297	0	0	145
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	38	103	0	15	173
Future Volume (vph)	0	38	103	0	15	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.996
Satd. Flow (prot)	1611	0	1863	0	0	1855
Flt Permitted						0.996
Satd. Flow (perm)	1611	0	1863	0	0	1855
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	41	112	0	16	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	112	0	0	204
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

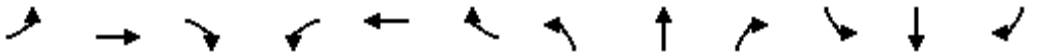
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	1	862	320	11	0	0
Future Volume (vph)	1	862	320	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993			
Flt Protected						
Satd. Flow (prot)	0	1827	1731	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1827	1731	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	0.25	0.95	0.86	0.55	0.25	0.25
Heavy Vehicles (%)	0%	4%	8%	27%	0%	0%
Adj. Flow (vph)	4	907	372	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	911	392	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Part Twelve: PM Turn Common Road into One-Way Street with Pedestrian Phase Conditions



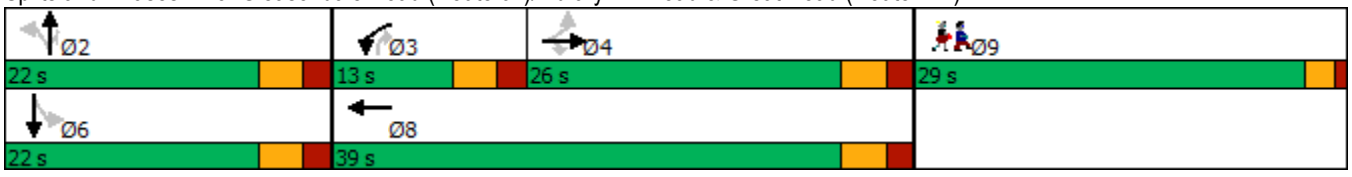
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	313	21	211	707	7	34	101	181	65	126	8
Future Volume (vph)	2	313	21	211	707	7	34	101	181	65	126	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850		0.991	
Flt Protected		0.999		0.950				0.987			0.985	
Satd. Flow (prot)	0	1880	1538	1805	1832	0	0	1807	1583	0	1843	0
Flt Permitted		0.991		0.950				0.882			0.843	
Satd. Flow (perm)	0	1864	1538	1805	1832	0	0	1615	1583	0	1577	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121		2				259		4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.50	0.96	0.71	0.91	0.93	0.35	0.71	0.74	0.70	0.89	0.85	0.50
Heavy Vehicles (%)	0%	1%	5%	0%	3%	14%	6%	3%	2%	0%	1%	0%
Adj. Flow (vph)	4	326	30	232	760	20	48	136	259	73	148	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	330	30	232	780	0	0	184	259	0	237	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	26.0	26.0	26.0	13.0	39.0		22.0	22.0		22.0	22.0	
Total Split (%)	28.9%	28.9%	28.9%	14.4%	43.3%		24.4%	24.4%		24.4%	24.4%	
Maximum Green (s)	21.0	21.0	21.0	8.0	34.0		17.0	17.0		17.0	17.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Act Effct Green (s)		21.0	21.0	8.0	34.0			17.0	30.0		17.0	
Actuated g/C Ratio		0.34	0.34	0.13	0.56			0.28	0.49		0.28	
v/c Ratio		0.51	0.05	0.98	0.76			0.41	0.28		0.54	
Control Delay		19.4	0.1	86.4	16.8			21.3	2.3		23.6	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		19.4	0.1	86.4	16.8			21.3	2.3		23.6	
LOS		B	A	F	B			C	A		C	
Approach Delay		17.8			32.8			10.2			23.6	
Approach LOS		B			C			B			C	

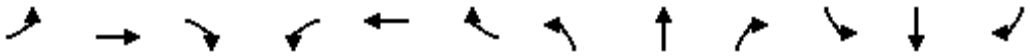
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 61			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 24.2		Intersection LOS: C	
Intersection Capacity Utilization 84.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)



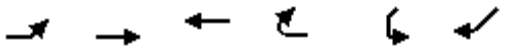
Lane Group	Ø9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	26.0
Minimum Split (s)	29.0
Total Split (s)	29.0
Total Split (%)	32%
Maximum Green (s)	26.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Future Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.987			0.916			0.952	
Flt Protected		0.989			0.980			0.998			0.989	
Satd. Flow (prot)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Flt Permitted		0.989			0.980			0.998			0.989	
Satd. Flow (perm)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.68	0.77	0.50	0.86	0.77	0.55	0.38	0.62	0.91	0.56	0.56	0.64
Heavy Vehicles (%)	3%	9%	0%	1%	4%	0%	67%	0%	4%	0%	0%	0%
Adj. Flow (vph)	43	132	14	133	157	31	8	56	105	52	93	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	189	0	0	321	0	0	169	0	0	225	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

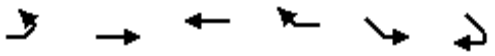


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	87	320	780	3	1	126
Future Volume (vph)	87	320	780	3	1	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			0.865
Flt Protected		0.987			0.950	
Satd. Flow (prot)	0	1835	1861	0	0	1627
Flt Permitted		0.987			0.950	
Satd. Flow (perm)	0	1835	1861	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.70	0.96	0.94	0.38	0.25	0.85
Heavy Vehicles (%)	0%	3%	2%	0%	0%	1%
Adj. Flow (vph)	124	333	830	8	4	148
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	457	838	0	4	148
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization Err%		ICU Level of Service H	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	24	110	0	0	173
Future Volume (vph)	25	24	110	0	0	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934					
Flt Protected	0.975					
Satd. Flow (prot)	1696	0	1863	0	0	1863
Flt Permitted	0.975					
Satd. Flow (perm)	1696	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	26	120	0	0	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	120	0	0	188
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

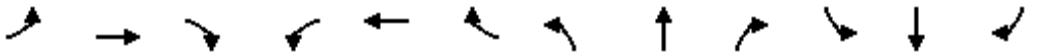
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	4	553	936	17	0	0
Future Volume (vph)	4	553	936	17	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997			
Flt Protected						
Satd. Flow (prot)	0	1863	1840	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1840	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	1.00	0.86	0.93	0.85	0.25	0.25
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	4	643	1006	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	647	1026	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.6%		ICU Level of Service A	
Analysis Period (min) 15			

Part Thirteen: AM Add Permissive Left Turn and Turn Common Road into One-Way Street with Pedestrian Phase Conditions



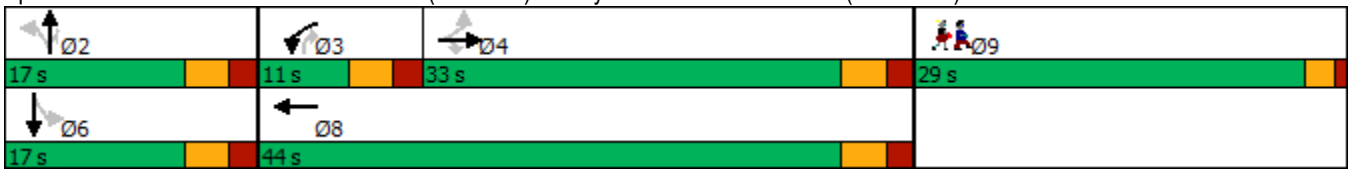
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Future Volume (vph)	3	634	25	81	229	0	15	100	157	71	98	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850		0.991	
Flt Protected				0.950				0.992		0.950		
Satd. Flow (prot)	0	1827	1442	1641	1776	0	0	1754	1583	1736	1798	0
Flt Permitted		0.998		0.950				0.901		0.663		
Satd. Flow (perm)	0	1824	1442	1641	1776	0	0	1593	1583	1211	1798	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121						194		3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.75	0.97	0.69	0.72	0.83	0.25	0.62	0.82	0.81	0.77	0.50	0.33
Heavy Vehicles (%)	0%	4%	12%	10%	7%	0%	20%	5%	2%	4%	5%	0%
Adj. Flow (vph)	4	654	36	113	276	0	24	122	194	92	196	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	658	36	113	276	0	0	146	194	92	208	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	33.0	33.0	33.0	11.0	44.0		17.0	17.0		17.0	17.0	
Total Split (%)	36.7%	36.7%	36.7%	12.2%	48.9%		18.9%	18.9%		18.9%	18.9%	
Maximum Green (s)	28.0	28.0	28.0	6.0	39.0		12.0	12.0		12.0	12.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		28.7	28.7	6.1	40.0			12.3	23.6	12.3	12.3	
Actuated g/C Ratio		0.43	0.43	0.09	0.60			0.18	0.35	0.18	0.18	
v/c Ratio		0.84	0.05	0.75	0.26			0.50	0.28	0.41	0.62	
Control Delay		31.5	0.2	63.9	9.6			34.6	5.0	34.2	37.5	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		31.5	0.2	63.9	9.6			34.6	5.0	34.2	37.5	
LOS		C	A	E	A			C	A	C	D	
Approach Delay		29.9			25.3			17.7			36.4	
Approach LOS		C			C			B			D	

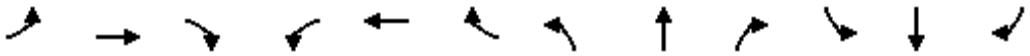
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 66.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 27.6		Intersection LOS: C	
Intersection Capacity Utilization 70.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)



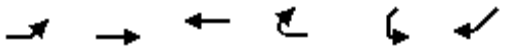
Lane Group	Ø9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	26.0
Minimum Split (s)	29.0
Total Split (s)	29.0
Total Split (%)	32%
Maximum Green (s)	26.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Future Volume (vph)	61	87	3	142	74	38	1	44	96	24	43	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.964			0.921			0.955	
Flt Protected		0.976			0.976			0.999			0.988	
Satd. Flow (prot)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Flt Permitted		0.976			0.976			0.999			0.988	
Satd. Flow (perm)	0	1793	0	0	1707	0	0	1654	0	0	1676	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.59	0.91	0.38	0.84	0.84	0.41	0.25	0.55	0.82	0.38	0.38	0.36
Heavy Vehicles (%)	3%	3%	0%	4%	8%	3%	0%	7%	5%	4%	7%	9%
Adj. Flow (vph)	103	96	8	169	88	93	4	80	117	63	113	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	0	0	350	0	0	201	0	0	265	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.5%		ICU Level of Service A	
Analysis Period (min) 15			

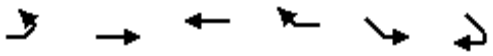


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	160	652	255	1	0	100
Future Volume (vph)	160	652	255	1	0	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998			0.865
Flt Protected		0.988				
Satd. Flow (prot)	0	1805	1774	0	0	1565
Flt Permitted		0.988				
Satd. Flow (perm)	0	1805	1774	0	0	1565
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.71	0.96	0.87	0.25	0.25	0.69
Heavy Vehicles (%)	4%	4%	7%	0%	0%	5%
Adj. Flow (vph)	225	679	293	4	0	145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	904	297	0	0	145
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	38	103	0	15	173
Future Volume (vph)	0	38	103	0	15	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.996
Satd. Flow (prot)	1611	0	1863	0	0	1855
Flt Permitted						0.996
Satd. Flow (perm)	1611	0	1863	0	0	1855
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	41	112	0	16	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	112	0	0	204
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

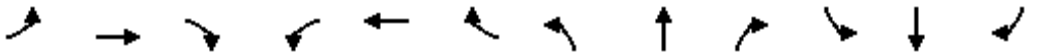
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	1	862	320	11	0	0
Future Volume (vph)	1	862	320	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993			
Flt Protected						
Satd. Flow (prot)	0	1827	1731	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1827	1731	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	0.25	0.95	0.86	0.55	0.25	0.25
Heavy Vehicles (%)	0%	4%	8%	27%	0%	0%
Adj. Flow (vph)	4	907	372	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	911	392	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Part Fourteen: PM Add Permissive Left Turn and Turn Common Road into One-Way Street with Pedestrian Phase Conditions



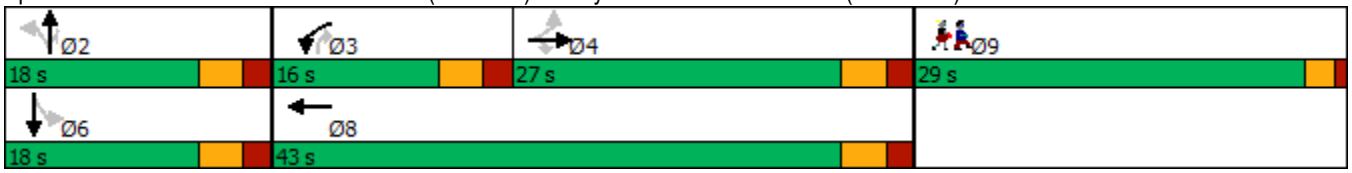
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	313	21	211	707	7	34	101	181	65	126	8
Future Volume (vph)	2	313	21	211	707	7	34	101	181	65	126	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850		0.985	
Flt Protected		0.999		0.950				0.987		0.950		
Satd. Flow (prot)	0	1880	1538	1805	1832	0	0	1807	1583	1805	1855	0
Flt Permitted		0.991		0.950				0.867		0.578		
Satd. Flow (perm)	0	1864	1538	1805	1832	0	0	1587	1583	1098	1855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121		2				259		5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		588			581			410			167	
Travel Time (s)		13.4			13.2			9.3			3.8	
Peak Hour Factor	0.50	0.96	0.71	0.91	0.93	0.35	0.71	0.74	0.70	0.89	0.85	0.50
Heavy Vehicles (%)	0%	1%	5%	0%	3%	14%	6%	3%	2%	0%	1%	0%
Adj. Flow (vph)	4	326	30	232	760	20	48	136	259	73	148	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	330	30	232	780	0	0	184	259	73	164	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	custom	Perm	NA	
Protected Phases		4		3	8			2			6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4		8		2		2 3	6		
Detector Phase	4	4	4	3	8		2	2	2 3	6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	27.0	27.0	27.0	16.0	43.0		18.0	18.0		18.0	18.0	
Total Split (%)	30.0%	30.0%	30.0%	17.8%	47.8%		20.0%	20.0%		20.0%	20.0%	
Maximum Green (s)	22.0	22.0	22.0	11.0	38.0		13.0	13.0		13.0	13.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		22.3	22.3	11.3	38.7			13.3	29.7	13.3	13.3	
Actuated g/C Ratio		0.33	0.33	0.17	0.58			0.20	0.45	0.20	0.20	
v/c Ratio		0.53	0.05	0.76	0.73			0.58	0.30	0.33	0.44	
Control Delay		24.2	0.1	47.1	18.7			36.0	3.7	31.3	29.5	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		24.2	0.1	47.1	18.7			36.0	3.7	31.3	29.5	
LOS		C	A	D	B			D	A	C	C	
Approach Delay		22.2			25.2			17.1			30.1	
Approach LOS		C			C			B			C	

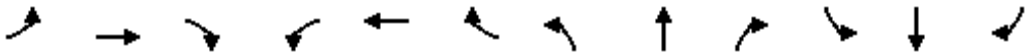
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 66.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 23.5		Intersection LOS: C	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Gleasondale Road (Route 62)/Library Hill Road & Great Road (Route 117)



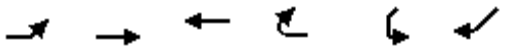
Lane Group	Ø9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	26.0
Minimum Split (s)	29.0
Total Split (s)	29.0
Total Split (%)	32%
Maximum Green (s)	26.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Future Volume (vph)	29	102	7	114	121	17	3	35	96	29	52	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.987			0.916			0.952	
Flt Protected		0.989			0.980			0.998			0.989	
Satd. Flow (prot)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Flt Permitted		0.989			0.980			0.998			0.989	
Satd. Flow (perm)	0	1739	0	0	1795	0	0	1644	0	0	1789	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			543			114			298	
Travel Time (s)		12.8			12.3			2.6			6.8	
Peak Hour Factor	0.68	0.77	0.50	0.86	0.77	0.55	0.38	0.62	0.91	0.56	0.56	0.64
Heavy Vehicles (%)	3%	9%	0%	1%	4%	0%	67%	0%	4%	0%	0%	0%
Adj. Flow (vph)	43	132	14	133	157	31	8	56	105	52	93	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	189	0	0	321	0	0	169	0	0	225	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

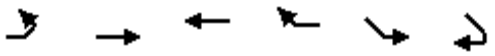


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	87	320	780	3	1	126
Future Volume (vph)	87	320	780	3	1	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			0.865
Flt Protected		0.987			0.950	
Satd. Flow (prot)	0	1835	1861	0	0	1627
Flt Permitted		0.987			0.950	
Satd. Flow (perm)	0	1835	1861	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		225	588		563	
Travel Time (s)		5.1	13.4		12.8	
Peak Hour Factor	0.70	0.96	0.94	0.38	0.25	0.85
Heavy Vehicles (%)	0%	3%	2%	0%	0%	1%
Adj. Flow (vph)	124	333	830	8	4	148
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	457	838	0	4	148
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization Err%		ICU Level of Service H	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	24	110	0	0	173
Future Volume (vph)	25	24	110	0	0	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934					
Flt Protected	0.975					
Satd. Flow (prot)	1696	0	1863	0	0	1863
Flt Permitted	0.975					
Satd. Flow (perm)	1696	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	666		167			114
Travel Time (s)	15.1		3.8			2.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	26	120	0	0	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	120	0	0	188
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	4	553	936	17	0	0
Future Volume (vph)	4	553	936	17	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997			
Flt Protected						
Satd. Flow (prot)	0	1863	1840	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1840	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	351		666	
Travel Time (s)		13.2	8.0		15.1	
Peak Hour Factor	1.00	0.86	0.93	0.85	0.25	0.25
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	4	643	1006	20	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	647	1026	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.6%		ICU Level of Service A	
Analysis Period (min) 15			