

**Section 5.0**  
**Traffic Information**

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## 10.0 TRANSPORTATION

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MDM Transportation Consultants, Inc. (MDM) has prepared an evaluation of transportation impacts for the proposed evaluation for the expansion of the existing Exelon Generating Station to be located adjacent to the existing station located at 9 Summer Street (Route 126) Medway, Massachusetts. Specifically, the evaluation (a) documented existing traffic conditions along major roadways providing access to the site; (b) estimated traffic generation characteristics of the Proposed Project under peak operating conditions and during peak construction; (c) provided a qualitative assessment of traffic impacts relative to existing conditions; and (d) identified access improvements and on-site circulation/traffic management improvements, and a construction traffic management plan that supports the proposed operational needs of the Proposed Project while minimizing impact to adjacent roadways.

As demonstrated in the sections below, key findings of the traffic impact assessment are as follows with the technical data included in Attachment G:

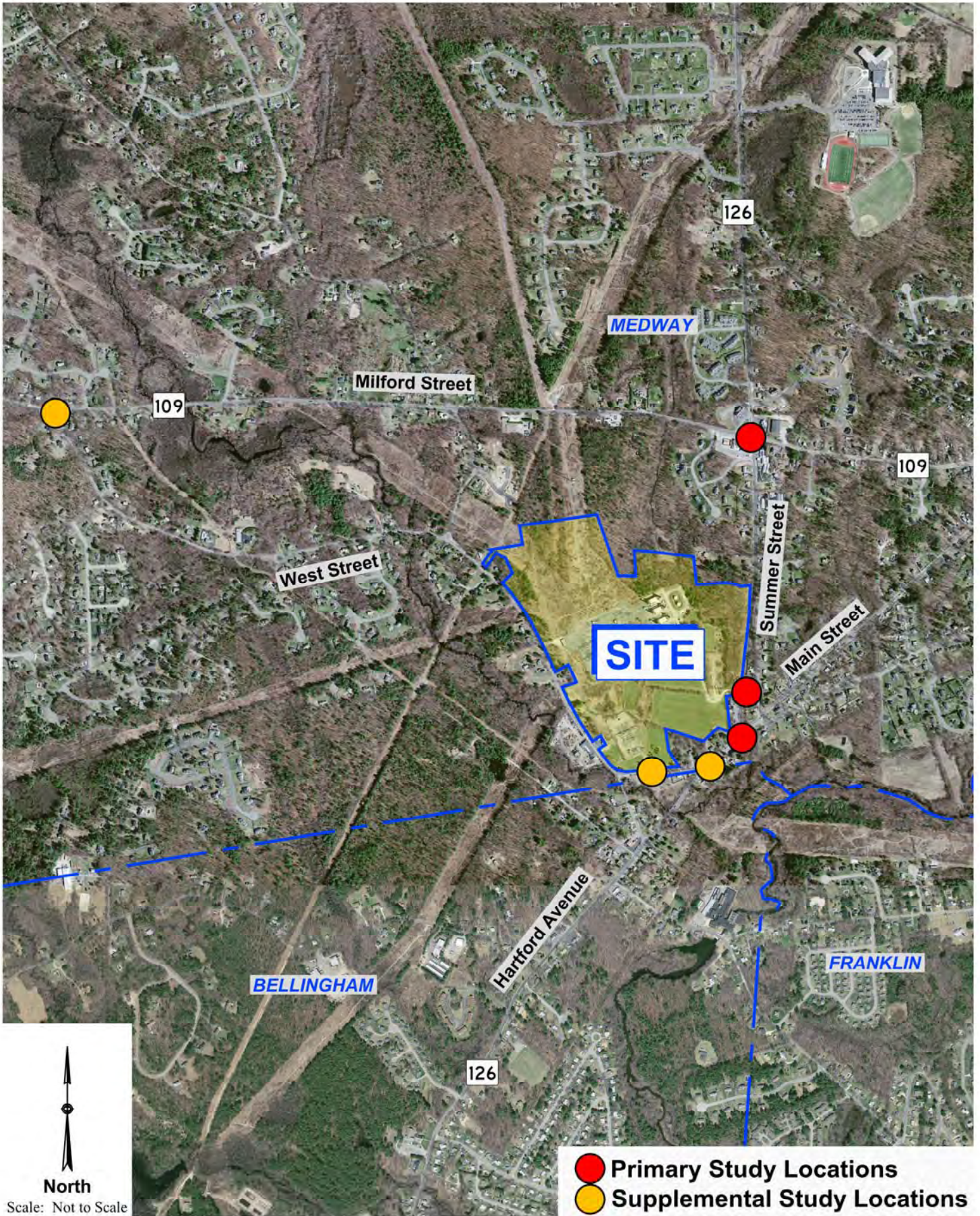
- ◆ *Baseline Traffic Characteristics.* Summer Street in the immediate study area carries approximately 7,885 vpd with 710 vehicles during the peak hour which represents 9% of the daily traffic volumes. West Street in the immediate study area is a low volume roadway that carries approximately 880 vehicles per day (“vpd”) with up to 98 vehicles during the peak hour which represents approximately 11% of the daily traffic volumes.
- ◆ *Nominal Trip Generation.* Under a worst case operational scenario with both the existing and proposed facilities experiencing peak operating conditions, the Site would generate 8 truck trips per hour (4 entering and 4 exiting trips) and approximately 176 truck trips per day (approximately 88 entering and 88 exiting). This anticipates that six trucks per hour would be delivering fuel to both the existing station and the Proposed Project. This theoretical “worst case” operating scenario assumes that both the existing station and the Proposed Project will be operating simultaneously at 100% burn rate on all units exclusively using oil as fuel. However, these conditions have never previously been observed at the existing Summer Street site.
- ◆ *Adequate Capacity.* Traffic impacts from operation of the Proposed Project will be nominal, even under a hypothetical worst case operational scenario with both the existing and proposed facilities experiencing peak operating conditions. The resulting truck trips would be approximately 1 directional trip every 15 minutes under worst case operations for both the existing station and proposed Project simultaneously which would have a nominal impact to traffic operations and thus no additional roadway improvements are warranted.
- ◆ *Adequate Sight Lines.* The sight lines from the proposed driveway locations exceed industry standards to allow safe vehicle exits, and no additional countermeasures are warranted (other than maintenance of existing conditions.)

- ◆ *Established Truck Routes.* Truck trips associated with replenishment of fuel supplies (oil) at the site will originate from Providence, RI. As a result, trucks destined to/from the Project will solely use I-495 to/ from the south and Route 126 to/from the west. These roadways are well established commercial truck routes, and provide the most direct and efficient means of travel to the Site.
- ◆ *Adequate On-Site Circulation.* Several on-site improvements were identified and incorporated into the site plan set in order to improve both site access/egress and on-site traffic circulation.
- ◆ *Construction Activity.* The preferred parking area for construction workers is at an existing material lay-down-lot in the southern portion of the Site along West Street. This preferred parking area which is primarily grass will be re-enforced with gravel, stone, or similar material during the construction period to facilitate construction employee parking. Upon completion of the construction, the material lay-down-lot will be restored with loam and seed. No additional improvements are needed for any of the construction entrances. Construction traffic would be adequately accommodated at all study intersections ("LOS D" or better operations are expected) during peak traffic hours. In practice, actual construction traffic will occur during off-peak hours, and impacts will therefore be considerably lower than analyzed.

In summary, the study found that there will be adequate capacity along Summer Street and at the study intersections to accommodate the Project. Incremental traffic increases at the study intersections due to the Project generally result in inconsequential changes in intersection operations compared to No-Build conditions. Therefore, no additional off-site roadway improvements are warranted to accommodate the Project. Recommended access improvements, on-site circulation/traffic management improvements, and a construction traffic management plan will support the proposed operational needs of the Project while minimizing on-site and adjacent roadway impacts. American Association of State Highway and Transportation Officials' ("AASHTO") criteria for stopping sight distance and intersection sight distance for the ambient travel speeds are satisfied at the site driveway intersections with Summer Street and West Street.

## 10.1 Project Description

The existing Exelon station contains a 135-megawatt (MW) power station on +/- 65 acres land using six (6) combustion turbine units located at the 9 Summer Street in Medway, Massachusetts. Currently, Exelon has approximately twelve (12) workers at the Site between the hours of 7:00 am and 3:00 pm and two (2) employees between the hours of 3:00 pm and 11:00 pm. The Site in relation to the regional transportation system is shown in Figure 10-1.



West Medway II

Medway, Massachusetts

The proposed expansion will include an adjacent 200-megawatt (MW) power station that consists of 2 dual-fuel generating units with oil backup. The Project will primarily use natural gas fuel to generate power which would be piped to the Site via a natural gas pipeline. As a backup fuel, the Project will also use ULSD which would be stored in an on-site 1,000,000 gallon storage tank. The fuel oil will be trucked to the Site to replenish the storage tank using 9,000 gallon fuel trucks via established commercial truck routes including I-495 and Route 126. In addition to these trips, occasional truck trips (several per week) may be generated to remove wastewater and replace demineralized water trailers. Water will be delivered to the Project via pipeline which will be used for emissions reduction purposes. Water demand is estimate to be used at a rate of 47,500 gallons per day with two on-site water storage tanks planned with a combined capacity of 950,000 gallons of water storage.

The existing station will continue to operate as a peaking station with an expanded capacity to generate 335 MW. The Project will accept fuel deliveries 22 hours per day with no fuel deliveries during the roadway peak hours, with the bulk of the deliveries on weekdays from 7:00 am to 3:00 pm. Projected on-site employment for the proposed Project is 6 additional employees, generally working the 7:00 am to 3:00 pm shift. The proposed shifts are designed to avoid peak traffic periods on area roadways with employees generally arriving prior to 7:00 am and exiting prior to 4:00 pm. A conceptual site plan prepared by HDR, Inc. is shown in Figure 10-2 for reference purposes.

## 10.2 Baseline Conditions

An overview of baseline roadway conditions, traffic volumes, safety characteristics, and public transportation facilities serving the area is provided below.

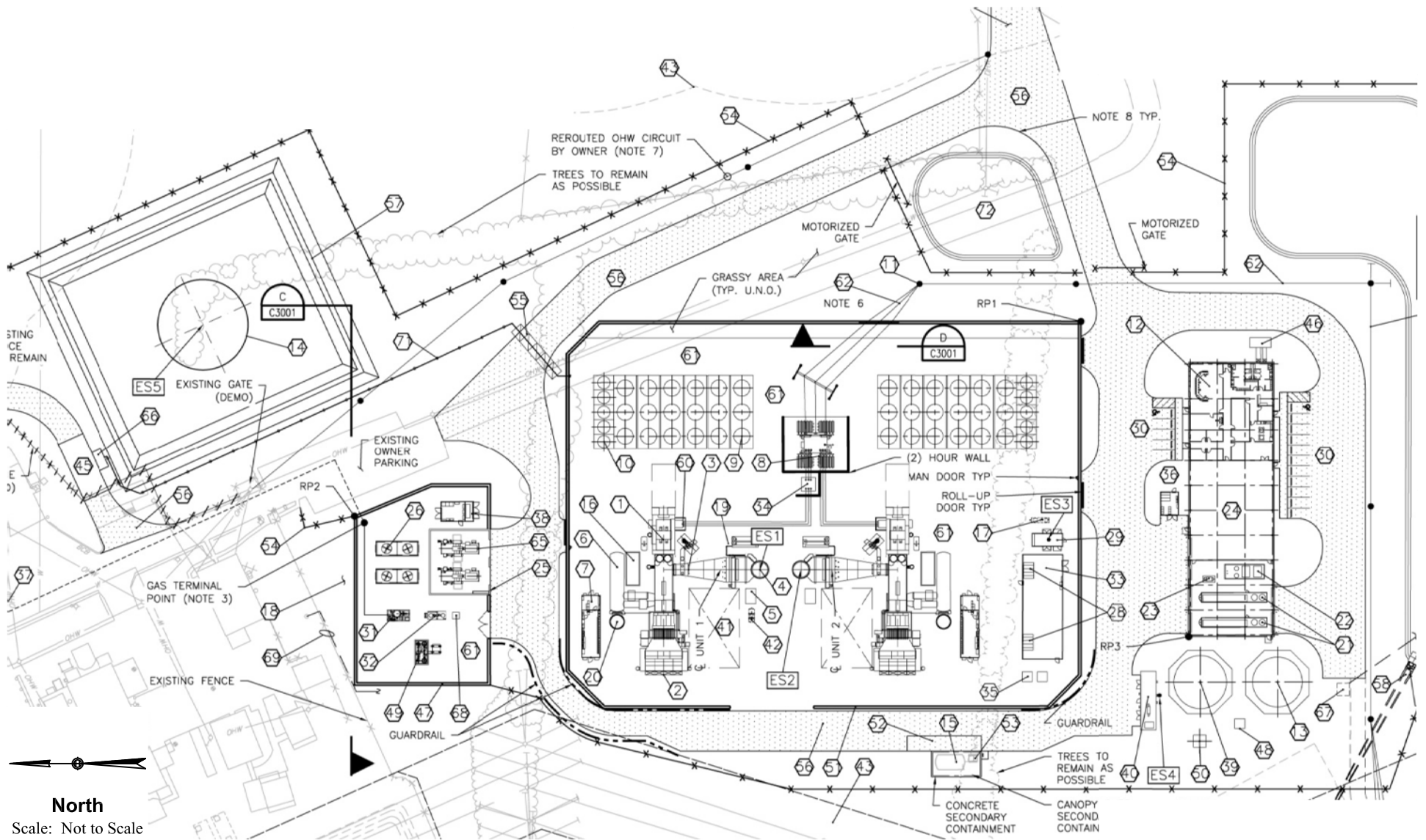
### 10.2.1 Study Area

In brief, the traffic study evaluated area roadways likely to sustain a measurable impact from the Project, which included the following primary study intersections:

- ◆ Route 109 at Route 126 (Signalized);
- ◆ Route 126 at Exelon Site Driveway (Unsignalized); and
- ◆ Route 126 at Main Street (Unsignalized).

Study locations which are likely to sustain a measurable impact from the Project during construction periods include the primary study intersections as well as the following supplemental study intersections:

- ◆ Route 126 at West Street (Unsignalized);
- ◆ Route 109 at West Street (Unsignalized); and



West Medway II

Medway, Massachusetts

Site Plan Source: HDR, Inc.

- ◆ West Street at Proposed Construction Driveway (Unsignalized).

Details are presented in the sections below with the study intersection shown in Figure 10-1.

### ***10.2.2 Roadways***

#### ***Summer Street (Route 126)***

Summer Street is classified by the Massachusetts Department of Transportation (MassDOT) as an urban principal arterial under local (Town) jurisdiction within the study area. Summer Street is a north-south roadway connecting Washington Street (Routes 16/126) to the north with Main Street (Route 126) to the south. The roadway generally provides a single travel lane in each direction with additional turn lanes provided at its major intersections. Near the project Site, a bituminous sidewalk is provided along the western side of the roadway. Within the study area, the posted (regulatory) speed limit along Summer Street is 40 miles per hour (mph). Land uses along Summer Street include a mix of land uses including the existing Exelon Peaking station, residential uses, several restaurants, the Medway Fire Department, and the Medway High School.

#### ***Milford Street (Route 109)***

Milford Street is classified by MassDOT as an urban principal arterial under local (Town) jurisdiction within the study area. Milford Street is an east-west roadway connecting Medway Road (Route 109) to the west with Highland Street (Route 109) to the east. The roadway generally provides a single travel lane in each direction with additional turn lanes provided at its major intersections. Within the immediate study area, there are limited sidewalks along Milford Street. Within the study area, the posted (regulatory) speed limit along Milford Street ranges from 35 to 40 mph. Within the immediate study area, land uses along Milford Street include residential homes with increased commercial activity near Summer Street.

#### ***Main Street***

Main Street is classified by MassDOT as an urban principal arterial under local (Town) jurisdiction within the study area. Main Street is an east-west roadway connecting Hartford Avenue (Routes 126) to the west with County Street (Route 109) to the east. The roadway generally provides a single travel lane in each direction with additional turn lanes provided at its major intersections. There are no sidewalks along Main Street in the study area. Within the study area, the posted (regulatory) speed limit along Summer Street ranges from 35 to 40 mph. Within the immediate study area, land uses along Main Street primarily include residential homes.

## ***West Street***

West Street is classified by MassDOT as an urban minor arterial under local (Town) jurisdiction within the study area. West Street is a northwest-southeast roadway connecting Routes 109 to the northwest with Route 126 to the southeast. The roadway generally provides a single travel lane in each direction. Within the study area, the posted (regulatory) speed limit along West Street ranges from 25 to 30 mph. Within the immediate study area, land uses along West Street include residential homes and the existing Exelon station.

### ***10.2.3 Traffic Volumes***

#### ***Baseline Traffic Volumes – Peak of Adjacent Streets***

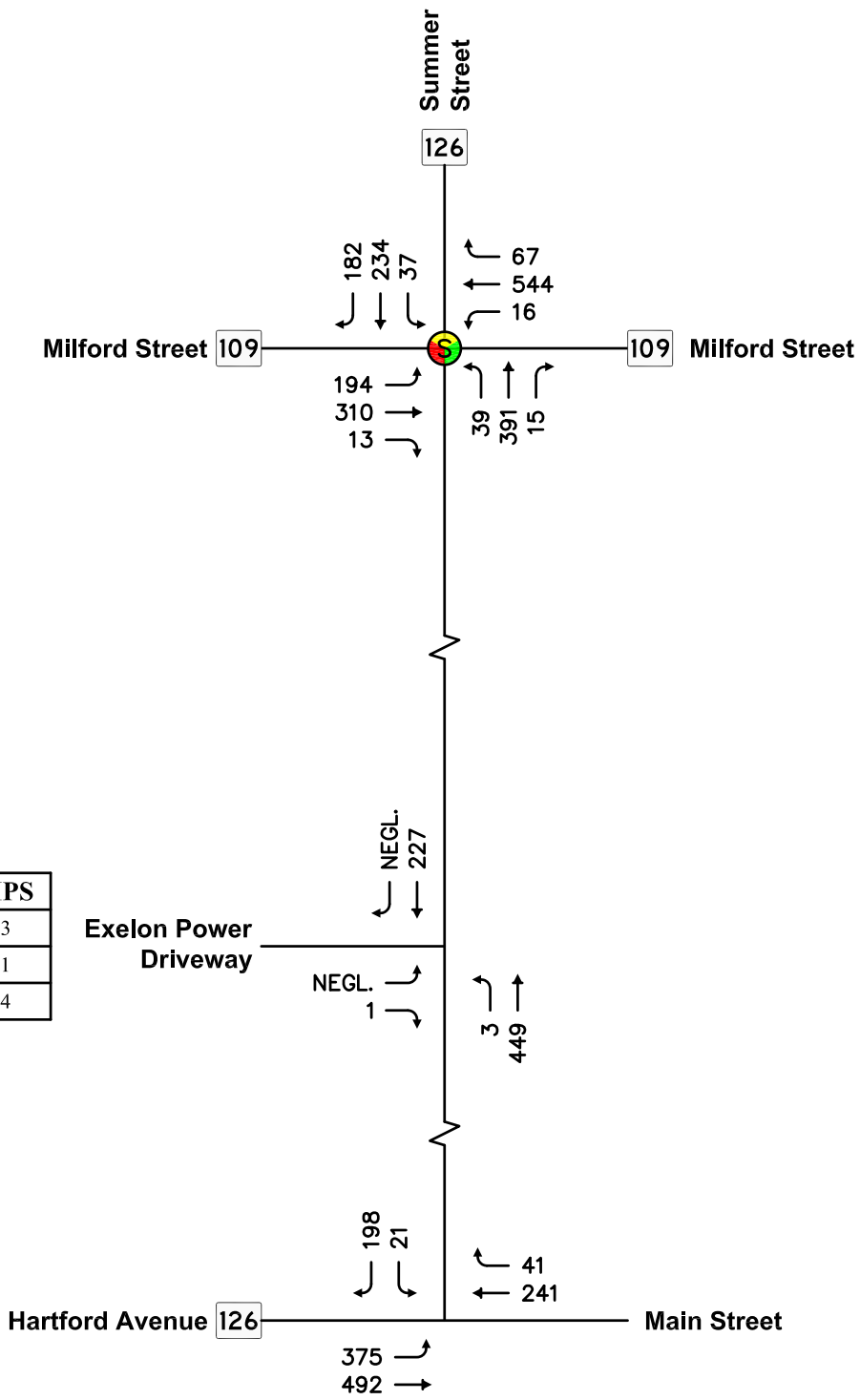
Traffic volume data were collected at the study area intersections during the weekday morning peak period (6:00 AM–9:00 AM) and the weekday evening peak period (3:00 PM–6:00 PM) to coincide with peak traffic activity of the site and adjacent streets. Traffic data used in the evaluation was collected in September 2014 and September 2015, which represents above-average traffic conditions, based on review of Massachusetts Department of Transportation (“MassDOT”) permanent count station data for the area. To provide a conservative analysis, no seasonal adjustment (i.e., reduction) of the data was made to the September traffic volume counts. The Baseline weekday morning and evening peak hour traffic volumes for the peak hours of the adjacent streets for the primary study intersections are shown in Figure 10-3 and Figure 10-4, respectively.

#### ***Baseline Traffic Volumes – Construction Periods***

Traffic volume data were collected at the supplemental study intersections during the weekday morning peak period (6:00 AM – 7:00 AM) and the weekday evening peak period (3:00 PM - 4:00 PM) periods to coincide with peak traffic activity of the site’s construction activity. Supplemental traffic data used in this evaluation was collected in January 2015, which represents below-average traffic conditions based on review of MassDOT permanent count station data for the area. In order to provide average-traffic conditions, a seasonal adjustment increase of 11% was made to the January traffic-volume counts. The Baseline traffic volumes for the construction arrival and departure periods (6:00 – 7:00 am and 3:00 – 4:00 pm) are shown in Figure 10-5 and Figure 10-6, respectively.

Subsequent to the data collection, the anticipated construction workday has been shifted to be from 6:00 am to 6:00 pm. As demonstrated in Section 10.3.5.3, actual traffic volumes during the revised construction arrival and departure periods will therefore be considerably lower than shown in the following sections.





SITE TRIPS	
Enter	3
Exit	1
Total	4



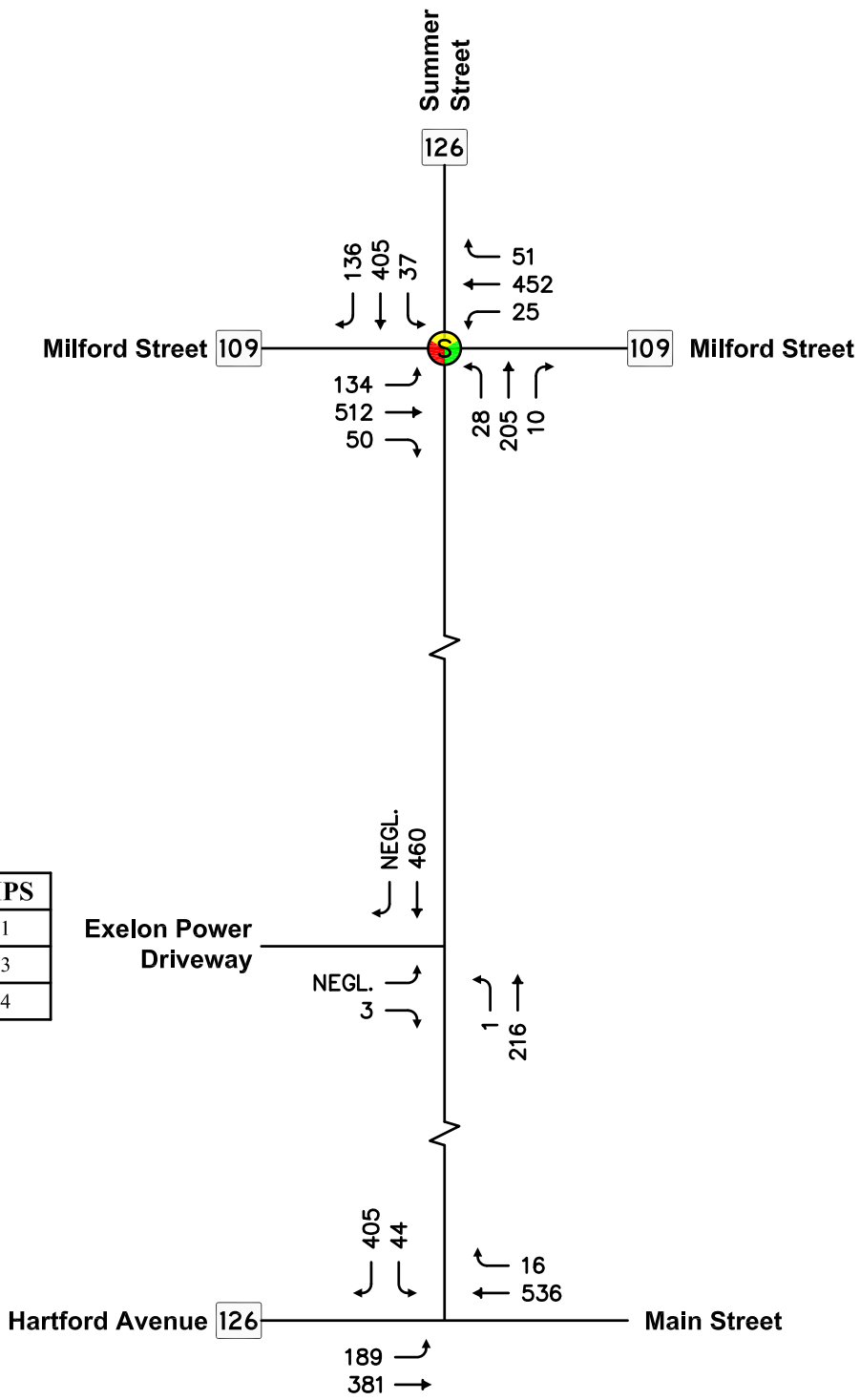
North

Scale: Not to Scale

**NOTES:**

NEGL. = Negligible


 = Signalized Intersection

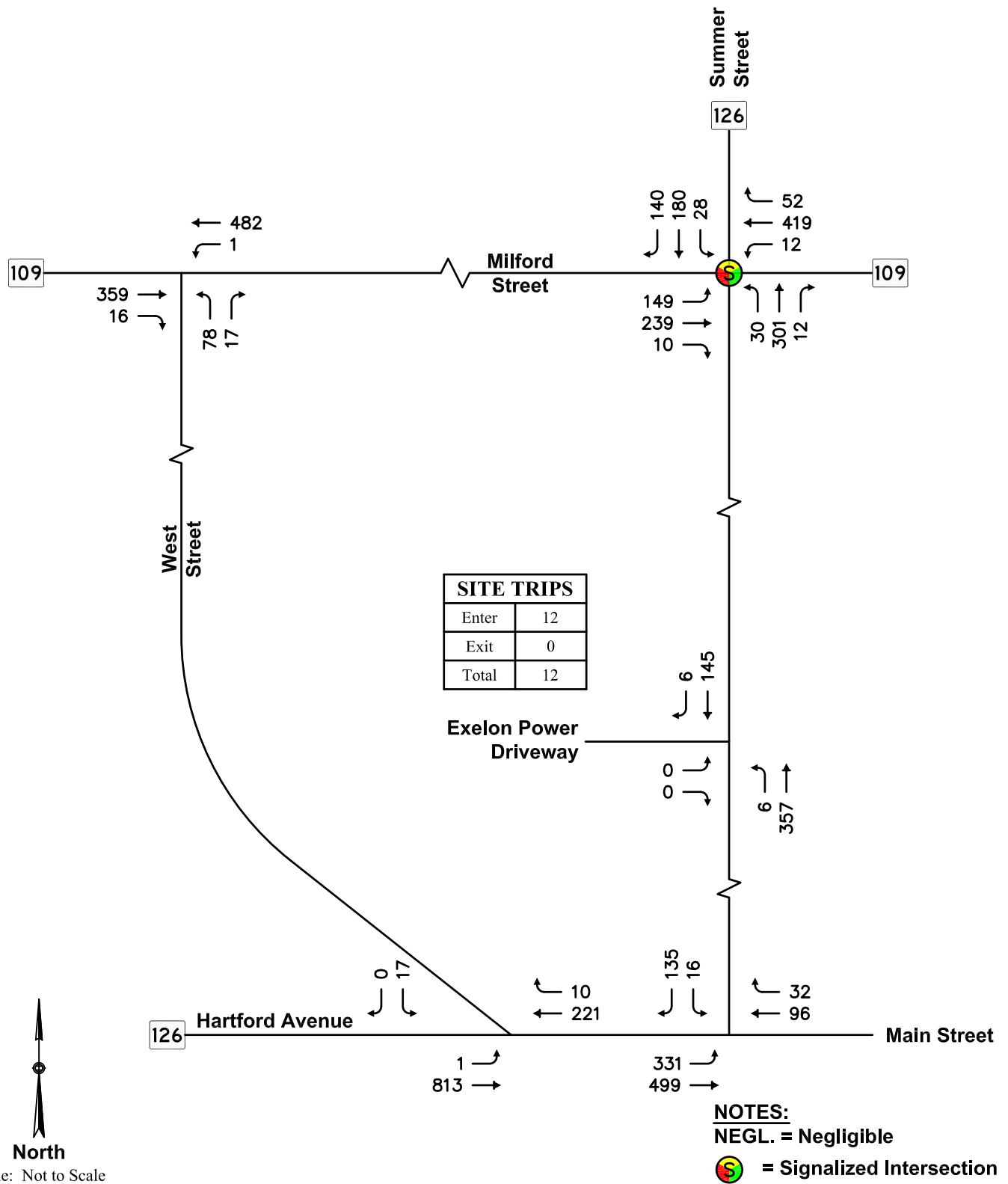


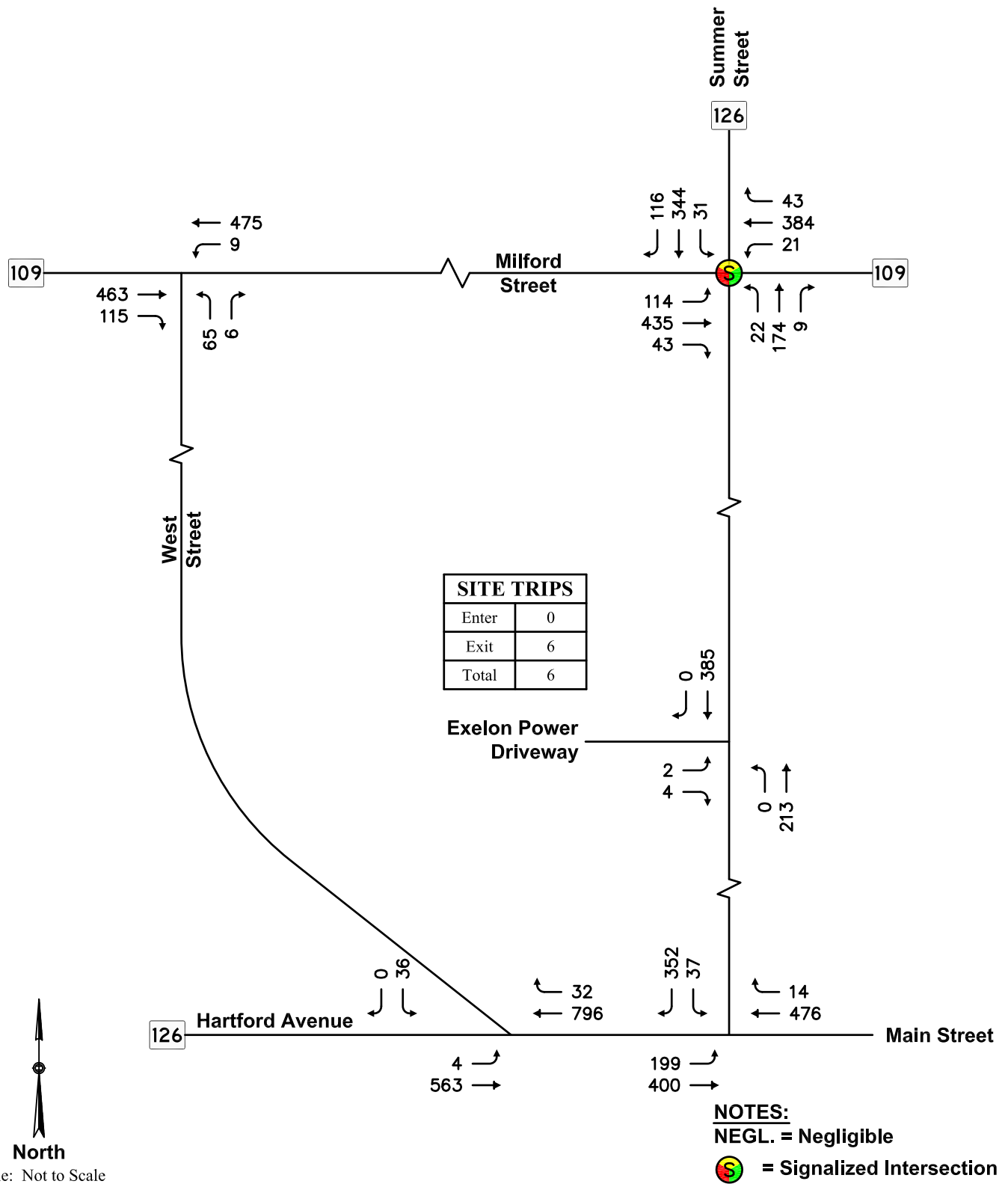
SITE TRIPS	
Enter	1
Exit	3
Total	4



Scale: Not to Scale

**NOTES:**  
 NEGL. = Negligible  
 = Signalized Intersection





### 10.2.3.1 Baseline Site Trip Generation

Estimated trip generation for the existing Exelon use at the Property was determined based on turning movement counts conducted at the Site Driveway intersections with Summer Street in September 2014. As summarized in Table 10-1, the existing West Medway Station currently generates a nominal four vehicle trips (three entering and one exiting) during the weekday morning peak hour and four vehicle trips (one entering and three exiting) during the weekday evening peak hour.

On weekdays, the existing West Medway Station is currently staffed by approximately twelve employees between 7:00 am and 3:00 pm and by two employees between 3:00 pm and 11:00 pm. Typical arrival times for the employees working between 7:00 a.m. and 3:00 p.m. would be between 6:00 a.m. and 7:00 a.m.; and typical departure times would be between 3:00 p.m. and 4:00 p.m. Typical arrival times for the employees working between 3:00 p.m. and 11:00 p.m. would be between 2:00 p.m. and 3:00 p.m.; and typical departure times would be between 11:00 p.m. and 12:00 a.m. All typical arrival and departure periods are therefore outside the adjacent roadways' peak hours.

**Table 10-1 Baseline Trip Generation – Exelon West Medway Station**

<i>Period/Direction</i>	<i>Existing Site Trips<sup>1</sup></i>	<i>Baseline Trip Rate<sup>2</sup></i>	
		<i>Per Employee</i>	<i>Per Generator</i>
<i>Weekday Morning Peak Hour (7:30 – 8:30 am):</i>			
Entering	3	0.21	1.00
Exiting	<u>1</u>	<u>0.07</u>	<u>0.33</u>
Total	4	0.28	1.33
<i>Weekday Evening Peak Hour (4:30 – 5:30 pm):</i>			
Entering	1	0.07	0.33
Exiting	<u>3</u>	<u>0.21</u>	<u>1.00</u>
Total	4	0.28	1.33

<sup>1</sup>Turning movement counts at the 9 Summer Street Site Driveway (inclusive of passenger cars and truck traffic) in September 2014; the existing Site includes 6-oil powered generating units and 14± total employees.

<sup>2</sup>Observed Trips per employee and per generator unit.

### 10.2.3.2 Daily Traffic Volumes

Daily traffic volumes were collected on Summer Street and West Street in the site vicinity using automatic traffic recorders (“ATR’s”) in September 2014 and September 2015 and are summarized in Table 10-2.

**Table 10-2 Baseline Traffic Volume Summary**

<i>Time Period</i>	<i>Daily Volume (vpd)<sup>1</sup></i>	<i>Percent Daily Traffic<sup>2</sup></i>	<i>Peak Hour Volume (vph)<sup>3</sup></i>	<i>Peak Flow Direction<sup>4</sup></i>	<i>Peak Hour Directional Volume (vph)</i>
<i>Summer Street north of Main Street</i>					
Weekday Morning Peak Hour	7,885	8%	630	72% SB	451
Weekday Evening Peak Hour	7,885	9%	710	57% NB	405
<i>West Street between Route 126 and Beech Street</i>					
Weekday Morning Peak Hour	880	9%	77	62% EB	48
Weekday Evening Peak Hour	880	11%	98	61% EB	60

<sup>1</sup>Two-way daily traffic expressed in vehicles per day without seasonal adjustment.

<sup>2</sup>The percent of daily traffic that occurs during the peak hour.

<sup>3</sup>Two-way peak-hour volume expressed in vehicles per hour.

<sup>4</sup>EB = Eastbound, WB = Westbound, NB = Northbound, and SB = Southbound

As summarized in Table 10-2 above:

- ◆ *Summer Street* in the immediate study area carries approximately 7,885 vehicles per day (“vpd”) with approximately 630 vehicles and 710 vehicles during the morning and evening peak hours respectively. The peak hour traffic volumes represent approximately 8-9% of the daily traffic volumes.
- ◆ *West Street* in the immediate study area carries approximately 880 vehicles per day (“vpd”) with approximately 77 vehicles and 98 vehicles during the morning and evening peak hours respectively. The peak hour traffic volumes represent approximately 9-11% of the daily traffic volumes.

#### **10.2.4 Measured Travel Speeds**

Vehicle speeds were obtained for Summer Street and West Street adjacent to the site using radar recorder devices. These measured travel speeds provide a basis for determining sight line requirements at the proposed site driveway along Summer Street and proposed Construction driveway along West Street.

**Table 10-3 Speed Study Results**

<i>Travel Direction</i>	<i>Speed Limit<sup>1</sup></i>	<i>Travel Speed</i>	
		<i>Mean<sup>2</sup></i>	<i>85<sup>th</sup> Percentile<sup>3</sup></i>
<i>Summer Street north of Main Street</i>			
Northbound	40	40	44
Southbound	40	41	44
<i>West Street between Route 126 and Beech Street</i>			
Eastbound	25	33	38
Westbound	25	32	35

<sup>1</sup>Regulatory (Posted) Speed limit in miles per hour (mph)

<sup>2</sup>Arithmetic mean

<sup>3</sup>The speed at or below which 85 % of the vehicles are traveling

As summarized in Table 10-3 above:

- ◆ *Summer Street:* The mean (average) travel speed on Summer Street was observed to be 40 mph for the northbound direction and 41 mph in the southbound direction; the 85th percentile travel speed was observed to be 44 mph for both the northbound and southbound directions. Measured travels speeds are generally highly consistent with the regulatory speed limits along Summer Street in the site vicinity.
- ◆ *West Street:* The mean (average) travel speed on West Street was observed to be 33 mph for the eastbound direction and 32 mph in the westbound direction; the 85th percentile travel speed was observed to be 38 mph in the eastbound direction and 35 mph in the southbound direction. Measured travels speeds are considerable higher than the regulatory speed limits along West Street in the site vicinity.

### 10.2.5 Intersection Crash History

To identify crash trends and safety characteristics for primary study area intersections, crash data were obtained from MassDOT for the Town of Medway for the four-year period covering 2010 through 2013 (the most recent data currently available). A crash rate was calculated for the study intersections as shown in Table 10-4. This rate quantifies the number of crashes per million entering vehicles. MassDOT has determined the average District 3 crash rate to be 0.66 for unsignalized intersections and 0.89 for signalized intersections. This rate represents MassDOT’s “average” crash experience and serves as a basis for comparing reported crash rates for the study intersections.

**Table 10-4 Intersection Crash Summary – 2010 Through 2013<sup>1</sup>**

<i>Data Category</i>	<i>INTERSECTION</i>	
	<i>Milford Street at Summer Street</i>	<i>Main Street at Summer Street</i>
Traffic Control	Signalized	Unsignalized
Crash Rate <sup>2</sup>	<b>0.30</b>	<b>0.27</b>
MassDOT Dist. Avg <sup>2</sup>	0.89	0.66
<i>Year:</i>		
2010	3	3
2011	1	1
2012	1	2
<u>2013</u>	<u>5</u>	<u>1</u>
Total	<b>10</b>	<b>7</b>
<i>Type:</i>		
Angle	2	0
Rear-End	7	6
Head-On	1	0
Single-Vehicle	0	0
Sideswipe	0	1

**Table 10-4 Intersection Crash Summary – 2010 Through 2013<sup>1</sup>(Continued)**

<i>Data Category</i>	<i>INTERSECTION</i>	
	<i>Milford Street at Summer Street</i>	<i>Main Street at Summer Street</i>
<i>Severity:</i>		
<i>P. Damage Only</i>	6	6
<i>Personal Injury</i>	4	1
<i>Fatality</i>	0	0
<i>Conditions:</i>		
<i>Dry</i>	8	6
<i>Wet</i>	2	0
<i>Snow</i>	0	1
<i>Time:</i>		
7:00 to 9:00 AM	3	1
4:00 to 6:00 PM	1	1
Rest of Day	6	5

<sup>1</sup>Source: MassDOT Crash Database.

<sup>2</sup>MassDOT District 3 crash rates: = 0.66 unsignalized; 0.89 signalized

As summarized in Table 10-4 above,

- ◆ *Milford Street/Summer Street.* Ten (10) crashes were reported for the Milford Street/Summer Street signalized intersection – approximately 2.5 per year – resulting in a crash rate of 0.30. The majority (70%) of reported crashes at the intersection included rear-end type collisions under dry roadway conditions. Four (4) crashes occurred during the peak periods.
- ◆ *Main Street/Summer Street.* Seven (7) crashes were reported for the Main Street/Summer Street unsignalized intersection – approximately 2 per year – resulting in a crash rate of 0.27. All of the reported crashes (100%) at the intersection included rear-end/ sideswipe type collisions with the majority (86%) occurring under dry roadway conditions resulting in property damage collisions. One (1) crash occurred during the morning peak period and one (1) crash occurred during the evening peak period.
- ◆ *Summer Street at Site Driveway (#9).* There were no crashes reported for the site driveway (9 Summer Street) intersection with Summer Street during the study period.

In summary, based on extensive review of MassDOT crash data, the primary study intersections all experienced crash rates that are below the MassDOT District 3 averages. No additional safety countermeasures are warranted based on the review of the crash records and associated crash rates.



## **10.2.6 Sight Line Evaluations**

An evaluation of sight lines was conducted at the proposed site driveway location along Summer Street and proposed construction site driveway along West Street to ensure that minimum recommended sight lines are available to safely exit onto Summer Street and West Street. The evaluation documented existing sight lines for vehicles as they relate to Summer Street and West Street with comparison to recommended guidelines for the regulatory speed limit and observed travel speeds.

The AASHTO standards<sup>1</sup> reference two types of sight distance which are relevant at the proposed site driveway intersection on Summer Street and the proposed construction driveway along West Street: stopping sight distance (“SSD”) and intersection sight distance (“ISD”). Sight lines for critical vehicle movements at the proposed site driveway intersection with Summer Street and at the proposed construction site driveway along West Street were compared to minimum SSD and ISD for the regulatory and observed travel speeds in the Site vicinity.

### **10.2.6.1 Stopping Sight Distance**

Sight distance is the length of roadway visible to the motorist to a fixed object. The minimum sight distance available on a roadway should be sufficiently long enough to enable a below-average operator, traveling at or near a regulatory speed limit, to stop safely before reaching a stationary object in its path, in this case, a vehicle exiting the site driveways onto Summer Street. The SSD criteria are defined by AASHTO based on design and operating speeds, anticipated driver behavior and vehicle performance, as well as physical roadway conditions. SSD includes the length of roadway traveled during the perception and reaction time of a driver to an object, and the distance traveled during brake application on wet level pavement. Adjustment factors are applied to account for roadway grades where applicable.

SSD was estimated in the field using AASHTO standards for driver’s eye (3.5 feet) and object height equivalent to the taillight height of a passenger car (2.0 feet) for the approaches to the intersections. Table 10-5 presents a summary of the available SSD for the roadway segment approaches to the proposed driveways and AASHTO’s recommended SSD for the regulatory and observed travel speeds.

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<sup>1</sup> *A policy on Geometric Design of Highways and Streets*, American Association of State Highway and Transportation Officials (AASHTO), 2011.

**Table 10-5 Stopping Sight Distance Summary**

<i>Approach/ Travel Direction</i>	<i>Available Stopping Sight Distance</i>	<i>AASHTO Recommended<sup>f</sup></i>		
		<i>Regulatory Speed<sup>e</sup></i>	<i>Average Travel Speed<sup>b</sup></i>	<i>85<sup>th</sup> Percentile Travel Speed<sup>d</sup></i>
<i>Summer Street Approaches to Proposed Site Driveway</i>				
<i>Northbound</i>	435 ± Feet	80 Feet <sup>2</sup>	n/a	n/a
<i>Southbound</i>	> 800 Feet	305 Feet	315 Feet	350 Feet
<i>West Street Approaches to Proposed Construction Driveway</i>				
<i>Eastbound</i>	430 ± Feet	155 Feet <sup>2</sup>	230 Feet	280 Feet
<i>Westbound</i>	530 ± Feet	155 Feet	220 Feet	250 Feet

<sup>1</sup> Recommended sight distance based on AASHTO, A Policy on Geometric Design of Highways and Streets. Based on driver height of eye of 3.5 feet to object height of 2.0 feet and adjustments for roadway grade were applicable.

<sup>2</sup> Posted speed is 40 mph along Summer Street with NB speed based on 15 mile per hour travel speed for vehicles turning from Main Street. Posted speed along West Street is 25 mph.

<sup>3</sup> Average Speed is 41 mph SB on Summer Street; 33 mph EB and 32 mph WB on West Street

<sup>4</sup> 85<sup>th</sup> Percentile travel speed is 44 mph SB on Summer Street; 38 mph EB and 35 mph WB on West Street.

As summarized in the above Table 10-5, analysis results indicate that the existing available sight lines exceed AASHTO’s recommended SSD criteria for both travel directions along Summer Street and West Street based on the regulatory speed limit and observed travel speeds.

### 10.2.6.2 Intersection Sight Distance

Clear sight lines provide sufficient sight distance for a stopped driver on a minor-road approach to depart from the intersection and enter or cross the major road. As stated under AASHTO’s Intersection Sight Distance (ISD) considerations, “...*If the available sight distance for an entering ...vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to avoid collisions...To enhance traffic operations, intersection sight distances that exceed stopping sight distances are desirable along the major road.*” AASHTO’s ISD criteria are defined into several “cases”. In this case the intersections are proposed to be under STOP signal control and the ISD in question relates to the ability turn left or turn right from the proposed driveways.

Available ISD was estimated in the field using AASHTO standards for driver’s eye (3.5 feet), object height (3.5 feet) and decision point (between 8 and 14.5 feet from the edge of travel way) for the northbound and southbound directions along Summer Street and eastbound and westbound directions along West Street. Table 10-6 presents a summary of the available ISD for the departure from the site driveways and AASHTO’s recommended ISD for the regulatory speed limit and observed travel speeds.

**Table 10-6 Intersection Sight Distance Summary**

<i>Approach/ Travel Direction</i>	<i>Available SSD</i>	<i>AASHTO Minimum<sup>1</sup></i>		<i>AASHTO Ideal<sup>1</sup></i>
		<i>Regulatory Speed<sup>2</sup></i>	<i>85<sup>th</sup> Percentile Observed Speed<sup>3</sup></i>	<i>Regulatory Speed<sup>2</sup></i>
<i>Summer Street Approaches to Proposed Site Driveway</i>				
<i>Looking North</i>	> 800 Feet	305 Feet	350 Feet	385 Feet
<i>Looking South</i>	435 ± Feet	80 Feet	n/a Feet	165 Feet
<i>West Street Approaches to Proposed Construction Driveway</i>				
<i>Looking East</i>	430 ± Feet	155 Feet	250 Feet	240 Feet
<i>Looking West</i>	530 ± Feet	155 Feet	280 Feet	280 Feet

<sup>1</sup>Recommended sight distance based on AASHTO, A Policy on Geometric Design of Highways and Streets. Based on driver height of eye of 3.5 feet and an object height of 3.5 feet and adjustments for roadway grade if required. Minimum value as noted represents SSD per AASHTO guidance.

<sup>2</sup> Posted speed is 40 mph along Summer Street with NB speed based on 15 mile per hour travel speed for vehicles turning from Main Street. Posted speed along West Street is 25 mph.

<sup>3</sup> Average Speed is 41 mph SB on Summer Street; 33 mph EB and 32 mph WB on West Street

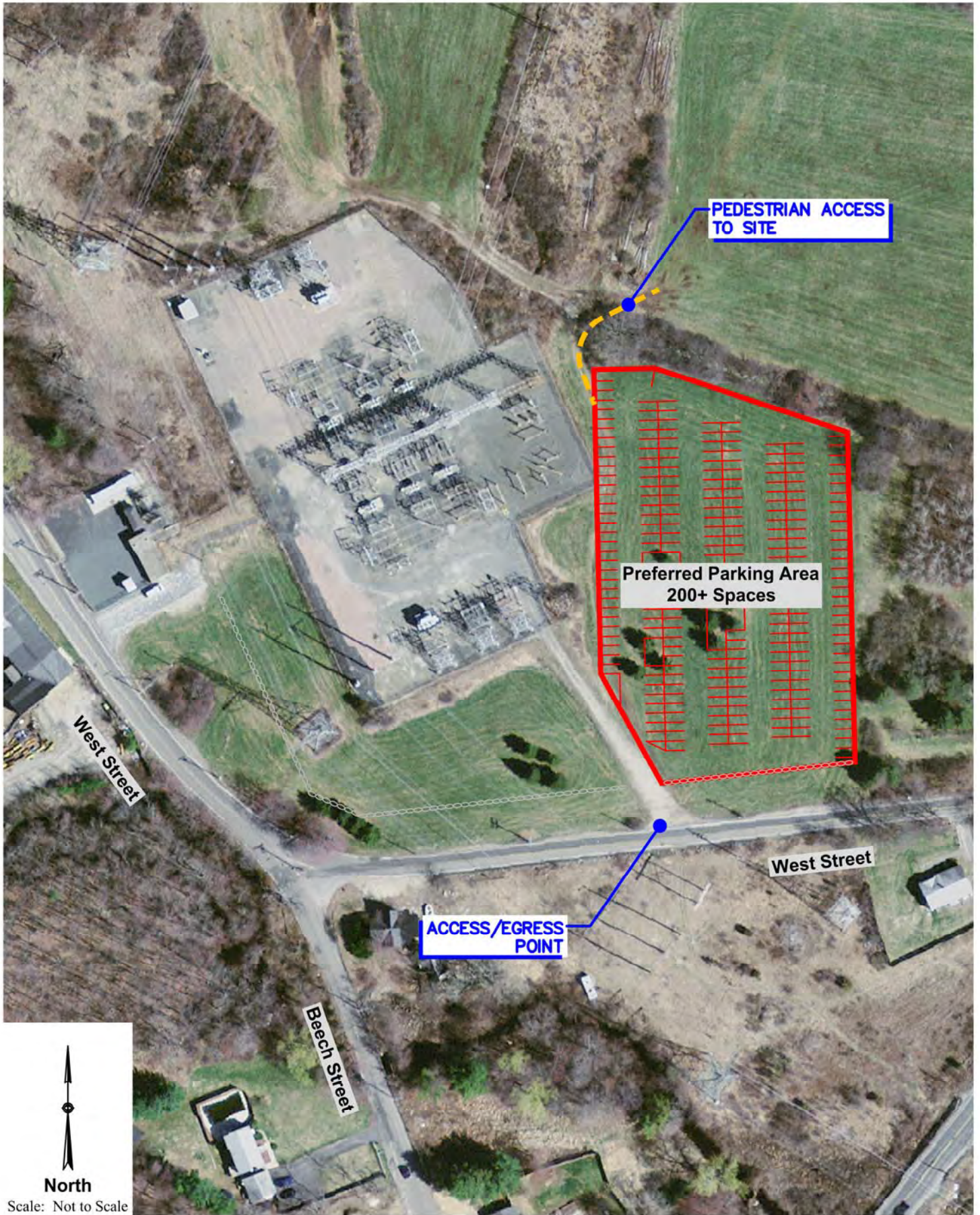
<sup>4</sup> 85<sup>th</sup> Percentile travel speed is 44 mph SB on Summer Street; 38 mph EB and 35 mph WB on West Street.

The results of the ISD analysis presented in Table 10-6 indicate that the available sight lines looking north and south from the site driveway onto Summer Street and looking east and west onto West Street exceed the recommended minimum and ideal sight line requirements from AASHTO for the regulatory speed limit and observed travel speeds. MDM recommends that the sight line continue to be maintained and that any new plantings (shrubs, bushes) or physical landscape features to be located within the driveway sight lines should also be maintained at a height of 2 feet or less above the adjacent existing roadway grade to ensure unobstructed lines of sight.

### 10.3 Construction Conditions

The construction period will generate construction traffic, which will include both construction truck and construction employee traffic. The following is a summary of the expected impacts of construction traffic and measures to be used to reduce and potential negative impacts during the construction period.

During construction, the parking area for workers will be in an existing material lay-down-lot in the southern portion of the Site along West Street as shown in Figure 10-7. This preferred parking area which is primarily grass will be re-enforced with gravel, stone, or similar material during the construction period to facilitate construction employee parking. Upon completion of the construction, the material lay-down-lot will be restored with loam and seed. No additional improvements are needed for any of the construction entrances. This is the preferred parking access area compared to the Summer Street entrance, for the following reasons:



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**Figure 10-7**  
Preferred Construction Parking Area

- ◆ The traffic volumes along this section of West Street are less than 75 vehicles per hour (vph) during the arrival and departure periods. In contrast the traffic volumes along Summer Street range from 550 to 649 vph during the construction worker arrival and departure periods.
- ◆ The construction driveway is proposed to be along a straight section of West Street approximately half way between Route 126 and Beech Street. The sight lines are adequate and the traffic volumes on this section of West Street during the construction arrival and departure times are nominal (less than 75 vehicles per hour).
- ◆ Trips to/from I-495 would travel fewer miles to the West Street entrance than to the Summer Street entrance (although noting that the travel miles should have a nominal impact to safety.)
- ◆ It is anticipated that the entrances into the property would be required to be manned during construction independent of construction parking location.
- ◆ As outlined in the traffic study, incremental traffic increases at the study intersections during the construction period will be adequately accommodated below-capacity with LOS D or better operations expected (the traffic study conservatively assumed 200 vehicles for 200 workers working in a single shift with an arrival period between 6:00 – 7:00 am, and a departure period between 3:00 – 4:00 pm). Subsequent to the data collection, the anticipated construction workday has been shifted to be from 6:00 am to 6:00 pm. As demonstrated in Section 10.3.5.3, actual traffic volumes during the revised construction arrival and departure periods will therefore be considerably lower than analyzed by the traffic study.

The peak construction activity is approximately 200 union workers, therefore, onsite parking along West Street will satisfy the peak construction worker demand. The preferred parking area is also proximate to an on-Site pedestrian walkway connection to the proposed construction areas. The West Street parking area currently includes primarily grass areas with access/egress directly onto West Street via the existing gated entranceway which is located approximately 300 feet east of Beech Street.

Exelon has met with the Town of Medway for preliminary discussions on a detailed Construction Traffic Management Plan which will address parking during construction. It is expected that the construction workers would utilize the West Street parking areas while construction deliveries would use the Summer Street entrance. No improvements are needed for the Summer Street entrance or West Street construction entrances. Beyond measures in a Construction Management Plan, no project related traffic mitigation is warranted for the day care center driveways along Summer Street due to the Project. Exelon will also actively manage construction deliveries and oil deliveries in accordance with the Construction Traffic Management Plan.

Construction will primarily be limited to on-site activity with limited activity on adjacent roadways. The existing West Medway driveway onto Summer Street is proposed to be utilized by the Project and thus construction activity on Summer Street is anticipated to be limited. Activity on Summer Street may include the construction near the site driveway and necessary utility work. It is anticipated that traffic patterns on Summer Street will be maintained during construction and that no roadway closures or detours will be required during the construction period. Exelon will establish waiting and staging areas on-site for all material deliveries and the management of truck traffic. An analysis of construction period impacts on area roadways is provided below.

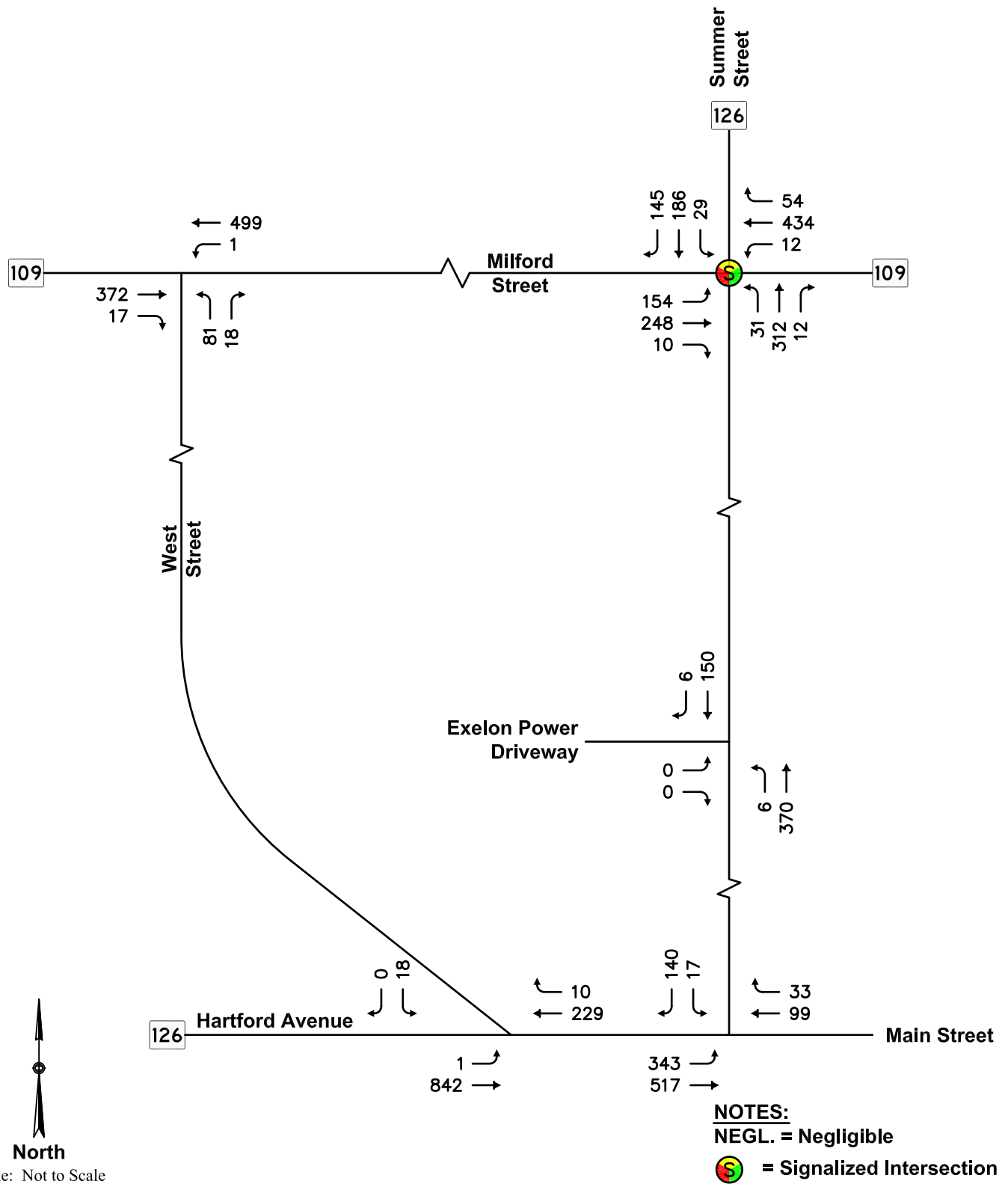
### ***10.3.1 2021 No-Build Traffic Volume Networks – Construction Periods***

To account for future traffic growth in the study area future, No-Build traffic volumes are developed by increasing the Baseline construction traffic volumes by approximately 3.6% (0.5% compounded annually over seven years). The resulting 2021 No-Build construction traffic volumes are provided in the Figure 10-8 and Figure 10-9 for morning and evening peak traffic volume, respectively.

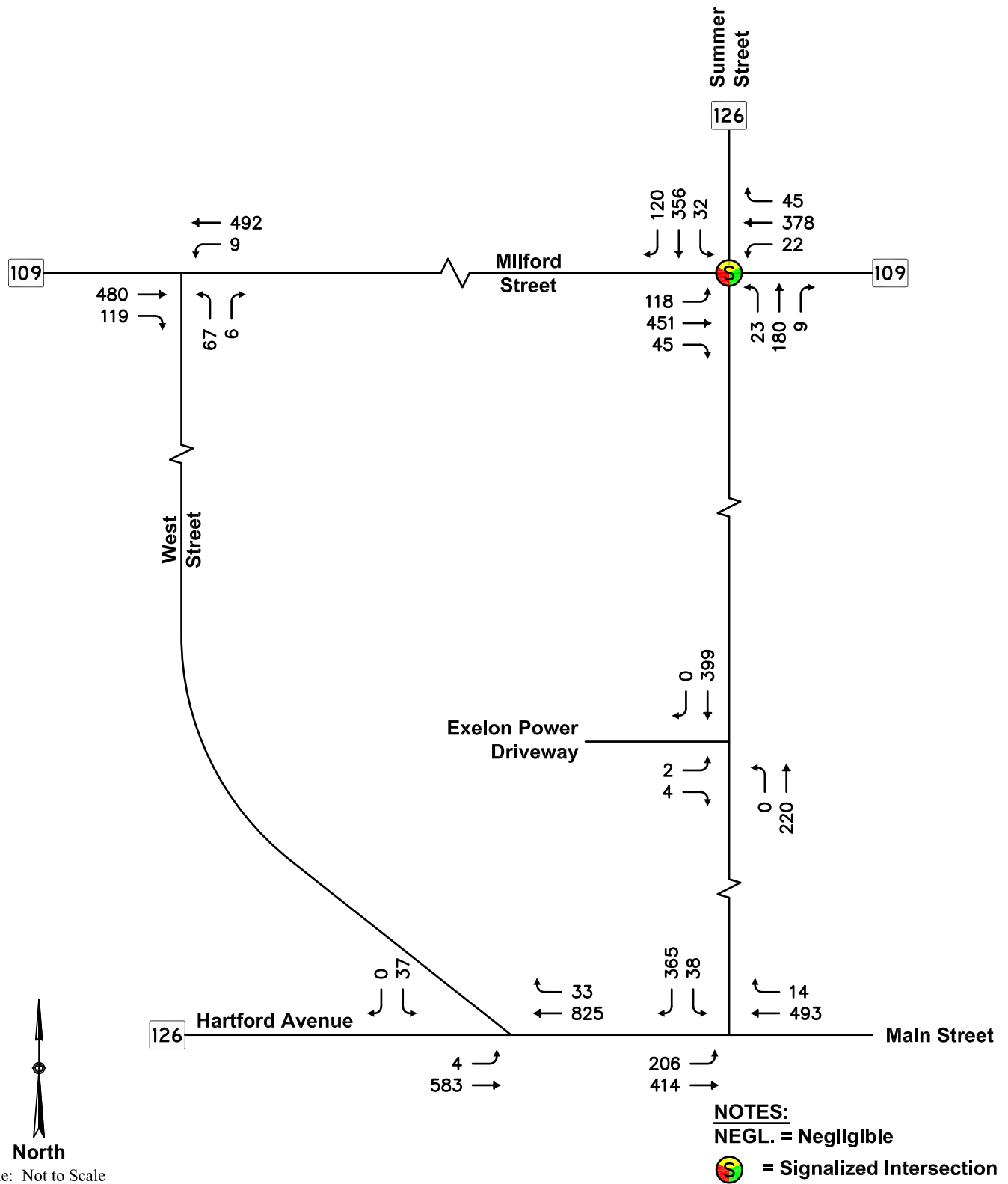
### ***10.3.2 Trip Generation – Peak Construction***

Anticipated construction activity at the site will generate a peak of approximately 200 workers with significantly lower activity during the beginning and end of the construction period. The amount of crews and workers will vary based on the specific construction work activities, but will range up to approximately 20 to 25 crews working on site with approximately 8 to 10 workers per crew. To present a conservative (worst case) scenario, trip generation for the Project's construction impact is estimated based on a peak construction scenario and a vehicle occupancy rate of 1.0.

Table 10-7 summarizes the empirically derived trip estimates for the power generation station under a peak construction scenario of 200 workers. Results indicate that under a peak construction activity scenario, the Project is conservatively estimated to generate approximately 200 entering vehicle-trips during the weekday morning period (6:00 AM to 7:00 AM) and 200 exiting vehicle-trips during the weekday evening period (3:00 PM to 4:00 PM). These trips levels do not account for carpooling which may reduce actual vehicle demands at peak construction. Furthermore, subsequent to the data collection, the anticipated construction workday has been shifted to be from 6:00 am to 6:00 pm. As demonstrated in Section 10.3.5.3, actual traffic volumes during the weekday morning and evening periods will therefore be considerably lower than shown in Table 10-7.



West Medway II Medway, Massachusetts



**West Medway II Medway, Massachusetts**



**Table 10-7 Trip Generation Summary, Peak Construction Operations**

<i>Study Period/Direction</i>	<i>Peak Construction Vehicle-trips<sup>1</sup></i>
<i>Morning Study Period (6:00 to 7:00 am):</i>	
Entering	200
<u>Exiting</u>	<u>Negl.</u>
Total	200
<i>Evening Study Period (5:00 to 6:00 pm):</i>	
Entering	Negl.
<u>Exiting</u>	<u>200</u>
Total	200

<sup>1</sup>Based on 200 construction workers with vehicle occupancy of 1.0 workers per vehicle. Analysis conservatively assumes that all workers arrive between 6:00 and 7:00 and depart between 3:00 and 4:00 pm. Since the anticipated construction workday has been shifted to be from 6:00 am to 6:00 pm, actual traffic volumes during the study periods will be considerably lower than shown.

### **10.3.3 Trip Distribution – Construction Periods**

Primary routes to/from the site associated with construction employee related trips are will use I-495, Route 109, and Route 126. The distribution for projected traffic for the construction employees is based on Journey to Work Census data. The resulting trip distribution pattern is shown in Figure 10-10 with calculations presented in the Attachment G. It is estimated that approximately 65% of the construction worker trips will use Route I-495. An aerial view of the Site and vicinity depicting construction employee and oil delivery routes from Route I-495 are summarized in Figure 10-11.

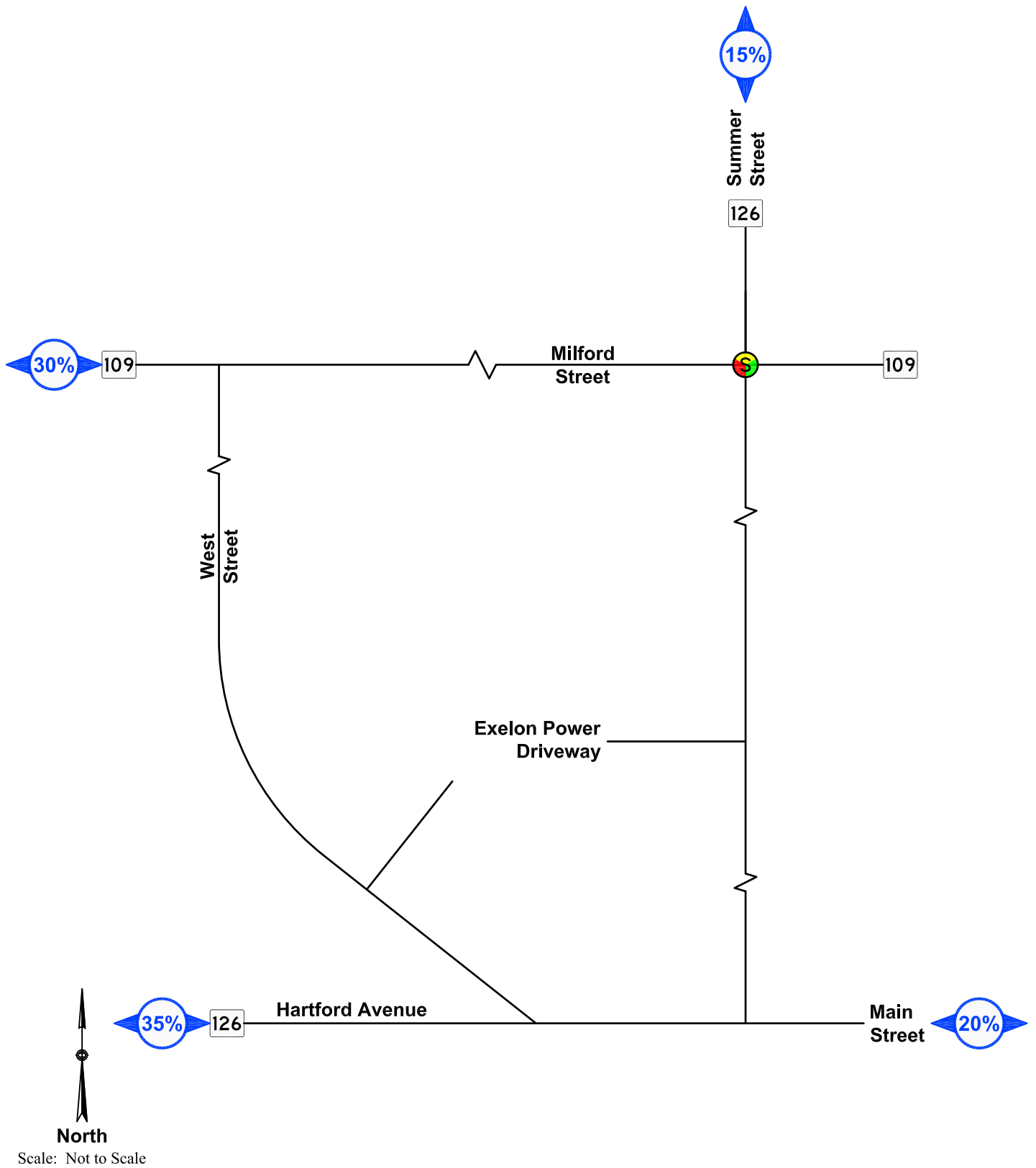
Development-related trips for the proposed Site are assigned to the roadway network using the ITE trip-generation estimates previously shown in Table 10-7 and the distribution pattern for the construction employees. Development-related trips at each intersection approach for the weekday morning, and weekday evening construction periods are quantified in the Figure 10-12 and Figure 10-13.

### **10.3.4 2021 Build Traffic Volume Networks – Construction Periods**

2021 Build construction period traffic volumes are derived by adding the incremental traffic increases for the Site’s construction activity to the 2021 No-Build construction period traffic volumes. The 2021 Build construction period traffic-volume networks for the weekday morning and weekday evening construction periods are shown in Figure 10-14 and Figure 10-15.

### **10.3.5 Capacity Analysis – Construction Periods**

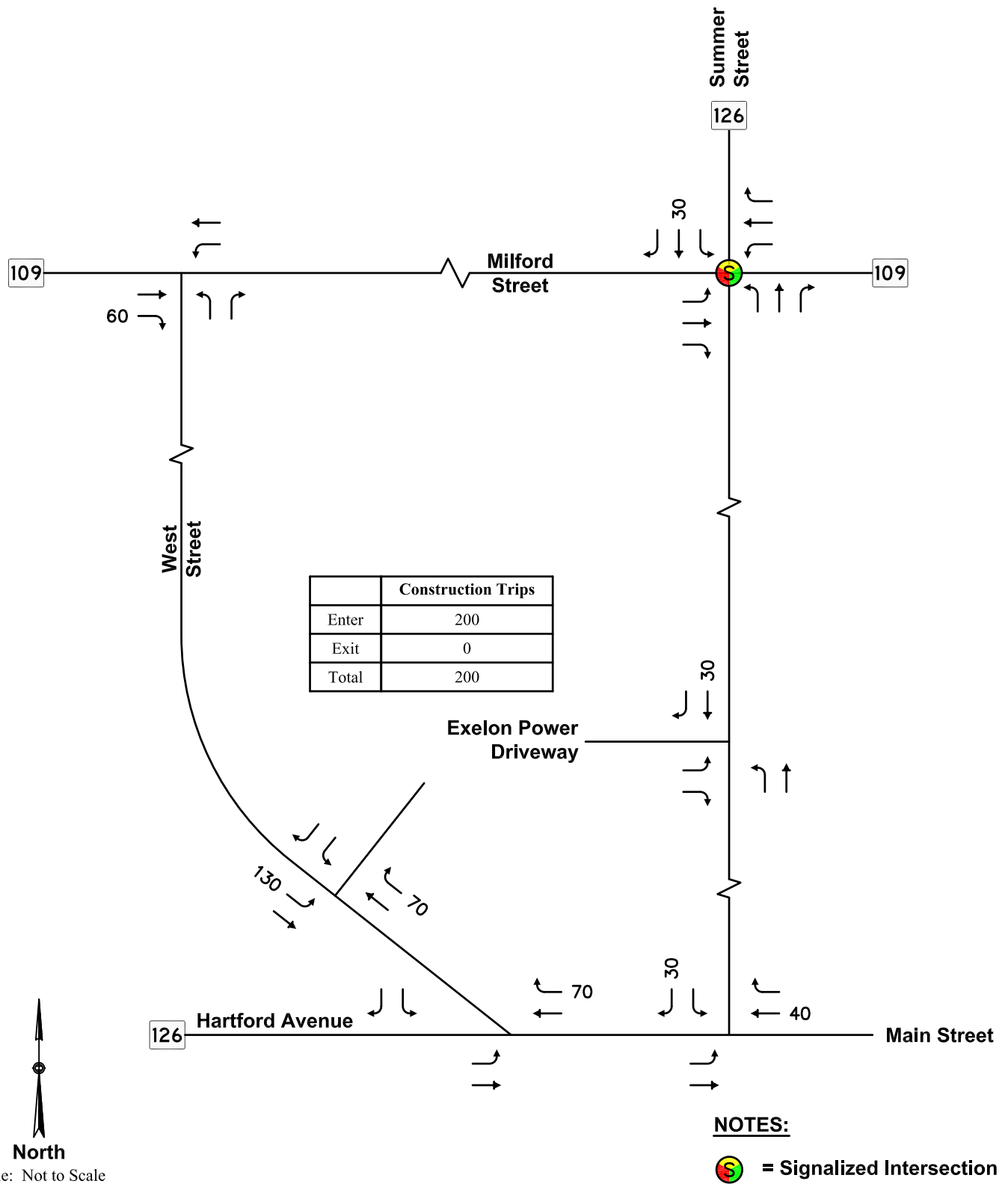
This section provides an overview of operational analysis methodology, an assessment of intersection operations under Baseline and projected future No-Build and Build conditions for the construction periods.

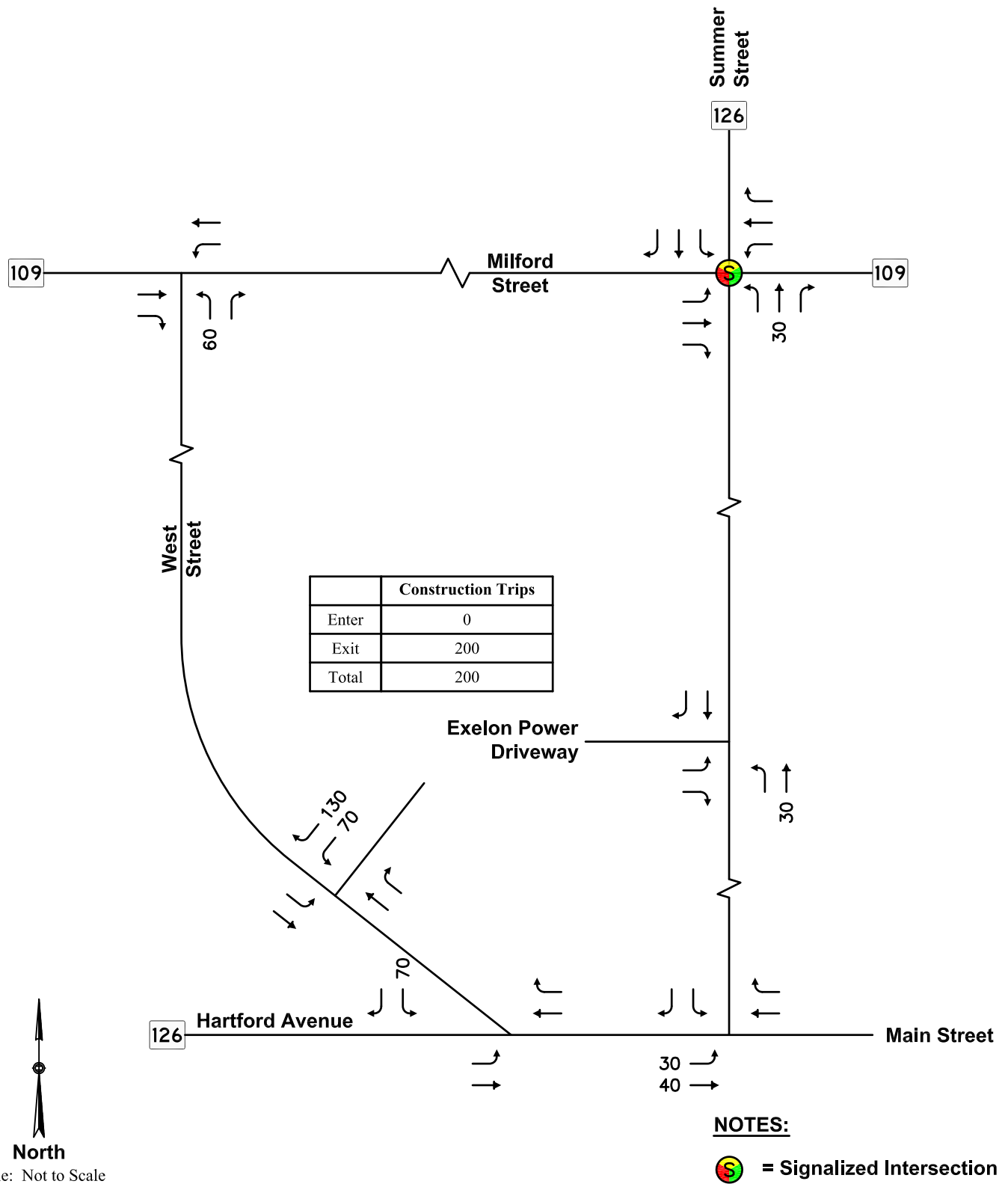


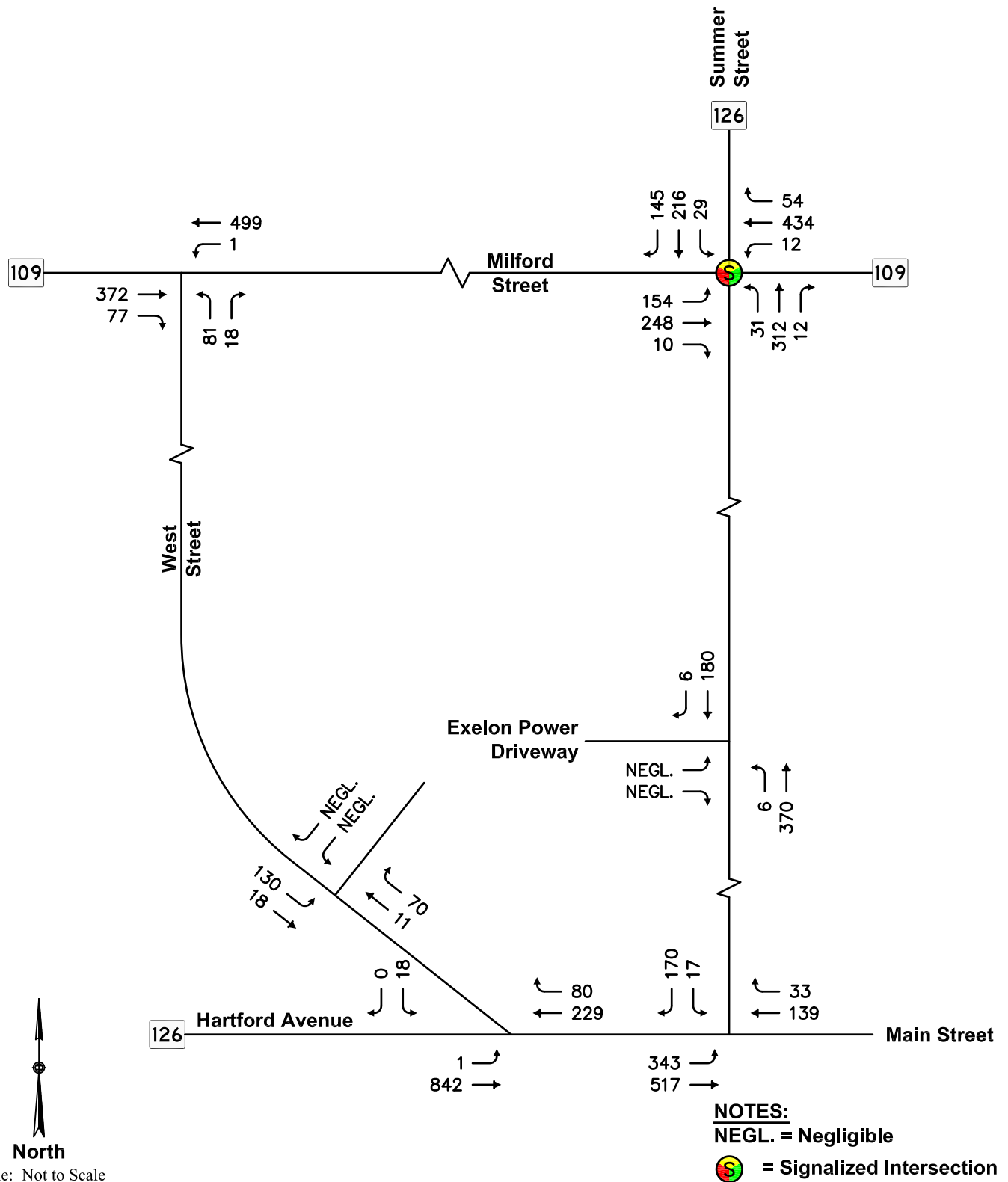
**West Medway II** **Medway, Massachusetts**

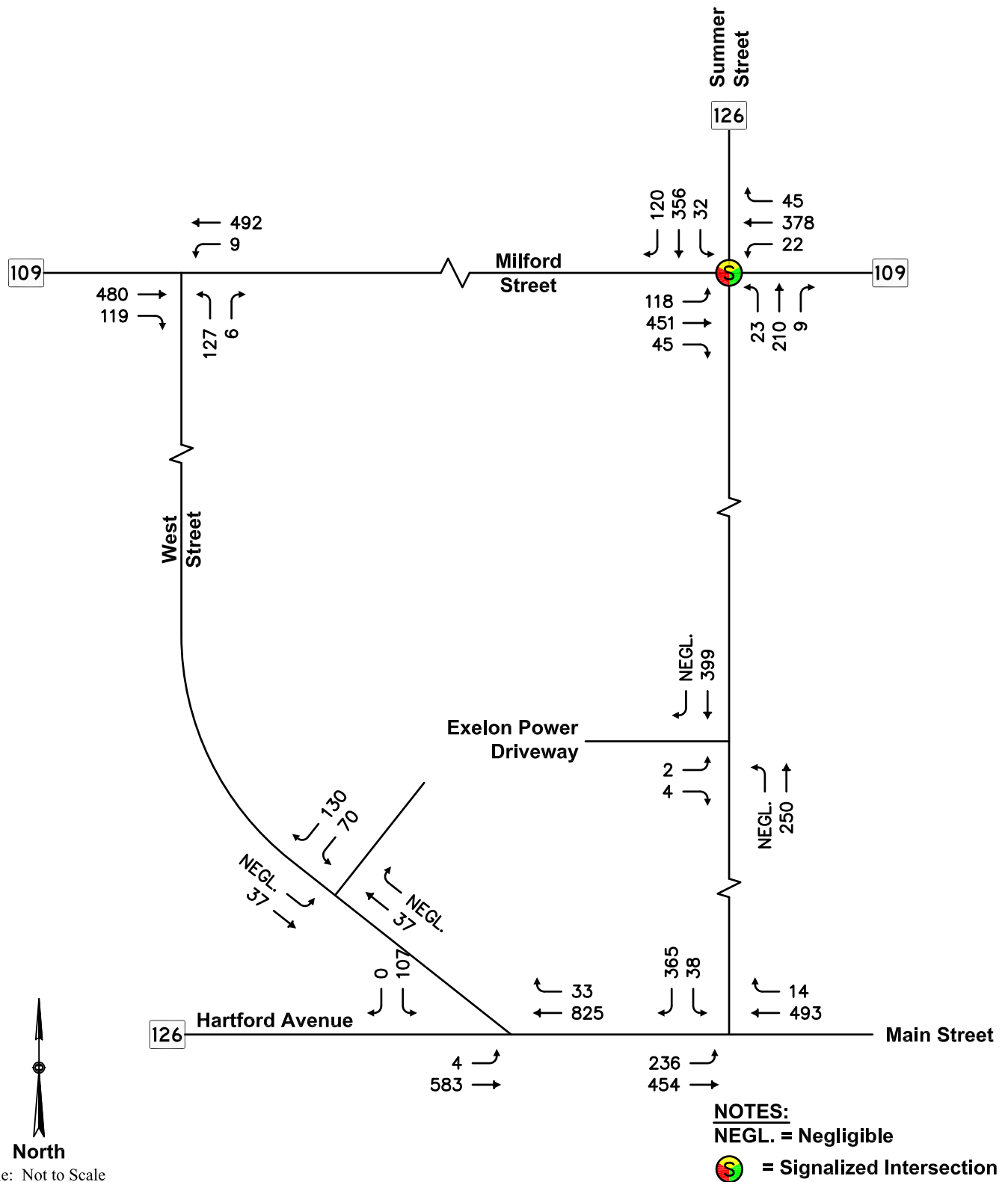


**West Medway II                      Medway, Massachusetts**









### 10.3.5.1 Analysis Methodology

Intersection capacity analyses are presented in this section for the Baseline, No-Build, and Build traffic-volume conditions for the construction arrival and departure periods. Capacity analyses, conducted in accordance with EEA/MassDOT guidelines, provide an index of how well the roadway facilities serve the traffic demands placed upon them. The operational results provide the basis for recommended access and roadway improvements in the following section.

Capacity analysis of intersections is developed using the Synchro® computer software, which implements the methods of the 2010 Highway Capacity Manual (HCM). The resulting analysis presents a LOS designation for individual intersection movements. The LOS is a letter designation that provides a qualitative measure of operating conditions based on several factors including roadway geometry, speeds, ambient traffic volumes, traffic controls, and driver characteristics. Since the LOS of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of LOS, depending on the time of day, day of week, or period of year. A range of six levels of service are defined on the basis of average delay, ranging from LOS A (the least delay) to LOS F (delays greater than 50 seconds for unsignalized movements and delays greater than 80 seconds for signalized movements).

### 10.3.5.2 Analysis Results – Construction Periods

LOS analyses were conducted for the Baseline, No-Build, and Build (Construction Period) conditions for the study intersections. The capacity analysis provided for the construction period has been calibrated based on observed vehicle delay characteristics for the unsignalized study intersections. The results of the intersection capacity for the construction period are summarized below for weekday morning and evening peak hours in Tables 10-8 and Table 10-9, respectively.

**Table 10-8 Intersection Capacity Analysis Results – Construction Period**

		Weekday Morning Peak Hour								
Period	Approach	2014 Baseline			2021 No-Build			2021 Build		
		v/c <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	v/c	Delay	LOS	v/c	Delay	LOS
Summer Street at Milford Street	Eastbound	0.33	9	A	0.35	9	A	0.36	9	A
	Westbound	0.72	25	C	0.73	26	C	0.73	27	C
	Northbound	0.68	29	C	0.69	30	C	0.68	30	C
	Southbound	0.68	27	C	0.70	28	C	0.73	30	C
	<b>Overall</b>	<b>0.72</b>	<b>22</b>	<b>C</b>	<b>0.73</b>	<b>23</b>	<b>C</b>	<b>0.73</b>	<b>24</b>	<b>C</b>
Summer Street at Exelon Dwy	Northbound	0.01	<5	A	0.01	<5	A	0.01	<5	A
	EB L/R Exit	0.00	<5	A	0.00	<5	A	0.00	<5	A
Main Street at Summer Street	Eastbound	0.25	<5	A	0.25	<5	A	0.27	<5	A
	SB L Exit	0.03	11	B	0.03	11	B	0.03	11	B
	SB R Exit	0.10	8	A	0.11	8	A	0.13	8	A



**Table 10-8 Intersection Capacity Analysis Results – Construction Period (Continued)**

**Weekday Morning Peak Hour**

Period	Approach	2014 Baseline			2021 No-Build			2021 Build		
		v/c <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	v/c	Delay	LOS	v/c	Delay	LOS
Route 126 at West Street	Eastbound	0.00	< 5	A	0.00	< 5	A	0.00	< 5	A
	SB L/R Exit	0.05	15	C	0.06	16	C	0.06	16	C
Route 109 at West Street	Westbound	0.00	< 5	A	0.00	< 5	A	0.00	< 5	A
	NB L Exit	0.20	14	B	0.21	14	B	0.22	15	B
	NB R Exit	0.03	10	A	0.03	10	A	0.03	10	A
West Street at Proposed Construction Driveway	Eastbound	n/a <sup>4</sup>	n/a	n/a	n/a	n/a	n/a	0.00	7	A
	SB I/R Exit	n/a	n/a	n/a	n/a	n/a	n/a	0.09	< 5	A

<sup>1</sup>Volume-to-capacity ratio

<sup>2</sup>Average control delay per vehicle (in seconds)

<sup>3</sup>Level of service

<sup>4</sup>Not applicable

**Table 10-9 Intersection Capacity Analysis Results – Construction Period**

**Weekday Evening Peak Hour**

Period	Approach	2014 Baseline			2021 No-Build			2021 Build		
		v/c <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	v/c	Delay	LOS	v/c	Delay	LOS
Summer Street at Milford Street	Eastbound	0.51	13	B	0.53	14	B	0.53	14	B
	Westbound	0.69	27	C	0.70	28	C	0.70	28	C
	Northbound	0.31	20	B	0.32	20	B	0.36	20	C
	Southbound	0.74	28	C	0.75	29	C	0.75	29	C
	<b>Overall</b>	<b>0.74</b>	<b>22</b>	<b>C</b>	<b>0.75</b>	<b>22</b>	<b>C</b>	<b>0.75</b>	<b>22</b>	<b>C</b>
Summer Street at Exelon Dwy	Northbound	0.00	< 5	A	0.00	< 5	A	0.00	< 5	A
	EB L/R Exit	0.01	13	B	0.01	13	B	0.01	13	B
Main Street at Summer Street	Eastbound	0.21	< 5	A	0.22	< 5	A	0.25	< 5	A
	SB L Exit	0.14	19	C	0.15	20	C	0.16	22	C
	SB R Exit	0.46	13	B	0.48	13	B	0.48	13	B
Route 126 at West Street	Eastbound	0.01	< 5	A	0.01	< 5	A	0.01	< 5	A
	SB L/R Exit	0.14	20	C	0.15	21	C	0.43	29	D
Route 109 at West Street	Westbound	0.01	< 5	A	0.01	< 5	A	0.01	< 5	A
	NB L Exit	0.16	14	B	0.17	15	B	0.32	17	C
	NB R Exit	0.01	10	A	0.01	10	A	0.01	10	A
West Street at Proposed Construction Driveway	Eastbound	n/a <sup>4</sup>	n/a	n/a	n/a	n/a	n/a	0.00	< 5	A
	SB I/R Exit	n/a	n/a	n/a	n/a	n/a	n/a	0.09	10	A

<sup>1</sup>Volume-to-capacity ratio

<sup>2</sup>Average control delay per vehicle (in seconds)

<sup>3</sup>Level of service

<sup>4</sup>Not applicable

As summarized in Table 10-8 and Table 10-9:

- ◆ *Summer Street at Milford Street.* The signalized Summer Street at Milford Street intersection will continue to operate below capacity at overall LOS C or better operations the peak construction period.
- ◆ *Summer Street at Exelon Driveway.* Under peak construction conditions, the Exelon Driveway approach to Summer Street will operate at LOS B or better operations. Mainline operations Summer Street are expected to continue to operate well below capacity at LOS A operations with minimal delay.
- ◆ *Unsignalized approaches to Routes 126 and 109.* Under peak construction conditions, left turns from unsignalized side streets onto Route 126 and Route 109 will continue to operate at LOS D or better operations.
- ◆ *West Street at Proposed Construction Driveway.* The proposed Construction driveway along West Street will operate well below capacity with nominal delay during the peak construction periods.

In summary, incremental traffic increases at the study intersections during the construction period will be adequately accommodated below-capacity with LOS D or better operations expected.

### 10.3.5.3 Construction Period – Shift Further Off-Peak

Subsequent to the data collection, the anticipated construction workday has been shifted to be from 6:00 am to 6:00 pm with construction access being via West Street. To reflect the conservative nature of the capacity results provided in the study, Table 10-10 and Table 10-11 summarize the traffic volume differences along Summer Street and West Street for the construction worker arrival period between 5:00 – 6:00 AM and departure period between 6:00 – 7:00 PM compared the time periods assumed in this traffic report.

**Table 10-10 Traffic Volume Comparison – Summer Street north of Site Driveway**

<i>Time Period</i>	<i>Wednesday<sup>1</sup></i>	<i>Thursday<sup>2</sup></i>	<i>Average<sup>3</sup></i>
<i>Morning Construction Arrival Period</i>			
5:00-6:00 AM	225	223	224
6:00-7:00 AM	<u>487</u>	<u>442</u>	<u>465</u>
<b>Difference<sup>4</sup></b>	<b>-262 (-54%)</b>	<b>-219 (-50%)</b>	<b>-241 (-52%)</b>

**Table 10-10 Traffic Volume Comparison – Summer Street north of Site Driveway (Continued)**

<i>Time Period</i>	<i>Wednesday<sup>1</sup></i>	<i>Thursday<sup>2</sup></i>	<i>Average<sup>3</sup></i>
<i>Evening Construction Departure Period</i>			
3:00-4:00 PM	566	598	582
6:00-7:00 PM	<u>528</u>	<u>528</u>	<u>528</u>
<b>Difference<sup>5</sup></b>	<b>-32 (-6%)</b>	<b>-78 (-13%)</b>	<b>-54 (-9%)</b>

<sup>1</sup>Collected on September 17, 2014

<sup>2</sup>Collected on September 18, 2014

<sup>3</sup>Average volume during time period

<sup>4</sup>Volume Difference from 5:00-6:00 AM to 6:00-7:00 AM (as shown in the traffic report)

<sup>5</sup>Volume Difference from 6:00-7:00 PM to 3:00-4:00 PM (as shown in the traffic report)

**Table 10-11 Traffic Volume Comparison – West Street west of Site Driveway**

<i>Time Period</i>	<i>Thursday<sup>1</sup></i>	<i>Tuesday<sup>2</sup></i>	<i>Average<sup>3</sup></i>
<i>Morning Construction Arrival Period</i>			
5:00-6:00 AM	9	13	11
6:00-7:00 AM	<u>32</u>	<u>28</u>	<u>30</u>
<b>Difference<sup>4</sup></b>	<b>-23 (-72%)</b>	<b>-15 (-54%)</b>	<b>-19 (-63%)</b>
<i>Evening Construction Departure Period</i>			
3:00-4:00 PM	64	66	65
6:00-7:00 PM	<u>63</u>	<u>49</u>	<u>56</u>
<b>Difference<sup>5</sup></b>	<b>-1 (-2%)</b>	<b>-17 (-35%)</b>	<b>-9 (-16%)</b>

<sup>1</sup>Collected on September 17, 2015

<sup>2</sup>Collected on September 22, 2015

<sup>3</sup>Average volume during time period

<sup>4</sup>Volume Difference from 5:00-6:00 AM to 6:00-7:00 AM

<sup>5</sup>Volume Difference from 6:00-7:00 PM to 3:00-4:00 PM

As summarized in Table 10-10 and Table 10-11 above,

*Summer Street*

- ◆ The traffic volumes in the area are approximately 52% lower during the 5:00 – 6:00 AM period compared to the 6:00 – 7:00 AM period shown in the traffic report.
- ◆ The traffic volumes in the area are approximately 9% lower during the 6:00 – 7:00 PM period compared to the 3:00 – 4:00 PM period shown in the traffic report.

### *West Street*

- ◆ The traffic volumes in the area are approximately 63% lower during the 5:00 – 6:00 AM period compared to the 6:00 – 7:00 AM period shown in the traffic report.
- ◆ The traffic volumes in the area are approximately 16% lower during the 6:00 – 7:00 PM period compared to the 3:00 – 4:00 PM period shown in the traffic report.

In summary, traffic volumes during the revised construction arrival and departure periods are considerably lower than analyzed as part of this report. Therefore, the capacity analysis result for the construction period which indicated that incremental traffic increases at the study intersections during the construction period will be adequately accommodated below-capacity with LOS D or better operations expected is conservative and no supplemental analysis is required.

## **10.4 Future Conditions**

The traffic study included the establishment of a future baseline analysis condition to estimate future roadway and traffic conditions with and without the Project. For this evaluation, a seven-year planning horizon (year 2021) was selected consistent with industry standard guidelines. (In practice, a 2016/2017 planning period is anticipated and would result in improved conditions compared to the analysis shown.)

To determine the impact of site-generated traffic volumes on the roadway network under future conditions, baseline traffic volumes in the study area were projected to a future year condition. Traffic volumes on the roadway network at that time, in the absence of the development (that is, the No-Build condition), includes existing (baseline) traffic, new traffic due to general background traffic growth, and traffic related to specific developments by others that are currently under review at the local and/or state level. Consideration of these factors resulted in the development of No-Build traffic volumes. Anticipated site-generated traffic volumes were then superimposed upon these No-Build traffic-flow networks to develop future Build conditions.

The traffic study's findings for future No-Build traffic volumes and projected Build traffic volumes are provided below.

### **10.4.1 Background Growth**

Background traffic includes demand generated by other planned developments in the area as well as demand increases caused by external factors. External factors are general increases in traffic not attributable to a specific development and are determined using historical data.

Nearby permanent count station data published by MassDOT indicates a negative average growth rate. For purposes of this planning evaluation, a 0.5 percent growth rate was used (3.6 percent increase over a 7-year horizon). This growth rate is slightly higher than historic rates, and as such is also expected to account for any small fluctuation in hourly traffic as may occur from time to time in the study area. MassDOT permanent count station data and background growth calculations are provided in the Attachment G.

Additionally, the peak use of the Exelon Project under a worst-case peak operating scenario, which has never occurred at the existing station, over a 24 hour period may increase traffic at the study intersection compared to baseline conditions.

For planning purposes the traffic study assumed the following:

- ◆ Maximum fuel firing rate for 135 MW generated over a 24-hour weekday period;
- ◆ Maximum oil consumption for existing units is 17,000 gallons per hour;
- ◆ Replenishment of on-site fuel oil storage up to 408,000 gallons per day;
- ◆ 2 inbound and 2 outbound fuel oil delivery truck trips per hour;
- ◆ Oil delivery loads of 9,000 gallon loads per truck;
- ◆ Maximum fuel dispensing rate of approximately 45 minutes/truck;
- ◆ 2 existing fuel dispensing stations; and
- ◆ 12 existing full-time employees (no change).

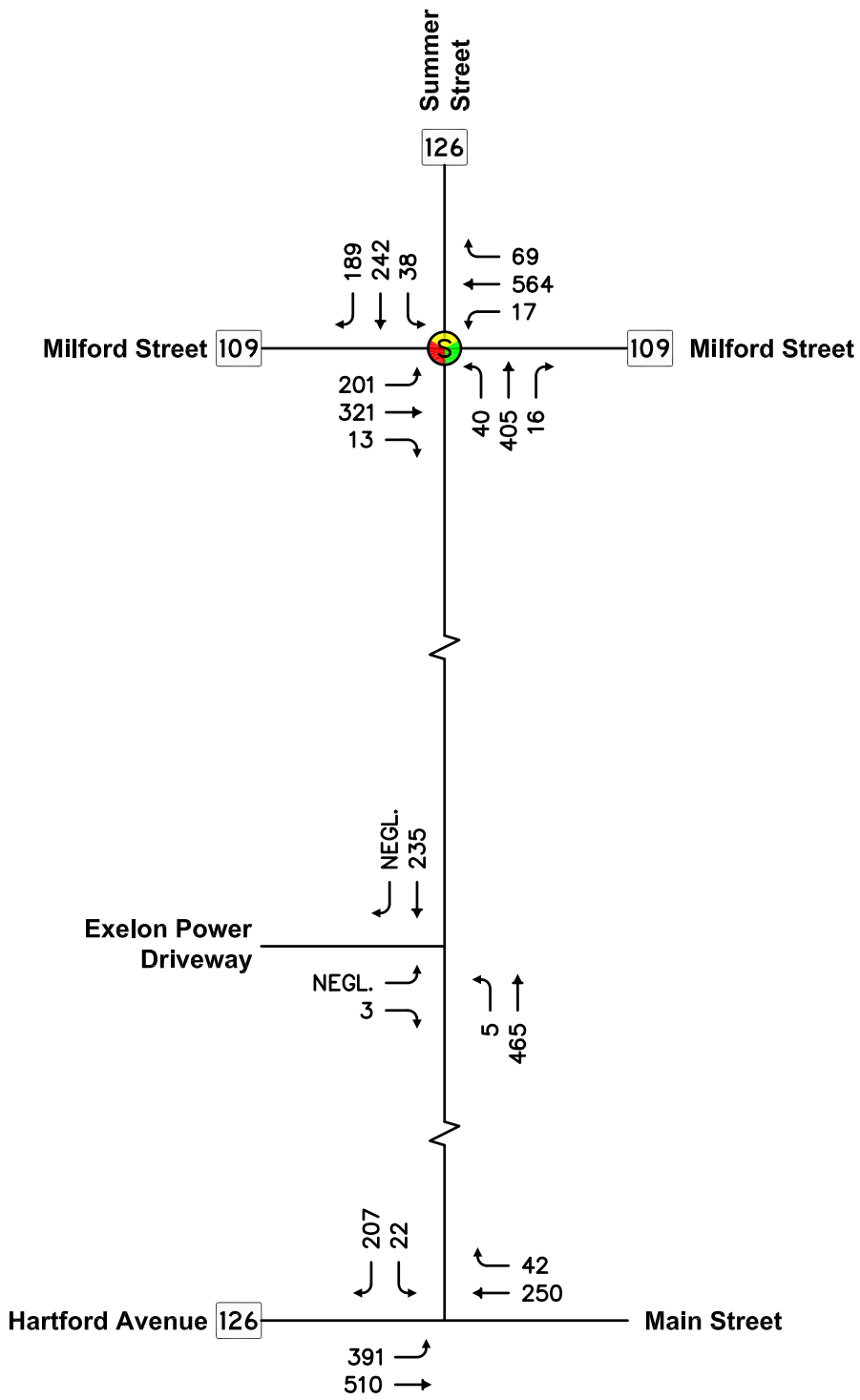
#### ***10.4.2 2021 No-Build Traffic Volume Networks***

In summary, to account for future traffic growth in the study area future No-Build traffic volumes are developed by increasing the baseline (2014) volumes by approximately 3.6 percent (0.5 percent compounded annually over 7 years) as well as the addition of 2 inbound and 2 outbound fuel oil delivery trucks from the existing station as described above. The resulting 2021 No-Build traffic volumes are displayed in Figure 10-16 and Figure 10-17.


#### ***10.4.3 Trip Generation***

Traffic generated by the proposed Project will be comprised of employee-related trips, truck trips associated with replenishment of oil, and service-vehicle related trips. Daily and hourly trip generation will vary from day to day based on the supplemental power generation needs of the area. To present a conservative (worst case) scenario, trip generation for the Project is estimated based on a peak operating scenario and full employment at the site.

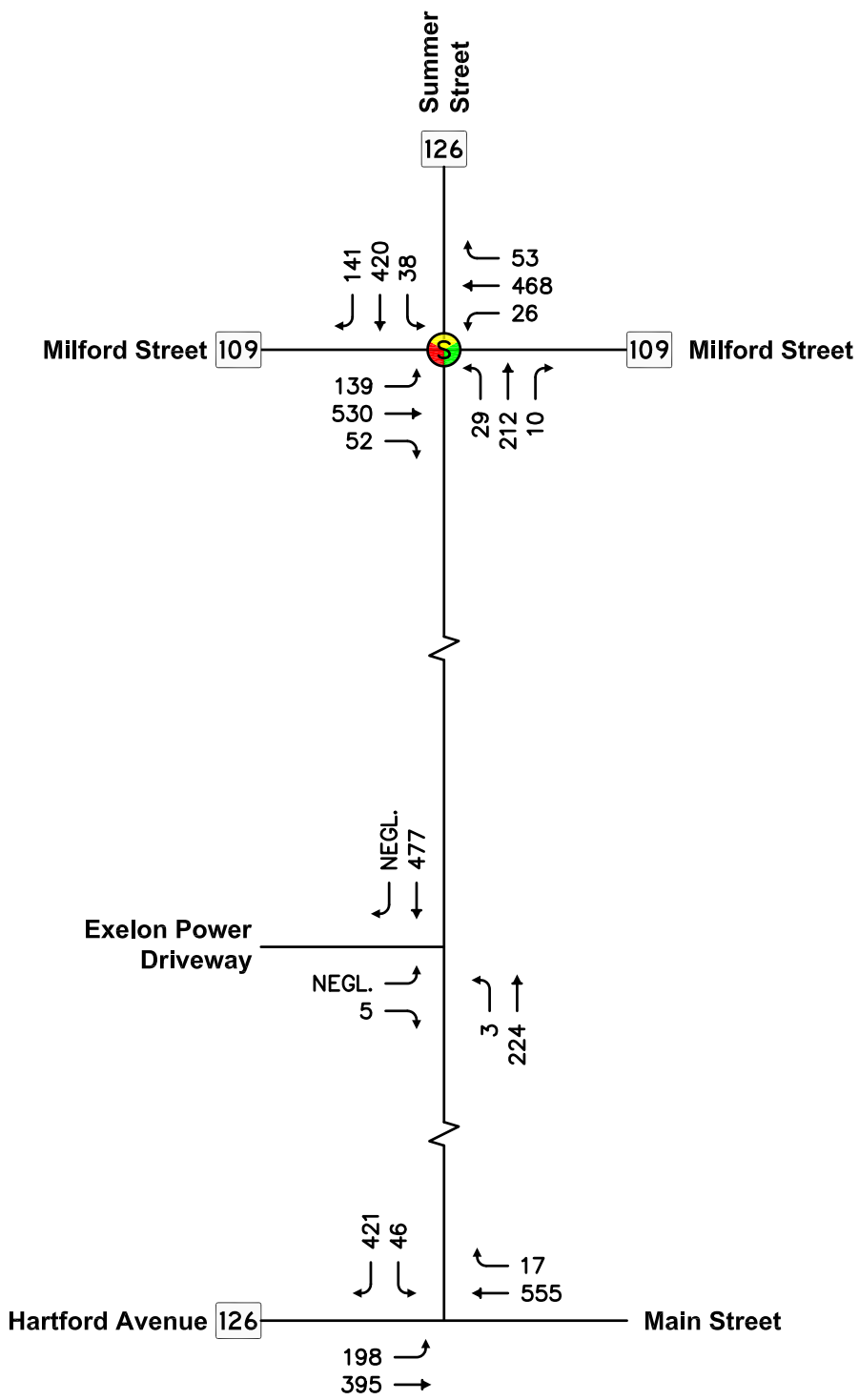
With regard to employee parking, the area designated as existing owner parking (currently used by employees and visitors of the existing station) will continue to be parking for the existing station workers and visitors. Employees and visitors of the proposed Project will use the new spaces designated on-site with access/egress via the Summer Street driveway.



**NOTES:**  
 NEGL. = Negligible  
 = Signalized Intersection

  
**North**  
 Scale: Not to Scale

**West Medway II Medway, Massachusetts**



**NOTES:**  
 NEGL. = Negligible  
 = Signalized Intersection

North  
 Scale: Not to Scale

### 10.4.3.1 Empirical Trip Generation

Exelon currently anticipates that 4 of the new employees would work from 7:00 a.m. to 3:00 p.m. and 2 would work the 3:00 p.m. to 11:00 p.m. shift. It is possible that after construction of the proposed Project, the Project Site could be manned 24 hours per day in which case there would be two employees on an 11:00 p.m. to 7:00 a.m. shift.

Due to the rather limited number of on-site employees, “off-peak” shift times and weekday-only operating periods for the Project indicate that daily and peak-hour trip generation for the Project will be nominal under typical operating conditions. However, potential trip activity is estimated under a worst-case operational scenario, which assumes the following conditions:

- ◆ Maximum fuel firing rate for 200 MW generated over a 24-hour weekday period;
- ◆ Maximum oil consumption for two units is 15,200 gallons per hour;
- ◆ Replenishment of on-site fuel oil storage up to 364,800 gallons per day;
- ◆ 2 inbound and 2 outbound fuel oil delivery truck trips per hour;
- ◆ Oil delivery loads of 9,000 gallon loads per truck;
- ◆ On-site oil storage capacity of 1,000,000 gallons;
- ◆ One wastewater truck per day (Actual estimate is 1± truck per week);
- ◆ Several service vehicle (vans) trips per week;
- ◆ One (1) ammonia truck per week with 8,000 gallons delivered per truck (Actual estimate is 1-2 per month);
- ◆ Maximum fuel dispensing rate of approximately 45 minutes/truck;
- ◆ 1 new fuel dispensing stations + 2 existing fuel dispensing stations; and
- ◆ 6 new full-time employees.

Table 10-12 summarizes the empirically-derived trip estimates for the proposed Project under a peak operating scenario. As summarized therein, under the peak operating scenario, the proposed Project is estimated to generate approximately 98 total daily vehicle-trips, with the majority (86 trips) associated with delivery trucks (fuel oil and service trucks). Peak hour trip generation is estimated at seven vehicle-trips during a weekday morning peak hour and seven vehicle-trips during a weekday evening peak hour. For planning purposes, the expected duration of the peak operating scenario is 24 hours per day and up



to 30 days per year. Peak hour trip generation by the proposed Project is estimated at 5 vehicle-trips during a weekday morning peak hour and 5 vehicle-trips during a weekday evening peak hour.

**Table 10-12 Trip Generation Summary, Peak Site Operations**

<i>Peak Hour/Direction</i>	<i>Peak Operation Vehicle-trips<sup>1</sup></i>		
	<i>Trucks<sup>2</sup></i>	<i>Employees<sup>3</sup></i>	<i>Total</i>
<i>Morning Peak Hour:</i>			
Entering	2	1	3
<u>Exiting</u>	<u>2</u>	<u>0</u>	<u>2</u>
Total	4	1	5
<i>Evening Peak Hour:</i>			
Entering	2	0	2
<u>Exiting</u>	<u>2</u>	<u>1</u>	<u>3</u>
Total	4	1	5
<i>Weekday Daily<sup>1</sup></i>	86	12	98

<sup>1</sup>Assumes peak facility power generation scenario for the Proposed Project; trips associated with full employment and associated fuel replenishment to achieve peak facility power output over a 24-hour weekday period.

<sup>2</sup>Assumes a maximum fuel consumption per hour and replacement evenly distributed over a 22 hour period and service trucks.

<sup>3</sup>Based on empirical trip rates for the Site per employee for 6 additional employees.

The “peak” operating scenario differs from the average expected operational scenario in which the proposed Project would utilize natural gas which is proposed to be piped into the Project, thus resulting in no demand for oil deliveries via trucks. The trips generated by the Project (existing and proposed) under an average operational scenario would primarily be from employees consisting of approximately 40 trips per day which is nominal.

*Note:* Under a worst case operational scenario with both the existing and proposed facilities experiencing peak operating conditions, the Site would generate 7.3 truck trips per hour (3.6 entering and 3.6 exiting trips) and approximately 175.2 truck trips per day (approximately 87.6 entering and 87.6 exiting). This anticipates that six trucks per hour would be delivering fuel to both the existing station and the Proposed Project. This theoretical “worst case” operating scenario assumes that both the existing station and the proposed Project will be operating simultaneously at 100% burn rate on all units exclusively using oil as fuel. However, these conditions have never previously been observed at the existing Summer Street site.

Furthermore, even under this worst case operating scenario (existing station and Proposed Project), the impact of the proposed Project will be nominal with respect to traffic operations. The worst case scenario of 176 trucks per day would result in 8 truck trips per

hour generated by the site (4 entering and 4 exiting trips) assuming a 22-hour delivery period (excludes deliveries during the weekday morning and weekday evening peak hour as recommended by the Town). The resulting truck trips would be approximately 1 directional trip every 15 minutes under worst case operations for both the existing station and Proposed Project simultaneously which would have a nominal impact to traffic operations. Although the traffic study has determined that there would be nominal impact due to the proposed project during the roadway peak hours, Exelon is further prepared to limit deliveries to periods outside of the peak hours if recommended by the Town.

#### **10.4.4 Trip Distribution**

Primary routes to/from the site associated with employee and truck-related trips are presented below.

##### ***Site Access Routes***

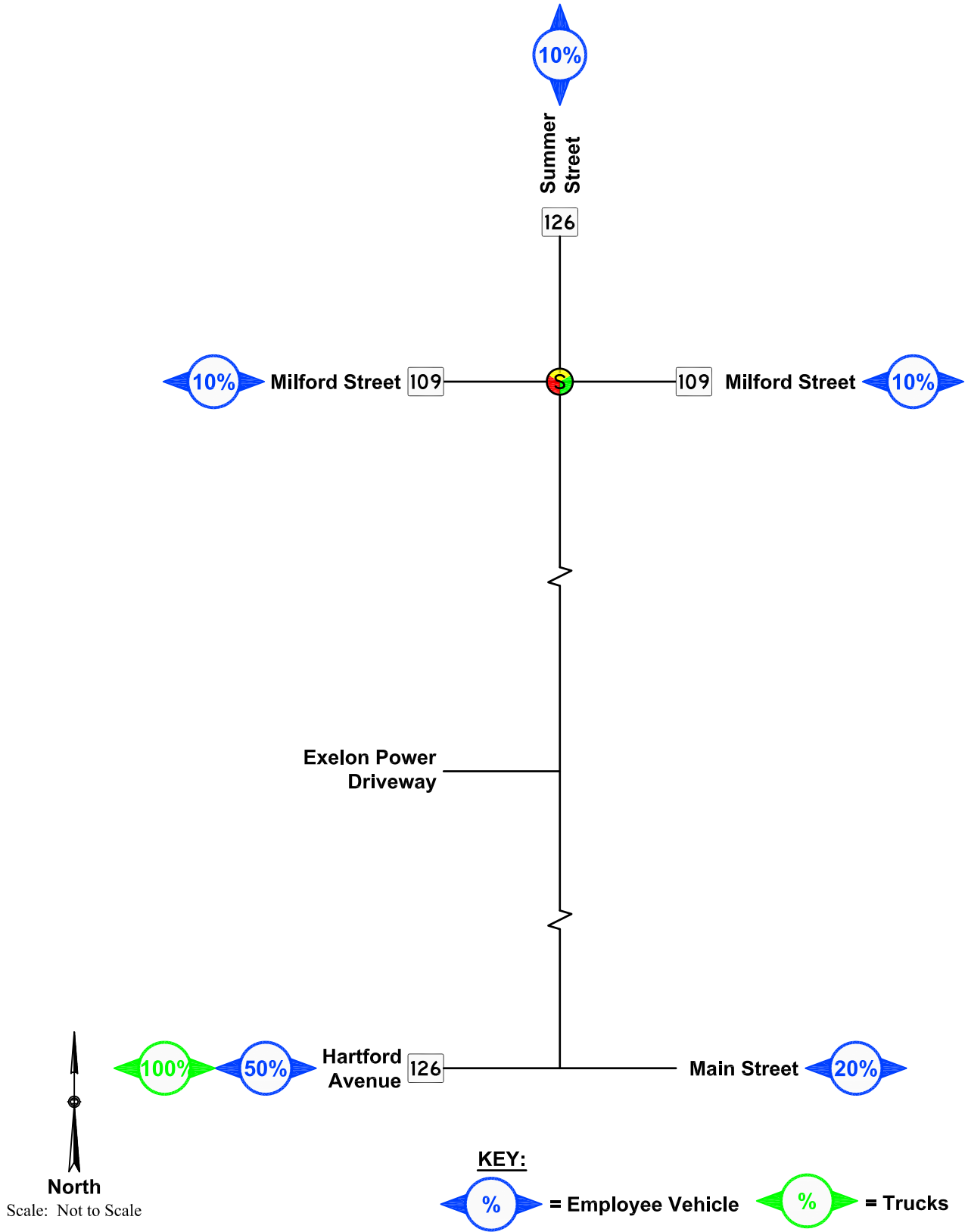
Employee-related trips to/from the site will use I-495, Route 109, and Route 126 consistent with existing employment at the Site by Exelon. According to the Proponent truck trips associated with replenishment of fuel supplies (oil) at the site will originate from Providence, RI. As a result, trucks destined to/from the Project will solely use Route I-495 to/ from the south and Route 126 to/from the west. These roadways are well established commercial truck routes, and provide the most direct and efficient means of travel to the Site.

The distribution for projected traffic for the employees of the proposed Project is based on existing travel patterns and volumes of the adjacent roadway system. The distribution of project truck traffic for the proposed Project was based on the nearby highway system and discussions with the project proponent. The resulting trip distribution is presented in Figure 10-18, with employee percentages shown in blue and truck percentages shown in green.

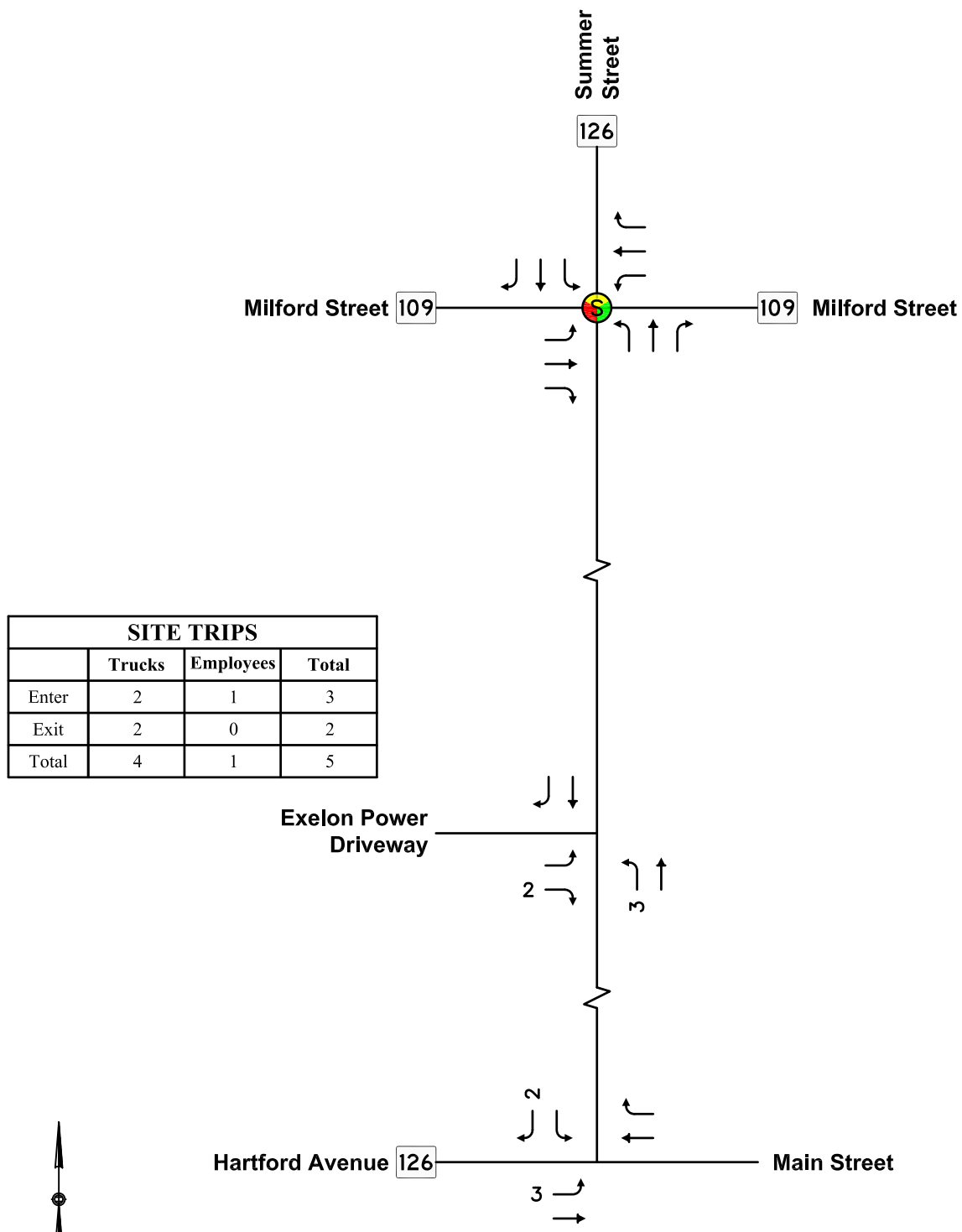
Development-related trips for the proposed Site are assigned to the roadway network using the ITE trip-generation estimates shown in Table 10-12 and the distribution patterns presented in Figure 10-18. Development-related trips at each intersection approach for the weekday morning and weekday evening peak hours are quantified in Figure 10-19 and Figure 10-20, respectively.

#### **10.4.5 2021 Build Traffic Volume Networks**

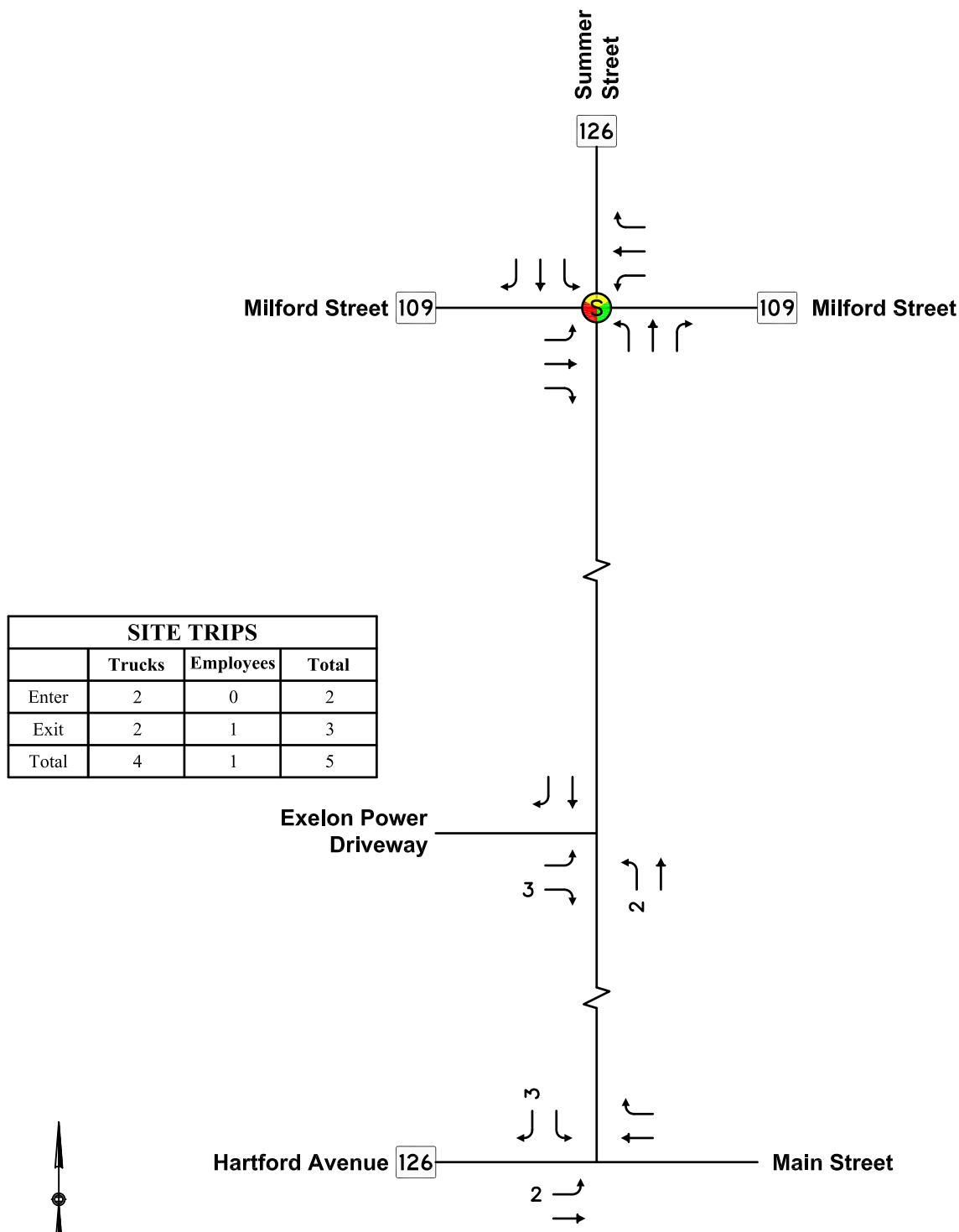
2021 Build condition traffic volumes are derived by adding the incremental traffic increases for the Site to the 2021 No-Build conditions. Figure 10-21 and Figure 10-22 present the 2021 Build condition traffic-volume networks for the weekday morning and weekday evening peak hours.




**West Medway II                      Medway, Massachusetts**

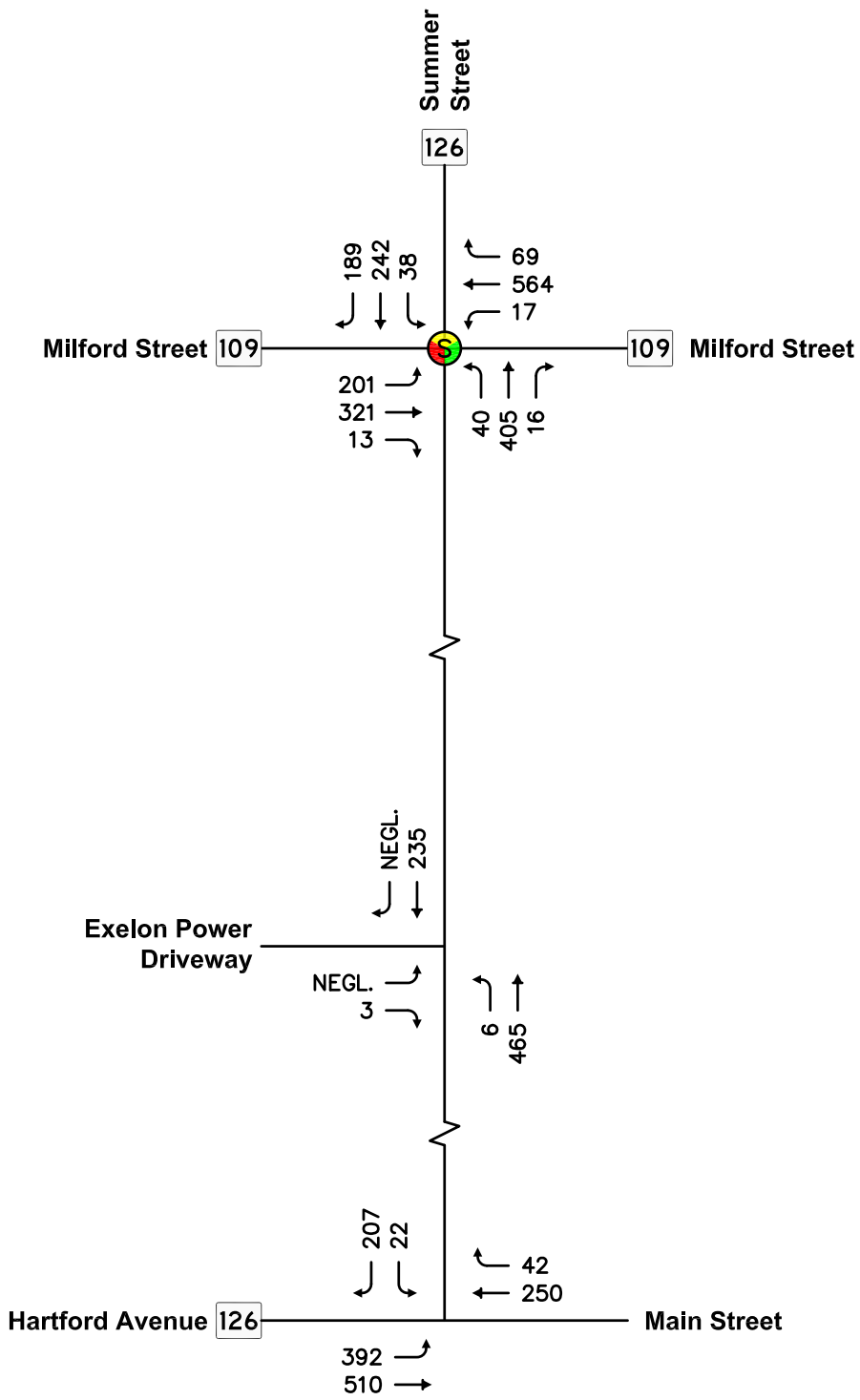


**NOTES:**  
 NEGL. = Negligible  
 = Signalized Intersection



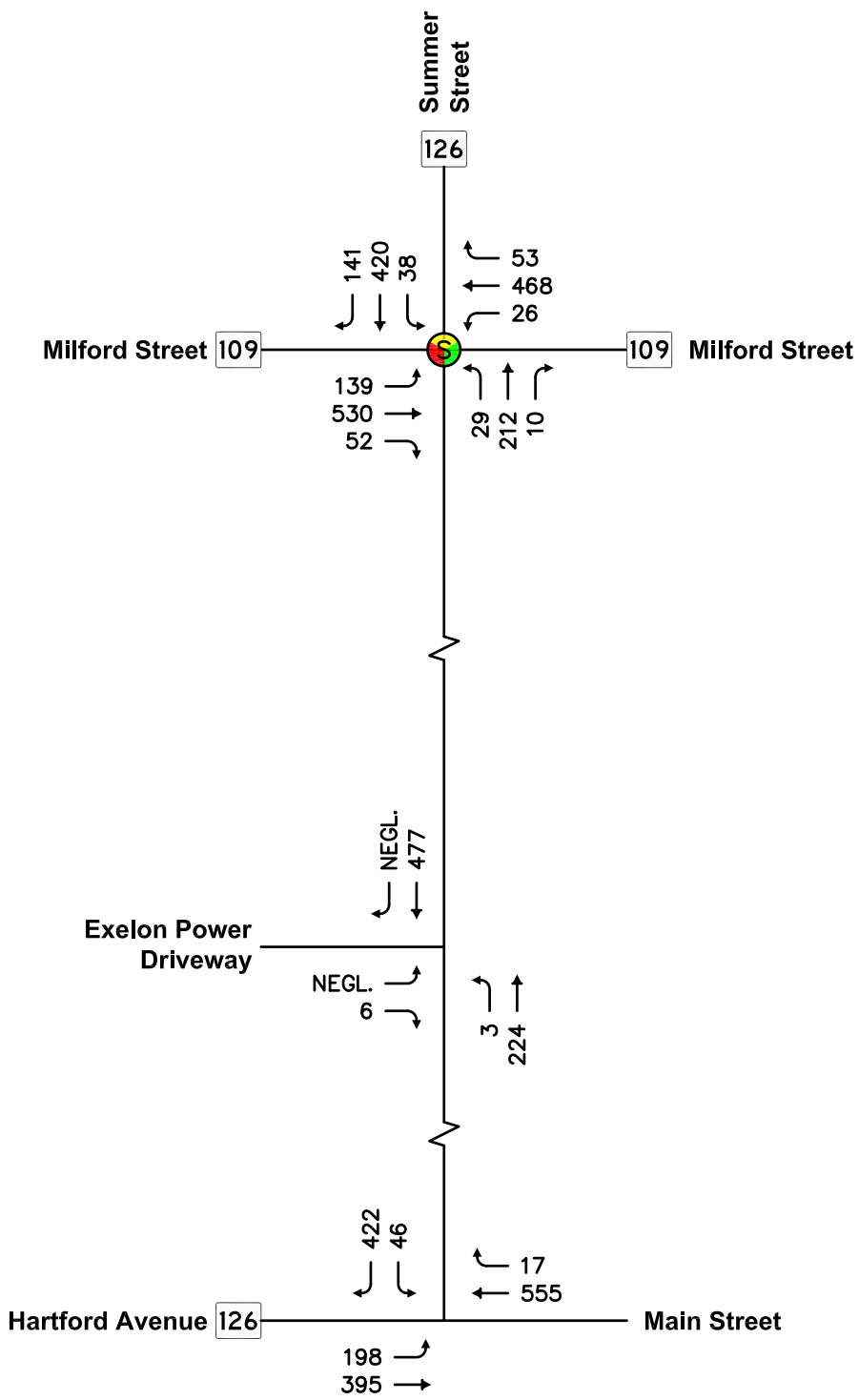
Scale: Not to Scale

**NOTES:**  
 NEGL. = Negligible  
 = Signalized Intersection



**NOTES:**  
 NEGL. = Negligible  
 = Signalized Intersection

North  
 Scale: Not to Scale



**NOTES:**  
 NEGL. = Negligible  
 = Signalized Intersection

North  
 Scale: Not to Scale

### 10.4.6 Capacity Analysis Results

LOS analyses were conducted for the Baseline, No-Build, and Build conditions for the study intersections. The results of the intersection capacity are summarized below in Table 10-13 and Table 10-14.

**Table 10-13 Intersection Capacity Analysis Results, Weekday Morning Peak Hour**

Period	Approach	2014 Baseline			2021 No Build			2021 Build		
		v/c <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	v/c	Delay	LOS	v/c	Delay	LOS
Summer Street at Milford Street	Eastbound	0.51	12	B	0.54	12	B	0.54	12	B
	Westbound	0.82	32	C	0.84	34	C	0.84	34	C
	Northbound	0.83	41	D	0.85	43	D	0.85	43	D
	Southbound	<u>0.83</u>	<u>40</u>	<u>D</u>	<u>0.85</u>	<u>42</u>	<u>D</u>	<u>0.85</u>	<u>42</u>	<u>D</u>
	<b>Overall</b>	<b>0.83</b>	<b>31</b>	<b>C</b>	<b>0.85</b>	<b>32</b>	<b>C</b>	<b>0.85</b>	<b>32</b>	<b>C</b>
Summer Street at Exelon Dwy	Northbound	0.00	<5	A	0.00	<5	A	0.01	<5	A
	EB L/R Exit	0.00	11	B	0.00	11	B	0.01	11	B
Main Street at Summer Street	Eastbound L	0.32	9	A	0.34	9	A	0.34	9	A
	SB L Exit	0.28	>50	F	0.33	>5	F	0.33	>50	F
	SB R Exit	0.28	12	B	0.29	0	B	0.30	12	B

<sup>1</sup>Volume-to-capacity ratio

<sup>2</sup>Average control delay per vehicle (in seconds)

<sup>3</sup>Level of service

**Table 10-14 Intersection Capacity Analysis Results, Weekend Evening Peak Hour**

Period	Approach	2014 Baseline			2021 No Build			2021 Build		
		v/c <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	v/c	Delay	LOS	v/c	Delay	LOS
Summer Street at Milford Street	Eastbound	0.55	15	B	0.57	15	B	0.57	15	B
	Westbound	0.80	33	C	0.82	35	C	0.82	35	C
	Northbound	0.39	23	C	0.40	24	C	0.40	24	C
	Southbound	<u>0.86</u>	<u>39</u>	<u>D</u>	<u>0.88</u>	<u>41</u>	<u>D</u>	<u>0.88</u>	<u>41</u>	<u>D</u>
	<b>Overall</b>	<b>0.86</b>	<b>27</b>	<b>C</b>	<b>0.88</b>	<b>29</b>	<b>C</b>	<b>0.88</b>	<b>29</b>	<b>C</b>
Summer Street at Exelon Dwy	Northbound	0.00	<5	A	0.00	<5	A	0.00	<5	A
	EB L/R Exit	0.00	11	B	0.00	11	B	0.01	13	B
Main Street at Summer Street	Eastbound L	0.20	9	A	0.21	10	A	0.22	10	A
	SB L Exit	0.37	49	E	0.42	>5	F	0.42	>50	F
	SB R Exit	0.83	38	E	0.89	0	E	0.89	47	E

<sup>1</sup>Volume-to-capacity ratio

<sup>2</sup>Average control delay per vehicle (in seconds)

<sup>3</sup>Level of service

As summarized in the above Table 10-13 and Table 10-14:

- ◆ *Summer Street at Milford Street:* The signalized Summer Street at Milford Street intersection will operate below capacity at overall LOS C or better operations under future No-Build conditions during the weekday morning and weekday evening peak



hours. Under future Build conditions, the intersection will continue to operate at overall LOS C or better operations during the peak hours with only negligible increases in delay compared to No-Build conditions.

- ◆ *Summer Street at Exelon Driveway:* Under Build conditions, the Medway Station Driveway approach to Summer Street will operate at LOS B or better operations during the peak hours. Mainline operations Summer Street are expected to continue to operate well below capacity at LOS A operations with minimal delay.
- ◆ *Main Street at Summer Street:* Under existing and No-Build conditions, left turns from Summer Street onto Main Street operate with long delays during the peak hours. However, these calculated delays overestimate actual measured delays which are documented below to be 20 seconds or less (see Section 10.4.6 for further details). Right turn movements from Summer Street onto Main Street operate with only minor delays during the weekday morning peak hour and with long delays during the weekday evening peak hour. Under Build conditions, the Summer Street approach to Main Street will operate with only minor increases in delay compared to No-Build conditions.

In summary, incremental traffic increases at the study intersections due to the proposed development result in inconsequential changes in intersection operations compared to No-Build conditions. Therefore, no additional roadway improvements are warranted to accommodate the project.

#### **10.4.7 Delay Study**

A Stop Sign Delay study was conducted for the Summer Street approach to Main Street to determine the actual average delay for vehicles turning left and right from Summer Street onto Main Street. The delay study specifically measured average stopped delay for Summer Street vehicles approaching for turns onto the Main Street traffic stream. A comparison of the actual average vehicle delay observed in the field to the calculated delay results provided by HCM methodology is shown in Table 10-15 below.

**Table 10-15 Average Vehicle Delay Comparison Main Street at Summer Street – Baseline Conditions**

<i>Time Period/Approach</i>	<i>Calculated Results<sup>1</sup></i>			<i>Observed Results<sup>2</sup></i>		
	<i>Average Vehicle Delay (seconds)</i>	<i>Maximum Vehicle Queue (vehicles)</i>	<i>LOS</i>	<i>Average Vehicle Delay (seconds)</i>	<i>Maximum Vehicle Queue (vehicles)</i>	<i>LOS</i>
<i>Weekday Morning Peak Hour (7:00 – 8:00 am)</i>						
Summer Street L Exit	67	1	F	12	2	B
Summer Street R Exit	12	1	B	5	8	A
<i>Weekday Evening Peak Hour (4:45 – 5:45 pm)</i>						
Summer Street L Exit	49	2	E	20	3	C
Summer Street R Exit	38	8	E	15	10	A

<sup>1</sup>Based on Highway Capacity Manual methodology.

<sup>2</sup>Based on field data collected on January 6, 2015.

As summarized in Table 10-15, a comparison of the actual average vehicle delay observed in the field to the calculated delay results provided by HCM methodology reveals that the HCM methodology produces an overly conservative delay analysis for the conditions on Summer Street. Specifically, calculated average delays suggest that the Summer Street approach to Main Street currently operate with average delays ranging from 49 to 67 seconds for left turn movements and 12 to 38 seconds for right turn movements during the weekday morning and evening peak hours. Observed average delays are significantly lower with average delays ranging from 12 to 20 seconds for left turn movements and 5 to 15 second for right turn movements during the weekday morning and weekday evening peak hours. Since the actual vehicle delays associated with the baseline condition are significantly less than reported and the project will add less than 5 vehicles per hour approaching Main Street, the project is not expected to have any substantial impact on the intersection operations.

## 10.5 Mitigation

Trip generation for the Project is projected to be nominal with approximately 5 new vehicles per hour or less during commuter peak hours. The traffic study has found that incremental traffic associated with the Project is not expected to materially impact operating conditions at the study intersections. Study intersections exhibit below-average crash rates based on historic crash data; safety countermeasures are therefore not warranted. Likewise, the available sight lines at the proposed site driveway intersection with Summer Street and proposed construction site driveway intersection with West Street exceed the recommended minimum sight line requirements from AASHTO for the posted speed limit and observed travel speeds.

The traffic study recommends the following access improvements, on-site circulation/traffic management improvements, and a construction traffic management plan that support the proposed operational needs of the Project while minimizing impact to adjacent roadways.

### **10.5.1 Site Access Improvements**

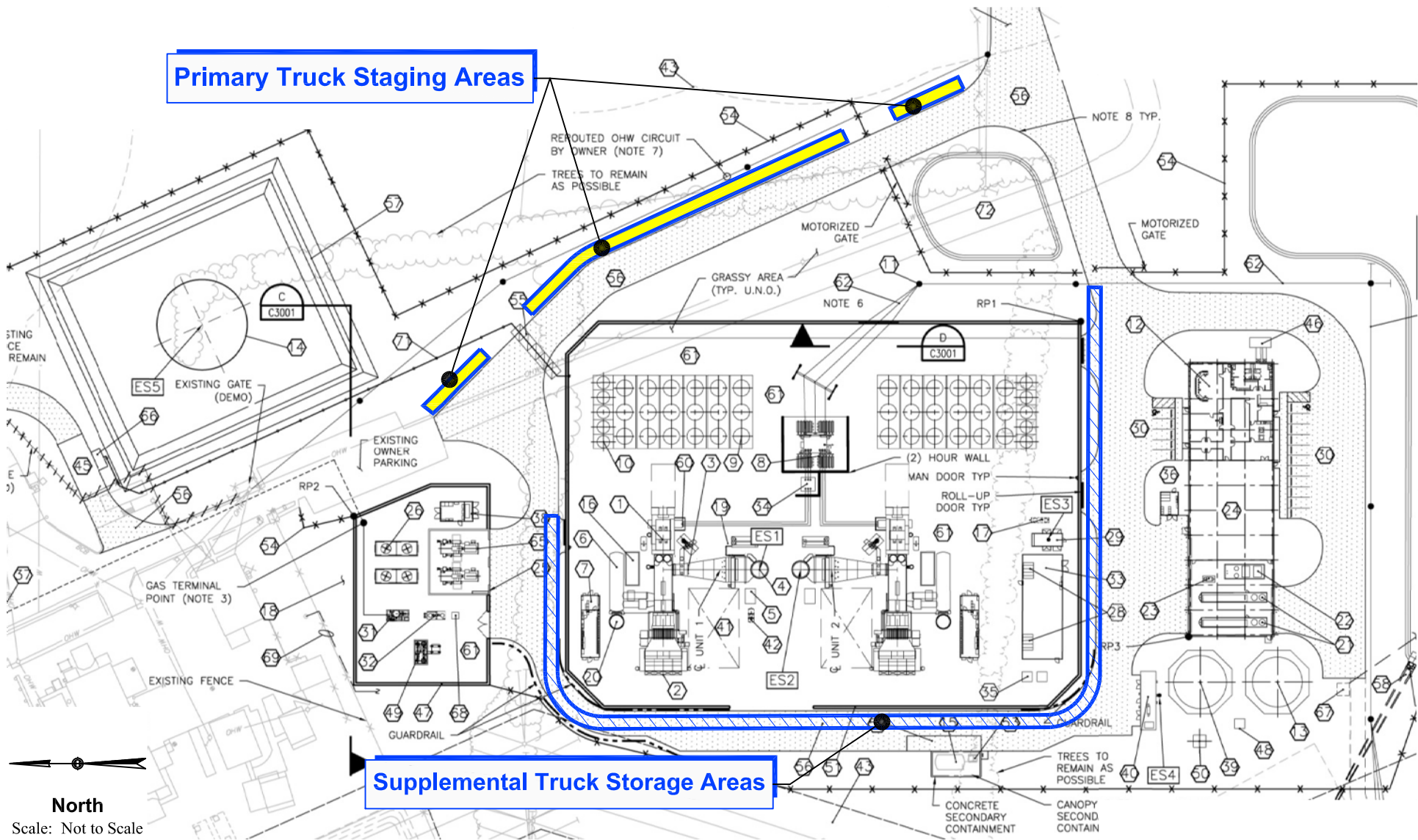
The Proponent has identified the following site access improvements:

- ◆ A STOP sign (R1-1) and STOP line pavement marking is recommended on driveway approach to Summer Street. The sign and pavement marking shall be compliant with the Manual on Uniform Traffic Control Devices (“MUTCD”).
- ◆ Plantings (shrubs, bushes) and structures (walls, fences, etc.) should be maintained at a height of two feet or less above the adjacent roadway grade within the sight lines in vicinity of the site driveway in order to continue to provide unobstructed sight lines.

### **10.5.2 On-Site Circulation/ Traffic Management Improvements**

The Proponent has identified the following on-site circulation/traffic management improvements:

- ◆ AutoTURN® analysis was completed for the preliminary site plan using both a WB-50 design vehicle (55 feet long) and fuel delivery design vehicle (62 feet long). Based on recommendations a number of areas for on-site roadways have been widening to ensure adequate on-site truck circulation.
- ◆ The provision of a truck by-pass should be considered in the fuel-unloading zone to increase the efficiency of fuel delivery operations.
- ◆ On-site truck staging areas have been identified as shown in Figure 10-23 to accommodate fuel-truck storage while waiting for an unloading zone to clear. The primary fuel truck staging area has been identified adjacent to the existing on-site roadway. The potential truck staging areas can accommodate 6 fuel oil delivery trucks in the primary staging area and up to an additional 13 trucks in the overflow staging area. To the extent trucks are staged on-site they will be actively managed by on-site staff. Based on previous experience, it was estimated by Exelon that the process of entering the site, unloading and exiting the site would take approximately 45 minutes or less to perform. Under the worst case scenario the Site (existing and proposed Project combined) will generate approximately 4 inbound and 4 outbound truck trips per hour resulting in the need to stage approximately 2 vehicles. The designated staging areas for fuel unloading will be distinct from those for truck deliveries of other materials.



West Medway II

Medway, Massachusetts

Site Plan Source: HDR, Inc.

### **10.5.3 Construction Traffic Management Plan**

A traffic-construction management plan should be implemented in cooperation with the Town of Medway and the Project's EPC Contractor to accommodate the specific needs of the site and to provide coordination with the Town officials throughout the construction period. Exelon will also coordinate with the Town of Medway with regard to the length of the construction period and any construction permits which may be required. The construction traffic management plan should include but not be limited to the following:

- ◆ Designated parking areas should be provided for construction employees. This area is preferred to be in an existing material laydown lot in the southern portion of the site along West Street which will be reinforced during the construction phase of the site and returned to grass upon completion of the project.
- ◆ Construction periods (i.e., worker arrival/departure times) and material deliveries should be designated to coincide with off-peak travel periods of the area roadway. The current arrival/ departure periods are 5:00 – 6:00 am and 6:00 – 7:00 pm which have been shown to be off peak travel periods.
- ◆ Exelon should establish waiting and staging areas on-site for all material deliveries and the management of truck traffic.
- ◆ Dust suppression methods should be implemented at unpaved construction areas as needed (e.g., use of water trucks to wet the ground surface, stabilization of soils, creation of wind breaks, and/or use of stabilized construction and exit points).

### **10.5.4 Truck Deliveries**

Truck trips associated with replenishment of fuel supplies (oil) at the site will originate from Providence, RI. As a result, trucks destined to/from the Project will solely use Route I-495 to/ from the south and Route 126 to/from the west. These roadways are well established commercial truck routes, and provide the most direct and efficient means of travel to the site.

## **10.6 Parking Supply**

Parking requirements are set forth in Section V(H)4 of the Town of Medway Zoning Bylaw ("Zoning Bylaw"). For General Light Industrial and Manufacturing, *"1 space per each 2 persons employed or anticipated to be employed on the largest shift and 1 additional space for each 1,000 square feet of net floor area"* are required. The Project will comply, with approximately 16 proposed parking spaces for the proposed Project.

As described in Section 10.3, construction worker parking will be in an existing material laydown lot in the southern portion of the site along West Street.

## 10.7 Public Outreach

Exelon has developed a comprehensive communications plan to keep local residents, abutters, businesses and Town of Medway officials updated on significant construction milestones and schedules related to the expansion of the Project, including but not limited to: construction schedules; vehicular access and other traffic management information; construction crew movement and parking; laydown areas, staging, and equipment delivery; nighttime or weekend construction; and road repaving. These approaches include:

- ◆ *Electronic mail* - As part of public outreach during the permitting process, Exelon developed e-mail lists to reach specific targeted audiences, including direct abutters, nearby neighbors within 2 miles, local businesses and key external stakeholders. These lists will be used to deliver targeted traffic and construction messages to affected audiences during the construction phase of the Project.
- ◆ *Mailings* – As part of initial communications announcing and describing the proposed Project, Exelon developed and utilized mailing lists to communicate information on public hearings related to the Project. Those lists will be utilized to provide traffic, parking, delivery and construction-related updates and notifications during the next phase of Project development.
- ◆ *Website* – The Proponent is in the process of developing and has launched a Project website which includes a news section where updated information can be posted. The website will also include a sign-up section for interested parties to receive updates. Future plans also call for the development of a blog section on the site to provide additional details and as-needed updates. The website address will be included in all Project-related external communications.
- ◆ *Social media* – In relation to the planned website, Exelon plans to establish a Twitter account to provide the community and Town with realtime updated information during construction and prep work. The Twitter account will be linked to the Project website.
- ◆ *Earned/paid media* – When specific construction-related events are scheduled (traffic changes, major deliveries, etc.) to take place, Exelon will utilize the media to communicate with the community. This will be done through press releases sent through established local media contacts (Milford Daily News, Boston Globe West, Wicked Local, or via paid media (advertisements) when necessary.

- ◆ *Routine updates with Town of Medway officials* – Exelon has established routine communication networks with key Town officials and has conducted at least monthly meetings with Town of Medway department heads and leadership regarding the Project. These meetings will continue to be used to keep Town of Medway officials apprised of traffic management, construction, delivery and other potential issues of concern to the Town and residents during the construction phase.

# Appendix

- Traffic Volume Data
- Seasonal and Background Growth
- Speed Data
- Intersection Crash Data
- Sight Line Analysis
- Construction Analysis
- Trip Generation Data
- Trip Distribution Calculations
- Capacity Analyses
- Intersection Delay Study



□ Traffic Volume Data

# MDM Transportation Consultants, Inc.

N/S: Summer Street (Route 126)  
Just North of Site Driveway  
Medway, MA

28 Lord Road, Suite 280  
Marlborough, MA 01752  
508-303-0370  
www.mdmtrans.com

Site Code: 79000001  
Station ID:  
Latitude: 0' 0.0000 Undefined

790 Summer Street (Route 126) Volume

Start Time	17-Sep-14 Wed	Southbound		Hour Totals		Northbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		14	45			3	52				
12:15		6	40			1	41				
12:30		2	53			1	41				
12:45		5	38	27	176	3	40	8	174	35	350
01:00		1	44			2	41				
01:15		3	55			1	50				
01:30		5	44			1	37				
01:45		7	50	16	193	2	66	6	194	22	387
02:00		2	56			3	50				
02:15		0	46			0	54				
02:30		1	62			1	55				
02:45		5	86	8	250	4	69	8	228	16	478
03:00		3	69			3	56				
03:15		7	74			4	55				
03:30		2	106			4	50				
03:45		0	112	12	361	4	44	15	205	27	566
04:00		3	110			11	60				
04:15		3	113			11	52				
04:30		5	113			19	47				
04:45		6	121	17	457	17	51	58	210	75	667
05:00		7	117			17	72				
05:15		7	120			27	61				
05:30		14	118			65	55				
05:45		13	96	41	451	75	72	184	260	225	711
06:00		33	97			68	54				
06:15		29	74			96	70				
06:30		36	95			86	49				
06:45		43	59	141	325	96	30	346	203	487	528
07:00		38	61			85	46				
07:15		53	44			110	26				
07:30		60	56			108	39				
07:45		71	41	222	202	102	31	405	142	627	344
08:00		62	34			106	30				
08:15		36	36			131	37				
08:30		58	57			107	27				
08:45		47	41	203	168	82	23	426	117	629	285
09:00		42	30			61	22				
09:15		41	28			54	27				
09:30		36	14			50	42				
09:45		26	18	145	90	46	13	211	104	356	194
10:00		42	20			38	12				
10:15		34	20			44	17				
10:30		40	20			46	15				
10:45		39	10	155	70	43	10	171	54	326	124
11:00		37	11			43	3				
11:15		30	13			53	12				
11:30		50	6			42	2				
11:45		43	18	160	48	58	4	196	21	356	69
<b>Total</b>		<b>1147</b>	<b>2791</b>			<b>2034</b>	<b>1912</b>			<b>3181</b>	<b>4703</b>
<b>Percent</b>		<b>29.1%</b>	<b>70.9%</b>			<b>51.5%</b>	<b>48.5%</b>			<b>40.3%</b>	<b>59.7%</b>

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N/S: Summer Street (Route 126)  
Just North of Site Driveway  
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28 Lord Road, Suite 280  
Marlborough, MA 01752  
508-303-0370  
www.mdmtrans.com

Site Code: 79000001  
Station ID:  
Latitude: 0' 0.0000 Undefined

790 Summer Street (Route 126) Volume

Start Time	18-Sep-14 Thu	Southbound		Hour Totals		Northbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		14	40			7	36				
12:15		17	42			3	47				
12:30		3	34			3	33				
12:45		7	33	41	149	3	58	16	174	57	323
01:00		2	43			4	45				
01:15		5	42			2	42				
01:30		2	33			1	42				
01:45		2	56	11	174	3	45	10	174	21	348
02:00		5	43			0	61				
02:15		1	49			1	49				
02:30		0	60			1	43				
02:45		4	67	10	219	1	64	3	217	13	436
03:00		3	79			0	66				
03:15		8	89			6	50				
03:30		3	101			5	70				
03:45		0	83	14	352	3	60	14	246	28	598
04:00		1	99			8	51				
04:15		3	96			9	51				
04:30		3	107			15	67				
04:45		4	103	11	405	19	67	51	236	62	641
05:00		7	122			18	53				
05:15		8	83			21	64				
05:30		8	92			44	67				
05:45		21	108	44	405	96	64	179	248	223	653
06:00		24	85			47	47				
06:15		24	110			80	53				
06:30		27	76			98	58				
06:45		45	63	120	334	97	36	322	194	442	528
07:00		43	92			81	49				
07:15		39	68			126	47				
07:30		75	56			122	46				
07:45		62	34	219	250	115	24	444	166	663	416
08:00		51	40			110	26				
08:15		63	43			100	27				
08:30		41	36			100	37				
08:45		43	34	198	153	97	32	407	122	605	275
09:00		42	32			70	24				
09:15		39	32			62	17				
09:30		43	33			53	21				
09:45		33	35	157	132	65	23	250	85	407	217
10:00		23	26			42	19				
10:15		50	15			43	16				
10:30		44	17			46	15				
10:45		42	26	159	84	43	16	174	66	333	150
11:00		38	11			31	13				
11:15		42	12			45	9				
11:30		50	22			44	5				
11:45		50	16	180	61	43	3	163	30	343	91
<b>Total</b>		<b>1164</b>	<b>2718</b>			<b>2033</b>	<b>1958</b>			<b>3197</b>	<b>4676</b>
<b>Percent</b>		<b>30.0%</b>	<b>70.0%</b>			<b>50.9%</b>	<b>49.1%</b>			<b>40.6%</b>	<b>59.4%</b>
<b>Grand Total</b>		<b>2311</b>	<b>5509</b>			<b>4067</b>	<b>3870</b>			<b>6378</b>	<b>9379</b>
<b>Percent</b>		<b>29.6%</b>	<b>70.4%</b>			<b>51.2%</b>	<b>48.8%</b>			<b>40.5%</b>	<b>59.5%</b>

ADT                      ADT 7,878                      AADT 7,878

# MDM TRANSPORTATION CONSULTANTS, INC.

West Street  
West of Driveway  
Medway, MA

28 Lord Road, Suite 280  
Marlborough, MA  
www.mdmtrans.com

Site Code: 790

Start Time	17-Sep-15 Thu	Westbound		Hour Totals		Eastbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	7			2	12				
12:15		0	7			1	4				
12:30		0	3			1	3				
12:45		0	4	0	21	0	5	4	24	4	45
01:00		1	4			0	4				
01:15		0	5			0	6				
01:30		0	5			0	8				
01:45		1	1	2	15	0	7	0	25	2	40
02:00		0	12			0	10				
02:15		1	8			0	8				
02:30		0	6			0	9				
02:45		0	6	1	32	0	5	0	32	1	64
03:00		0	10			0	9				
03:15		0	10			0	9				
03:30		0	7			0	5				
03:45		0	7	0	34	0	7	0	30	0	64
04:00		0	5			1	7				
04:15		0	12			0	7				
04:30		0	7			1	9				
04:45		0	6	0	30	0	6	2	29	2	59
05:00		0	10			3	16				
05:15		1	10			1	6				
05:30		2	10			1	5				
05:45		0	9	3	39	1	17	6	44	9	83
06:00		1	11			2	9				
06:15		2	8			8	7				
06:30		5	10			5	7				
06:45		2	3	10	32	7	8	22	31	32	63
07:00		4	14			5	6				
07:15		10	5			8	2				
07:30		9	5			14	3				
07:45		14	4	37	28	11	5	38	16	75	44
08:00		18	3			4	5				
08:15		5	7			10	4				
08:30		6	2			6	1				
08:45		7	7	36	19	8	5	28	15	64	34
09:00		5	5			6	3				
09:15		5	5			4	2				
09:30		6	1			5	1				
09:45		2	1	18	12	4	0	19	6	37	18
10:00		2	0			3	2				
10:15		4	1			7	1				
10:30		4	4			2	0				
10:45		4	2	14	7	0	1	12	4	26	11
11:00		2	0			4	1				
11:15		4	1			3	1				
11:30		6	1			4	2				
11:45		6	1	18	3	2	0	13	4	31	7
<b>Total</b>		<b>139</b>	<b>272</b>			<b>144</b>	<b>260</b>			<b>283</b>	<b>532</b>
<b>Percent</b>		<b>33.8%</b>	<b>66.2%</b>			<b>35.6%</b>	<b>64.4%</b>			<b>34.7%</b>	<b>65.3%</b>
<b>Combined Total</b>		<b>411</b>				<b>404</b>				<b>815</b>	

# MDM TRANSPORTATION CONSULTANTS, INC.

West Street  
West of Driveway  
Medway, MA

28 Lord Road, Suite 280  
Marlborough, MA  
www.mdmtrans.com

Site Code: 790

Start Time	22-Sep-15 Tue	Westbound		Hour Totals		Eastbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		2	6			0	3				
12:15		1	4			0	6				
12:30		1	2			0	8				
12:45		0	5	4	17	0	3	0	20	4	37
01:00		0	4			0	4				
01:15		0	5			0	6				
01:30		0	9			0	8				
01:45		1	4	1	22	0	9	0	27	1	49
02:00		0	10			0	4				
02:15		0	8			0	7				
02:30		0	13			0	9				
02:45		0	7	0	38	0	3	0	23	0	61
03:00		0	10			0	8				
03:15		0	7			0	4				
03:30		0	8			0	12				
03:45		0	8	0	33	0	10	0	34	0	67
04:00		0	10			0	9				
04:15		1	10			1	10				
04:30		0	5			0	7				
04:45		0	9	1	34	2	6	3	32	4	66
05:00		1	14			0	16				
05:15		3	6			2	14				
05:30		2	11			0	16				
05:45		2	7	8	38	3	14	5	60	13	98
06:00		1	10			3	12				
06:15		1	8			5	11				
06:30		4	8			3	8				
06:45		6	10	12	36	5	7	16	38	28	74
07:00		2	9			8	6				
07:15		5	11			18	7				
07:30		12	3			12	2				
07:45		10	5	29	28	10	6	48	21	77	49
08:00		15	4			11	4				
08:15		8	9			8	3				
08:30		9	6			8	3				
08:45		6	4	38	23	4	7	31	17	69	40
09:00		3	5			6	0				
09:15		7	2			4	0				
09:30		6	2			3	0				
09:45		1	5	17	14	4	1	17	1	34	15
10:00		3	9			3	3				
10:15		4	1			3	1				
10:30		2	5			2	1				
10:45		8	1	17	16	3	1	11	6	28	22
11:00		5	0			2	0				
11:15		2	0			6	0				
11:30		4	1			7	2				
11:45		6	1	17	2	7	0	22	2	39	4
<b>Total</b>		<b>144</b>	<b>301</b>			<b>153</b>	<b>281</b>			<b>297</b>	<b>582</b>
<b>Percent</b>		<b>32.4%</b>	<b>67.6%</b>			<b>35.3%</b>	<b>64.7%</b>			<b>33.8%</b>	<b>66.2%</b>
<b>Combined Total</b>		<b>445</b>				<b>434</b>				<b>879</b>	

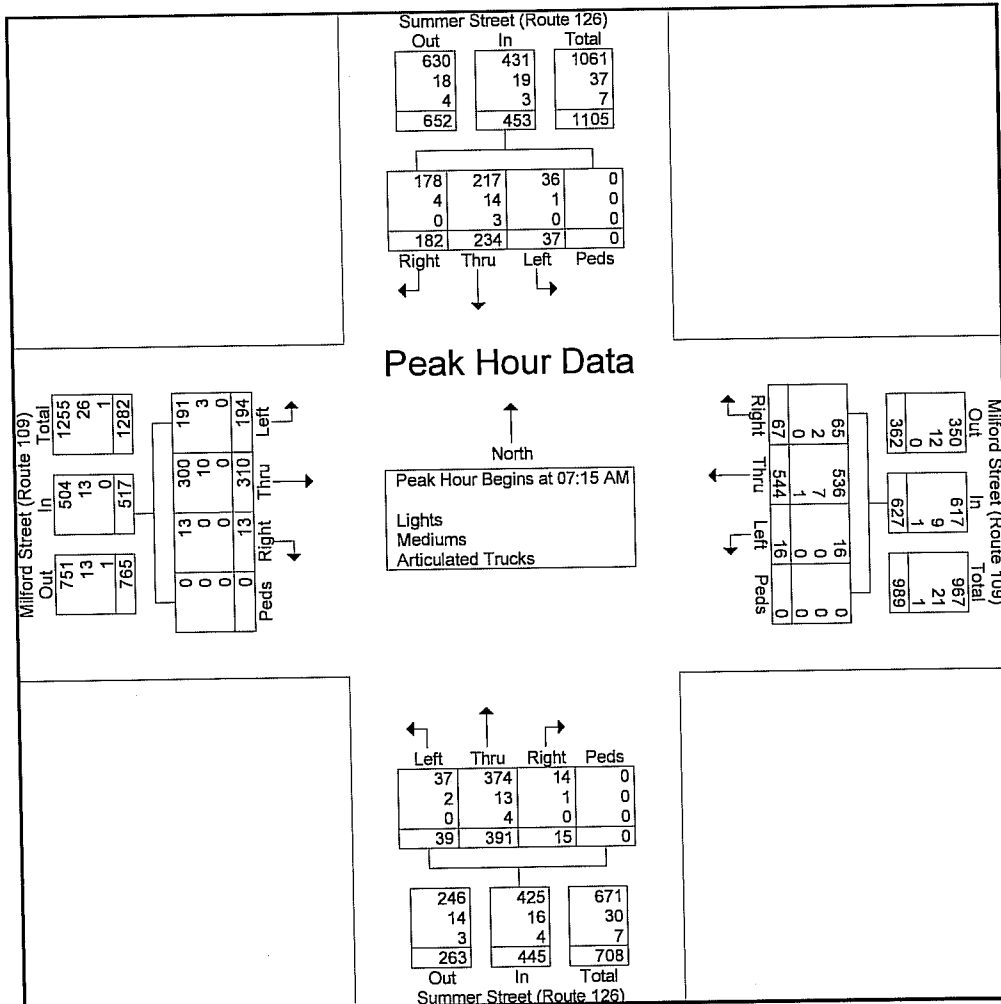
# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Milford Street (Route 109)  
Medway, MA

File Name : 790 Route 109 at Route 126 AM  
Site Code : 790 Medway  
Start Date : 9/17/2014  
Page No : 2

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	41	70	12	0	123	22	107	1	0	130	2	118	5	0	125	0	82	37	0	119	497
07:30 AM	45	52	4	0	101	19	145	5	0	169	4	92	9	0	105	5	86	63	0	154	529
07:45 AM	57	58	11	0	126	11	139	5	0	155	5	85	12	0	102	4	76	56	0	136	519
08:00 AM	39	54	10	0	103	15	153	5	0	173	4	96	13	0	113	4	66	38	0	108	497
Total Volume	182	234	37	0	453	67	544	16	0	627	15	391	39	0	445	13	310	194	0	517	2042
% App. Total	40.2	51.7	8.2	0		10.7	86.8	2.6	0		3.4	87.9	8.8	0		2.5	60	37.5	0		
PHF	.798	.836	.771	.000	.899	.761	.889	.800	.000	.906	.750	.828	.750	.000	.890	.650	.901	.770	.000	.839	.965
Lights	178	217	36	0	431	65	536	16	0	617	14	374	37	0	425	13	300	191	0	504	1977
% Lights	97.8	92.7	97.3	0	95.1	97.0	98.5	100	0	98.4	93.3	95.7	94.9	0	95.5	100	96.8	98.5	0	97.5	96.8
Mediums	4	14	1	0	19	2	7	0	0	9	1	13	2	0	16	0	10	3	0	13	57
% Mediums																					
Articulated Trucks	0	3	0	0	3	0	1	0	0	1	0	4	0	0	4	0	0	0	0	0	8
% Articulated Trucks	0	1.3	0	0	0.7	0	0.2	0	0	0.2	0	1.0	0	0	0.9	0	0	0	0	0	0.4



# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Milford Street (Route 109)  
Medway, MA

File Name : 790 Route 109 at Route 126 AM  
Site Code : 790 Medway  
Start Date : 9/17/2014  
Page No : 1

### Groups Printed- Lights - Mediums - Articulated Trucks

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	34	36	8	0	78	12	109	0	0	121	1	85	8	0	94	1	98	33	0	132	425
07:15 AM	41	70	12	0	123	22	107	1	0	130	2	118	5	0	125	0	82	37	0	119	497
07:30 AM	45	52	4	0	101	19	145	5	0	169	4	92	9	0	105	5	86	63	0	154	529
07:45 AM	57	58	11	0	126	11	139	5	0	155	5	85	12	0	102	4	76	56	0	136	519
Total	177	216	35	0	428	64	500	11	0	575	12	380	34	0	426	10	342	189	0	541	1970
08:00 AM	39	54	10	0	103	15	153	5	0	173	4	96	13	0	113	4	66	38	0	108	497
08:15 AM	34	41	11	0	86	13	109	3	0	125	1	124	7	0	132	2	68	35	0	105	448
08:30 AM	35	44	3	0	82	10	116	8	0	134	4	85	14	0	103	6	94	31	0	131	450
08:45 AM	31	40	9	0	80	9	110	8	0	127	1	74	2	0	77	4	87	20	0	111	395
Total	139	179	33	0	351	47	488	24	0	559	10	379	36	0	425	16	315	124	0	455	1790
Grand Total	316	395	68	0	779	111	988	35	0	1134	22	759	70	0	851	26	657	313	0	996	3760
Apprch %	40.6	50.7	8.7	0		9.8	87.1	3.1	0		2.6	89.2	8.2	0		2.6	66	31.4	0		
Total %	8.4	10.5	1.8	0	20.7	3	26.3	0.9	0	30.2	0.6	20.2	1.9	0	22.6	0.7	17.5	8.3	0	26.5	
Lights	308	365	65	0	738	108	961	34	0	1103	20	715	68	0	803	25	621	304	0	950	3594
% Lights	97.5	92.4	95.6	0	94.7	97.3	97.3	97.1	0	97.3	90.9	94.2	97.1	0	94.4	96.2	94.5	97.1	0	95.4	95.6
Mediums	7	21	3	0	31	3	23	0	0	26	2	33	2	0	37	1	33	8	0	42	136
% Mediums																					
Articulated Trucks	1	9	0	0	10	0	4	1	0	5	0	11	0	0	11	0	3	1	0	4	30
% Articulated Trucks	0.3	2.3	0	0	1.3	0	0.4	2.9	0	0.4	0	1.4	0	0	1.3	0	0.5	0.3	0	0.4	0.8

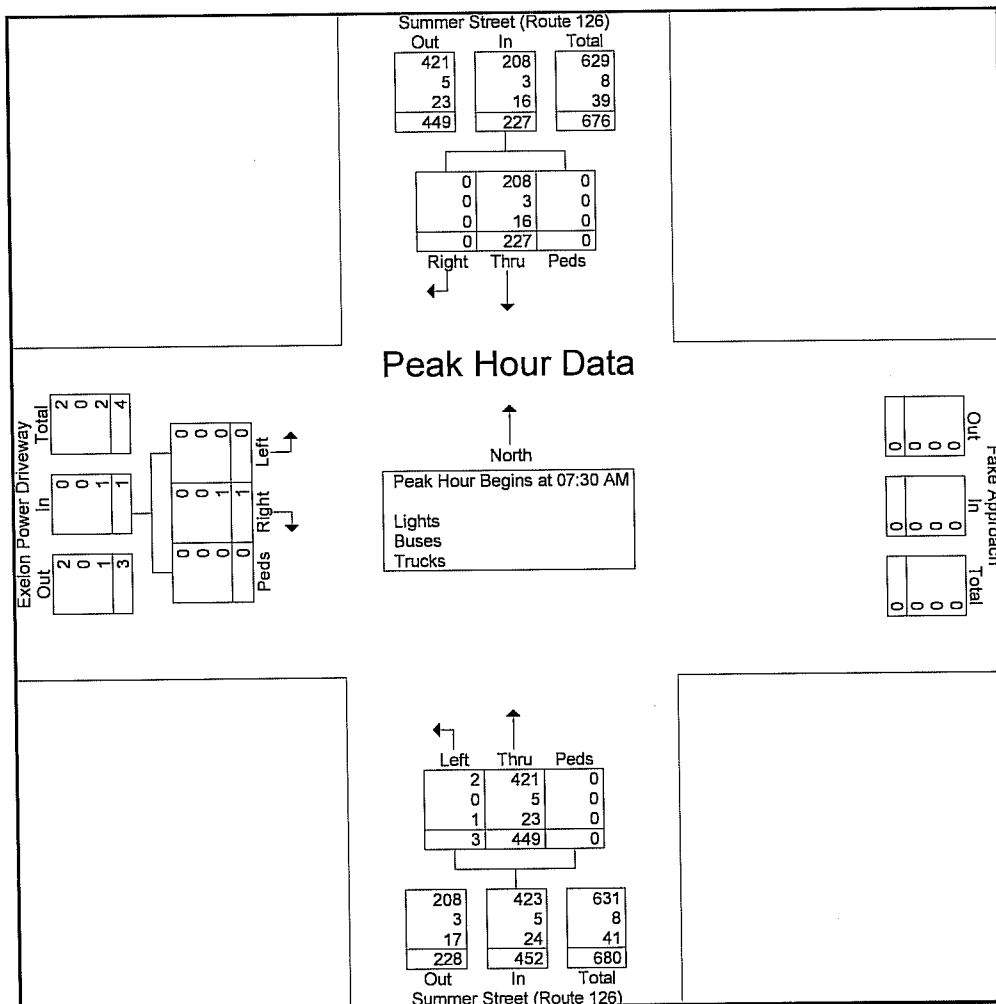
# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Exelon Power Driveway  
Medway

File Name : 790 Route 126 at Site Driveway AM  
Site Code : 790 Medway  
Start Date : 9/17/2014  
Page No : 2

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Exelon Power Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	58	0	58	109	1	0	110	1	0	0	1	169
07:45 AM	0	69	0	69	109	0	0	109	0	0	0	0	178
08:00 AM	0	54	0	54	104	1	0	105	0	0	0	0	159
08:15 AM	0	46	0	46	127	1	0	128	0	0	0	0	174
Total Volume	0	227	0	227	449	3	0	452	1	0	0	1	680
% App. Total	0	100	0		99.3	0.7	0		100	0	0		
PHF	.000	.822	.000	.822	.884	.750	.000	.883	.250	.000	.000	.250	.955
Lights	0	208	0	208	421	2	0	423	0	0	0	0	631
% Lights	0	91.6	0	91.6	93.8	66.7	0	93.6	0	0	0	0	92.8
Buses	0	3	0	3	5	0	0	5	0	0	0	0	8
% Buses	0	1.3	0	1.3	1.1	0	0	1.1	0	0	0	0	1.2
Trucks	0	16	0	16	23	1	0	24	1	0	0	1	41
% Trucks	0	7.0	0	7.0	5.1	33.3	0	5.3	100	0	0	100	6.0





# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Exelon Power Driveway  
Medway

File Name : 790 Route 126 at Site Driveway AM  
Site Code : 790 Medway  
Start Date : 9/17/2014  
Page No : 1

### Groups Printed- Lights - Buses - Trucks

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Exelon Power Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
06:00 AM	0	30	0	30	94	1	0	95	0	0	0	0	125
06:15 AM	1	35	0	36	94	0	0	94	0	0	0	0	130
06:30 AM	0	35	0	35	79	1	0	80	0	0	0	0	115
06:45 AM	5	45	0	50	90	4	0	94	0	0	0	0	144
<b>Total</b>	<b>6</b>	<b>145</b>	<b>0</b>	<b>151</b>	<b>357</b>	<b>6</b>	<b>0</b>	<b>363</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>514</b>
07:00 AM	0	36	0	36	107	1	0	108	0	0	0	0	144
07:15 AM	0	64	0	64	105	1	0	106	0	0	0	0	170
07:30 AM	0	58	0	58	109	1	0	110	1	0	0	1	169
07:45 AM	0	69	0	69	109	0	0	109	0	0	0	0	178
<b>Total</b>	<b>0</b>	<b>227</b>	<b>0</b>	<b>227</b>	<b>430</b>	<b>3</b>	<b>0</b>	<b>433</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>661</b>
08:00 AM	0	54	0	54	104	1	0	105	0	0	0	0	159
08:15 AM	0	46	0	46	127	1	0	128	0	0	0	0	174
08:30 AM	0	51	0	51	91	0	0	91	0	0	0	0	142
08:45 AM	0	50	0	50	66	0	0	66	0	1	0	1	117
<b>Total</b>	<b>0</b>	<b>201</b>	<b>0</b>	<b>201</b>	<b>388</b>	<b>2</b>	<b>0</b>	<b>390</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>592</b>
<b>Grand Total</b>	<b>6</b>	<b>573</b>	<b>0</b>	<b>579</b>	<b>1175</b>	<b>11</b>	<b>0</b>	<b>1186</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1767</b>
<b>Apprch %</b>	<b>1</b>	<b>99</b>	<b>0</b>		<b>99.1</b>	<b>0.9</b>	<b>0</b>		<b>50</b>	<b>50</b>	<b>0</b>		
<b>Total %</b>	<b>0.3</b>	<b>32.4</b>	<b>0</b>	<b>32.8</b>	<b>66.5</b>	<b>0.6</b>	<b>0</b>	<b>67.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0</b>	<b>0.1</b>	
<b>Lights</b>	<b>6</b>	<b>530</b>	<b>0</b>	<b>536</b>	<b>1106</b>	<b>10</b>	<b>0</b>	<b>1116</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1653</b>
<b>% Lights</b>	<b>100</b>	<b>92.5</b>	<b>0</b>	<b>92.6</b>	<b>94.1</b>	<b>90.9</b>	<b>0</b>	<b>94.1</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>50</b>	<b>93.5</b>
<b>Buses</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>
<b>% Buses</b>	<b>0</b>	<b>0.7</b>	<b>0</b>	<b>0.7</b>	<b>0.7</b>	<b>0</b>	<b>0</b>	<b>0.7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.7</b>
<b>Trucks</b>	<b>0</b>	<b>39</b>	<b>0</b>	<b>39</b>	<b>61</b>	<b>1</b>	<b>0</b>	<b>62</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>102</b>
<b>% Trucks</b>	<b>0</b>	<b>6.8</b>	<b>0</b>	<b>6.7</b>	<b>5.2</b>	<b>9.1</b>	<b>0</b>	<b>5.2</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>50</b>	<b>5.8</b>

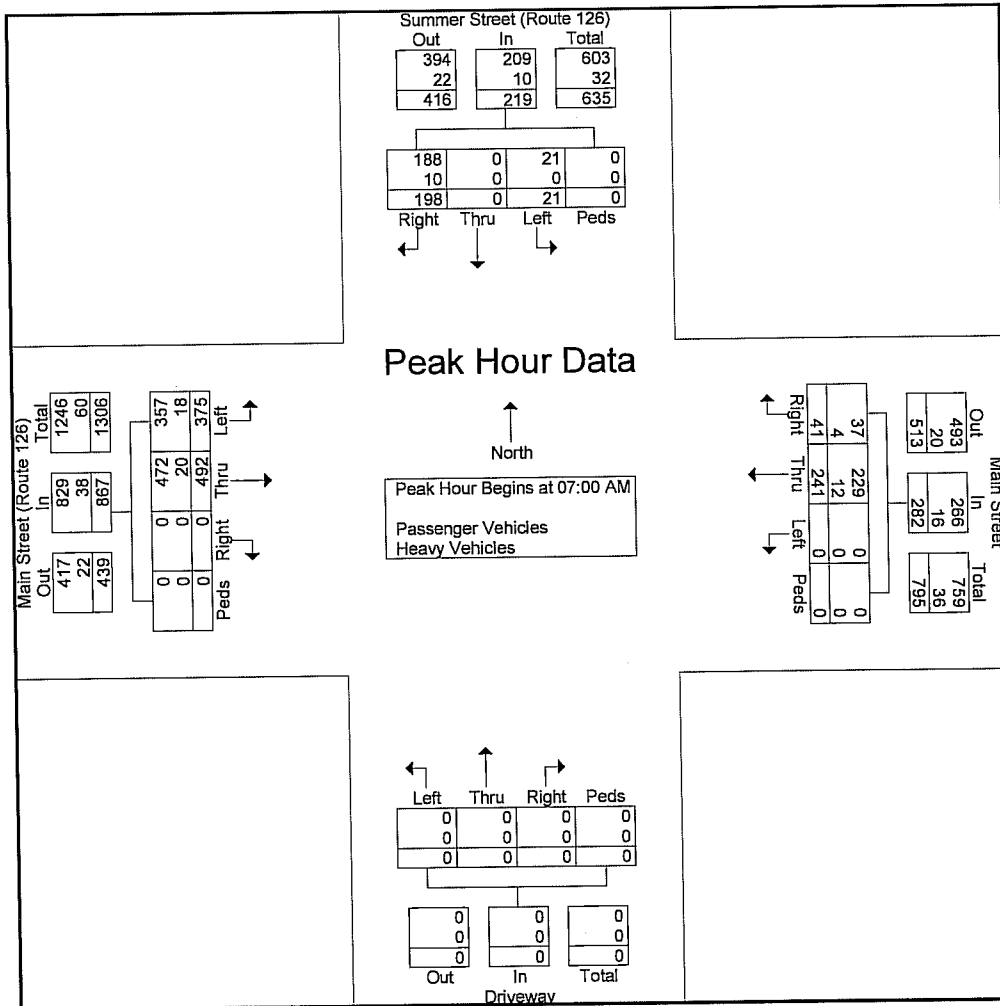
# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Main Street (Route 126)  
Medway, MA

File Name : 790 Main St at Summer St AM  
Site Code : 77700002  
Start Date : 9/17/2014  
Page No : 2

Start Time	Summer Street (Route 126) From North					Main Street From East					Driveway From South					Main Street (Route 126) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 7:00:00 AM to 8:45:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 7:00:00 AM																					
7:00:00 AM	37	0	5	0	42	6	61	0	0	67	0	0	0	0	0	0	155	92	0	247	356
7:15:00 AM	49	0	4	0	53	8	59	0	0	67	0	0	0	0	0	0	136	108	0	244	364
7:30:00 AM	49	0	4	0	53	15	59	0	0	74	0	0	0	0	0	0	99	93	0	192	319
7:45:00 AM	63	0	8	0	71	12	62	0	0	74	0	0	0	0	0	0	102	82	0	184	329
Total Volume	198	0	21	0	219	41	241	0	0	282	0	0	0	0	0	0	492	375	0	867	1368
% App. Total	90.4	0	9.6	0		14.5	85.5	0	0		0	0	0	0	0	0	56.7	43.3	0		
PHF	.786	.000	.656	.000	.771	.683	.972	.000	.000	.953	.000	.000	.000	.000	.000	.000	.794	.868	.000	.878	.940
Passenger Vehicles	94.9	0	100	0	95.4	90.2	95.0	0	0	94.3	0	0	0	0	0	0	95.9	95.2	0	95.6	95.3
% Passenger Vehicles																					
Heavy Vehicles	5.1	0	0	0	4.6	9.8	5.0	0	0	5.7	0	0	0	0	0	0	4.1	4.8	0	4.4	4.7
% Heavy Vehicles																					



# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Main Street (Route 126)  
Medway, MA

File Name : 790 Main St at Summer St AM  
Site Code : 77700002  
Start Date : 9/17/2014  
Page No : 1

### Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Summer Street (Route 126) From North					Main Street From East					Driveway From South					Main Street (Route 126) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	37	0	5	0	42	6	61	0	0	67	0	0	0	0	0	0	155	92	0	247	356
07:15 AM	49	0	4	0	53	8	59	0	0	67	0	0	0	0	0	0	136	108	0	244	364
07:30 AM	49	0	4	0	53	15	59	0	0	74	0	0	0	0	0	0	99	93	0	192	319
07:45 AM	63	0	8	0	71	12	62	0	0	74	0	0	0	0	0	0	102	82	0	184	329
<b>Total</b>	<b>198</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>219</b>	<b>41</b>	<b>241</b>	<b>0</b>	<b>0</b>	<b>282</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>492</b>	<b>375</b>	<b>0</b>	<b>867</b>	<b>1368</b>
08:00 AM	37	0	8	0	45	15	63	0	0	78	0	0	0	0	0	1	108	81	0	190	313
08:15 AM	36	0	3	0	39	21	51	0	0	72	0	1	1	0	2	0	78	97	0	175	288
08:30 AM	44	0	12	0	56	23	54	0	0	77	0	0	1	0	1	0	87	72	0	159	293
08:45 AM	43	0	8	0	51	9	59	0	0	68	0	0	0	0	0	0	83	55	0	138	257
<b>Total</b>	<b>160</b>	<b>0</b>	<b>31</b>	<b>0</b>	<b>191</b>	<b>68</b>	<b>227</b>	<b>0</b>	<b>0</b>	<b>295</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>356</b>	<b>305</b>	<b>0</b>	<b>662</b>	<b>1151</b>
<b>Grand Total</b>	<b>358</b>	<b>0</b>	<b>52</b>	<b>0</b>	<b>410</b>	<b>109</b>	<b>468</b>	<b>0</b>	<b>0</b>	<b>577</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>848</b>	<b>680</b>	<b>0</b>	<b>1529</b>	<b>2519</b>
<b>Apprch %</b>	<b>87.3</b>	<b>0</b>	<b>12.7</b>	<b>0</b>		<b>18.9</b>	<b>81.1</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>33.3</b>	<b>66.7</b>	<b>0</b>		<b>0.1</b>	<b>55.5</b>	<b>44.5</b>	<b>0</b>		
<b>Total %</b>	<b>14.2</b>	<b>0</b>	<b>2.1</b>	<b>0</b>	<b>16.3</b>	<b>4.3</b>	<b>18.6</b>	<b>0</b>	<b>0</b>	<b>22.9</b>	<b>0</b>	<b>0</b>	<b>0.1</b>	<b>0</b>	<b>0.1</b>	<b>0</b>	<b>33.7</b>	<b>27</b>	<b>0</b>	<b>60.7</b>	
Passenger Vehicles																					
% Passenger Vehicles	95	0	94.2	0	94.9	96.3	96.2	0	0	96.2	0	100	100	0	100	100	95.5	94.9	0	95.2	95.4
Heavy Vehicles																					
% Heavy Vehicles	5	0	5.8	0	5.1	3.7	3.8	0	0	3.8	0	0	0	0	0	0	4.5	5.1	0	4.8	4.6

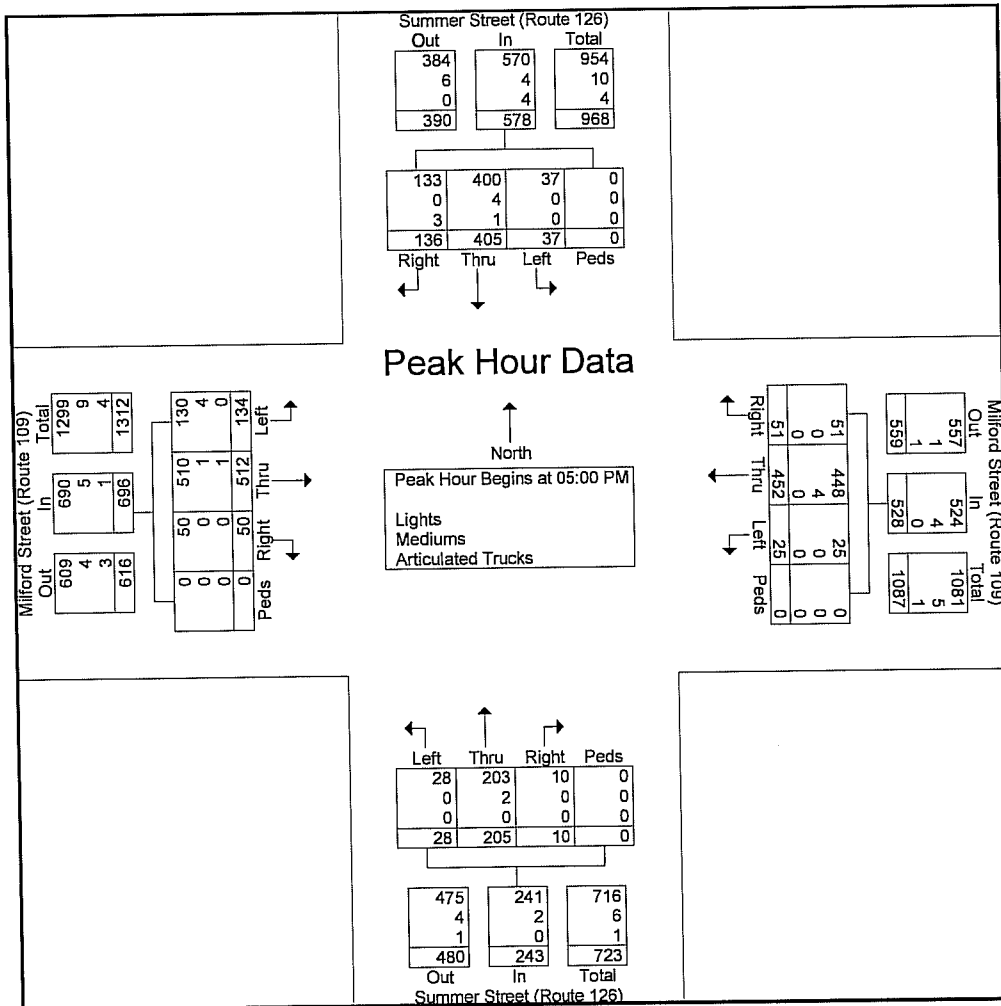
# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Milford Street (Route 109)  
Medway, MA

File Name : 790 Route 109 at Route 126 PM  
Site Code : 790 Medway  
Start Date : 9/16/2014  
Page No : 2

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	37	96	7	0	140	4	118	4	0	126	2	60	6	0	68	10	143	31	0	184	518
05:15 PM	32	114	11	0	157	13	114	10	0	137	3	46	7	0	56	19	137	31	0	187	537
05:30 PM	36	98	9	0	143	19	107	9	0	135	3	43	10	0	56	13	109	38	0	160	494
05:45 PM	31	97	10	0	138	15	113	2	0	130	2	56	5	0	63	8	123	34	0	165	496
Total Volume	136	405	37	0	578	51	452	25	0	528	10	205	28	0	243	50	512	134	0	696	2045
% App. Total	23.5	70.1	6.4	0		9.7	85.6	4.7	0		4.1	84.4	11.5	0		7.2	73.6	19.3	0		
PHF	.919	.888	.841	.000	.920	.671	.958	.625	.000	.964	.833	.854	.700	.000	.893	.658	.895	.882	.000	.930	.952
Lights	133	400	37	0	570	51	448	25	0	524	10	203	28	0	241	50	510	130	0	690	2025
% Lights	97.8	98.8	100	0	98.6	100	99.1	100	0	99.2	100	99.0	100	0	99.2	100	99.6	97.0	0	99.1	99.0
Mediums	0	4	0	0	4	0	4	0	0	4	0	2	0	0	2	0	1	4	0	5	15
% Mediums																					
Articulated Trucks	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	5
% Articulated Trucks	2.2	0.2	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.1	0.2



# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Milford Street (Route 109)  
Medway, MA

File Name : 790 Route 109 at Route 126 PM  
Site Code : 790 Medway  
Start Date : 9/16/2014  
Page No : 1

### Groups Printed- Lights - Mediums - Articulated Trucks

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
04:00 PM	43	82	11	0	136	11	108	4	0	123	2	55	4	0	61	8	120	39	0	167	487
04:15 PM	32	89	12	0	133	14	87	2	0	103	1	48	5	0	54	8	100	33	0	141	431
04:30 PM	38	105	8	0	151	4	94	5	0	103	4	45	6	0	55	7	142	29	0	178	487
04:45 PM	24	106	11	0	141	9	108	9	0	126	2	46	6	0	54	3	116	32	0	151	472
<b>Total</b>	<b>137</b>	<b>382</b>	<b>42</b>	<b>0</b>	<b>561</b>	<b>38</b>	<b>397</b>	<b>20</b>	<b>0</b>	<b>455</b>	<b>9</b>	<b>194</b>	<b>21</b>	<b>0</b>	<b>224</b>	<b>26</b>	<b>478</b>	<b>133</b>	<b>0</b>	<b>637</b>	<b>1877</b>
05:00 PM	37	96	7	0	140	4	118	4	0	126	2	60	6	0	68	10	143	31	0	184	518
05:15 PM	32	114	11	0	157	13	114	10	0	137	3	46	7	0	56	19	137	31	0	187	537
05:30 PM	36	98	9	0	143	19	107	9	0	135	3	43	10	0	56	13	109	38	0	160	494
05:45 PM	31	97	10	0	138	15	113	2	0	130	2	56	5	0	63	8	123	34	0	165	496
<b>Total</b>	<b>136</b>	<b>405</b>	<b>37</b>	<b>0</b>	<b>578</b>	<b>51</b>	<b>452</b>	<b>25</b>	<b>0</b>	<b>528</b>	<b>10</b>	<b>205</b>	<b>28</b>	<b>0</b>	<b>243</b>	<b>50</b>	<b>512</b>	<b>134</b>	<b>0</b>	<b>696</b>	<b>2045</b>
<b>Grand Total</b>	<b>273</b>	<b>787</b>	<b>79</b>	<b>0</b>	<b>1139</b>	<b>89</b>	<b>849</b>	<b>45</b>	<b>0</b>	<b>983</b>	<b>19</b>	<b>399</b>	<b>49</b>	<b>0</b>	<b>467</b>	<b>76</b>	<b>990</b>	<b>267</b>	<b>0</b>	<b>1333</b>	<b>3922</b>
Apprch %	24	69.1	6.9	0		9.1	86.4	4.6	0		4.1	85.4	10.5	0		5.7	74.3	20	0		
Total %	7	20.1	2	0	29	2.3	21.6	1.1	0	25.1	0.5	10.2	1.2	0	11.9	1.9	25.2	6.8	0	34	
Lights	261	771	79	0	1111	87	838	45	0	970	18	393	49	0	460	76	983	259	0	1318	3859
% Lights	95.6	98	100	0	97.5	97.8	98.7	100	0	98.7	94.7	98.5	100	0	98.5	100	99.3	97	0	98.9	98.4
Mediums	9	13	0	0	22	1	9	0	0	10	1	5	0	0	6	0	3	8	0	11	49
% Mediums																					
Articulated Trucks	3	3	0	0	6	1	2	0	0	3	0	1	0	0	1	0	4	0	0	4	14
% Articulated Trucks	1.1	0.4	0	0	0.5	1.1	0.2	0	0	0.3	0	0.3	0	0	0.2	0	0.4	0	0	0.3	0.4

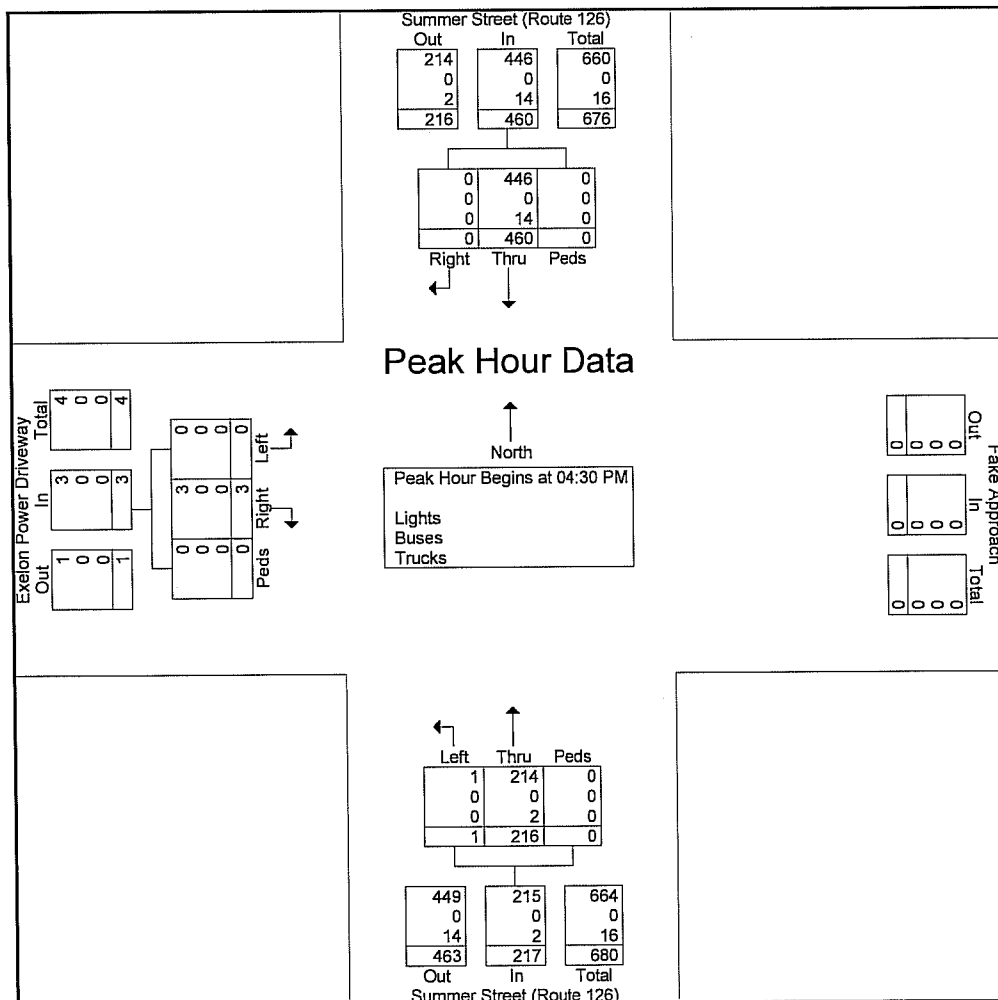
# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Exelon Power Driveway  
Medway

File Name : 790 Route 126 at Site Driveway PM  
Site Code : 790 Medway  
Start Date : 9/16/2014  
Page No : 2

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Exelon Power Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	0	111	0	111	58	1	0	59	1	0	0	1	171
04:45 PM	0	117	0	117	56	0	0	56	0	0	0	0	173
05:00 PM	0	108	0	108	58	0	0	58	1	0	0	1	167
05:15 PM	0	124	0	124	44	0	0	44	1	0	0	1	169
Total Volume	0	460	0	460	216	1	0	217	3	0	0	3	680
% App. Total	0	100	0		99.5	0.5	0		100	0	0		
PHF	.000	.927	.000	.927	.931	.250	.000	.919	.750	.000	.000	.750	.983
Lights	0	446	0	446	214	1	0	215	3	0	0	3	664
% Lights	0	97.0	0	97.0	99.1	100	0	99.1	100	0	0	100	97.6
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
Trucks	0	14	0	14	2	0	0	2	0	0	0	0	16
% Trucks	0	3.0	0	3.0	0.9	0	0	0.9	0	0	0	0	2.4



# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Exelon Power Driveway  
Medway

File Name : 790 Route 126 at Site Driveway PM  
Site Code : 790 Medway  
Start Date : 9/16/2014  
Page No : 1

Groups Printed- Lights - Buses - Trucks

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Exelon Power Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
03:00 PM	0	80	0	80	46	0	0	46	0	0	0	0	126
03:15 PM	0	92	0	92	54	0	0	54	4	1	0	5	151
03:30 PM	0	106	0	106	60	0	0	60	0	0	0	0	166
03:45 PM	0	107	0	107	53	0	0	53	0	1	0	1	161
Total	0	385	0	385	213	0	0	213	4	2	0	6	604
04:00 PM	0	99	0	99	60	0	0	60	1	1	0	2	161
04:15 PM	0	91	0	91	52	1	0	53	0	0	0	0	144
04:30 PM	0	111	0	111	58	1	0	59	1	0	0	1	171
04:45 PM	0	117	0	117	56	0	0	56	0	0	0	0	173
Total	0	418	0	418	226	2	0	228	2	1	0	3	649
05:00 PM	0	108	0	108	58	0	0	58	1	0	0	1	167
05:15 PM	0	124	0	124	44	0	0	44	1	0	0	1	169
05:30 PM	0	104	0	104	58	0	0	58	0	0	0	0	162
05:45 PM	0	93	0	93	63	0	0	63	0	0	0	0	156
Total	0	429	0	429	223	0	0	223	2	0	0	2	654
Grand Total	0	1232	0	1232	662	2	0	664	8	3	0	11	1907
Apprch %	0	100	0		99.7	0.3	0		72.7	27.3	0		
Total %	0	64.6	0	64.6	34.7	0.1	0	34.8	0.4	0.2	0	0.6	
Lights	0	1189	0	1189	649	2	0	651	8	3	0	11	1851
% Lights	0	96.5	0	96.5	98	100	0	98	100	100	0	100	97.1
Buses	0	3	0	3	2	0	0	2	0	0	0	0	5
% Buses	0	0.2	0	0.2	0.3	0	0	0.3	0	0	0	0	0.3
Trucks	0	40	0	40	11	0	0	11	0	0	0	0	51
% Trucks	0	3.2	0	3.2	1.7	0	0	1.7	0	0	0	0	2.7

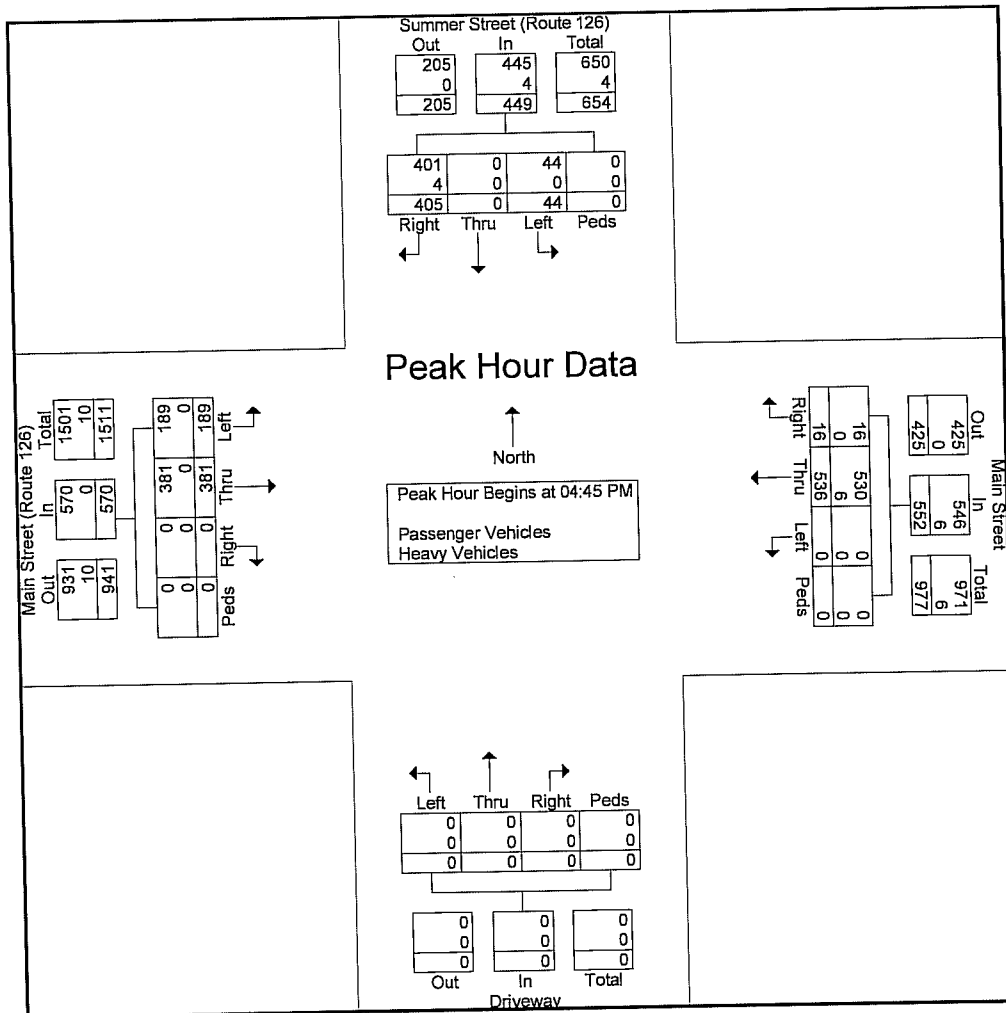
# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Main Street (Route 126)  
Medway, MA

File Name : 790 Main St at Summer St PM  
Site Code : 77700001  
Start Date : 9/16/2014  
Page No : 2

Start Time	Summer Street (Route 126) From North					Main Street From East					Driveway From South					Main Street (Route 126) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 4:45:00 PM																					
4:45:00 PM	108	0	6	0	114	3	150	0	0	153	0	0	0	0	0	0	74	42	0	116	383
5:00:00 PM	96	0	9	0	105	6	145	0	0	151	0	0	0	0	0	0	93	57	0	150	406
5:15:00 PM	104	0	10	0	114	3	132	0	0	135	0	0	0	0	0	0	124	45	0	169	418
5:30:00 PM	97	0	19	0	116	4	109	0	0	113	0	0	0	0	0	0	90	45	0	135	364
Total Volume	405	0	44	0	449	16	536	0	0	552	0	0	0	0	0	0	381	189	0	570	1571
% App. Total	90.2	0	9.8	0		2.9	97.1	0	0		0	0	0	0	0	0	66.8	33.2	0		
PHF	.938	.000	.579	.000	.968	.667	.893	.000	.000	.902	.000	.000	.000	.000	.000	.000	.768	.829	.000	.843	.940
Passenger Vehicles	99.0	0	100	0	99.1	100	98.9	0	0	98.9	0	0	0	0	0	0	100	100	0	100	99.4
% Passenger Vehicles																					
Heavy Vehicles	1.0	0	0	0	0.9	0	1.1	0	0	1.1	0	0	0	0	0	0	0	0	0	0	0.6
% Heavy Vehicles																					





# MDM Transportation Consultants, INC.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: Summer Street (Route 126)  
E/W: Main Street (Route 126)  
Medway, MA

File Name : 790 Main St at Summer St PM  
Site Code : 77700001  
Start Date : 9/16/2014  
Page No : 1

### Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Summer Street (Route 126) From North					Main Street From East					Driveway From South					Main Street (Route 126) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
04:00 PM	92	0	10	0	102	2	137	0	0	139	0	0	0	0	0	0	79	55	0	134	375
04:15 PM	85	0	5	0	90	5	130	0	0	135	0	0	0	0	0	0	84	48	0	132	357
04:30 PM	97	0	7	0	104	8	119	0	0	127	0	0	0	0	0	0	82	48	0	130	361
04:45 PM	108	0	6	0	114	3	150	0	0	153	0	0	0	0	0	0	74	42	0	116	383
<b>Total</b>	<b>382</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>410</b>	<b>18</b>	<b>536</b>	<b>0</b>	<b>0</b>	<b>554</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>319</b>	<b>193</b>	<b>0</b>	<b>512</b>	<b>1476</b>
05:00 PM	96	0	9	0	105	6	145	0	0	151	0	0	0	0	0	0	93	57	0	150	406
05:15 PM	104	0	10	0	114	3	132	0	0	135	0	0	0	0	0	0	124	45	0	169	418
05:30 PM	97	0	19	0	116	4	109	0	0	113	0	0	0	0	0	0	90	45	0	135	364
05:45 PM	88	0	5	0	93	6	115	0	0	121	0	0	0	0	0	0	111	49	0	160	374
<b>Total</b>	<b>385</b>	<b>0</b>	<b>43</b>	<b>0</b>	<b>428</b>	<b>19</b>	<b>501</b>	<b>0</b>	<b>0</b>	<b>520</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>418</b>	<b>196</b>	<b>0</b>	<b>614</b>	<b>1562</b>
<b>Grand Total</b>	<b>767</b>	<b>0</b>	<b>71</b>	<b>0</b>	<b>838</b>	<b>37</b>	<b>1037</b>	<b>0</b>	<b>0</b>	<b>1074</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>737</b>	<b>389</b>	<b>0</b>	<b>1126</b>	<b>3038</b>
<b>Apprch %</b>	<b>91.5</b>	<b>0</b>	<b>8.5</b>	<b>0</b>		<b>3.4</b>	<b>96.6</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>65.5</b>	<b>34.5</b>	<b>0</b>		
<b>Total %</b>	<b>25.2</b>	<b>0</b>	<b>2.3</b>	<b>0</b>	<b>27.6</b>	<b>1.2</b>	<b>34.1</b>	<b>0</b>	<b>0</b>	<b>35.4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24.3</b>	<b>12.8</b>	<b>0</b>	<b>37.1</b>	
<b>Passenger Vehicles</b>	1023																				
<b>% Passenger Vehicles</b>	<b>98.8</b>	<b>0</b>	<b>98.6</b>	<b>0</b>	<b>98.8</b>	<b>100</b>	<b>98.6</b>	<b>0</b>	<b>0</b>	<b>98.7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>99.5</b>	<b>99.2</b>	<b>0</b>	<b>99.4</b>	<b>99</b>
<b>Heavy Vehicles</b>	1																				
<b>% Heavy Vehicles</b>	<b>1.2</b>	<b>0</b>	<b>1.4</b>	<b>0</b>	<b>1.2</b>	<b>0</b>	<b>1.4</b>	<b>0</b>	<b>0</b>	<b>1.3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.5</b>	<b>0.8</b>	<b>0</b>	<b>0.6</b>	<b>1</b>

□ Seasonal and Background Growth

SECTION I - CONTINUOUS COUNTING STATION MONTHLY AVERAGE DAILY TRAFFIC

September  
Adjustment  
to Year

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
07	47,505	47,283	49,136	49,136	50,000	52,000	53,000	52,322	49,031	50,571	49,662	47,007	49,732	
	-4%	-2%	-3%	1%	1%	-4%	-8%	-7%	-1%	-3%	-4%	-1%	-3%	
08	45,614	46,112	47,829	49,816	50,518	49,936	48,629	48,759	48,531	49,009	47,490	46,696	48,245	
	-3%	1%	-3%	-2%	0%	0%	-2%	-3%	-2%	-1%	0%	2%	-1%	
09	44,103	46,434	46,455	49,049	49,474	49,934	47,638	47,056	47,762	48,663	47,379	47,564	47,626	
	-1%	0%	2%	0%	0%	1%	-1%	1%	1%	1%	2%	2%	1%	
11	43,244	46,150	48,016	48,943	49,781	50,525	46,812	48,234	48,825	49,198	49,151	49,888	48,231	
	7%	2%	1%	-1%	1%	-1%	3%	4%	0%	2%	2%	-5%	1%	
12	46,381	46,883	48,608	48,662	50,126	49,961	48,380	49,941	48,882	50,056	50,015	47,600	48,791	
	0%	-1%	-2%	1%	1%	-9%	3%	-1%	2%	0%	-1%	2%	0%	
13	46,393	46,220	47,421	49,359	50,657	45,623	49,797	49,223	49,935	50,021	49,651	48,441	48,562	
													-0.65%	
														Average
														1.00

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
05	67,586	71,945	74,150	79,123	84,600	90,062	88,165	91,494	83,189	79,428	78,746	75,126	80,301	
	7%	-1%	3%	-1%	-5%	-5%	-4%	-2%	1%	1%	1%	2%	0%	
06	72,492	71,145	76,347	78,305	80,480	85,728	84,957	89,595	83,740	80,518	79,468	76,386	79,930	
	-2%	-1%	-4%	-2%	6%	3%	4%	2%	-1%	2%	-2%	-5%	0%	
07	70,749	70,432	73,596	76,751	85,024	88,000	88,401	91,080	83,309	82,221	77,941	72,362	79,989	
	-2%	-3%	3%	-1%	-7%	-8%	-4%	-5%	-5%	-3%	-5%	-2%	-4%	
08	69,200	68,456	76,000	75,934	79,352	81,166	84,701	86,189	78,778	79,645	73,861	70,747	77,002	
	-5%	1%	-8%	1%	-1%	-1%	-1%	1%	6%	0%	2%	3%	0%	
09	65,444	68,136	69,739	76,913	78,876	80,700	84,000	86,829	83,273	79,419	75,486	73,169	76,915	
	3%	-1%	5%	1%	-1%	7%	4%	4%	0%	4%	3%	3%	3%	
10	67,428	68,595	73,544	77,906	77,940	86,167	87,728	90,295	83,483	82,244	77,516	75,273	79,010	
	-3%	2%	1%	-1%	3%	1%	-1%	-4%	1%	-2%	2%	2%	0%	
11	65,217	69,804	73,992	77,115	80,458	87,344	86,859	87,108	84,288	80,223	78,698	76,729	78,986	
	8%	2%	1%	1%	2%	0%	-1%	4%	-1%	3%	1%	-2%	1%	
12	70,333	71,280	74,372	78,117	81,707	87,015	85,909	90,589	83,100	82,647	79,543	74,989	79,967	
													-0.04%	
														Average
														0.96
														0.95

Average Adjustment Factors 0.98  
 Average Yearly Growth Calculated -0.35%  
 Yearly Growth Factor Used 0.5%

□ Speed Data



# MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280  
Marlborough, MA 01752  
508-303-0370  
www.mdmtrans.com

N/S: Summer Street (Route 126)  
Just North of Site Driveway  
Medway, MA

Site Code: 79000001  
Station ID:  
Latitude: 0' 0.0000 Undefined

790 Summer Street (Route 126) Speed

Northbound		15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
Start Time	1	20	21	25	30	35	40	45	50	55	60	65	70	75	999	
09/18/14	0	0	0	0	0	1	9	3	2	1	0	0	0	0	0	16
01:00	0	0	0	0	0	0	2	7	1	0	0	0	0	0	0	10
02:00	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	3
03:00	0	0	0	0	1	0	7	4	2	0	0	0	0	0	0	14
04:00	0	0	0	0	3	4	11	21	8	2	1	1	0	0	0	51
05:00	0	0	2	2	2	12	77	66	17	2	0	1	0	0	0	179
06:00	0	0	0	0	2	18	120	142	36	5	0	0	0	0	0	322
07:00	0	0	7	7	9	43	163	166	45	10	1	0	0	0	0	444
08:00	1	0	3	3	14	43	132	159	43	11	1	0	0	0	0	407
09:00	0	0	4	4	5	21	86	99	29	5	1	0	0	0	0	250
10:00	0	1	5	5	11	14	60	53	27	3	0	0	0	0	0	174
11:00	1	0	4	4	1	14	52	69	21	1	0	0	0	0	0	163
12 PM	2	0	4	4	3	10	67	67	18	2	1	0	0	0	0	174
13:00	0	0	6	6	6	21	69	51	15	6	0	0	0	0	0	174
14:00	0	2	3	3	11	24	78	73	21	5	0	0	0	0	0	217
15:00	2	0	3	3	12	20	81	98	27	3	0	0	0	0	0	246
16:00	0	0	4	4	5	19	87	91	28	2	0	0	0	0	0	236
17:00	1	0	0	0	2	12	84	96	45	7	1	0	0	0	0	248
18:00	1	0	0	0	0	6	62	92	30	3	0	0	0	0	0	194
19:00	1	1	2	2	2	15	67	63	13	2	0	0	0	0	0	166
20:00	0	2	3	3	1	11	48	41	12	4	0	0	0	0	0	122
21:00	0	0	0	0	0	6	36	30	10	2	1	0	0	0	0	85
22:00	2	0	0	0	0	5	27	21	9	2	0	0	0	0	0	66
23:00	0	0	0	0	0	6	9	9	5	1	0	0	0	0	0	30
<b>Total</b>	<b>11</b>	<b>6</b>	<b>50</b>	<b>50</b>	<b>90</b>	<b>327</b>	<b>1434</b>	<b>1522</b>	<b>463</b>	<b>79</b>	<b>7</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3991</b>
<b>Grand Total</b>	<b>20</b>	<b>14</b>	<b>104</b>	<b>104</b>	<b>235</b>	<b>696</b>	<b>2818</b>	<b>2993</b>	<b>908</b>	<b>121</b>	<b>23</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7937</b>

15th Percentile :	35 MPH
50th Percentile :	40 MPH
85th Percentile :	44 MPH
95th Percentile :	48 MPH
Mean Speed(Average) :	40 MPH
10 MPH Pace Speed :	36-45 MPH
Number in Pace :	5811
Percent in Pace :	73.2%
Number of Vehicles > 55 MPH :	28
Percent of Vehicles > 55 MPH :	0.4%



**MDM Transportation Consultants, Inc.**

28 Lord Road, Suite 280  
 Marlborough, MA 01752  
 508-303-0370  
 www.mdmtrans.com

N/S: Summer Street (Route 126)  
 Just North of Site Driveway  
 Medway, MA

Site Code: 79000001  
 Station ID:  
 Latitude: 0' 0.0000 Undefined

790 Summer Street (Route 126) Speed

Start Time	15	16	20	21	25	26	30	31	35	36	40	41	45	46	50	51	55	56	60	61	65	66	70	71	75	76	Total	
09/18/14	0	0	0	0	0	0	0	1	12	12	16	16	16	9	9	3	3	0	0	0	0	0	0	0	0	0	0	41
01:00	0	0	0	0	0	0	0	0	4	4	4	4	4	2	2	0	0	0	0	0	0	0	1	1	0	0	0	11
02:00	0	0	0	0	0	0	0	0	1	1	5	5	5	4	4	0	0	0	0	0	0	0	0	0	0	0	0	10
03:00	0	0	0	0	0	0	0	0	8	8	5	5	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	14
04:00	0	0	0	0	0	0	0	0	3	3	4	4	4	3	3	1	1	0	0	0	0	0	0	0	0	0	0	11
05:00	0	0	0	0	0	0	0	4	11	11	20	20	20	7	7	2	2	0	0	0	0	0	0	0	0	0	0	44
06:00	0	0	0	0	0	0	0	9	36	36	52	52	52	20	20	3	3	0	0	0	0	0	0	0	0	0	0	120
07:00	0	0	0	0	0	2	2	23	88	88	78	78	78	21	21	6	6	0	0	0	0	0	0	0	0	0	0	219
08:00	1	0	0	1	1	3	3	19	82	82	63	63	63	22	22	7	7	0	0	0	0	0	0	0	0	0	0	198
09:00	0	0	0	0	0	0	0	4	67	67	64	64	64	19	19	2	2	1	1	0	0	0	0	0	0	0	0	157
10:00	0	0	0	1	1	0	0	9	45	45	76	76	76	25	25	3	3	0	0	0	0	0	0	0	0	0	0	159
11:00	0	0	0	0	0	0	0	10	76	76	69	69	69	22	22	1	1	1	1	1	1	0	0	0	0	0	0	180
12 PM	0	0	0	0	0	0	0	11	52	52	63	63	63	21	21	2	2	0	0	0	0	0	0	0	0	0	0	149
13:00	0	0	0	0	0	0	0	12	69	69	69	69	69	23	23	1	1	0	0	0	0	0	0	0	0	0	0	174
14:00	0	0	0	0	0	0	0	3	77	77	107	107	107	31	31	1	1	0	0	0	0	0	0	0	0	0	0	219
15:00	0	0	0	1	1	6	6	42	146	146	134	134	134	22	22	1	1	0	0	0	0	0	0	0	0	0	0	352
16:00	0	0	0	0	0	4	4	58	200	200	110	110	110	28	28	5	5	0	0	0	0	0	0	0	0	0	0	405
17:00	1	0	0	0	0	5	5	54	170	170	138	138	138	34	34	3	3	0	0	0	0	0	0	0	0	0	0	405
18:00	1	0	0	0	0	4	4	18	153	153	126	126	126	28	28	3	3	1	1	0	0	0	0	0	0	0	0	334
19:00	3	0	0	0	0	2	2	34	120	120	74	74	74	15	15	2	2	0	0	0	0	0	0	0	0	0	0	250
20:00	0	0	0	0	0	0	0	14	57	57	69	69	69	11	11	2	2	0	0	0	0	0	0	0	0	0	0	153
21:00	0	0	0	0	0	6	6	13	41	41	54	54	54	17	17	1	1	0	0	0	0	0	0	0	0	0	0	132
22:00	0	0	0	0	0	0	0	13	34	34	28	28	28	6	6	2	2	1	1	0	0	0	0	0	0	0	0	84
23:00	0	0	0	0	0	0	0	3	18	18	26	26	26	9	9	4	4	1	1	0	0	0	0	0	0	0	0	61
Total	6	0	0	3	3	32	32	354	1570	1570	1454	1454	1454	400	400	55	55	5	5	2	2	1	1	0	0	0	0	3882
Grand Total	10	1	7	7	84	84	84	751	3109	3109	2964	2964	2964	759	759	116	116	13	13	4	4	2	2	0	0	0	0	7820

Statistics

- 15th Percentile : 35 MPH
- 50th Percentile : 39 MPH
- 85th Percentile : 44 MPH
- 95th Percentile : 48 MPH
- Mean Speed(Average) : 41 MPH
- 10 MPH Pace Speed : 36-45 MPH
- Number in Pace : 6073
- Percent in Pace : 77.7%
- Number of Vehicles > 55 MPH : 19
- Percent of Vehicles > 55 MPH : 0.2%









**MDM Transportation Consultants, Inc.**

28 Lord Road, Suite 280  
Marlborough, MA 01752

West Street  
West of Driveaway  
Medway, Ma

Site Code: 790

WEST STREET WEST OF DRIVEWAY\_SPEED

Westbound		1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	0	
09/20/15	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	2
06:00	0	2	2	2	0	1	0	0	0	0	0	0	0	0	7	7
07:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
08:00	0	0	0	1	3	1	0	0	0	0	0	0	0	0	5	5
09:00	0	0	0	4	8	1	0	0	0	0	0	0	0	0	13	13
10:00	0	0	2	4	12	3	1	0	0	0	0	0	0	0	22	22
11:00	0	0	2	4	8	3	0	0	0	0	0	0	0	0	17	17
12 PM	0	0	0	7	8	3	0	0	0	0	0	0	0	0	18	18
13:00	0	0	0	3	6	2	0	0	0	0	0	0	0	0	11	11
14:00	0	0	1	1	10	1	0	0	0	0	0	0	0	0	13	13
15:00	0	0	0	2	7	5	0	0	0	0	0	0	0	0	14	14
16:00	0	1	0	4	11	4	0	0	0	0	0	0	0	0	20	20
17:00	0	0	4	10	12	2	0	0	0	0	0	0	0	0	28	28
18:00	0	1	2	5	13	3	0	0	0	0	0	0	0	0	24	24
19:00	0	0	0	7	8	0	0	0	0	0	0	0	0	0	15	15
20:00	0	0	0	2	7	3	0	0	0	0	0	0	0	0	12	12
21:00	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	4
22:00	0	0	0	3	2	1	0	0	0	0	0	0	0	0	6	6
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	13	59	125	34	1	1	0	0	0	0	0	0	237	237



**MDM Transportation Consultants, Inc.**

28 Lord Road, Suite 280  
Marlborough, MA 01752

West Street  
West of Driveway  
Medway, Ma

Site Code: 790

WEST STREET WEST OF DRIVEWAY\_SPEED

Westbound		15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
Start Time	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
09/22/15	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	4
01:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	2	1	1	3	1	0	0	0	0	0	0	0	0	0	8
06:00	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	12
07:00	0	0	5	16	6	1	0	0	0	0	0	0	0	0	0	29
08:00	0	0	8	20	9	0	0	0	0	0	0	0	0	0	0	38
09:00	0	0	5	6	5	1	0	0	0	0	0	0	0	0	0	17
10:00	0	0	4	10	1	0	0	0	0	0	0	0	0	0	0	17
11:00	0	0	7	6	4	0	0	0	0	0	0	0	0	0	0	17
12 PM	0	0	5	6	3	3	0	0	0	0	0	0	0	0	0	17
13:00	0	1	3	12	5	0	0	0	0	0	0	0	0	0	0	22
14:00	0	1	10	17	6	0	0	0	0	0	0	0	0	0	0	38
15:00	0	0	10	16	4	2	0	0	0	0	0	0	0	0	0	33
16:00	0	0	12	14	5	1	0	0	0	0	0	0	0	0	0	34
17:00	0	0	6	20	10	1	0	0	0	0	0	0	0	0	0	38
18:00	0	1	10	22	3	0	0	0	0	0	0	0	0	0	0	36
19:00	0	0	10	13	3	0	0	0	0	0	0	0	0	0	0	28
20:00	0	0	9	8	2	0	0	0	0	0	0	0	0	0	0	23
21:00	0	0	3	9	0	1	0	0	0	0	0	0	0	0	0	14
22:00	0	0	9	6	0	1	0	0	0	0	0	0	0	0	0	16
23:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	4	120	211	75	12	0	0	0	0	0	0	0	0	0	445
Grand Total	2	24	621	1128	369	33	3	0	0	0	0	0	0	0	0	2307

Statistics

Mean Speed(Average) : 32 MPH

10 MPH Pace Speed : 26-35 MPH

Number in Pace : 1749

Percent in Pace : 75.8%

Number of Vehicles > 30 MPH : 1533

Percent of Vehicles > 30 MPH : 66.4%

15th Percentile : 26 MPH

50th Percentile : 31 MPH

85th Percentile : 35 MPH

95th Percentile : 38 MPH







**MDM Transportation Consultants, Inc.**

28 Lord Road, Suite 280  
Marlborough, MA 01752

West Street  
West of Driveway  
Medway, Ma

Site Code: 790

WEST STREET WEST OF DRIVEWAY\_SPEED

Eastbound		1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	76	
09/19/15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	0	2	2	1	1	0	0	0	0	0	0	0	0	6
07:00	0	0	1	1	6	3	2	2	0	0	0	0	0	0	0	13
08:00	0	1	0	5	9	2	1	0	0	0	0	0	0	0	0	18
09:00	0	0	1	7	14	2	2	0	0	0	0	0	0	0	0	26
10:00	1	0	1	8	6	10	2	1	0	0	0	0	0	0	0	29
11:00	0	2	0	6	10	7	4	0	0	0	0	0	0	0	0	29
12 PM	0	0	1	4	10	5	3	1	0	0	0	0	0	0	0	24
13:00	0	0	1	5	15	12	2	2	0	0	0	0	0	0	0	37
14:00	0	0	3	4	12	6	1	2	0	0	0	0	0	0	0	28
15:00	1	0	0	11	11	2	1	0	0	0	0	0	0	0	0	26
16:00	0	0	0	6	13	5	2	1	0	0	0	0	0	0	0	27
17:00	0	1	0	4	9	8	0	0	0	0	0	0	0	0	0	22
18:00	0	0	1	2	10	1	2	0	0	1	0	0	0	0	0	17
19:00	0	0	0	5	10	4	1	0	0	0	0	0	0	0	0	20
20:00	0	0	0	2	4	2	1	0	0	0	0	0	0	0	0	9
21:00	0	0	0	1	5	1	1	0	0	0	0	0	0	0	0	8
22:00	0	0	1	3	3	2	0	0	0	0	0	0	0	0	0	9
23:00	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0	5
Total	2	4	11	79	153	76	26	7	1	1	0	0	0	0	0	359





**MDM Transportation Consultants, Inc.**

28 Lord Road, Suite 280  
Marlborough, MA 01752

West Street  
West of Driveway  
Medway, Ma

Site Code: 790

WEST STREET WEST OF DRIVEWAY \_ SPEED

Start Time	15	16	20	21	25	26	30	31	35	36	40	41	45	46	50	51	55	56	60	61	65	66	70	71	75	76	Total
09/22/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	1	0	0	0	2	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
06:00	0	0	0	0	0	4	0	8	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
07:00	0	0	0	3	0	11	0	20	0	12	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
08:00	0	1	0	0	0	5	0	15	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
09:00	0	2	0	1	0	5	0	6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
10:00	0	0	0	0	0	3	0	4	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
11:00	1	0	0	0	0	11	0	5	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
12 PM	0	0	0	0	0	4	0	12	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
13:00	0	1	0	2	0	4	0	11	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
14:00	1	0	0	1	0	7	0	5	0	7	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
15:00	1	0	0	2	0	9	0	16	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
16:00	0	0	0	0	0	6	0	13	0	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
17:00	0	0	0	1	0	9	0	25	0	15	0	7	0	3	0	0	0	0	0	0	0	0	0	0	0	0	60
18:00	0	0	0	0	0	8	0	23	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
19:00	0	0	0	0	0	5	0	10	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
20:00	0	1	0	0	0	5	0	7	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	17
21:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	2	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
23:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	3	6	6	14	83	99	492	182	979	105	547	123	20	4	21	2	0	0	0	0	0	0	0	0	0	0	434
Grand Total	10	22	22	83	83	492	492	979	979	547	547	123	20	21	21	2	0	0	0	0	0	0	0	0	0	0	2279

15th Percentile : 27 MPH  
 50th Percentile : 32 MPH  
 85th Percentile : 38 MPH  
 95th Percentile : 41 MPH  
  
 Mean Speed(Average) : 33 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 1526  
 Percent in Pace : 67.0%  
 Number of Vehicles > 30 MPH : 1672  
 Percent of Vehicles > 30 MPH : 73.4%

□ Intersection Crash Data

## INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Medway, MA                      COUNT DATE : Sept. 17, 2014

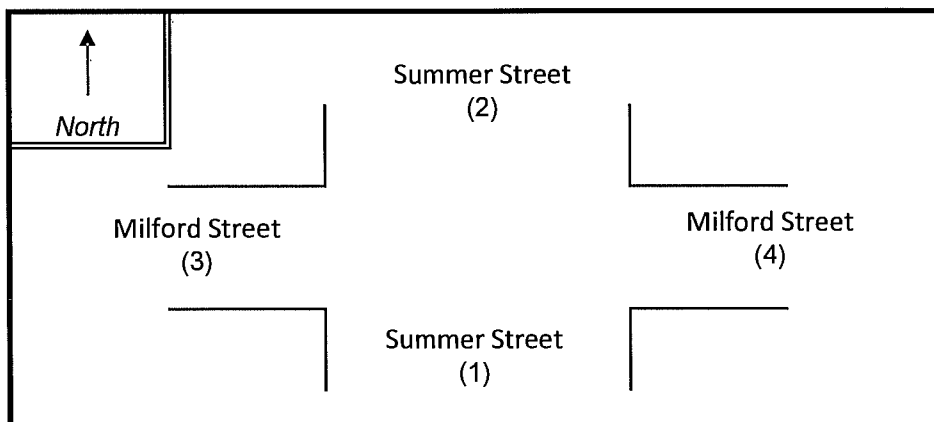
DISTRICT :    3           UNSIGNALIZED :         SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Milford Street (Route 109)

MINOR STREET(S) : Summer Street (Route 126)

**INTERSECTION  
DIAGRAM  
(Label Approaches)**



**PEAK HOUR VOLUMES**

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (PM) :	445	453	517	627		2,042

"K" FACTOR :         INTERSECTION ADT (  $V$  ) = TOTAL DAILY  
APPROACH VOLUME :

TOTAL # OF CRASHES :         # OF  
YEARS :         AVERAGE # OF  
CRASHES PER YEAR (  $A$  ) :

**CRASH RATE CALCULATION :**

**0.30**

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

Comments : MassDOT District 3 Avgs: Signalized = 0.89, Unsignalized = 0.66

Project Title & Date: 790 - Medway (Exelon Power)

## INTERSECTION CRASH RATE WORKSHEET

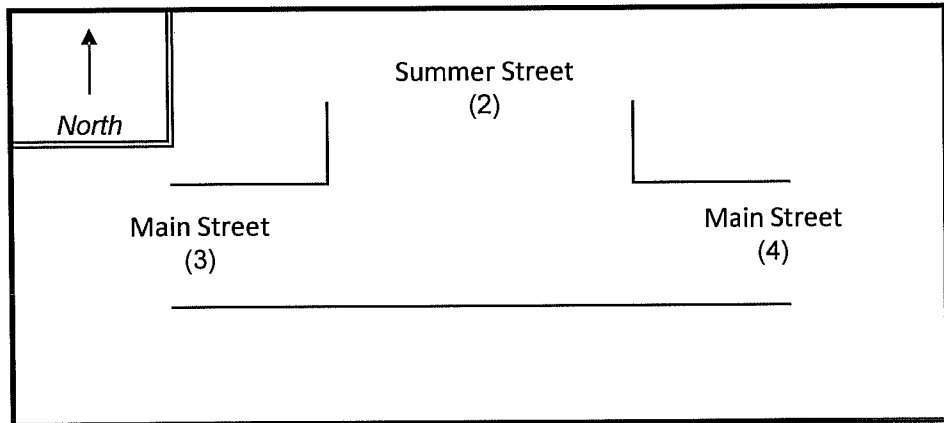
CITY/TOWN : Medway, MA      COUNT DATE : Sept. 17, 2014

DISTRICT : 3      UNSIGNALIZED :  **X**      SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Main Street  
MINOR STREET(S) : Summer Street (Route 126)

**INTERSECTION  
DIAGRAM**  
(Label Approaches)



**PEAK HOUR VOLUMES**

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (PM) :		449	570	552		<b>1,571</b>

" K " FACTOR :

<b>0.09</b>	INTERSECTION ADT ( V ) = TOTAL DAILY APPROACH VOLUME :	<b>17,456</b>
-------------	--	---------------

TOTAL # OF CRASHES :

7	# OF YEARS :	4	AVERAGE # OF CRASHES PER YEAR ( A ) :	<b>1.75</b>
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**CRASH RATE CALCULATION :**

**0.27**

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

Comments : MassDOT District 3 Avgs: Signalized = 0.89, Unsignalized = 0.66

Project Title & Date: 790 - Medway (Exelon Power)







MassDOT Crash Report for 2012													
Crash Date	Crash Time	Crash Type	Crash Severity	Number of Motorists Injured	Number of Motorists Killed	Number of Vehicles Involved	Number of Collisions	Vehicle Attributes or Death	Vehicle Used	Vehicle Make/Model	Vehicle Color	Vehicle Year	Vehicle Category
07/05/12	09:30 PM	Other	Minor	0	0	2	1	V1: Showing or stopped in path of traffic. V2: Following too closely.	V1: Sedan with motor vehicle in collision with motor vehicle. V2: Sedan with motor vehicle in collision with motor vehicle in path.	V1: 2005 Honda Civic. V2: 2005 Honda Civic.	W	2005	Passenger car
07/05/12	07:30 PM	Other	Minor	1	0	2	V1: Entering lane from left. V2: Entering lane from right.	V1: Sedan with motor vehicle in collision with motor vehicle in path. V2: Sedan with motor vehicle in collision with motor vehicle in path.	V1: 2005 Honda Civic. V2: 2005 Honda Civic.	W	2005	Passenger car	
07/05/12	07:30 PM	Other	Minor	1	0	2	V1: Showing or stopped in path of traffic. V2: Following too closely.	V1: Sedan with motor vehicle in collision with motor vehicle in path. V2: Sedan with motor vehicle in collision with motor vehicle in path.	V1: 2005 Honda Civic. V2: 2005 Honda Civic.	W	2005	Passenger car	
07/05/12	07:30 PM	Other	Minor	1	0	2	V1: Showing or stopped in path of traffic. V2: Following too closely.	V1: Sedan with motor vehicle in collision with motor vehicle in path. V2: Sedan with motor vehicle in collision with motor vehicle in path.	V1: 2005 Honda Civic. V2: 2005 Honda Civic.	W	2005	Passenger car	
07/05/12	07:30 PM	Other	Minor	1	0	2	V1: Showing or stopped in path of traffic. V2: Following too closely.	V1: Sedan with motor vehicle in collision with motor vehicle in path. V2: Sedan with motor vehicle in collision with motor vehicle in path.	V1: 2005 Honda Civic. V2: 2005 Honda Civic.	W	2005	Passenger car	

MassDOT Crash Report for Medway for the year 2013																
Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicle Action Prior to Crash	Vehicle Travel Directions	Most Harmful Events	Vehicle Configuration	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection
3592914	MEDWAY	04-Dec-2013	9:07 AM	Property damage only (none injured)	2	0	0	Sideswipe, same direction	V1: Turning right / V2: Slowing or stopped in traffic	V1: Southbound / V2: Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Tractor/semi-trailer / V2: Passenger car	Dry	Daylight	Clear	MAIN ST / SUMMER ST Rte 128 / MAIN ST
3592154	MEDWAY	08-Aug-2013	5:56 PM	Non-fatal injury	3	2	0	Rear-end	V1: Travelling straight ahead / V2: Slowing or stopped in traffic / V3: Slowing or stopped in traffic	V1: Southbound / V2: Southbound / V3: Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic / V3: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car / V3: Passenger car	Dry	Daylight	Cloudy	SUMMER ST Rte 128 S / MILFORD ST Rte 109
3601876	MEDWAY	04-Jan-2013	7:16 AM	Non-fatal injury	3	2	0	Head-on	V1: Slowing or stopped in traffic / V2: Moving traffic lane / V3: Travelling straight ahead	V1: Westbound / V2: Northbound / V3: Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic / V3: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car / V3: Passenger car	Dry	Daylight	Clear	
3600956	MEDWAY	19-Mar-2013	3:39 PM	Property damage only (none injured)	2	0	0	Angle	V1: Travelling straight ahead / V2: Entering traffic lane	V1: Westbound / V2: Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Single-unit truck (2 axle, 6-tire)	Wet	Daylight	Sleet, hail (freezing rain or drizzle)	
3602078	MEDWAY	03-May-2013	10:19 PM	Property damage only (none injured)	2	0	0	Rear-end	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic	V1: Northbound / V2: Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car	Dry	Dark - lighted roadway	Clear	
3605366	MEDWAY	23-Sep-2013	7:52 AM	Property damage only (none injured)	2	0	0	Rear-end	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1: Westbound / V2: Westbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car	Dry	Daylight	Clear	

□ Sight Line Analysis

## Stopping Sight Distance - Posted

		SPEED (MPH)	BRAKE REACTION DISTANCE (FT)	BRAKING DISTANCE (FT)	CALCULATED STOPPING SIGHT DISTANCE (FT)
Direction 1	NB	15	55.125	21.6	76.7
Direction 2	SB	40	147	153.3	300.3

**INPUTS**

	<u>Direction 1</u>	<u>Direction 2</u>
Travel Direction	NB	SB
Speed	15	40
Grade	0	0
t	2.5	2.5
a	11.2	11.2

**Stopping Sight Distance (SSD) - Source: AASHTO**

SSD = Reaction Distance + Brake Distance

Reaction Distance =  $1.47 \times t \times V$

Brake Distance =  $V^2 / (30 \times ((a/32.2)+G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G= roadway grade

a - deceleration rate (ft/sec<sup>2</sup>)

## Stopping Sight Distance - Average

		SPEED (MPH)	BRAKE REACTION DISTANCE (FT)	BRAKING DISTANCE (FT)	CALCULATED STOPPING SIGHT DISTANCE (FT)
Direction 1	NB	15	55.125	21.6	76.7
Direction 2	SB	41	150.675	161.1	311.8

### INPUTS

	<u>Direction 1</u>	<u>Direction 2</u>
Travel Direction	NB	SB
Speed	15	41
Grade	0	0
t	2.5	2.5
a	11.2	11.2

### Stopping Sight Distance (SSD) - Source: AASHTO

SSD = Reaction Distance + Brake Distance

Reaction Distance =  $1.47 \times t \times V$

Brake Distance =  $V^2 / (30 \times ((a/32.2) + G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G = roadway grade

a = deceleration rate (ft/sec<sup>2</sup>)

## Stopping Sight Distance - 85th Percentile

		SPEED (MPH)	BRAKE REACTION DISTANCE (FT)	BRAKING DISTANCE (FT)	CALCULATED STOPPING SIGHT DISTANCE (FT)
<b>Direction 1</b>	NB	15	55.125	21.6	76.7
<b>Direction 2</b>	SB	44	161.7	185.5	347.2

INPUTS

Direction 1

Direction 2

Travel Direction  
Speed  
Grade  
t  
a

NB  
15  
0  
2.5  
11.2

SB  
44  
0  
2.5  
11.2

**Stopping Sight Distance (SSD) - Source: AASHTO**

SSD = Reaction Distance + Brake Distance

Reaction Distance =  $1.47 \times t \times V$

Brake Distance =  $V^2 / (30 \times ((a/32.2)+G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G = roadway grade

a = deceleration rate (ft/sec<sup>2</sup>)

## Intersection Sight Distance Calculations

Source: *A Policy on Geometric Design of Highways and Street, 6th Edition*; AASHTO; 2011.

$$\text{ISD} = 1.47 * V * t$$

V = speed

t = time gap

t = 7.5 s for a passenger car for Left Turn from a Stop

t = 6.5 s for a passenger car for Right Turn from a Stop

### Posted (Regulatory) Speed Limit

Proposed Site Driveway ISD =  $1.47 * 15 * 7.5 = 165$  ft **SAY 165 ft**  
(left-turn from a stop)

Proposed Site Driveway ISD =  $1.47 * 40 * 6.5 = 382$  ft **SAY 385 ft**  
(right-turn from a stop)



## Stopping Sight Distance - Posted

		SPEED (MPH)	BRAKE REACTION DISTANCE (FT)	BRAKING DISTANCE (FT)	CALCULATED STOPPING SIGHT DISTANCE (FT)
Direction 1	EB	25	91.875	59.9	151.8
Direction 2	EB	25	91.875	59.9	151.8

### INPUTS

	<u>Direction 1</u>	<u>Direction 2</u>
Travel Direction	EB	EB
Speed	25	25
Grade	0	0
t	2.5	2.5
a	11.2	11.2

### Stopping Sight Distance (SSD) - Source: AASHTO

SSD = Reaction Distance + Brake Distance

Reaction Distance =  $1.47 \times t \times V$

Brake Distance =  $V^2 / (30 \times ((a/32.2)+G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G = roadway grade

a = deceleration rate (ft/sec<sup>2</sup>)

## Stopping Sight Distance - Average

		SPEED (MPH)	BRAKE REACTION DISTANCE (FT)	BRAKING DISTANCE (FT)	CALCULATED STOPPING SIGHT DISTANCE (FT)
Direction 1	EB	33	121.275	104.4	225.6
Direction 2	WB	32	117.6	98.1	215.7

### INPUTS

Travel Direction  
Speed  
Grade  
t  
a

### Direction 1

EB  
33  
0  
2.5  
11.2

### Direction 2

WB  
32  
0  
2.5  
11.2

### Stopping Sight Distance (SSD) - Source: AASHTO

SSD = Reaction Distance + Brake Distance

Reaction Distance =  $1.47 \times t \times V$

Brake Distance =  $V^2 / (30 \times ((a/32.2)+G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G = roadway grade

a = deceleration rate (ft/sec<sup>2</sup>)

## Stopping Sight Distance - 85th Percentile

		SPEED (MPH)	BRAKE REACTION DISTANCE (FT)	BRAKING DISTANCE (FT)	CALCULATED STOPPING SIGHT DISTANCE (FT)
Direction 1	EB	38	139.65	138.4	278.0
Direction 2	EB	35	128.625	117.4	246.0

INPUTS

Travel Direction  
Speed  
Grade  
t  
a

Direction 1

EB  
38  
0  
2.5  
11.2

Direction 2

EB  
35  
0  
2.5  
11.2

**Stopping Sight Distance (SSD) - Source: AASHTO**

SSD = Reaction Distance + Brake Distance

Reaction Distance =  $1.47 \times t \times V$

Brake Distance =  $V^2 / (30 \times ((a/32.2)+G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G= roadway grade

a - deceleration rate (ft/sec<sup>2</sup>)



















□ Construction Analysis

Lanes, Volumes, Timings

2014 Existing Conditions













1: Summer Street (Route 126) & Milford Street (Route 109)

Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	149	239	10	12	419	52	30	301	12	28	180	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Fr't		0.994			0.985			0.995			0.946	
Flt Protected	0.950				0.999			0.996			0.996	
Satd. Flow (prot)	1770	2019	0	0	2094	0	0	2031	0	0	1938	0
Flt Permitted	0.262				0.990			0.937			0.946	
Satd. Flow (perm)	488	2019	0	0	2075	0	0	1911	0	0	1841	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			8			2			37	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	154	246	10	12	432	54	31	310	12	29	186	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	256	0	0	498	0	0	353	0	0	359	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2014 Existing Conditions  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	35.9	35.9			21.2			17.3			17.3	
Actuated g/C Ratio	0.56	0.56			0.33			0.27			0.27	
v/c Ratio	0.33	0.22			0.72			0.68			0.68	
Control Delay	9.6	8.1			25.3			29.1			26.9	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	9.6	8.1			25.3			29.1			26.9	
LOS	A	A			C			C			C	
Approach Delay		8.7			25.3			29.1			26.9	
Approach LOS		A			C			C			C	
90th %ile Green (s)	10.0	49.7		34.7	34.7		28.3	28.3		28.3	28.3	
90th %ile Term Code	Max	Hold		Gap	Gap		Gap	Gap		Gap	Gap	
70th %ile Green (s)	10.0	40.5		25.5	25.5		20.5	20.5		20.5	20.5	
70th %ile Term Code	Max	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
50th %ile Green (s)	10.0	35.8		20.8	20.8		16.7	16.7		16.7	16.7	
50th %ile Term Code	Max	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
30th %ile Green (s)	8.9	30.1		16.2	16.2		13.4	13.4		13.4	13.4	
30th %ile Term Code	Gap	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
10th %ile Green (s)	6.8	23.9		12.1	12.1		10.1	10.1		10.1	10.1	
10th %ile Term Code	Gap	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
Queue Length 50th (ft)	24	42			159			119			109	
Queue Length 95th (ft)	68	104			314			249			237	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	487	1728			1378			951			934	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.32	0.15			0.36			0.37			0.38	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 63.8











Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2014 Existing Conditions  
 Weekday Morning Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.72  
 Intersection Signal Delay: 22.3  
 Intersection Capacity Utilization 76.7%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 88  
 70th %ile Actuated Cycle: 71  
 50th %ile Actuated Cycle: 62.5  
 30th %ile Actuated Cycle: 53.5  
 10th %ile Actuated Cycle: 44

Intersection LOS: C  
 ICU Level of Service D

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)

  ø2			  ø4		
35 s			60 s		
  ø5			  ø7	  ø8	
35 s			15 s	45 s	

HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2014 Existing Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	6	357	145	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	0	0	6	372	151	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	538	154	157	0	-	0
Stage 1	154	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	508	688	1254	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	693	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	505	688	1254	-	-	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	689	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1254	-	-	-	-
HCM Lane V/C Ratio	0.005	-	-	-	-
HCM Control Delay (s)	7.9	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-



Intersection

Int Delay, s/veh 3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	331	499	96	32	16	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	29	15	10	0	5
Mvmt Flow	352	531	102	34	17	144

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	136	0	1354
Stage 1	-	-	119
Stage 2	-	-	1235
Critical Hdwy	4.15	-	2.5
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	2.5
Pot Cap-1 Maneuver	1430	-	868
Stage 1	-	-	1255
Stage 2	-	-	336
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1430	-	654
Mov Cap-2 Maneuver	-	-	654
Stage 1	-	-	1255
Stage 2	-	-	253

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	8.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1430	-	-	-	654	1381
HCM Lane V/C Ratio	0.246	-	-	-	0.026	0.104
HCM Control Delay (s)	8.3	-	-	-	10.7	7.9
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	1	-	-	-	0.1	0.3

HCM 2010 TWSC  
 4: Main Street (Route 126) & West Street

2014 Existing Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	813	221	10	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	8	0	0	0
Mvmt Flow	1	874	238	11	18	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	248	0	1119
Stage 1	-	-	243
Stage 2	-	-	876
Critical Hdwy	4.1	-	4.5
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	4.5
Pot Cap-1 Maneuver	1330	-	367
Stage 1	-	-	644
Stage 2	-	-	354
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1330	-	367
Mov Cap-2 Maneuver	-	-	367
Stage 1	-	-	644
Stage 2	-	-	354

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1330	-	-	-	367
HCM Lane V/C Ratio	0.001	-	-	-	0.05
HCM Control Delay (s)	7.7	0	-	-	15.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 2010 TWSC  
5: West Street & Milford Street (Route 109)

2014 Existing Conditions  
Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	359	16	1	482	78	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	3	21	100	2	0	0
Mvmt Flow	460	21	1	618	100	22

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	481
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	5.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	718
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	718
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.2
HCM LOS			B


















Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	503	731	-	-	718	-
HCM Lane V/C Ratio	0.199	0.03	-	-	0.002	-
HCM Control Delay (s)	13.9	10.1	-	-	10	0
HCM Lane LOS	B	B	-	-	B	A
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0	-

Lanes, Volumes, Timings

2021 No-Build Conditions













1: Summer Street (Route 126) & Milford Street (Route 109)

Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	248	10	12	434	54	31	312	12	29	186	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Fr <sub>t</sub>		0.994			0.985			0.996	1.00		0.946	1.00
Fl <sub>t</sub> Protected	0.950				0.999			0.996			0.996	
Satd. Flow (prot)	1770	2019	0	0	2094	0	0	2033	0	0	1938	0
Fl <sub>t</sub> Permitted	0.255				0.991			0.933			0.942	
Satd. Flow (perm)	475	2019	0	0	2077	0	0	1905	0	0	1833	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			8			2			37	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	159	256	10	12	447	56	32	322	12	30	192	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	266	0	0	515	0	0	366	0	0	371	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
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	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 No-Build Conditions  
 Weekday Morning Peak Hour

Lane Group												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	37.0	37.0			22.2			18.1			18.1	
Actuated g/C Ratio	0.56	0.56			0.34			0.28			0.28	
v/c Ratio	0.35	0.23			0.73			0.69			0.70	
Control Delay	10.1	8.4			26.1			30.0			27.8	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	10.1	8.4			26.1			30.0			27.8	
LOS	B	A			C			C			C	
Approach Delay		9.1			26.1			30.0			27.8	
Approach LOS		A			C			C			C	
90th %ile Green (s)	10.0	51.0		36.0	36.0		29.8	29.8		29.8	29.8	
90th %ile Term Code	Max	Hold		Gap	Gap		Gap	Gap		Gap	Gap	
70th %ile Green (s)	10.0	41.8		26.8	26.8		21.5	21.5		21.5	21.5	
70th %ile Term Code	Max	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
50th %ile Green (s)	10.0	36.8		21.8	21.8		17.4	17.4		17.4	17.4	
50th %ile Term Code	Max	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
30th %ile Green (s)	9.1	31.0		16.9	16.9		14.0	14.0		14.0	14.0	
30th %ile Term Code	Gap	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
10th %ile Green (s)	6.9	24.5		12.6	12.6		10.5	10.5		10.5	10.5	
10th %ile Term Code	Gap	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
Queue Length 50th (ft)	26	45			170			128			117	
Queue Length 95th (ft)	72	113			334			264			251	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	476	1701			1388			922			906	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.33	0.16			0.37			0.40			0.41	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 65.7

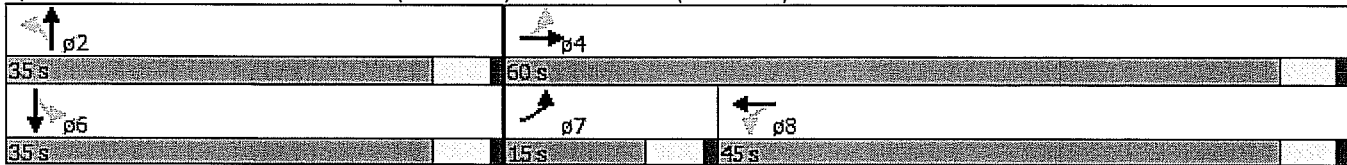
Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 No-Build Conditions  
 Weekday Morning Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 23.0  
 Intersection Capacity Utilization 79.0%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 90.8  
 70th %ile Actuated Cycle: 73.3  
 50th %ile Actuated Cycle: 64.2  
 30th %ile Actuated Cycle: 55  
 10th %ile Actuated Cycle: 45

Intersection LOS: C  
 ICU Level of Service D

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2021 No-Build Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	6	370	150	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	0	0	6	385	156	6

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	557	159	163
Stage 1	159	-	-
Stage 2	398	-	-
Critical Hdwy	6.4	7.2	4.43
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	4.2	2.497
Pot Cap-1 Maneuver	495	683	1248
Stage 1	875	-	-
Stage 2	683	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	492	683	1248
Mov Cap-2 Maneuver	492	-	-
Stage 1	875	-	-
Stage 2	679	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1248	-	-	-	-
HCM Lane V/C Ratio	0.005	-	-	-	-
HCM Control Delay (s)	7.9	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	343	517	99	33	17	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	29	15	10	0	5
Mvmt Flow	365	550	105	35	18	149

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	140	0	1403
Stage 1	-	-	123
Stage 2	-	-	1280
Critical Hdwy	4.15	-	2.5
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	2.5
Pot Cap-1 Maneuver	1425	-	851
Stage 1	-	-	1249
Stage 2	-	-	319
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1425	-	633
Mov Cap-2 Maneuver	-	-	633
Stage 1	-	-	1249
Stage 2	-	-	237

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	8.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1425	-	-	-	633	1379
HCM Lane V/C Ratio	0.256	-	-	-	0.029	0.108
HCM Control Delay (s)	8.4	-	-	-	10.9	7.9
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	1	-	-	-	0.1	0.4



HCM 2010 TWSC  
 4: Main Street (Route 126) & West Street

2021 No-Build Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	842	229	10	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	8	0	0	0
Mvmt Flow	1	905	246	11	19	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	257	0	1160
Stage 1	-	-	252
Stage 2	-	-	908
Critical Hdwy	4.1	-	4.5
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	4.5
Pot Cap-1 Maneuver	1320	-	355
Stage 1	-	-	639
Stage 2	-	-	343
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1320	-	354
Mov Cap-2 Maneuver	-	-	354
Stage 1	-	-	639
Stage 2	-	-	342

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1320	-	-	-	354
HCM Lane V/C Ratio	0.001	-	-	-	0.055
HCM Control Delay (s)	7.7	0	-	-	15.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 2010 TWSC  
 5: West Street & Milford Street (Route 109)

2021 No-Build Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	372	17	1	499	81	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	3	21	100	2	0	0
Mvmt Flow	477	22	1	640	104	23



















Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	499
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	5.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	705
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	705
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	491	724	-	-	705	-
HCM Lane V/C Ratio	0.211	0.032	-	-	0.002	-
HCM Control Delay (s)	14.3	10.1	-	-	10.1	0
HCM Lane LOS	B	B	-	-	B	A
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0	-













Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	248	10	12	434	54	31	312	12	29	216	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Fr't		0.994			0.985			0.996			0.950	
Flt Protected	0.950				0.999			0.996			0.996	
Satd. Flow (prot)	1770	2019	0	0	2094	0	0	2033	0	0	1943	0
Flt Permitted	0.253				0.991			0.926			0.950	
Satd. Flow (perm)	471	2019	0	0	2077	0	0	1890	0	0	1854	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			8			2			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	159	256	10	12	447	56	32	322	12	30	223	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	266	0	0	515	0	0	366	0	0	402	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	37.2	37.2			22.5			18.9			18.9	
Actuated g/C Ratio	0.56	0.56			0.34			0.28			0.28	
v/c Ratio	0.36	0.24			0.73			0.68			0.73	
Control Delay	10.4	8.7			26.6			29.5			29.7	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	10.4	8.7			26.6			29.5			29.7	
LOS	B	A			C			C			C	
Approach Delay		9.4			26.6			29.5			29.7	
Approach LOS		A			C			C			C	
90th %ile Green (s)	10.0	51.0		36.0	36.0		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Gap	Gap		Max	Max		Max	Max	
70th %ile Green (s)	10.0	42.5		27.5	27.5		23.1	23.1		23.1	23.1	
70th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
50th %ile Green (s)	10.0	37.3		22.3	22.3		18.5	18.5		18.5	18.5	
50th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
30th %ile Green (s)	9.2	31.3		17.1	17.1		14.6	14.6		14.6	14.6	
30th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
10th %ile Green (s)	6.9	24.5		12.6	12.6		10.7	10.7		10.7	10.7	
10th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
Queue Length 50th (ft)	27	47			176			129			134	
Queue Length 95th (ft)	72	114			336			264			277	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	469	1677			1322			901			900	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.34	0.16			0.39			0.41			0.45	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 66.7

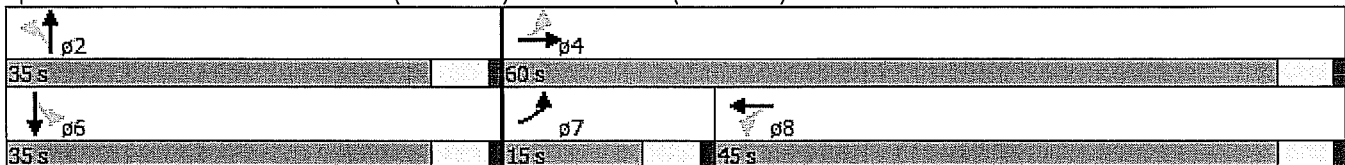
Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
 Weekday Morning Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 23.7  
 Intersection Capacity Utilization 80.5%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 91  
 70th %ile Actuated Cycle: 75.6  
 50th %ile Actuated Cycle: 65.8  
 30th %ile Actuated Cycle: 55.9  
 10th %ile Actuated Cycle: 45.2

Intersection LOS: C  
 ICU Level of Service D

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2021 Build Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	6	370	180	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	0	0	6	385	188	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	589	191	194	0	-	0
Stage 1	191	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	474	653	1214	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	471	653	1214	-	-	-
Mov Cap-2 Maneuver	471	-	-	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	679	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1214	-	-	-	-
HCM Lane V/C Ratio	0.005	-	-	-	-
HCM Control Delay (s)	8	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	343	517	139	33	17	170
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	29	15	10	0	5
Mvmt Flow	365	550	148	35	18	181

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	183	0	1445
Stage 1	-	-	165
Stage 2	-	-	1280
Critical Hdwy	4.15	-	2.5
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	2.5
Pot Cap-1 Maneuver	1374	-	836
Stage 1	-	-	1190
Stage 2	-	-	319
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1374	-	614
Mov Cap-2 Maneuver	-	-	614
Stage 1	-	-	1190
Stage 2	-	-	234

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1374	-	-	-	614	1359
HCM Lane V/C Ratio	0.266	-	-	-	0.029	0.133
HCM Control Delay (s)	8.6	-	-	-	11	8.1
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	1.1	-	-	-	0.1	0.5

HCM 2010 TWSC  
4: Main Street (Route 126) & West Street

2021 Build Conditions  
Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	842	229	80	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	8	0	0	0
Mvmt Flow	1	905	246	86	19	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	332	0	1197
Stage 1	-	-	289
Stage 2	-	-	908
Critical Hdwy	4.1	-	4.5
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	4.5
Pot Cap-1 Maneuver	1239	-	345
Stage 1	-	-	618
Stage 2	-	-	343
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1239	-	344
Mov Cap-2 Maneuver	-	-	344
Stage 1	-	-	618
Stage 2	-	-	342

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1239	-	-	-	344
HCM Lane V/C Ratio	0.001	-	-	-	0.056
HCM Control Delay (s)	7.9	0	-	-	16.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2



HCM 2010 TWSC  
5: West Street & Milford Street (Route 109)

2021 Build Conditions  
Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	372	77	1	499	81	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	3	21	100	2	0	0
Mvmt Flow	477	99	1	640	104	23

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	576
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	5.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	651
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	651
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	479	709	-	-	651	-
HCM Lane V/C Ratio	0.217	0.033	-	-	0.002	-
HCM Control Delay (s)	14.6	10.2	-	-	10.5	0
HCM Lane LOS	B	B	-	-	B	A
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0	-

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	130	18	10	70	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	141	20	11	76	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	87	0	351
Stage 1	-	-	49
Stage 2	-	-	302
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1522	-	650
Stage 1	-	-	979
Stage 2	-	-	755
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1522	-	589
Mov Cap-2 Maneuver	-	-	589
Stage 1	-	-	979
Stage 2	-	-	684

Approach	EB	WB	SB
HCM Control Delay, s	6.7	0	0
HCM LOS			A


















Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1522	-	-	-	-
HCM Lane V/C Ratio	0.093	-	-	-	-
HCM Control Delay (s)	7.6	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	-

Lanes, Volumes, Timings

2014 Existing Conditions













1: Summer Street (Route 126) & Milford Street (Route 109)

Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	435	43	21	384	43	22	174	9	31	344	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Fr <sub>t</sub>		0.987			0.987			0.994			0.968	
Fl <sub>t</sub> Protected	0.950				0.998			0.995			0.997	
Satd. Flow (prot)	1770	2008	0	0	2097	0	0	2027	0	0	1969	0
Fl <sub>t</sub> Permitted	0.274				0.964			0.933			0.971	
Satd. Flow (perm)	510	2008	0	0	2026	0	0	1900	0	0	1917	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			7			2			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	118	448	44	22	396	44	23	179	9	32	355	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	492	0	0	462	0	0	211	0	0	507	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
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	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
1: Summer Street (Route 126) & Milford Street (Route 109)

2014 Existing Conditions  
Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	32.3	32.3			21.8			23.6			23.6	
Actuated g/C Ratio	0.48	0.48			0.33			0.35			0.35	
v/c Ratio	0.28	0.51			0.69			0.31			0.74	
Control Delay	11.5	13.5			27.4			19.7			28.2	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	11.5	13.5			27.4			19.7			28.2	
LOS	B	B			C			B			C	
Approach Delay		13.1			27.4			19.7			28.2	
Approach LOS		B			C			B			C	
90th %ile Green (s)	10.0	47.1		32.1	32.1		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
70th %ile Green (s)	10.0	41.2		26.2	26.2		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
50th %ile Green (s)	9.4	36.0		21.6	21.6		24.3	24.3		24.3	24.3	
50th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
30th %ile Green (s)	8.0	30.3		17.3	17.3		18.9	18.9		18.9	18.9	
30th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
10th %ile Green (s)	0.0	12.5		12.5	12.5		14.1	14.1		14.1	14.1	
10th %ile Term Code	Skip	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
Queue Length 50th (ft)	25	125			175			65			184	
Queue Length 95th (ft)	56	225			300			140			356	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	453	1616			1297			938			954	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.26	0.30			0.36			0.22			0.53	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 66.9

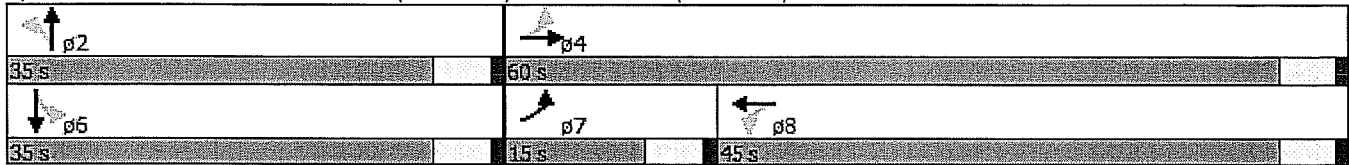
Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2014 Existing Conditions  
 Weekday Evening Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 21.8  
 Intersection Capacity Utilization 93.7%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 87.1  
 70th %ile Actuated Cycle: 81.2  
 50th %ile Actuated Cycle: 70.3  
 30th %ile Actuated Cycle: 59.2  
 10th %ile Actuated Cycle: 36.6

Intersection LOS: C  
 ICU Level of Service F

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2014 Existing Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	4	0	213	385	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	2	4	0	222	401	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	623	401	401	0	-	0
Stage 1	401	-	-	-	-	-
Stage 2	222	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	453	481	1008	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	820	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	453	481	1008	-	-	-
Mov Cap-2 Maneuver	453	-	-	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	820	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1008	-	471	-	-
HCM Lane V/C Ratio	-	-	0.013	-	-
HCM Control Delay (s)	0	-	12.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	199	400	476	14	37	352
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	8	20	10	0	1
Mvmt Flow	212	426	506	15	39	374

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	521	0	1363
Stage 1	-	-	514
Stage 2	-	-	849
Critical Hdwy	4.15	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	4.1
Pot Cap-1 Maneuver	1030	-	366
Stage 1	-	-	537
Stage 2	-	-	383
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1030	-	291
Mov Cap-2 Maneuver	-	-	291
Stage 1	-	-	537
Stage 2	-	-	304

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1030	-	-	-	291	823
HCM Lane V/C Ratio	0.206	-	-	-	0.135	0.455
HCM Control Delay (s)	9.4	-	-	-	19.3	13
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.5	2.4

HCM 2010 TWSC  
 4: Main Street (Route 126) & West Street

2014 Existing Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh      0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	4	563	796	32	36	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	25	2	3	10	9	0
Mvmt Flow	4	599	847	34	38	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	881	0	1471
Stage 1	-	-	864
Stage 2	-	-	607
Critical Hdwy	4.35	-	4.5
Critical Hdwy Stg 1	-	-	5.49
Critical Hdwy Stg 2	-	-	5.49
Follow-up Hdwy	2.425	-	4.5
Pot Cap-1 Maneuver	679	-	278
Stage 1	-	-	350
Stage 2	-	-	452
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	679	-	275
Mov Cap-2 Maneuver	-	-	275
Stage 1	-	-	350
Stage 2	-	-	448

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	20.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	679	-	-	-	275
HCM Lane V/C Ratio	0.006	-	-	-	0.139
HCM Control Delay (s)	10.3	0	-	-	20.2
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5



HCM 2010 TWSC  
 5: West Street & Milford Street (Route 109)

2014 Existing Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	463	115	9	475	65	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	1	13	3	5	0
Mvmt Flow	538	134	10	552	76	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	672
Stage 1	-	-	605
Stage 2	-	-	573
Critical Hdwy	-	-	4.23
Critical Hdwy Stg 1	-	-	5.45
Critical Hdwy Stg 2	-	-	5.45
Follow-up Hdwy	-	-	2.317
Pot Cap-1 Maneuver	-	-	869
Stage 1	-	-	513
Stage 2	-	-	530
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	869
Mov Cap-2 Maneuver	-	-	469
Stage 1	-	-	513
Stage 2	-	-	521

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.8
HCM LOS			B


















Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	469	677	-	-	869	-
HCM Lane V/C Ratio	0.161	0.01	-	-	0.012	-
HCM Control Delay (s)	14.1	10.4	-	-	9.2	0
HCM Lane LOS	B	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-

Lanes, Volumes, Timings

2021 No-Build Conditions













1: Summer Street (Route 126) & Milford Street (Route 109)

Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	118	451	45	22	378	45	23	180	9	32	356	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Fr't		0.986			0.986			0.994			0.968	
Flt Protected	0.950				0.998			0.995			0.997	
Satd. Flow (prot)	1770	2006	0	0	2095	0	0	2027	0	0	1969	0
Flt Permitted	0.274				0.961			0.930			0.970	
Satd. Flow (perm)	510	2006	0	0	2017	0	0	1894	0	0	1915	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			7			2			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	122	465	46	23	390	46	24	186	9	33	367	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	511	0	0	459	0	0	219	0	0	524	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 No-Build Conditions  
 Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	32.4	32.4			21.9			24.3			24.3	
Actuated g/C Ratio	0.48	0.48			0.32			0.36			0.36	
v/c Ratio	0.29	0.53			0.70			0.32			0.75	
Control Delay	11.8	14.1			27.8			19.7			28.8	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	11.8	14.1			27.8			19.7			28.8	
LOS	B	B			C			B			C	
Approach Delay		13.7			27.8			19.7			28.8	
Approach LOS		B			C			B			C	
90th %ile Green (s)	10.0	47.1		32.1	32.1		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
70th %ile Green (s)	10.0	41.3		26.3	26.3		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
50th %ile Green (s)	9.5	36.1		21.6	21.6		25.6	25.6		25.6	25.6	
50th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
30th %ile Green (s)	8.1	30.7		17.6	17.6		20.0	20.0		20.0	20.0	
30th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
10th %ile Green (s)	0.0	12.7		12.7	12.7		14.9	14.9		14.9	14.9	
10th %ile Term Code	Skip	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
Queue Length 50th (ft)	27	138			179			68			194	
Queue Length 95th (ft)	58	237			299			145			#402	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	448	1599			1280			919			937	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.27	0.32			0.36			0.24			0.56	

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 67.7

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

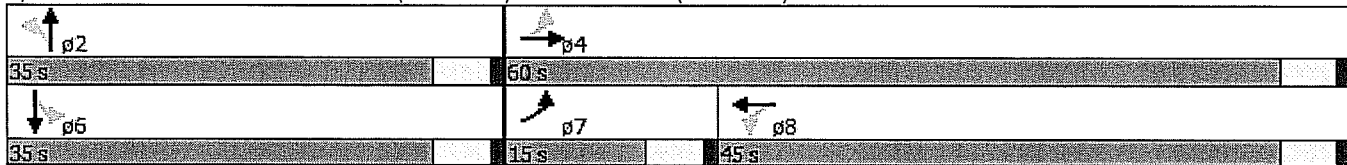
2021 No-Build Conditions  
 Weekday Evening Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 22.3  
 Intersection Capacity Utilization 95.5%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 87.1  
 70th %ile Actuated Cycle: 81.3  
 50th %ile Actuated Cycle: 71.7  
 30th %ile Actuated Cycle: 60.7  
 10th %ile Actuated Cycle: 37.6

Intersection LOS: C  
 ICU Level of Service F

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

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2021 No-Build Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	4	0	220	399	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	2	4	0	229	416	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	645	416	416	0	-	0
Stage 1	416	-	-	-	-	-
Stage 2	229	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	440	471	995	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	440	471	995	-	-	-
Mov Cap-2 Maneuver	440	-	-	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	814	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	12.9		0		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	995	-	460	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	12.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	206	414	493	14	38	365
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	8	20	10	0	1
Mvmt Flow	219	440	524	15	40	388

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	539	0	1411
Stage 1	-	-	532
Stage 2	-	-	879
Critical Hdwy	4.15	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	4.1
Pot Cap-1 Maneuver	1014	-	354
Stage 1	-	-	527
Stage 2	-	-	372
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1014	-	278
Mov Cap-2 Maneuver	-	-	278
Stage 1	-	-	527
Stage 2	-	-	292

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	14
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1014	-	-	-	278	815
HCM Lane V/C Ratio	0.216	-	-	-	0.145	0.476
HCM Control Delay (s)	9.5	-	-	-	20.1	13.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.5	2.6

HCM 2010 TWSC  
4: Main Street (Route 126) & West Street

2021 No-Build Conditions  
Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	4	583	825	33	37	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	25	2	3	10	9	0
Mvmt Flow	4	620	878	35	39	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	913	0	1524
Stage 1	-	-	895
Stage 2	-	-	629
Critical Hdwy	4.35	-	4.5
Critical Hdwy Stg 1	-	-	5.49
Critical Hdwy Stg 2	-	-	5.49
Follow-up Hdwy	2.425	-	4.5
Pot Cap-1 Maneuver	659	-	266
Stage 1	-	-	340
Stage 2	-	-	443
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	659	-	264
Mov Cap-2 Maneuver	-	-	264
Stage 1	-	-	340
Stage 2	-	-	439

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	21
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	659	-	-	-	264
HCM Lane V/C Ratio	0.006	-	-	-	0.149
HCM Control Delay (s)	10.5	0	-	-	21
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5

HCM 2010 TWSC  
5: West Street & Milford Street (Route 109)

2021 No-Build Conditions  
Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	480	119	9	492	67	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	1	13	3	5	0
Mvmt Flow	558	138	10	572	78	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	697
Stage 1	-	-	627
Stage 2	-	-	593
Critical Hdwy	-	-	4.23
Critical Hdwy Stg 1	-	-	5.45
Critical Hdwy Stg 2	-	-	5.45
Follow-up Hdwy	-	-	2.317
Pot Cap-1 Maneuver	-	-	850
Stage 1	-	-	501
Stage 2	-	-	519
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	850
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	501
Stage 2	-	-	510


















Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	457	668	-	-	850	-
HCM Lane V/C Ratio	0.17	0.01	-	-	0.012	-
HCM Control Delay (s)	14.5	10.4	-	-	9.3	0
HCM Lane LOS	B	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-















Lanes, Volumes, Timings  
1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	118	451	45	22	378	45	23	210	9	32	356	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Friction		0.986			0.986			0.995			0.968	
Flt Protected	0.950				0.998			0.995			0.997	
Satd. Flow (prot)	1770	2006	0	0	2095	0	0	2029	0	0	1969	0
Flt Permitted	0.273				0.961			0.937			0.968	
Satd. Flow (perm)	509	2006	0	0	2017	0	0	1911	0	0	1911	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			7			2			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	122	465	46	23	390	46	24	216	9	33	367	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	511	0	0	459	0	0	249	0	0	524	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
 Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8	8		2	2		6	6	
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	32.4	32.4			21.9			24.4			24.4	
Actuated g/C Ratio	0.48	0.48			0.32			0.36			0.36	
v/c Ratio	0.30	0.53			0.70			0.36			0.75	
Control Delay	11.8	14.2			27.9			20.1			28.8	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	11.8	14.2			27.9			20.1			28.8	
LOS	B	B			C			C			C	
Approach Delay		13.7			27.9			20.1			28.8	
Approach LOS		B			C			C			C	
90th %ile Green (s)	10.0	47.1		32.1	32.1		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
70th %ile Green (s)	10.0	41.3		26.3	26.3		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
50th %ile Green (s)	9.5	36.1		21.6	21.6		25.7	25.7		25.7	25.7	
50th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
30th %ile Green (s)	8.1	30.7		17.6	17.6		20.1	20.1		20.1	20.1	
30th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
10th %ile Green (s)	0.0	12.7		12.7	12.7		15.0	15.0		15.0	15.0	
10th %ile Term Code	Skip	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
Queue Length 50th (ft)	27	138			179			79			194	
Queue Length 95th (ft)	58	237			299			164			#403	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	447	1598			1279			926			933	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.27	0.32			0.36			0.27			0.56	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 67.7

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

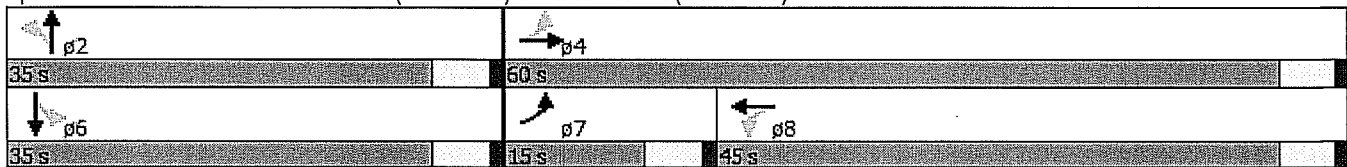
2021 Build Conditions  
 Weekday Evening Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 22.3  
 Intersection Capacity Utilization 96.2%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 87.1  
 70th %ile Actuated Cycle: 81.3  
 50th %ile Actuated Cycle: 71.8  
 30th %ile Actuated Cycle: 60.8  
 10th %ile Actuated Cycle: 37.7

Intersection LOS: C  
 ICU Level of Service F

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

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2021 Build Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	4	0	250	399	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	2	4	0	260	416	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	676	416	416	0	-	0
Stage 1	416	-	-	-	-	-
Stage 2	260	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	422	471	995	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	422	471	995	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	13.1		0		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	995	-	453	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	13.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	236	414	493	14	38	365
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	8	20	10	0	1
Mvmt Flow	251	440	524	15	40	388

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	539	0	1475
Stage 1	-	-	532
Stage 2	-	-	943
Critical Hdwy	4.15	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	4.1
Pot Cap-1 Maneuver	1014	-	338
Stage 1	-	-	527
Stage 2	-	-	348
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1014	-	254
Mov Cap-2 Maneuver	-	-	254
Stage 1	-	-	527
Stage 2	-	-	262

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1014	-	-	-	254	815
HCM Lane V/C Ratio	0.248	-	-	-	0.159	0.476
HCM Control Delay (s)	9.7	-	-	-	21.8	13.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	1	-	-	-	0.6	2.6

HCM 2010 TWSC  
 4: Main Street (Route 126) & West Street

2021 Build Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	4	583	825	33	107	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	25	2	3	10	9	0
Mvmt Flow	4	620	878	35	114	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	913	0	1524
Stage 1	-	-	895
Stage 2	-	-	629
Critical Hdwy	4.35	-	4.5
Critical Hdwy Stg 1	-	-	5.49
Critical Hdwy Stg 2	-	-	5.49
Follow-up Hdwy	2.425	-	4.5
Pot Cap-1 Maneuver	659	-	266
Stage 1	-	-	340
Stage 2	-	-	443
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	659	-	264
Mov Cap-2 Maneuver	-	-	264
Stage 1	-	-	340
Stage 2	-	-	439

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	28.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	659	-	-	-	264
HCM Lane V/C Ratio	0.006	-	-	-	0.431
HCM Control Delay (s)	10.5	0	-	-	28.6
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	2

HCM 2010 TWSC  
5: West Street & Milford Street (Route 109)

2021 Build Conditions  
Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	480	119	9	492	127	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	1	13	3	5	0
Mvmt Flow	558	138	10	572	148	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	697
Stage 1	-	-	627
Stage 2	-	-	593
Critical Hdwy	-	-	4.23
Critical Hdwy Stg 1	-	-	5.45
Critical Hdwy Stg 2	-	-	5.45
Follow-up Hdwy	-	-	2.317
Pot Cap-1 Maneuver	-	-	850
Stage 1	-	-	501
Stage 2	-	-	519
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	850
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	501
Stage 2	-	-	510

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	457	668	-	-	850	-
HCM Lane V/C Ratio	0.323	0.01	-	-	0.012	-
HCM Control Delay (s)	16.6	10.4	-	-	9.3	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	1.4	0	-	-	0	-

HCM 2010 TWSC  
6: West Street & Exelon Power Construction Driveway

2021 Build Conditions  
Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	37	37	0	70	130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	40	40	0	76	141

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	40	0	80
Stage 1	-	-	40
Stage 2	-	-	40
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1583	-	927
Stage 1	-	-	988
Stage 2	-	-	988
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1583	-	927
Mov Cap-2 Maneuver	-	-	927
Stage 1	-	-	988
Stage 2	-	-	988

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1583	-	-	-	996
HCM Lane V/C Ratio	-	-	-	-	0.218
HCM Control Delay (s)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.8



□ Trip Generation Data

**Existing Truck Trip Generation:**

- Replenishment of on-site fuel oil = 408,000 Gallons/Day
- Oil Delivery = 9,000 Gallons/Truck
- Working Hours = 24 Hours /Day  
 $408,000 / 9,000 = 45.33 = 46$  Oil Trucks/Day

$$46 / 24 = 1.92 = 2 \text{ Trucks In per Hour} / 2 \text{ Trucks Out per Hour}$$

**Proposed Truck Trip Generation:**

- Replenishment of on-site fuel oil = 364,800 Gallons/Day
- Oil Delivery = 9,000 Gallons/Truck
- Working Hours = 24 Hours /Day  
 $364,800 / 9,000 = 40.53 = 41$  Oil Trucks/Day  
+ 1 Amonia Truck/Day  
+ 1 Wastewater Truck/Day  
Total = 43 Trucks/Day

$$43 / 24 = 1.79 = 2 \text{ Trucks In per Hour} / 2 \text{ Trucks Out per Hour}$$

**Employee Trip Generation:**

- 14 Existing Employees
- 6 Additional Employees

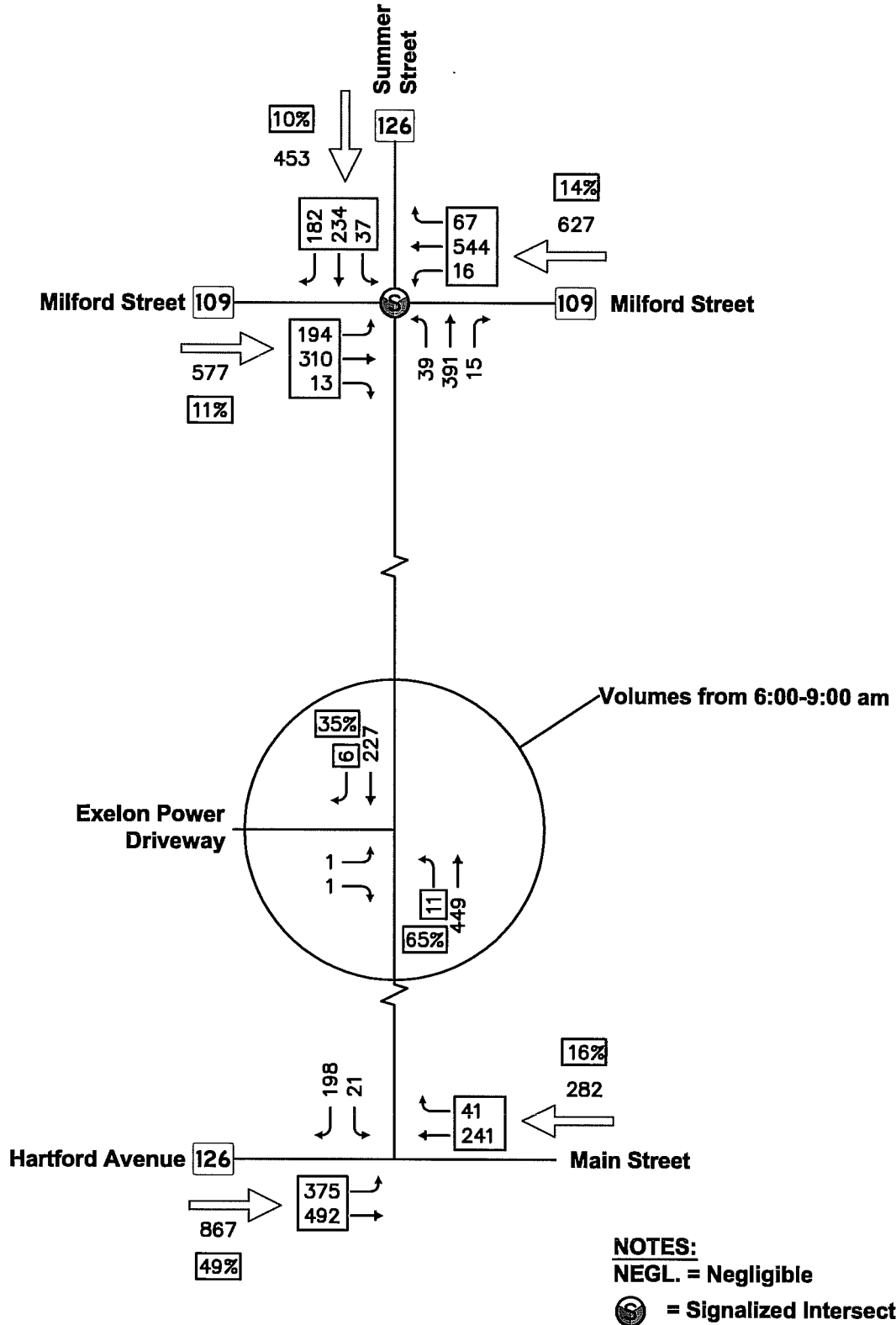
**Weekday Morning Peak Hour**

Entering	= 3 Existing Trips / 14 x 6	= 1.26 Trips Entering	Say 1 Trip Entering
Exiting	= 1 Existing Trips / 14 x 6	= 0.42 Trips Exiting	Say 0 Trips Exiting

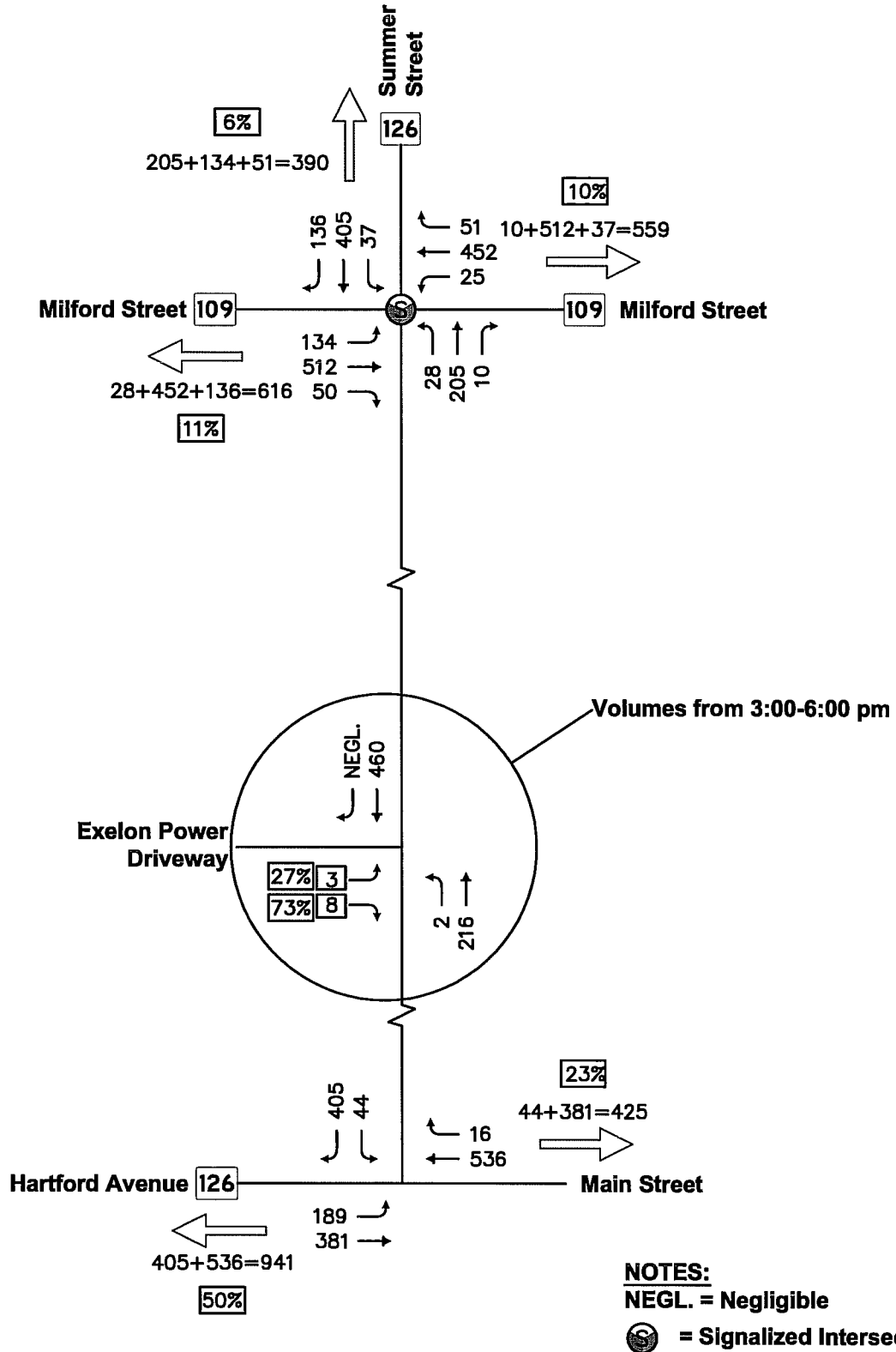
**Weekday Morning Peak Hour**

Entering	= 1 Existing Trips / 14 x 6	= 0.42 Trips Entering	Say 0 Trips Entering
Exiting	= 3 Existing Trips / 14 x 6	= 1.26 Trips Exiting	Say 1 Trip Exiting

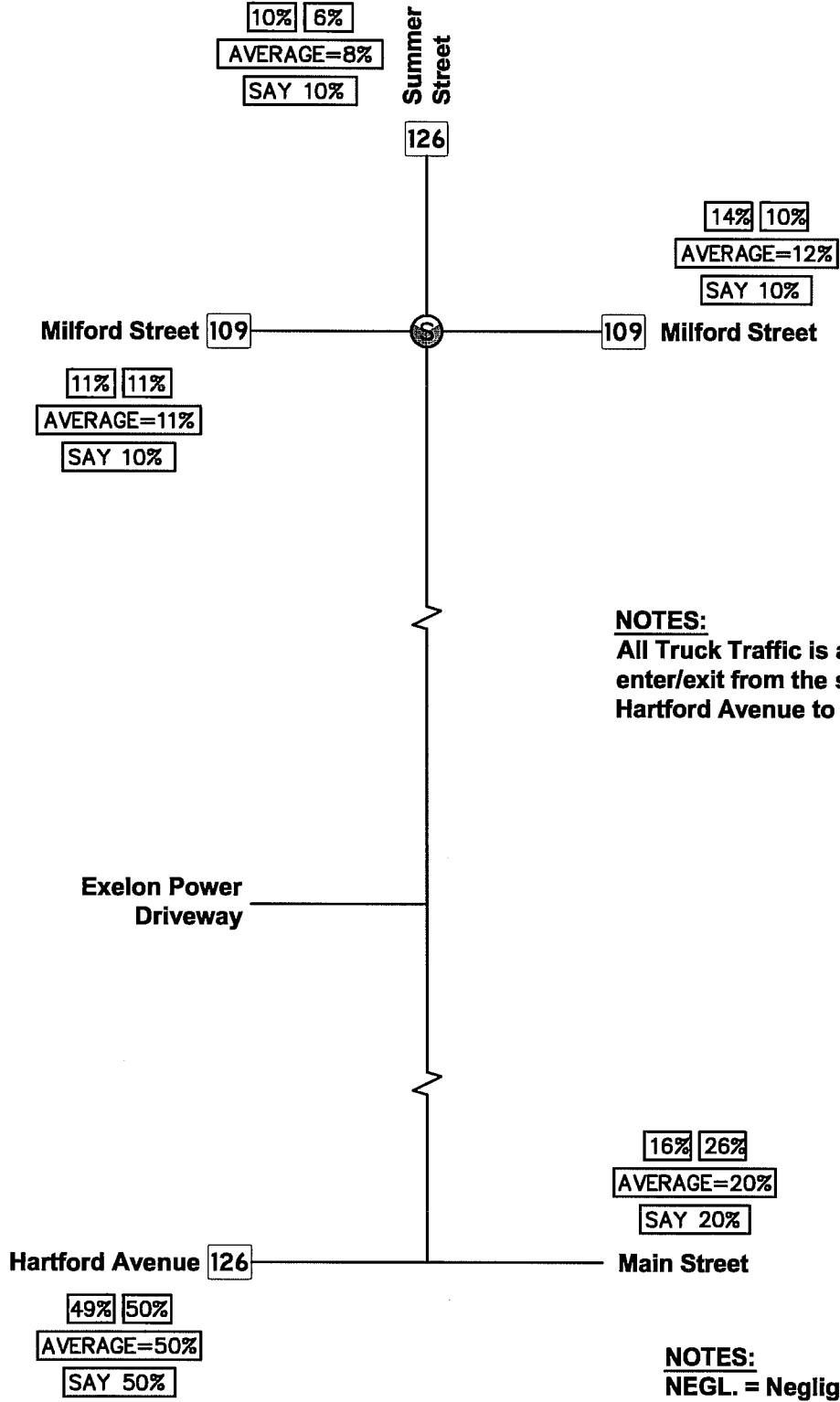
## □ Trip Distribution Calculations



**Trip Distribution Calculation - Step 1  
 Weekday Morning Peak Hour Traffic Volumes  
 (Entering)**



**Trip Distribution Calculation - Step 2  
 Weekday Evening Peak Hour Traffic Volumes  
 (Exiting)**



**NOTES:**  
 All Truck Traffic is assumed to enter/exit from the south via Hartford Avenue to Interstate 495

**NOTES:**  
 NEGL. = Negligible  
 = Signalized Intersection

North  
 Scale: Not to Scale

□ Capacity Analyses

## LEVEL OF SERVICE METHODOLOGY

Capacity analysis of intersections is developed using the Synchro® computer software, which implements the methods of the 2010 Highway Capacity Manual (HCM). The resulting analysis presents a level-of-service (LOS) designation for individual intersection movements and (for signalized intersections) for the entire intersection. The LOS is a letter designation that provides a qualitative measure of operating conditions based on several factors including roadway geometry, speeds, ambient traffic volumes, traffic controls, and driver characteristics. Since the LOS of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of LOS, depending on the time of day, day of week, or period of year. A range of six levels of service are defined on the basis of average delay, ranging from LOS A (the least delay) to LOS F (delays greater than 50 seconds for unsignalized movements, and greater than 80 seconds for signalized movements).

### Signalized Intersection Performance Measures

The six LOS designations for signalized intersections may be described as follows:

- *LOS A* describes operations with low control delay; most vehicles do not stop at all.
- *LOS B* describes operations with relatively low control delay. However, more vehicles stop than LOS A.
- *LOS C* describes operations with higher control delays. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
- *LOS D* describes operations with control delay in the range where the influence of congestion becomes more noticeable. Many vehicles stop and individual cycle failures are noticeable.
- *LOS E* describes operations with high control delay values. Individual cycle failures are frequent occurrences.
- *LOS F* describes operations with high control delay values that often occur with over-saturation. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.



The LOS for signalized intersections are calculated using the operational analysis methodology of the 2010 *Highway Capacity Manual*.<sup>1</sup> This method assesses the effects of signal type, timing, phasing, and progression; vehicle mix; and geometrics on delay. LOS designations are based on the criterion of control or signal delay per vehicle. Control or signal delay is a measure of driver discomfort, frustration, and fuel consumption, and includes initial deceleration delay approaching the traffic signal, queue move-up time, stopped delay and final acceleration delay. **Table A1** summarizes the relationship between LOS and control delay. The tabulated control delay criterion may be applied in assigning LOS designations to individual lane groups, to individual intersection approaches, or to entire intersections.

**Table A1**  
**LEVEL-OF-SERVICE CRITERIA**  
**FOR SIGNALIZED INTERSECTIONS<sup>1</sup>**

Level of Service	Control (Signal) Delay per Vehicle (Seconds)
A	≤10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	>80.0

<sup>1</sup>Source: *Highway Capacity Manual 2010*; Transportation Research Board; Washington, DC; 2010.

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<sup>1</sup>*Highway Capacity Manual 2010*; Transportation Research Board; Washington, DC; 2010.

## Unsignalized Intersection Performance Measures

The six LOS designations for unsignalized intersections may be described as follows:

- *LOS A* represents a condition with little or no control delay to minor street traffic.
- *LOS B* represents a condition with short control delays to minor street traffic.
- *LOS C* represents a condition with average control delays to minor street traffic.
- *LOS D* represents a condition with long control delays to minor street traffic.
- *LOS E* represents operating conditions at or near capacity level, with very long control delays to minor street traffic.
- *LOS F* represents a condition where minor street demand volume exceeds capacity of an approach lane, with extreme control delays resulting.

The LOS designations of unsignalized intersections are determined by application of a procedure described in the 2010 *Highway Capacity Manual*.<sup>2</sup> LOS is measured in terms of average control delay. Mathematically, control delay is a function of the capacity and degree of saturation of the lane group and/or approach under study and is a quantification of motorist delay associated with traffic control devices such as traffic signals and STOP signs. Control delay includes the effects of initial deceleration delay approaching a STOP sign, stopped delay, queue move-up time, and final acceleration delay from a stopped condition. Definitions for LOS at unsignalized intersections are also given in the *Highway Capacity Manual 2010*. **Table A2** summarizes the relationship between LOS and average control delay.

**Table A2**  
**LEVEL-OF-SERVICE CRITERIA FOR**  
**UNSIGNALIZED INTERSECTIONS<sup>1</sup>**



















Average Control Delay (seconds per vehicle)	Level of Service	
	$v/c \leq 1$	$v/c > 1$
$\leq 10.0$	A	F
10.1 to 15.0	B	F
15.1 to 25.0	C	F
25.1 to 35.0	D	F
35.1 to 50.0	E	F
$>50.0$	F	F

<sup>1</sup>Source: *Highway Capacity Manual 2010*, Transportation Research Board; Washington, DC; 2010.

<sup>2</sup> *ibid*













Lanes, Volumes, Timings  
1: Summer Street (Route 126) & Milford Street (Route 109)

2014 Existing Conditions  
Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	194	310	13	16	544	67	39	391	15	37	234	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Frnt		0.994			0.986			0.996			0.946	
Flt Protected	0.950				0.999			0.996			0.996	
Satd. Flow (prot)	1770	2019	0	0	2096	0	0	2033	0	0	1939	0
Flt Permitted	0.216				0.988			0.889			0.904	
Satd. Flow (perm)	402	2019	0	0	2073	0	0	1815	0	0	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			8			2			37	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1000			1000			2000			1000	
Travel Time (s)		22.7			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	200	320	13	16	561	69	40	403	15	38	241	188
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	333	0	0	646	0	0	458	0	0	467	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2014 Existing Conditions  
 Weekday Morning Peak Hour

Lane Group												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	45.2	45.2			30.1			24.3			24.3	
Actuated g/C Ratio	0.57	0.57			0.38			0.30			0.30	
v/c Ratio	0.51	0.29			0.82			0.83			0.83	
Control Delay	13.8	10.2			32.3			41.3			39.5	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	13.8	10.2			32.3			41.3			39.5	
LOS	B	B			C			D			D	
Approach Delay		11.5			32.3			41.3			39.5	
Approach LOS		B			C			D			D	
90th %ile Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Max	Max		Max	Max		Max	Max	
70th %ile Green (s)	10.0	53.2		38.2	38.2		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Gap	Gap		Max	Max		Max	Max	
50th %ile Green (s)	10.0	47.8		32.8	32.8		26.9	26.9		26.9	26.9	
50th %ile Term Code	Max	Hold		Gap	Gap		Gap	Gap		Gap	Gap	
30th %ile Green (s)	10.0	40.3		25.3	25.3		21.1	21.1		21.1	21.1	
30th %ile Term Code	Max	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
10th %ile Green (s)	8.2	30.4		17.2	17.2		14.9	14.9		14.9	14.9	
10th %ile Term Code	Gap	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
Queue Length 50th (ft)	48	84			295			219			208	
Queue Length 95th (ft)	89	141			450			#406			#397	
Internal Link Dist (ft)		920			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	405	1448			1084			710			710	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.49	0.23			0.60			0.65			0.66	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 79.9

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2014 Existing Conditions  
 Weekday Morning Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 30.6  
 Intersection Capacity Utilization 96.1%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 95  
 70th %ile Actuated Cycle: 93.2  
 50th %ile Actuated Cycle: 84.7  
 30th %ile Actuated Cycle: 71.4  
 10th %ile Actuated Cycle: 55.3

Intersection LOS: C  
 ICU Level of Service F

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

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)

↑ ø2	→ ø4
35 s	60 s
↓ ø6	↖ ø7
35 s	15 s
	← ø8
	45 s

HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2014 Existing Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	1	3	449	227	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	0	1	3	468	236	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	710	236	236	0	-	0
Stage 1	236	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	403	612	1169	-	-	-
Stage 1	808	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	402	612	1169	-	-	-
Mov Cap-2 Maneuver	402	-	-	-	-	-
Stage 1	808	-	-	-	-	-
Stage 2	628	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	10.9		0.1		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1169	-	612	-	-
HCM Lane V/C Ratio	0.003	-	0.002	-	-
HCM Control Delay (s)	8.1	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	375	492	241	41	21	198
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	4	5	10	0	5
Mvmt Flow	399	523	256	44	22	211

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	300	0	1599
Stage 1	-	-	278
Stage 2	-	-	1321
Critical Hdwy	4.15	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	3.5
Pot Cap-1 Maneuver	1244	-	118
Stage 1	-	-	774
Stage 2	-	-	252
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1244	-	80
Mov Cap-2 Maneuver	-	-	80
Stage 1	-	-	774
Stage 2	-	-	171

Approach	EB	WB	SB
HCM Control Delay, s	4	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1244	-	-	-	80	754
HCM Lane V/C Ratio	0.321	-	-	-	0.279	0.279
HCM Control Delay (s)	9.3	-	-	-	66.6	11.6
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	1.4	-	-	-	1	1.1

Lanes, Volumes, Timings

2014 Existing Conditions

1: Summer Street (Route 126) & Milford Street (Route 109)













Weekday Evening Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	512	50	25	452	51	28	205	10	37	405	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Friction		0.987			0.987			0.994			0.968	
Fit Protected	0.950				0.998			0.994			0.997	
Satd. Flow (prot)	1752	2063	0	0	2103	0	0	2110	0	0	2054	0
Fit Permitted	0.232				0.958			0.880			0.965	
Satd. Flow (perm)	428	2063	0	0	2019	0	0	1868	0	0	1988	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			7			2			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1000			1000			2000			1000	
Travel Time (s)		22.7			22.7			45.5			22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	0%	0%	0%	1%	0%	0%	1%	0%	0%	1%	2%
Adj. Flow (vph)	141	539	53	26	476	54	29	216	11	39	426	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	592	0	0	556	0	0	256	0	0	608	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	



Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2014 Existing Conditions  
 Weekday Evening Peak Hour

Lane Group												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8	8		2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	41.8	41.8			27.5			28.3			28.3	
Actuated g/C Ratio	0.52	0.52			0.34			0.35			0.35	
v/c Ratio	0.38	0.55			0.80			0.39			0.86	
Control Delay	13.0	14.9			33.3			23.4			38.8	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	13.0	14.9			33.3			23.4			38.8	
LOS	B	B			C			C			D	
Approach Delay		14.5			33.3			23.4			38.8	
Approach LOS		B			C			C			D	
90th %ile Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Max	Max		Hold	Hold		Max	Max	
70th %ile Green (s)	10.0	47.3		32.3	32.3		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
50th %ile Green (s)	10.0	42.6		27.6	27.6		30.0	30.0		30.0	30.0	
50th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
30th %ile Green (s)	9.0	37.5		23.5	23.5		29.5	29.5		29.5	29.5	
30th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
10th %ile Green (s)	6.9	28.7		16.8	16.8		21.4	21.4		21.4	21.4	
10th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
Queue Length 50th (ft)	36	193			257			95			275	
Queue Length 95th (ft)	64	277			373			192			#568	
Internal Link Dist (ft)		920			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	391	1448			1032			715			770	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.36	0.41			0.54			0.36			0.79	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 80.4

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2014 Existing Conditions  
 Weekday Evening Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 27.3  
 Intersection Capacity Utilization 107.7%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 95  
 70th %ile Actuated Cycle: 87.3  
 50th %ile Actuated Cycle: 82.6  
 30th %ile Actuated Cycle: 77  
 10th %ile Actuated Cycle: 60.1  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)

↑ ø2 35 s	→ ø4 60 s	
↓ ø6 35 s	↖ ø7 15 s	← ø8 45 s

HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2014 Existing Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	3	1	216	460	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	1	3	0
Mvmt Flow	0	3	1	220	469	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	691	469	469	0	-	0
Stage 1	469	-	-	-	-	-
Stage 2	222	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	413	598	1103	-	-	-
Stage 1	634	-	-	-	-	-
Stage 2	820	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	413	598	1103	-	-	-
Mov Cap-2 Maneuver	413	-	-	-	-	-
Stage 1	634	-	-	-	-	-
Stage 2	819	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	11.1		0		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1103	-	598	-	-
HCM Lane V/C Ratio	0.001	-	0.005	-	-
HCM Control Delay (s)	8.3	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 12.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	189	381	536	16	44	405
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	201	405	570	17	47	431


















Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	587	0	579
Stage 1	-	-	579
Stage 2	-	-	807
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	998	-	517
Stage 1	-	-	564
Stage 2	-	-	442
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	998	-	517
Mov Cap-2 Maneuver	-	-	127
Stage 1	-	-	564
Stage 2	-	-	353

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	39
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	998	-	-	-	127	517
HCM Lane V/C Ratio	0.201	-	-	-	0.369	0.833
HCM Control Delay (s)	9.5	-	-	-	49	37.9
HCM Lane LOS	A	-	-	-	E	E
HCM 95th %tile Q(veh)	0.8	-	-	-	1.5	8.4













Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 No-Build Conditions  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	201	321	13	17	564	69	40	405	16	38	242	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Flt		0.994			0.986			0.995			0.945	
Flt Protected	0.950				0.999			0.996			0.996	
Satd. Flow (prot)	1770	2019	0	0	2096	0	0	2031	0	0	1937	0
Flt Permitted	0.210				0.986			0.884			0.898	
Satd. Flow (perm)	391	2019	0	0	2069	0	0	1803	0	0	1746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			8			2			38	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1000			1000			2000			1000	
Travel Time (s)		22.7			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	207	331	13	18	581	71	41	418	16	39	249	195
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	344	0	0	670	0	0	475	0	0	483	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 No-Build Conditions  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	46.6	46.6			31.5			25.6			25.6	
Actuated g/C Ratio	0.56	0.56			0.38			0.31			0.31	
v/c Ratio	0.54	0.30			0.84			0.85			0.85	
Control Delay	14.8	10.6			34.4			43.4			41.5	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	14.8	10.6			34.4			43.4			41.5	
LOS	B	B			C			D			D	
Approach Delay		12.1			34.4			43.4			41.5	
Approach LOS		B			C			D			D	
90th %ile Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Max	Max		Max	Max		Max	Max	
70th %ile Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Max	Max		Max	Max		Max	Max	
50th %ile Green (s)	10.0	49.7		34.7	34.7		30.0	30.0		30.0	30.0	
50th %ile Term Code	Max	Hold		Gap	Gap		Max	Max		Max	Max	
30th %ile Green (s)	10.0	42.2		27.2	27.2		23.1	23.1		23.1	23.1	
30th %ile Term Code	Max	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
10th %ile Green (s)	8.5	31.8		18.3	18.3		16.2	16.2		16.2	16.2	
10th %ile Term Code	Gap	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
Queue Length 50th (ft)	55	97			333			240			227	
Queue Length 95th (ft)	92	147			475			#431			#422	
Internal Link Dist (ft)		920			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	393	1394			1042			679			680	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.53	0.25			0.64			0.70			0.71	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 82.6

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 No-Build Conditions  
 Weekday Morning Peak Hour

Natural Cycle: 65  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 32.3  
 Intersection Capacity Utilization 99.0%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 95  
 70th %ile Actuated Cycle: 95  
 50th %ile Actuated Cycle: 89.7  
 30th %ile Actuated Cycle: 75.3  
 10th %ile Actuated Cycle: 58  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Intersection LOS: C  
 ICU Level of Service F

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)

↑ ø2	← ø4
35 s	60 s
↓ ø6	↘ ø7
35 s	15 s
	← ø8
	45 s

HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2021 No-Build Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	3	5	465	235	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	0	3	5	484	245	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	740	245	245	0	-	0
Stage 1	245	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	387	604	1160	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	385	604	1160	-	-	-
Mov Cap-2 Maneuver	385	-	-	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	613	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	11		0.1		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1160	-	604	-	-
HCM Lane V/C Ratio	0.004	-	0.005	-	-
HCM Control Delay (s)	8.1	0	11	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Intersection

Int Delay, s/veh 5.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	391	510	250	42	22	207
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	4	5	10	0	5
Mvmt Flow	416	543	266	45	23	220

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	311	0	288
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.15	-	6.25
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.245	-	3.345
Pot Cap-1 Maneuver	1233	-	744
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1233	-	744
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	18.2
HCM LOS			C


















Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1233	-	-	-	72	744
HCM Lane V/C Ratio	0.337	-	-	-	0.325	0.296
HCM Control Delay (s)	9.4	-	-	-	77.4	11.9
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	1.5	-	-	-	1.2	1.2

Lanes, Volumes, Timings

2021 No-Build Conditions

1: Summer Street (Route 126) & Milford Street (Route 109)

Weekday Evening Peak Hour













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	139	530	52	26	468	53	29	212	10	38	420	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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		0.987			0.987			0.994			0.968	
Flt Protected	0.950				0.998			0.994			0.997	
Satd. Flow (prot)	1752	2063	0	0	2103	0	0	2110	0	0	2054	0
Flt Permitted	0.224				0.956			0.864			0.964	
Satd. Flow (perm)	413	2063	0	0	2015	0	0	1834	0	0	1986	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			7			2			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1000			1000			2000			1000	
Travel Time (s)		22.7			22.7			45.5			22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	0%	0%	0%	1%	0%	0%	1%	0%	0%	1%	2%
Adj. Flow (vph)	146	558	55	27	493	56	31	223	11	40	442	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	613	0	0	576	0	0	265	0	0	630	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings

2021 No-Build Conditions

1: Summer Street (Route 126) & Milford Street (Route 109)

Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	43.0	43.0			28.7			29.6			29.6	
Actuated g/C Ratio	0.52	0.52			0.35			0.36			0.36	
v/c Ratio	0.40	0.57			0.82			0.40			0.88	
Control Delay	13.4	15.4			34.7			24.1			41.4	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	13.4	15.4			34.7			24.1			41.4	
LOS	B	B			C			C			D	
Approach Delay		15.0			34.7			24.1			41.4	
Approach LOS		B			C			C			D	
90th %ile Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Max	Max		Hold	Hold		Max	Max	
70th %ile Green (s)	10.0	49.7		34.7	34.7		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
50th %ile Green (s)	10.0	43.8		28.8	28.8		30.0	30.0		30.0	30.0	
50th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
30th %ile Green (s)	9.2	38.6		24.4	24.4		30.0	30.0		30.0	30.0	
30th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Max	Max	
10th %ile Green (s)	7.1	30.2		18.1	18.1		26.5	26.5		26.5	26.5	
10th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
Queue Length 50th (ft)	38	203			271			102			298	
Queue Length 95th (ft)	66	291			392			200			#599	
Internal Link Dist (ft)		920			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	379	1394			992			675			741	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.39	0.44			0.58			0.39			0.85	

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 82.8

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

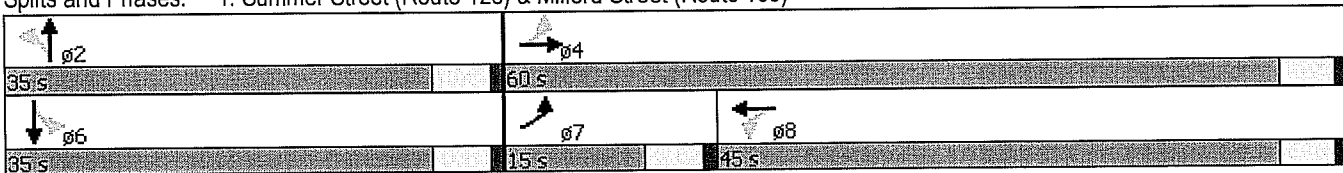
2021 No-Build Conditions  
 Weekday Evening Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.88  
 Intersection Signal Delay: 28.6  
 Intersection Capacity Utilization 111.1%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 95  
 70th %ile Actuated Cycle: 89.7  
 50th %ile Actuated Cycle: 83.8  
 30th %ile Actuated Cycle: 78.6  
 10th %ile Actuated Cycle: 66.7

Intersection LOS: C  
 ICU Level of Service H

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

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2021 No-Build Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	5	3	224	477	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	1	3	0
Mvmt Flow	0	5	3	229	487	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	722	487	487	0	-	0
Stage 1	487	-	-	-	-	-
Stage 2	235	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	397	585	1086	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	809	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	396	585	1086	-	-	-
Mov Cap-2 Maneuver	495	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	807	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	11.2		0.1		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1086	-	585	-	-
HCM Lane V/C Ratio	0.003	-	0.009	-	-
HCM Control Delay (s)	8.3	0	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 14.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	198	395	555	17	46	421
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	211	420	590	18	49	448

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	609	0	599
Stage 1	-	-	599
Stage 2	-	-	841
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	979	-	503
Stage 1	-	-	553
Stage 2	-	-	426
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	979	-	503
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	553
Stage 2	-	-	334

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	47.5
HCM LOS			E


















Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	979	-	-	-	116	503
HCM Lane V/C Ratio	0.215	-	-	-	0.422	0.89
HCM Control Delay (s)	9.7	-	-	-	57	46.5
HCM Lane LOS	A	-	-	-	F	E
HCM 95th %tile Q(veh)	0.8	-	-	-	1.8	10

Lanes, Volumes, Timings

2021 Build Conditions













1: Summer Street (Route 126) & Milford Street (Route 109)

Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	201	321	13	17	564	69	40	405	16	38	242	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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		0.994			0.986			0.995			0.945	
Flt Protected	0.950				0.999			0.996			0.996	
Satd. Flow (prot)	1770	2019	0	0	2096	0	0	2031	0	0	1937	0
Flt Permitted	0.210				0.986			0.884			0.898	
Satd. Flow (perm)	391	2019	0	0	2069	0	0	1803	0	0	1746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			8			2			38	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1000			1000			2000			1000	
Travel Time (s)		22.7			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	207	331	13	18	581	71	41	418	16	39	249	195
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	344	0	0	670	0	0	475	0	0	483	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	46.6	46.6			31.5			25.6			25.6	
Actuated g/C Ratio	0.56	0.56			0.38			0.31			0.31	
v/c Ratio	0.54	0.30			0.84			0.85			0.85	
Control Delay	14.8	10.6			34.4			43.4			41.5	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	14.8	10.6			34.4			43.4			41.5	
LOS	B	B			C			D			D	
Approach Delay		12.1			34.4			43.4			41.5	
Approach LOS		B			C			D			D	
90th %ile Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Max	Max		Max	Max		Max	Max	
70th %ile Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Max	Max		Max	Max		Max	Max	
50th %ile Green (s)	10.0	49.7		34.7	34.7		30.0	30.0		30.0	30.0	
50th %ile Term Code	Max	Hold		Gap	Gap		Max	Max		Max	Max	
30th %ile Green (s)	10.0	42.2		27.2	27.2		23.1	23.1		23.1	23.1	
30th %ile Term Code	Max	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
10th %ile Green (s)	8.5	31.8		18.3	18.3		16.2	16.2		16.2	16.2	
10th %ile Term Code	Gap	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
Queue Length 50th (ft)	55	97			333			240			227	
Queue Length 95th (ft)	92	147			475			#431			#422	
Internal Link Dist (ft)		920			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	393	1394			1042			679			680	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.53	0.25			0.64			0.70			0.71	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 82.6



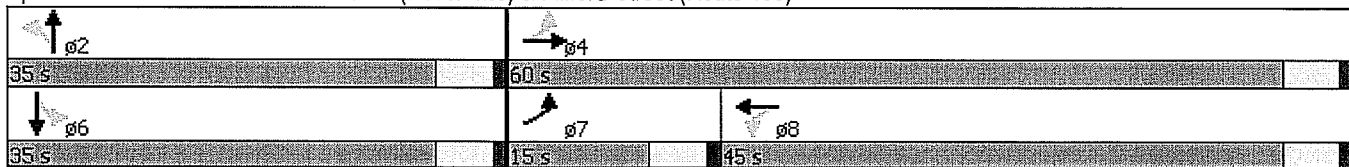
Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
 Weekday Morning Peak Hour

Natural Cycle: 65  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 32.3  
 Intersection Capacity Utilization 99.0%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 95  
 70th %ile Actuated Cycle: 95  
 50th %ile Actuated Cycle: 89.7  
 30th %ile Actuated Cycle: 75.3  
 10th %ile Actuated Cycle: 58  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Intersection LOS: C  
 ICU Level of Service F

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2019 Build Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	3	6	465	235	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	57	2	7	0
Mvmt Flow	0	3	6	484	245	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	742	245	245	0	-	0
Stage 1	245	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.67	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.713	-	-	-
Pot Cap-1 Maneuver	386	604	1058	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	383	604	1058	-	-	-
Mov Cap-2 Maneuver	383	-	-	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	610	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	11		0.1		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1058	-	604	-	-
HCM Lane V/C Ratio	0.006	-	0.005	-	-
HCM Control Delay (s)	8.4	0	11	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 5.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	392	510	250	42	22	207
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	4	5	10	0	5
Mvmt Flow	417	543	266	45	23	220



















Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	311	0	288
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.15	-	6.25
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.245	-	3.345
Pot Cap-1 Maneuver	1233	-	744
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1233	-	71
Mov Cap-2 Maneuver	-	-	71
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	18.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1233	-	-	-	71	744
HCM Lane V/C Ratio	0.338	-	-	-	0.33	0.296
HCM Control Delay (s)	9.4	-	-	-	78.9	11.9
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	1.5	-	-	-	1.2	1.2













Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
 Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	139	530	52	26	468	53	29	212	10	38	420	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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		0.987			0.987			0.994	1.00	1.00		0.968
Flt Protected	0.950				0.998			0.994				0.997
Satd. Flow (prot)	1752	2063	0	0	2103	0	0	2110	0	0	2054	0
Flt Permitted	0.224				0.956			0.864			0.964	
Satd. Flow (perm)	413	2063	0	0	2015	0	0	1834	0	0	1986	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			7			2			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1000			1000			2000			1000	
Travel Time (s)		22.7			22.7			45.5			22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	0%	0%	0%	1%	0%	0%	1%	0%	0%	1%	2%
Adj. Flow (vph)	146	558	55	27	493	56	31	223	11	40	442	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	613	0	0	576	0	0	265	0	0	630	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
 Weekday Evening Peak Hour

Lane Group												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	43.0	43.0			28.7			29.6			29.6	
Actuated g/C Ratio	0.52	0.52			0.35			0.36			0.36	
v/c Ratio	0.40	0.57			0.82			0.40			0.88	
Control Delay	13.4	15.4			34.7			24.1			41.4	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	13.4	15.4			34.7			24.1			41.4	
LOS	B	B			C			C			D	
Approach Delay		15.0			34.7			24.1			41.4	
Approach LOS		B			C			C			D	
90th %ile Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Max	Max		Hold	Hold		Max	Max	
70th %ile Green (s)	10.0	49.7		34.7	34.7		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
50th %ile Green (s)	10.0	43.8		28.8	28.8		30.0	30.0		30.0	30.0	
50th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
30th %ile Green (s)	9.2	38.6		24.4	24.4		30.0	30.0		30.0	30.0	
30th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Max	Max	
10th %ile Green (s)	7.1	30.2		18.1	18.1		26.5	26.5		26.5	26.5	
10th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
Queue Length 50th (ft)	38	203			271			102			298	
Queue Length 95th (ft)	66	291			392			200			#599	
Internal Link Dist (ft)		920			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	379	1394			992			675			741	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.39	0.44			0.58			0.39			0.85	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 82.8

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

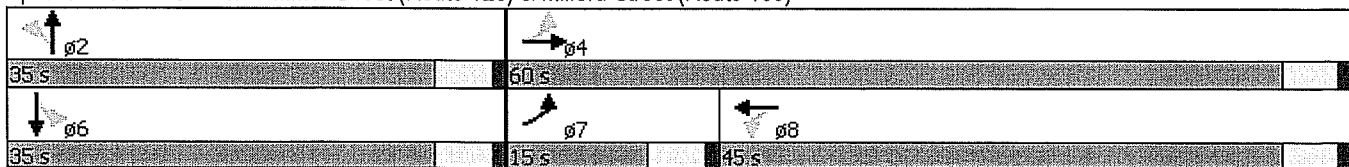
2021 Build Conditions  
 Weekday Evening Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.88  
 Intersection Signal Delay: 28.6  
 Intersection Capacity Utilization 111.1%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 95  
 70th %ile Actuated Cycle: 89.7  
 50th %ile Actuated Cycle: 83.8  
 30th %ile Actuated Cycle: 78.6  
 10th %ile Actuated Cycle: 66.7

Intersection LOS: C  
 ICU Level of Service H

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

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2021 Build Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	6	3	224	477	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	57	75	1	3	0
Mvmt Flow	0	6	3	229	487	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	722	487	487	0	-	0
Stage 1	487	-	-	-	-	-
Stage 2	235	-	-	-	-	-
Critical Hdwy	6.4	6.77	4.85	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.813	2.875	-	-	-
Pot Cap-1 Maneuver	397	484	784	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	809	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	395	484	784	-	-	-
Mov Cap-2 Maneuver	494	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	806	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	12.5		0.1		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	784	-	484	-	-
HCM Lane V/C Ratio	0.004	-	0.013	-	-
HCM Control Delay (s)	9.6	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 14.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	198	395	555	17	46	422
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	211	420	590	18	49	449

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	609	0	599
Stage 1	-	-	599
Stage 2	-	-	841
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	979	-	503
Stage 1	-	-	553
Stage 2	-	-	426
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	979	-	503
Mov Cap-2 Maneuver	-	-	116
Stage 1	-	-	553
Stage 2	-	-	334

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	47.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	979	-	-	-	116	503
HCM Lane V/C Ratio	0.215	-	-	-	0.422	0.893
HCM Control Delay (s)	9.7	-	-	-	57	46.8
HCM Lane LOS	A	-	-	-	F	E
HCM 95th %tile Q(veh)	0.8	-	-	-	1.8	10



□ Intersection Delay Study

APPENDIX  
**AVERAGE VEHICLE DELAY COMPARISON**  
**WEEKDAY EVENING PEAK HOUR – BASELINE CONDITIONS**

Time Period/Approach	Calculated Results <sup>1</sup>			Observed Results <sup>2</sup>		
	Average Vehicle Delay (seconds)	Maximum Vehicle Queue (vehicles)	LOS	Average Vehicle Delay (seconds)	Maximum Vehicle Queue (vehicles)	LOS
<i>West Street at Route 109</i>						
West Street L Exit	31	2	D	14	4	B
<i>West Street at Route 126</i>						
West Street L Exit	42	2	E	19	2	C

<sup>1</sup>Based on Highway Capacity Manual methodology.

<sup>2</sup>Based on field data collected on January 6, 2015.

# MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280  
 Marlborough, MA 01752  
 www.mdmtrans.com

N/S: West Street  
 E/W: Milford Street (Route 109)  
 Medway, MA

File Name : 790 West Street at Milford Street (Rt 109) PM  
 Site Code : 79000002  
 Start Date : 1/6/2015  
 Page No : 1

L n.	No.	Joined Queue	Released From Queue	Delay
2	1	3:00:00 PM	3:00:05 PM	5
2	2	3:02:02 PM	3:02:05 PM	3
2	3	3:03:51 PM	3:04:05 PM	14
2	4	3:04:49 PM	3:04:53 PM	4
2	5	3:05:23 PM	3:05:33 PM	10
2	6	3:05:42 PM	3:05:47 PM	5
2	7	3:06:17 PM	3:06:43 PM	26
2	8	3:07:22 PM	3:07:35 PM	13
2	9	3:08:53 PM	3:08:58 PM	5
2	10	3:10:12 PM	3:10:15 PM	3
2	11	3:11:35 PM	3:11:38 PM	3
2	12	3:13:06 PM	3:13:14 PM	8
2	13	3:14:00 PM	3:14:08 PM	8
2	14	3:14:38 PM	3:14:46 PM	8
2	15	3:15:39 PM	3:15:45 PM	6
2	16	3:17:04 PM	3:17:10 PM	6
2	17	3:18:19 PM	3:18:24 PM	5
2	18	3:18:52 PM	3:18:55 PM	3
2	19	3:19:50 PM	3:19:55 PM	5
2	20	3:20:21 PM	3:20:24 PM	3
2	21	3:20:22 PM	3:20:28 PM	6
2	22	3:21:24 PM	3:21:28 PM	4
2	23	3:21:51 PM	3:22:16 PM	25
2	24	3:23:44 PM	3:23:52 PM	8
2	25	3:23:57 PM	3:24:01 PM	4
2	26	3:24:05 PM	3:24:38 PM	33
2	27	3:24:32 PM	3:25:02 PM	30
2	28	3:24:33 PM	3:25:05 PM	32
2	29	3:24:35 PM	3:25:15 PM	40
2	30	3:25:23 PM	3:25:31 PM	8
2	31	3:27:24 PM	3:27:35 PM	11
2	32	3:27:42 PM	3:27:50 PM	8
2	33	3:28:21 PM	3:28:26 PM	5
2	34	3:30:33 PM	3:30:41 PM	8
2	35	3:31:11 PM	3:31:29 PM	18
2	36	3:33:51 PM	3:34:06 PM	15
2	37	3:33:52 PM	3:34:11 PM	19
2	38	3:34:48 PM	3:35:08 PM	20
2	39	3:35:45 PM	3:35:51 PM	6
2	40	3:35:55 PM	3:36:00 PM	5
2	41	3:36:16 PM	3:36:43 PM	27
2	42	3:37:31 PM	3:37:38 PM	7
2	43	3:38:09 PM	3:38:52 PM	43
2	44	3:38:33 PM	3:39:15 PM	42
2	45	3:40:29 PM	3:40:36 PM	7
2	46	3:42:25 PM	3:42:46 PM	21
2	47	3:43:42 PM	3:44:06 PM	24
2	48	3:45:10 PM	3:45:21 PM	11
2	49	3:45:11 PM	3:45:29 PM	18
2	50	3:45:41 PM	3:45:44 PM	3
2	51	3:47:26 PM	3:47:53 PM	27
2	52	3:49:46 PM	3:49:54 PM	8
2	53	3:50:54 PM	3:51:32 PM	38
2	54	3:51:53 PM	3:51:58 PM	5
2	55	3:52:18 PM	3:52:22 PM	4
2	56	3:52:38 PM	3:53:02 PM	24
2	57	3:52:55 PM	3:53:16 PM	21
2	58	3:53:30 PM	3:53:35 PM	5

# MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280  
Marlborough, MA

N/S: West Street  
E/W: Route 126  
Medway, MA

File Name : 790 West Street at Main Street Delay PM  
Site Code : 07900005  
Start Date : 1/6/2015  
Page No : 1

L n.	No.	Joined Queue	Released From Queue	Delay	
1	1	3:01:00 PM	3:01:53 PM	53	
1	2	3:01:13 PM	3:02:07 PM	54	
1	3	3:02:57 PM	3:03:14 PM	17	
1	4	3:04:34 PM	3:04:36 PM	2	
1	5	3:05:50 PM	3:05:54 PM	4	
1	6	3:07:13 PM	3:07:26 PM	13	
1	7	3:08:20 PM	3:08:48 PM	28	
1	8	3:11:17 PM	3:11:19 PM	2	
1	9	3:15:59 PM	3:16:03 PM	4	
1	10	3:20:22 PM	3:20:53 PM	31	
1	11	3:20:46 PM	3:20:57 PM	11	
1	12	3:36:28 PM	3:36:51 PM	23	
1	13	3:37:07 PM	3:37:15 PM	8	
1	14	3:37:19 PM	3:37:23 PM	4	
1	15	3:37:21 PM	3:39:50 PM	149	
1	16	3:40:05 PM	3:40:12 PM	7	
1	17	3:41:18 PM	3:41:34 PM	16	
1	18	3:41:45 PM	3:42:11 PM	26	
1	19	3:42:00 PM	3:42:17 PM	17	
1	20	3:42:20 PM	3:42:28 PM	8	
1	21	3:43:00 PM	3:43:11 PM	11	
1	22	3:44:58 PM	3:45:09 PM	11	
1	23	3:45:52 PM	3:46:00 PM	8	
1	24	3:46:42 PM	3:47:05 PM	23	
1	25	3:47:32 PM	3:47:36 PM	4	
1	26	3:48:10 PM	3:48:25 PM	15	
1	27	3:48:27 PM	3:48:29 PM	2	
1	28	3:49:12 PM	3:49:30 PM	18	
1	29	3:50:45 PM	3:51:09 PM	24	
1	30	3:52:01 PM	3:52:03 PM	2	
1	31	3:53:29 PM	3:53:30 PM	1	
1	32	3:56:25 PM	3:56:34 PM	9	
1	33	3:58:32 PM	3:59:10 PM	38	

**Summary Information:**

3:01:00 PM - 4:00:00 PM	SB Left
Total Vehicle Count:	33
Delayed Vehicle Count:	33
Through Vehicle Count:	0
Average Stopped Time:	19.48
Maximum Stopped Time:	149
Min. Secs. for Delay:	0
Average Queue:	0.18
Queue Density:	1.10
Maximum Queue:	2
Delay in Vehicle Hour:	0.18
Total Delay:	643

# MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280  
Marlborough, MA 01752  
[www.mdmtrans.com](http://www.mdmtrans.com)

File Name : 790 West Street at Milford Street (Rt 109) PM  
Site Code : 79000002  
Start Date : 1/6/2015  
Page No : 2

L n.	No.	Joined Queue	Released From Queue	Delay
2	59	3:54:48 PM	3:55:30 PM	42
2	60	3:56:09 PM	3:56:21 PM	12
2	61	3:56:34 PM	3:56:44 PM	10

## Summary Information:

3:00:00 PM - 3:57:00 PM	NB Left
Total Vehicle Count:	61
Delayed Vehicle Count:	61
Through Vehicle Count:	0
Average Stopped Time:	13.89
Maximum Stopped Time:	43
Min. Secs. for Delay:	0
Average Queue:	0.25
Queue Density:	1.16
Maximum Queue:	4
Delay in Vehicle Hour:	0.25
Total Delay:	847

# MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280  
Marlborough, MA

N: Summer Street  
E/W: Hartford Ave  
Medway, MA

File Name : 790 Summer street at Hartford Ave AM  
Site Code : 7900001  
Start Date : 1/6/2015  
Page No : 1

L n.	No.	Joined Queue	Released From Queue	Delay
1	1	6:58:00 AM	6:58:01 AM	1
1	2	6:58:04 AM	6:58:07 AM	3
1	3	6:58:07 AM	6:58:09 AM	2
1	4	6:58:09 AM	6:58:11 AM	2
1	5	6:58:12 AM	6:58:14 AM	2
1	6	6:58:53 AM	6:58:54 AM	1
1	7	6:59:43 AM	6:59:46 AM	3
1	8	6:59:45 AM	6:59:49 AM	4
1	9	6:59:48 AM	6:59:51 AM	3
1	10	7:01:28 AM	7:01:33 AM	5
1	11	7:01:31 AM	7:01:35 AM	4
1	12	7:01:37 AM	7:01:38 AM	1
1	13	7:01:40 AM	7:01:43 AM	3
1	14	7:01:44 AM	7:01:47 AM	3
1	15	7:01:46 AM	7:01:49 AM	3
1	16	7:02:21 AM	7:02:25 AM	4
1	17	7:03:18 AM	7:03:21 AM	3
1	18	7:04:04 AM	7:04:07 AM	3
1	19	7:04:11 AM	7:04:21 AM	10
1	20	7:04:26 AM	7:04:28 AM	2
1	21	7:04:28 AM	7:04:30 AM	2
1	22	7:04:42 AM	7:04:43 AM	1
1	23	7:05:42 AM	7:05:43 AM	1
1	24	7:05:46 AM	7:05:48 AM	2
1	25	7:06:56 AM	7:06:59 AM	3
1	26	7:06:57 AM	7:07:01 AM	4
1	27	7:07:01 AM	7:07:04 AM	3
1	28	7:07:04 AM	7:07:06 AM	2
1	29	7:07:07 AM	7:07:18 AM	11
1	30	7:08:15 AM	7:08:17 AM	2
1	31	7:09:09 AM	7:09:12 AM	3
1	32	7:09:54 AM	7:09:58 AM	4
1	33	7:09:57 AM	7:10:02 AM	5
1	34	7:11:12 AM	7:11:14 AM	2
1	35	7:11:54 AM	7:11:56 AM	2
1	36	7:11:58 AM	7:12:07 AM	9
1	37	7:12:17 AM	7:12:19 AM	2
1	38	7:12:22 AM	7:12:23 AM	1
1	39	7:12:24 AM	7:12:26 AM	2
1	40	7:13:18 AM	7:13:23 AM	5
1	41	7:13:21 AM	7:13:28 AM	7
1	42	7:14:16 AM	7:14:20 AM	4
1	43	7:15:18 AM	7:15:23 AM	5
1	44	7:15:22 AM	7:15:25 AM	3
1	45	7:15:24 AM	7:15:28 AM	4
1	46	7:16:01 AM	7:16:01 AM	0
1	47	7:16:22 AM	7:16:25 AM	3
1	48	7:16:48 AM	7:16:51 AM	3
1	49	7:16:49 AM	7:16:54 AM	5
1	50	7:16:52 AM	7:16:57 AM	5
1	51	7:17:00 AM	7:17:10 AM	10
1	52	7:17:03 AM	7:17:13 AM	10
1	53	7:17:14 AM	7:17:15 AM	1
1	54	7:17:30 AM	7:17:32 AM	2
1	55	7:18:10 AM	7:18:12 AM	2
1	56	7:18:16 AM	7:18:19 AM	3
1	57	7:18:25 AM	7:18:29 AM	4
1	58	7:19:32 AM	7:19:34 AM	2
1	59	7:19:36 AM	7:19:42 AM	6
1	60	7:19:37 AM	7:19:44 AM	7
1	61	7:20:36 AM	7:20:42 AM	6
1	62	7:20:41 AM	7:20:45 AM	4
1	63	7:21:04 AM	7:21:04 AM	0

# MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280  
Marlborough, MA

N: Summer Street  
E/W: Hartford Ave  
Medway, MA

File Name : 790 Summer street at Hartford Ave AM  
Site Code : 7900001  
Start Date : 1/6/2015  
Page No : 2

L n.	No.	Joined Queue	Released From Queue	Delay
1	64	7:21:44 AM	7:21:46 AM	2
1	65	7:21:49 AM	7:21:50 AM	1
1	66	7:21:54 AM	7:21:57 AM	3
1	67	7:21:56 AM	7:21:59 AM	3
1	68	7:21:58 AM	7:22:03 AM	5
1	69	7:22:07 AM	7:22:10 AM	3
1	70	7:22:46 AM	7:22:50 AM	4
1	71	7:23:18 AM	7:23:19 AM	1
1	72	7:23:28 AM	7:23:31 AM	3
1	73	7:23:34 AM	7:23:39 AM	5
1	74	7:23:36 AM	7:23:42 AM	6
1	75	7:24:33 AM	7:24:40 AM	7
1	76	7:24:48 AM	7:24:49 AM	1
1	77	7:24:50 AM	7:24:52 AM	2
1	78	7:25:44 AM	7:25:45 AM	1
1	79	7:25:46 AM	7:25:48 AM	2
1	80	7:26:01 AM	7:26:09 AM	8
1	81	7:27:05 AM	7:27:08 AM	3
1	82	7:27:20 AM	7:27:22 AM	2
1	83	7:27:23 AM	7:27:25 AM	2
1	84	7:27:25 AM	7:27:31 AM	6
1	85	7:27:34 AM	7:27:49 AM	15
1	86	7:28:25 AM	7:28:27 AM	2
1	87	7:29:10 AM	7:29:16 AM	6
1	88	7:29:20 AM	7:29:23 AM	3
1	89	7:30:12 AM	7:30:18 AM	6
1	90	7:30:14 AM	7:30:20 AM	6
1	91	7:30:15 AM	7:30:22 AM	7
1	92	7:30:17 AM	7:30:26 AM	9
1	93	7:30:27 AM	7:30:30 AM	3
1	94	7:30:30 AM	7:30:33 AM	3
1	95	7:30:40 AM	7:30:47 AM	7
1	96	7:31:07 AM	7:31:09 AM	2
1	97	7:31:51 AM	7:31:55 AM	4
1	98	7:31:53 AM	7:31:58 AM	5
1	99	7:33:07 AM	7:33:19 AM	12
1	100	7:33:11 AM	7:33:22 AM	11
1	101	7:33:12 AM	7:33:24 AM	12
1	102	7:33:16 AM	7:33:27 AM	11
1	103	7:33:23 AM	7:33:29 AM	6
1	104	7:33:28 AM	7:33:33 AM	5
1	105	7:33:33 AM	7:33:36 AM	3
1	106	7:33:35 AM	7:33:39 AM	4
1	107	7:34:29 AM	7:34:37 AM	8
1	108	7:34:46 AM	7:34:54 AM	8
1	109	7:34:51 AM	7:34:56 AM	5
1	110	7:35:07 AM	7:35:09 AM	2
1	111	7:35:45 AM	7:35:49 AM	4
1	112	7:35:55 AM	7:35:59 AM	4
1	113	7:35:56 AM	7:36:00 AM	4
1	114	7:35:57 AM	7:36:07 AM	10
1	115	7:36:16 AM	7:36:19 AM	3
1	116	7:37:16 AM	7:37:19 AM	3
1	117	7:37:24 AM	7:37:27 AM	3
1	118	7:37:29 AM	7:37:31 AM	2
1	119	7:37:36 AM	7:37:41 AM	5
1	120	7:37:37 AM	7:37:42 AM	5
1	121	7:37:39 AM	7:37:44 AM	5
1	122	7:38:21 AM	7:38:31 AM	10
1	123	7:39:01 AM	7:39:02 AM	1
1	124	7:39:06 AM	7:39:09 AM	3
1	125	7:39:14 AM	7:39:27 AM	13
1	126	7:40:30 AM	7:40:34 AM	4

# MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280  
Marlborough, MA

N: Summer Street  
E/W: Hartford Ave  
Medway, MA

File Name : 790 Summer street at Hartford Ave AM  
Site Code : 7900001  
Start Date : 1/6/2015  
Page No : 3

L n.	No.	Joined Queue	Released From Queue	Delay
1	127	7:40:45 AM	7:40:47 AM	2
1	128	7:40:46 AM	7:40:48 AM	2
1	129	7:40:50 AM	7:40:52 AM	2
1	130	7:40:54 AM	7:40:55 AM	1
1	131	7:40:57 AM	7:40:59 AM	2
1	132	7:41:35 AM	7:41:37 AM	2
1	133	7:41:50 AM	7:41:54 AM	4
1	134	7:42:44 AM	7:42:46 AM	2
1	135	7:43:08 AM	7:43:10 AM	2
1	136	7:43:17 AM	7:43:19 AM	2
1	137	7:43:26 AM	7:43:29 AM	3
1	138	7:43:28 AM	7:43:32 AM	4
1	139	7:44:18 AM	7:44:20 AM	2
1	140	7:44:23 AM	7:44:25 AM	2
1	141	7:44:32 AM	7:44:38 AM	6
1	142	7:44:34 AM	7:44:44 AM	10
1	143	7:44:35 AM	7:44:50 AM	15
1	144	7:44:36 AM	7:44:56 AM	20
1	145	7:44:37 AM	7:44:58 AM	21
1	146	7:44:45 AM	7:45:00 AM	15
1	147	7:44:52 AM	7:45:03 AM	11
1	148	7:45:04 AM	7:45:07 AM	3
1	149	7:45:57 AM	7:46:00 AM	3
1	150	7:46:21 AM	7:46:22 AM	1
1	151	7:47:24 AM	7:47:29 AM	5
1	152	7:47:32 AM	7:47:34 AM	2
1	153	7:47:33 AM	7:47:38 AM	5
1	154	7:47:40 AM	7:47:41 AM	1
1	155	7:48:58 AM	7:48:59 AM	1
1	156	7:49:02 AM	7:49:04 AM	2
1	157	7:49:16 AM	7:49:21 AM	5
1	158	7:49:17 AM	7:49:24 AM	7
1	159	7:49:34 AM	7:49:39 AM	5
1	160	7:50:29 AM	7:50:35 AM	6
1	161	7:50:37 AM	7:50:39 AM	2
1	162	7:50:40 AM	7:50:47 AM	7
1	163	7:50:42 AM	7:51:06 AM	24
1	164	7:50:46 AM	7:51:08 AM	22
1	165	7:50:52 AM	7:51:10 AM	18
1	166	7:50:52 AM	7:51:14 AM	22
1	167	7:50:54 AM	7:51:17 AM	23
1	168	7:50:56 AM	7:51:18 AM	22
1	169	7:50:58 AM	7:51:22 AM	24
1	170	7:51:05 AM	7:51:26 AM	21
1	171	7:52:05 AM	7:52:06 AM	1
1	172	7:52:09 AM	7:52:14 AM	5
1	173	7:52:12 AM	7:52:16 AM	4
1	174	7:52:25 AM	7:52:29 AM	4
1	175	7:52:28 AM	7:52:32 AM	4
1	176	7:52:34 AM	7:52:37 AM	3
1	177	7:53:41 AM	7:53:44 AM	3
1	178	7:54:02 AM	7:54:05 AM	3
1	179	7:55:18 AM	7:55:21 AM	3
1	180	7:55:22 AM	7:55:28 AM	6
1	181	7:56:13 AM	7:56:15 AM	2
1	182	7:56:34 AM	7:56:38 AM	4
1	183	7:56:36 AM	7:56:40 AM	4
1	184	7:56:42 AM	7:56:47 AM	5
1	185	7:57:27 AM	7:57:35 AM	8
1	186	7:57:45 AM	7:57:51 AM	6
1	187	7:57:46 AM	7:57:54 AM	8
1	188	7:58:45 AM	7:58:48 AM	3
2	1	7:08:41 AM	7:08:52 AM	11



# MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280  
Marlborough, MA

N: Summer Street  
E/W: Hartford Ave  
Medway, MA

File Name : 790 Summer street at Hartford Ave AM  
Site Code : 7900001  
Start Date : 1/6/2015  
Page No : 4

L n.	No.	Joined Queue	Released From Queue	Delay
2	2	7:08:45 AM	7:09:03 AM	18
2	3	7:15:27 AM	7:15:34 AM	7
2	4	7:15:32 AM	7:15:37 AM	5
2	5	7:21:18 AM	7:21:48 AM	30
2	6	7:26:35 AM	7:26:41 AM	6
2	7	7:35:48 AM	7:35:53 AM	5
2	8	7:37:20 AM	7:37:26 AM	6
2	9	7:44:48 AM	7:45:10 AM	22
2	10	7:47:46 AM	7:47:51 AM	5
2	11	7:52:13 AM	7:52:23 AM	10
2	12	7:53:52 AM	7:54:11 AM	19

## Summary Information:

6:58:00 AM - 7:59:00 AM	Right Turns	Left Turns
Total Vehicle Count:	188	12
Delayed Vehicle Count:	188	12
Through Vehicle Count:	0	0
Average Stopped Time:	5.19	12.000
Maximum Stopped Time:	24	30
Min. Secs. for Delay:	0	0
Average Queue:	0.27	0.052
Queue Density:	1.49	1.067
Maximum Queue:	8	2
Delay in Vehicle Hour:	0.27	0.05
Total Delay:	975	144

# MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280  
Marlborough, MA

N: Summer Street  
E/W: Hartford Ave  
Medway, MA

File Name : 790 summer street at hartford ave pm  
Site Code : 08030002  
Start Date : 1/6/2015  
Page No : 1

L n.	No.	Joined Queue	Released From Queue	Delay
1	1	4:44:01 PM	4:44:03 PM	2
1	2	4:44:06 PM	4:44:07 PM	1
1	3	4:44:11 PM	4:44:15 PM	4
1	4	4:44:14 PM	4:44:19 PM	5
1	5	4:45:15 PM	4:45:25 PM	10
1	6	4:45:23 PM	4:45:37 PM	14
1	7	4:45:28 PM	4:45:39 PM	11
1	8	4:45:30 PM	4:45:54 PM	24
1	9	4:45:32 PM	4:45:57 PM	25
1	10	4:45:33 PM	4:45:59 PM	26
1	11	4:45:38 PM	4:46:06 PM	28
1	12	4:45:40 PM	4:46:08 PM	28
1	13	4:45:50 PM	4:46:14 PM	24
1	14	4:46:39 PM	4:46:51 PM	12
1	15	4:46:41 PM	4:46:53 PM	12
1	16	4:46:44 PM	4:46:54 PM	10
1	17	4:46:47 PM	4:46:54 PM	7
1	18	4:46:58 PM	4:47:08 PM	10
1	19	4:47:00 PM	4:47:09 PM	9
1	20	4:47:00 PM	4:47:24 PM	24
1	21	4:47:02 PM	4:47:27 PM	25
1	22	4:47:06 PM	4:47:29 PM	23
1	23	4:47:53 PM	4:47:55 PM	2
1	24	4:48:01 PM	4:48:24 PM	23
1	25	4:48:05 PM	4:48:31 PM	26
1	26	4:48:09 PM	4:48:34 PM	25
1	27	4:48:13 PM	4:48:36 PM	23
1	28	4:48:21 PM	4:48:41 PM	20
1	29	4:48:24 PM	4:48:54 PM	30
1	30	4:48:27 PM	4:48:57 PM	30
1	31	4:49:26 PM	4:49:40 PM	14
1	32	4:49:31 PM	4:49:43 PM	12
1	33	4:49:36 PM	4:49:46 PM	10
1	34	4:49:41 PM	4:49:48 PM	7
1	35	4:49:42 PM	4:49:53 PM	11
1	36	4:50:35 PM	4:50:35 PM	0
1	37	4:50:38 PM	4:50:39 PM	1
1	38	4:51:42 PM	4:51:45 PM	3
1	39	4:51:46 PM	4:51:50 PM	4
1	40	4:51:51 PM	4:51:54 PM	3
1	41	4:52:01 PM	4:52:03 PM	2
1	42	4:52:04 PM	4:52:06 PM	2
1	43	4:52:05 PM	4:52:09 PM	4
1	44	4:52:10 PM	4:52:13 PM	3
1	45	4:52:15 PM	4:52:19 PM	4
1	46	4:52:26 PM	4:52:31 PM	5
1	47	4:52:43 PM	4:53:10 PM	27
1	48	4:52:52 PM	4:53:16 PM	24
1	49	4:52:54 PM	4:53:22 PM	28
1	50	4:53:46 PM	4:53:54 PM	8
1	51	4:53:50 PM	4:53:58 PM	8
1	52	4:53:52 PM	4:54:01 PM	9
1	53	4:53:55 PM	4:54:04 PM	9
1	54	4:54:06 PM	4:54:08 PM	2
1	55	4:54:10 PM	4:54:15 PM	5
1	56	4:54:52 PM	4:54:58 PM	6
1	57	4:55:08 PM	4:55:10 PM	2
1	58	4:55:15 PM	4:55:19 PM	4
1	59	4:55:17 PM	4:55:21 PM	4
1	60	4:55:30 PM	4:55:34 PM	4
1	61	4:55:32 PM	4:55:37 PM	5
1	62	4:55:36 PM	4:55:41 PM	5
1	63	4:55:39 PM	4:55:49 PM	10

# MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280  
Marlborough, MA

N: Summer Street  
E/W: Hartford Ave  
Medway, MA

File Name : 790 summer street at hartford ave pm  
Site Code : 08030002  
Start Date : 1/6/2015  
Page No : 2

L n.	No.	Joined Queue	Released From Queue	Delay
1	64	4:55:40 PM	4:55:51 PM	11
1	65	4:55:45 PM	4:55:53 PM	8
1	66	4:55:46 PM	4:55:56 PM	10
1	67	4:55:46 PM	4:56:08 PM	22
1	68	4:56:59 PM	4:57:03 PM	4
1	69	4:57:27 PM	4:57:29 PM	2
1	70	4:57:30 PM	4:57:31 PM	1
1	71	4:57:32 PM	4:57:35 PM	3
1	72	4:57:36 PM	4:57:40 PM	4
1	73	4:57:38 PM	4:57:43 PM	5
1	74	4:57:39 PM	4:58:03 PM	24
1	75	4:57:42 PM	4:58:03 PM	21
1	76	4:57:47 PM	4:58:09 PM	22
1	77	4:57:48 PM	4:58:13 PM	25
1	78	4:57:48 PM	4:58:32 PM	44
1	79	4:57:50 PM	4:58:35 PM	45
1	80	4:57:55 PM	4:58:38 PM	43
1	81	4:58:28 PM	4:58:41 PM	13
1	82	4:58:31 PM	4:58:44 PM	13
1	83	4:58:40 PM	4:58:51 PM	11
1	84	4:58:40 PM	4:58:52 PM	12
1	85	4:59:41 PM	4:59:57 PM	16
1	86	4:59:45 PM	5:00:13 PM	28
1	87	4:59:47 PM	5:00:19 PM	32
1	88	4:59:56 PM	5:00:27 PM	31
1	89	5:00:01 PM	5:00:32 PM	31
1	90	5:01:01 PM	5:01:03 PM	2
1	91	5:01:02 PM	5:01:17 PM	15
1	92	5:01:13 PM	5:01:19 PM	6
1	93	5:01:15 PM	5:01:26 PM	11
1	94	5:01:16 PM	5:01:29 PM	13
1	95	5:01:18 PM	5:01:31 PM	13
1	96	5:02:07 PM	5:02:11 PM	4
1	97	5:02:10 PM	5:02:15 PM	5
1	98	5:02:12 PM	5:02:18 PM	6
1	99	5:02:21 PM	5:02:24 PM	3
1	100	5:02:26 PM	5:02:28 PM	2
1	101	5:02:32 PM	5:02:33 PM	1
1	102	5:02:33 PM	5:02:45 PM	12
1	103	5:02:36 PM	5:02:52 PM	16
1	104	5:03:31 PM	5:03:37 PM	6
1	105	5:03:34 PM	5:03:41 PM	7
1	106	5:03:36 PM	5:03:43 PM	7
1	107	5:03:38 PM	5:03:48 PM	10
1	108	5:03:40 PM	5:03:51 PM	11
1	109	5:03:49 PM	5:03:55 PM	6
1	110	5:03:50 PM	5:04:00 PM	10
1	111	5:04:28 PM	5:04:41 PM	13
1	112	5:04:34 PM	5:04:46 PM	12
1	113	5:04:59 PM	5:05:07 PM	8
1	114	5:05:02 PM	5:05:10 PM	8
1	115	5:05:03 PM	5:05:16 PM	13
1	116	5:05:04 PM	5:05:18 PM	14
1	117	5:05:14 PM	5:05:22 PM	8
1	118	5:05:16 PM	5:05:24 PM	8
1	119	5:05:20 PM	5:05:27 PM	7
1	120	5:05:45 PM	5:05:50 PM	5
1	121	5:05:46 PM	5:05:51 PM	5
1	122	5:05:51 PM	5:05:54 PM	3
1	123	5:05:59 PM	5:06:02 PM	3
1	124	5:06:01 PM	5:06:04 PM	3
1	125	5:06:05 PM	5:06:07 PM	2
1	126	5:06:12 PM	5:06:20 PM	8

# MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280  
Marlborough, MA

N: Summer Street  
E/W: Hartford Ave  
Medway, MA

File Name : 790 summer street at hartford ave pm  
Site Code : 08030002  
Start Date : 1/6/2015  
Page No : 3

L n.	No.	Joined Queue	Released From Queue	Delay
1	127	5:06:15 PM	5:06:23 PM	8
1	128	5:06:17 PM	5:06:31 PM	14
1	129	5:07:14 PM	5:07:18 PM	4
1	130	5:07:17 PM	5:07:21 PM	4
1	131	5:07:28 PM	5:07:34 PM	6
1	132	5:07:28 PM	5:07:34 PM	6
1	133	5:07:30 PM	5:07:34 PM	4
1	134	5:07:30 PM	5:07:34 PM	4
1	135	5:07:42 PM	5:07:43 PM	1
1	136	5:08:33 PM	5:08:37 PM	4
1	137	5:08:38 PM	5:08:42 PM	4
1	138	5:08:40 PM	5:08:44 PM	4
1	139	5:08:48 PM	5:08:57 PM	9
1	140	5:08:53 PM	5:08:59 PM	6
1	141	5:09:00 PM	5:09:02 PM	2
1	142	5:09:04 PM	5:09:15 PM	11
1	143	5:09:05 PM	5:09:20 PM	15
1	144	5:09:25 PM	5:09:27 PM	2
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1	146	5:11:01 PM	5:11:02 PM	1
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1	151	5:12:06 PM	5:12:34 PM	28
1	152	5:12:32 PM	5:12:39 PM	7
1	153	5:13:02 PM	5:13:07 PM	5
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1	155	5:13:12 PM	5:13:23 PM	11
1	156	5:13:15 PM	5:13:31 PM	16
1	157	5:13:16 PM	5:13:33 PM	17
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1	169	5:14:33 PM	5:15:16 PM	43
1	170	5:15:25 PM	5:15:32 PM	7
1	171	5:15:28 PM	5:15:33 PM	5
1	172	5:15:36 PM	5:15:44 PM	8
1	173	5:15:40 PM	5:15:47 PM	7
1	174	5:15:48 PM	5:15:49 PM	1
1	175	5:15:52 PM	5:15:55 PM	3
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1	187	5:16:56 PM	5:17:13 PM	17
1	188	5:16:57 PM	5:17:16 PM	19
1	189	5:17:03 PM	5:17:19 PM	16

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L n.	No.	Joined Queue	Released From Queue	Delay
1	190	5:17:05 PM	5:17:24 PM	19
1	191	5:17:22 PM	5:17:30 PM	8
1	192	5:17:23 PM	5:17:33 PM	10
1	193	5:17:24 PM	5:17:41 PM	17
1	194	5:17:25 PM	5:17:44 PM	19
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1	196	5:18:36 PM	5:18:42 PM	6
1	197	5:18:42 PM	5:18:48 PM	6
1	198	5:18:48 PM	5:18:51 PM	3
1	199	5:18:50 PM	5:18:58 PM	8
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1	250	5:27:13 PM	5:27:23 PM	10
1	251	5:27:14 PM	5:27:26 PM	12
1	252	5:27:21 PM	5:27:28 PM	7

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L n.	No.	Joined Queue	Released From Queue	Delay
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1	254	5:27:26 PM	5:27:42 PM	16
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1	259	5:28:45 PM	5:29:17 PM	32
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1	262	5:28:55 PM	5:29:26 PM	31
1	263	5:28:55 PM	5:29:28 PM	33
1	264	5:29:00 PM	5:29:31 PM	31
1	265	5:29:02 PM	5:29:34 PM	32
1	266	5:29:42 PM	5:29:44 PM	2
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1	268	5:29:52 PM	5:29:56 PM	4
1	269	5:29:52 PM	5:29:59 PM	7
1	270	5:30:03 PM	5:30:17 PM	14
1	271	5:30:07 PM	5:30:23 PM	16
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1	279	5:30:22 PM	5:30:58 PM	36
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1	281	5:30:24 PM	5:31:04 PM	40
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1	283	5:31:43 PM	5:32:00 PM	17
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1	290	5:33:04 PM	5:33:08 PM	4
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1	292	5:33:12 PM	5:33:14 PM	2
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1	311	5:35:47 PM	5:35:56 PM	9
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1	314	5:35:52 PM	5:36:08 PM	16
1	315	5:35:53 PM	5:36:12 PM	19

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Start Date : 1/6/2015  
Page No : 6

L n.	No.	Joined Queue	Released From Queue	Delay
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1	317	5:36:43 PM	5:36:48 PM	5
1	318	5:36:45 PM	5:36:49 PM	4
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1	321	5:36:54 PM	5:37:29 PM	35
1	322	5:36:57 PM	5:37:36 PM	39
1	323	5:36:58 PM	5:37:40 PM	42
1	324	5:38:02 PM	5:38:05 PM	3
1	325	5:38:11 PM	5:38:14 PM	3
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1	336	5:39:38 PM	5:39:41 PM	3
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1	348	5:41:41 PM	5:41:43 PM	2
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1	350	5:41:45 PM	5:42:05 PM	20
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1	352	5:41:51 PM	5:42:19 PM	28
1	353	5:41:53 PM	5:42:35 PM	42
1	354	5:41:54 PM	5:42:38 PM	44
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1	356	5:42:00 PM	5:42:48 PM	48
1	357	5:42:54 PM	5:42:57 PM	3
1	358	5:42:58 PM	5:43:01 PM	3
1	359	5:42:59 PM	5:43:04 PM	5
1	360	5:43:00 PM	5:43:06 PM	6
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1	362	5:43:11 PM	5:43:13 PM	2
1	363	5:43:12 PM	5:43:17 PM	5
1	364	5:43:15 PM	5:43:25 PM	10
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1	367	5:44:09 PM	5:44:13 PM	4
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2	4	4:52:12 PM	4:52:17 PM	5
2	5	4:54:33 PM	4:54:43 PM	10
2	6	4:56:23 PM	4:56:45 PM	22

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File Name : 790 summer street at hartford ave pm  
Site Code : 08030002  
Start Date : 1/6/2015  
Page No : 7

L n.	No.	Joined Queue	Released From Queue	Delay
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2	11	5:05:38 PM	5:05:56 PM	18
2	12	5:09:37 PM	5:10:14 PM	37
2	13	5:10:32 PM	5:10:40 PM	8
2	14	5:11:27 PM	5:11:35 PM	8
2	15	5:12:37 PM	5:12:45 PM	8
2	16	5:13:32 PM	5:13:35 PM	3
2	17	5:17:49 PM	5:18:46 PM	57
2	18	5:17:55 PM	5:19:02 PM	67
2	19	5:18:27 PM	5:19:05 PM	38
2	20	5:21:45 PM	5:21:57 PM	12
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2	29	5:32:10 PM	5:32:30 PM	20
2	30	5:32:16 PM	5:32:33 PM	17
2	31	5:35:20 PM	5:35:35 PM	15
2	32	5:38:35 PM	5:38:45 PM	10
2	33	5:41:54 PM	5:42:37 PM	43

## Summary Information:

4:44:00 PM - 5:45:00 PM	Right Turns	Left Turns
Total Vehicle Count:	372	33
Delayed Vehicle Count:	372	33
Through Vehicle Count:	0	0
Average Stopped Time:	14.84	20.121
Maximum Stopped Time:	48	67
Min. Secs. for Delay:	0	0
Average Queue:	1.52	0.196
Queue Density:	2.70	1.260
Maximum Queue:	10	3
Delay in Vehicle Hour:	1.52	0.20
Total Delay:	5519	664



## MEMORANDUM

**DATE:** October 16, 2015  
(Updated February 3, 2016)

**TO:** Dale Raczynski, P.E.  
Epsilon Associates, Inc.  
3 Clock Tower Place, Suite 250  
Maynard, MA 01754

**FROM:** Robert J. Michaud, P.E. – Managing Principal  
Daniel A. Dumais, P.E. – Senior Transportation Engineer

**RE:** **Exelon Power Facility – Revised Construction Hours**  
9 Summer Street, Medway, Massachusetts

---

MDM Transportation Consultants, Inc. (MDM) has prepared a supplemental construction period transportation evaluation for the expansion of the Exelon Power Facility. The Site in relation to the regional transportation system is shown in **Figure 1**. Specifically, this evaluation compares the impact of the revised construction arrival (5:00 am to 6:00 am) and departure (6:00pm to 7:00 pm) periods to the original assumed construction arrival (6:00 am to 7:00 am) and departure (3:00 pm to 4:00 pm) periods, as documented in the Draft Environmental Impact Report (DEIR)<sup>1</sup>

### CONSTRUCTION PERIOD CONDITIONS

The construction period will generate construction traffic, which will include truck and employee traffic. The following is a summary of the expected impacts of construction traffic and measures to be used to reduce and potential negative impacts during the construction period.

During construction, the parking area for workers will be in an existing material lay-down-lot in the southern portion of the Site along West Street as shown in **Figure 2**. This preferred parking area which is primarily grass will be re-enforced with gravel, stone, or similar material during the construction period to facilitate construction employee parking. Upon completion of the construction, the material lay-down-lot will be restored with loam and seed. No additional improvements are needed for any of the construction entrances. This is the preferred parking access area compared to the Summer Street entrance, for the following reasons:

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<sup>1</sup> DEIR, *West Medway II (EEA #15363)*, prepared by Epsilon Associates, Inc., dated September 30, 2015.



Figure 1

Site Location

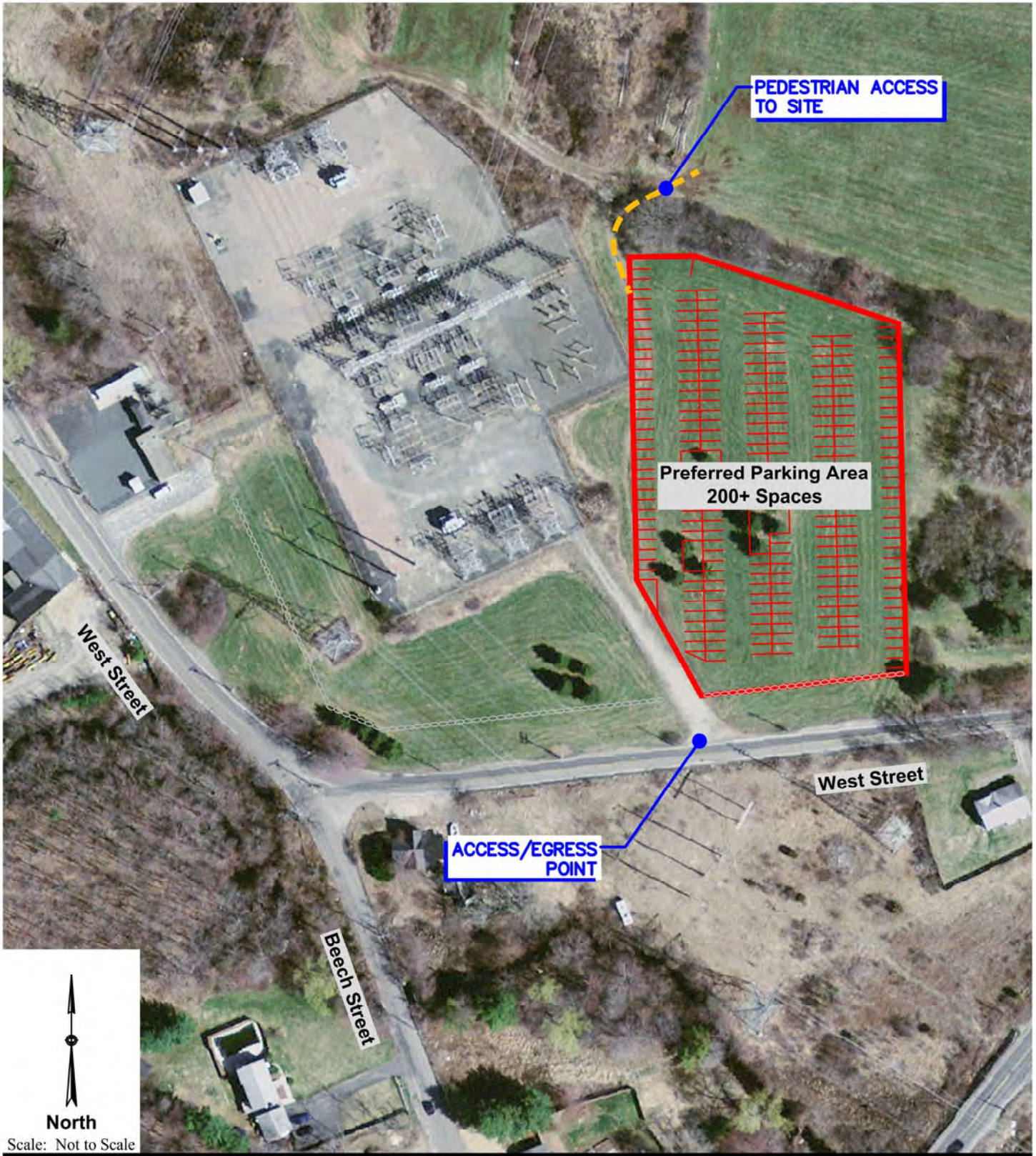


Figure 2

- The traffic volumes along this section of West Street are less than 75 vehicles per hour (vph) during the arrival and departure periods, in contrast the traffic volumes along Summer Street which range from 225 to 528 vph during the construction worker arrival and departure periods.
- The construction driveway will be located along a straight section of West Street approximately half way between Route 126 and Beech Street. The sight lines are adequate and the traffic volumes on this section of West Street during the construction arrival and departure times are nominal (less than 75 vehicles per hour).
- Trips to/from I-495 would travel fewer miles to the West Street entrance than to the Summer Street entrance.
- It is anticipated that the entrances into the property would be required to be manned during construction independent of construction parking location.
- As outlined in this supplemental evaluation, incremental traffic increases at the study intersections during the construction period will be adequately accommodated below-capacity with LOS C or better operations expected. This evaluation conservatively assumes 200 vehicles for 200 workers for a single shift with an arrival period between 5:00 – 6:00 am, and a departure period between 6:00 – 7:00 pm.

The peak construction activity is approximately 200 workers; therefore, onsite parking along West Street will satisfy the peak construction worker demand. The preferred parking area is also proximate to an on-Site pedestrian walkway connection to the proposed construction areas. The West Street parking area currently includes primarily grass areas with access/egress directly onto West Street via the existing gated entranceway which is located approximately 300 feet east of Beech Street.

Exelon has met with the Town of Medway for preliminary discussions on a detailed Construction Traffic Management Plan which will address parking during construction. It is expected that the construction workers would utilize the West Street parking areas while construction deliveries would use the Summer Street entrance. No improvements are needed for the Summer Street entrance or West Street construction entrances. Beyond measures in a Construction Management Plan, no project related traffic mitigation is warranted for the day care center driveways along Summer Street due to the Project. Exelon will also actively manage construction deliveries and oil deliveries in accordance with the Construction Traffic Management Plan.

Construction will primarily be limited to on-site activity with limited activity on adjacent roadways. The existing West Medway driveway onto Summer Street is proposed to be utilized by the Facility and thus construction activity on Summer Street is anticipated to be limited. Activity on Summer Street may include the construction near the site driveway and necessary utility work. It is anticipated that traffic patterns on Summer Street will be maintained during construction and that no roadway closures or detours will be required during the construction period. Exelon will establish waiting and staging areas on-site for all material deliveries and the management of truck traffic. An analysis of construction period impacts on area roadways is provided below.

## **BASELINE CONDITIONS**

An overview of baseline traffic volumes, speed data, and a review of sight line criteria is provided below.

### **Baseline Traffic Data – Construction Periods**

Study locations which are likely to sustain a measurable impact from the Facility during construction periods include the following study intersections:

- Route 109 at Route 126 (Signalized);
- Route 126 at Exelon Power Site Driveway (Unsignalized);
- Route 126 at Main Street (Unsignalized).
- Route 126 at West Street (Unsignalized);
- Route 109 at West Street (Unsignalized); and
- West Street at Proposed Construction Driveway (Unsignalized).

Traffic volume data were collected at the study area intersections during the weekday morning peak period (5:00 AM – 6:00 AM) and the weekday evening peak period (6:00 PM - 7:00 PM) periods to coincide with peak traffic activity of the construction periods. Traffic data used in this evaluation were collected in September 2015, which represents above average traffic conditions based on review of MassDOT permanent count station data for the area. In order to provide a conservative analysis, no seasonal adjustment (reduction) of the data was made to the September traffic volume counts. Traffic count data and MassDOT permanent count station data are provided in the **Attachments**. The weekday morning and evening peak hour traffic volumes for the study intersections are shown in **Figure 3** and **Figure 4**.

### **Daily Traffic Volumes**

Daily traffic volumes were collected on Summer Street and West Street in the site vicinity using automatic traffic recorders (“ATR’s”) in September 2014 and September 2015 and are summarized in **Table 1**.

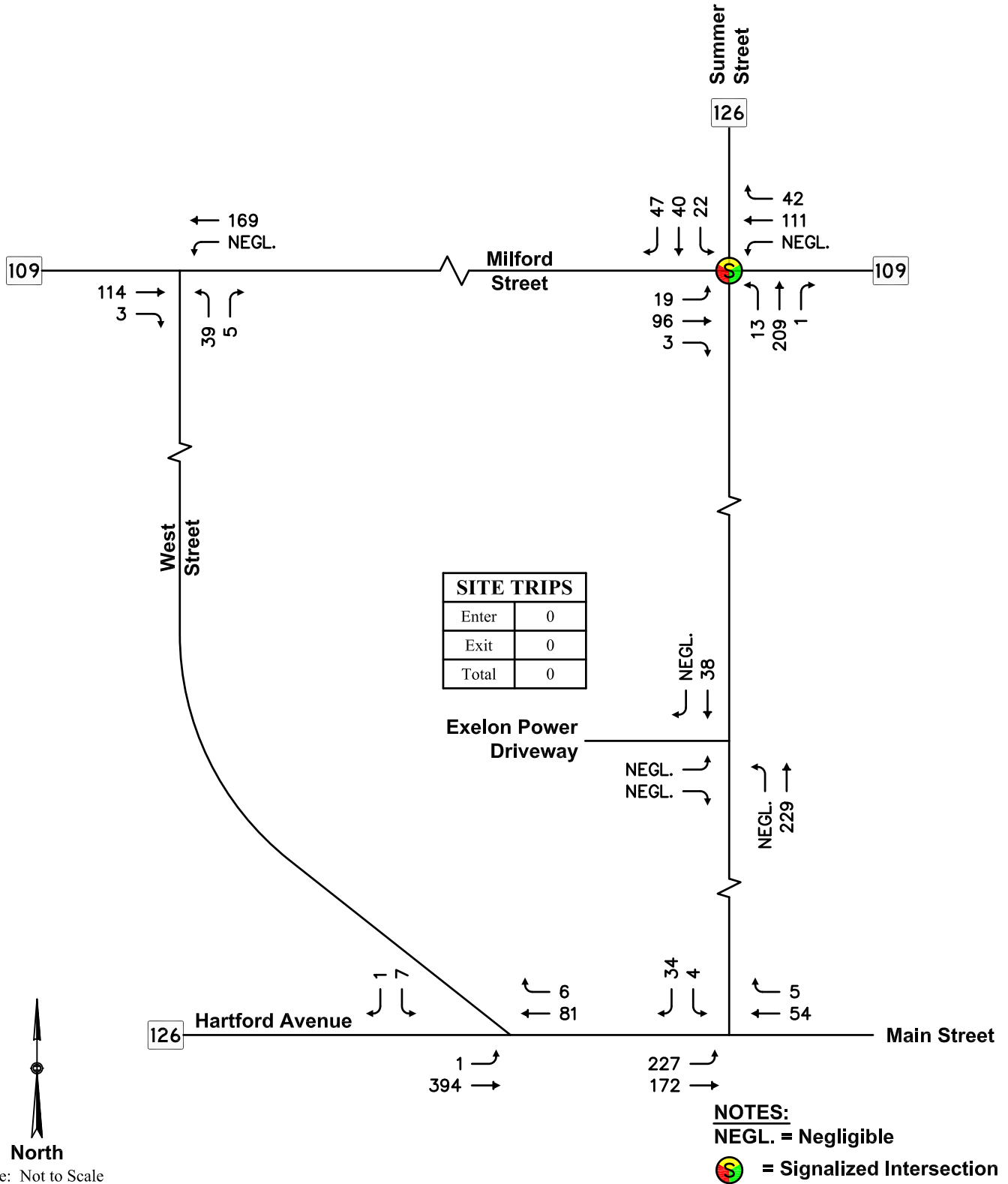


Figure 3

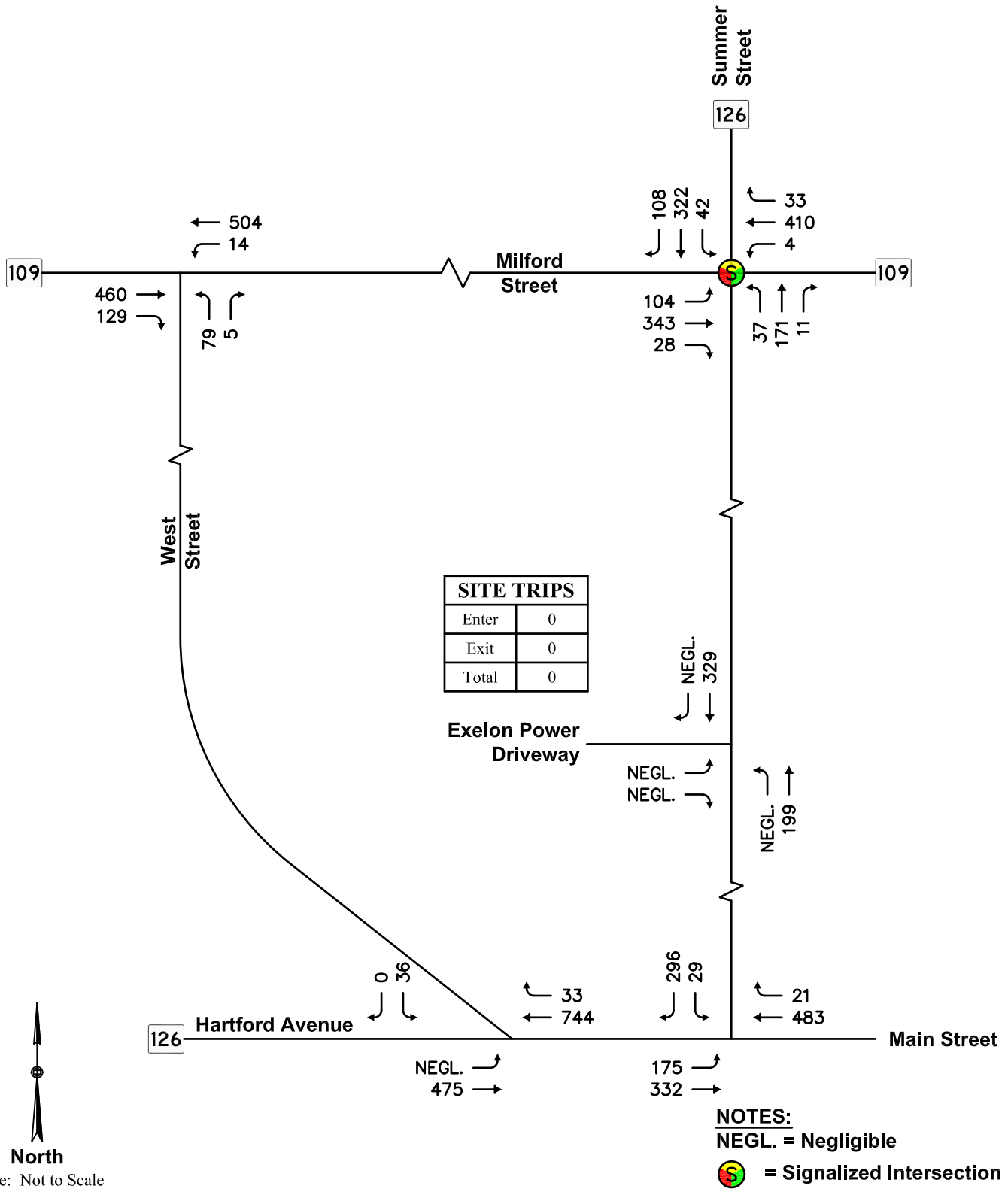


Figure 4

**TABLE 1  
BASELINE TRAFFIC VOLUME SUMMARY**

Time Period	Daily Volume (vpd) <sup>1</sup>	Percent Daily Traffic <sup>2</sup>	Peak Hour Volume (vph) <sup>3</sup>	Peak Flow Direction <sup>4</sup>	Peak Hour Directional Volume (vph)
<i>Summer Street north of Main Street</i>					
Weekday AM Arrival (5-6 am)	7,885	3%	225	82% NB	184
Weekday PM Departure (6-7 pm)	7,885	7%	528	62% SB	325
<i>West Street between Route 126 and Beech Street</i>					
Weekday AM Arrival (5-6 am)	880	1%	13	62% WB	8
Weekday PM Departure (6-7 pm)	880	8%	74	51% EB	38

<sup>1</sup>Two-way daily traffic expressed in vehicles per day without seasonal adjustment.

<sup>2</sup>The percent of daily traffic that occurs during the peak hour.

<sup>3</sup>Two-way peak-hour volume expressed in vehicles per hour.

<sup>4</sup>NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound

As summarized in **Table 1**:

- *Summer Street* in the immediate study area carries approximately 7,885 vehicles per day (“vpd”) with approximately 225 vehicles and 528 vehicles during the morning and evening construction arrival and departure periods, respectively. The traffic volumes represent approximately 3 to 7% of the daily traffic volumes.
- *West Street* in the immediate study area carries approximately 880 vehicles per day (“vpd”) with approximately 13 vehicles and 74 vehicles the morning and evening construction arrival and departure periods, respectively. The peak hour traffic volumes represent approximately 1 to 8% of the daily traffic volumes.

### Measured Travel Speeds

Vehicle speeds were obtained for West Street adjacent to the site using a radar recorder device. These measured travel speeds provide a basis for determining sight line requirements at the proposed Construction driveway along West Street.

**TABLE 2  
SPEED STUDY RESULTS – WEST STREET**

<i>Travel Direction</i>	<i>Regulatory Speed Limit<sup>1</sup></i>	<i>Travel Speed</i>	
		<i>Mean<sup>2</sup></i>	<i>85<sup>th</sup> Percentile<sup>3</sup></i>
Eastbound	25	33	38
Westbound	25	32	35

<sup>1</sup>Regulatory (Posted) Speed limit in miles per hour (mph)

<sup>2</sup>Arithmetic mean

<sup>3</sup>The speed at or below which 85 % of the vehicles are traveling



As summarized in **Table 2**, the mean (average) travel speed on West Street was observed to be 33 mph for the eastbound direction and 32 mph in the westbound direction; the 85th percentile travel speed was observed to be 38 mph in the eastbound direction and 35 mph in the southbound direction. Measured travels speeds are considerable higher than the regulatory speed limits along West Street in the site vicinity.

### **Sight Line Evaluation**

An evaluation of sight lines was conducted at the proposed construction site driveway along West Street to ensure that minimum recommended sight lines are available to safely exit onto West Street. The evaluation documented existing sight lines for vehicles as they relate to West Street with comparison to recommended guidelines for the regulatory speed limit and observed travel speeds.

The AASHTO standards<sup>2</sup> reference two types of sight distance which are relevant at the proposed site driveway intersection on Summer Street and the proposed construction driveway along West Street: stopping sight distance (“SSD”) and intersection sight distance (“ISD”). Sight lines for critical vehicle movements at the proposed construction site driveway along West Street were compared to minimum SSD and ISD for the regulatory and observed travel speeds in the Site vicinity.

#### *Stopping Sight Distance*

Sight distance is the length of roadway visible to the motorist to a fixed object. The minimum sight distance available on a roadway should be sufficiently long enough to enable a below-average operator, traveling at or near a regulatory speed limit, to stop safely before reaching a stationary object in its path, in this case, a vehicle exiting the site driveways onto Summer Street. The SSD criteria are defined by AASHTO based on design and operating speeds, anticipated driver behavior and vehicle performance, as well as physical roadway conditions. SSD includes the length of roadway traveled during the perception and reaction time of a driver to an object, and the distance traveled during brake application on wet level pavement. Adjustment factors are applied to account for roadway grades where applicable.

SSD was estimated in the field using AASHTO standards for driver’s eye (3.5 feet) and object height equivalent to the taillight height of a passenger car (2.0 feet) for the approaches to the intersection. **Table 3** presents a summary of the available SSD for the roadway segment approaches to the proposed construction driveway and AASHTO’s recommended SSD for the regulatory and observed travel speeds.

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<sup>2</sup> A policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO), 2011.

**TABLE 3  
STOPPING SIGHT DISTANCE SUMMARY**

<i>Approach/ Travel Direction</i>	<i>Available Stopping Sight Distance</i>	<i>AASHTO Recommended<sup>1</sup></i>		
		<i>Regulatory Speed<sup>2</sup></i>	<i>Average Travel Speed<sup>3</sup></i>	<i>85<sup>th</sup> Percentile Travel Speed<sup>4</sup></i>
<i>West Street Approaches to Proposed Construction Driveway</i>				
<i>Eastbound</i>	430± Feet	155 Feet <sup>2</sup>	230 Feet	280 Feet
<i>Westbound</i>	530± Feet	155 Feet	220 Feet	250 Feet

<sup>1</sup> Recommended sight distance based on AASHTO, A Policy on Geometric Design of Highways and Streets. Based on driver height of eye of 3.5 feet to object height of 2.0 feet and adjustments for roadway grade were applicable.

<sup>2</sup> Posted speed along West Street is 25 mph.

<sup>3</sup> Average Speed is 33 mph EB and 32 mph WB on West Street

<sup>4</sup> 85<sup>th</sup> Percentile travel speed is 38 mph EB and 35 mph WB on West Street.

As summarized in **Table 3**, analysis results indicate that the existing available sight lines exceed AASHTO's recommended SSD criteria for both travel directions along West Street based on the regulatory speed limit and observed travel speeds.

#### *Intersection Sight Distance*

Clear sight lines provide sufficient sight distance for a stopped driver on a minor-road approach to depart from the intersection and enter or cross the major road. As stated under AASHTO's Intersection Sight Distance (ISD) considerations, "...If the available sight distance for an entering ... vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to avoid collisions... To enhance traffic operations, intersection sight distances that exceed stopping sight distances are desirable along the major road." AASHTO's ISD criteria are defined into several "cases". In this case the intersections are proposed to be under STOP signal control and the ISD in question relates to the ability turn left or turn right from the proposed driveways.

Available ISD was estimated in the field using AASHTO standards for driver's eye (3.5 feet), object height (3.5 feet) and decision point (between 8 and 14.5 feet from the edge of travel way) for the eastbound and westbound directions along West Street. **Table 4** presents a summary of the available ISD for the departure from the construction site driveway and AASHTO's recommended ISD for the regulatory speed limit and observed travel speeds.

**TABLE 4  
INTERSECTION SIGHT DISTANCE SUMMARY**

<i>Approach/ Travel Direction</i>	<i>Available ISD</i>	<i>AASHTO Minimum<sup>1</sup></i>		<i>AASHTO Ideal<sup>1</sup></i>
		<i>Regulatory Speed<sup>2</sup></i>	<i>85<sup>th</sup> Percentile Observed Speed<sup>3</sup></i>	<i>Regulatory Speed<sup>2</sup></i>
<i>West Street Approaches to Proposed Construction Driveway</i>				
<i>Looking East</i>	430± Feet	155 Feet	250 Feet	240 Feet
<i>Looking West</i>	530± Feet	155 Feet	280 Feet	280 Feet

<sup>1</sup>Recommended sight distance based on AASHTO, A Policy on Geometric Design of Highways and Streets. Based on driver height of eye of 3.5 feet and an object height of 3.5 feet and adjustments for roadway grade if required. Minimum value as noted represents SSD per AASHTO guidance.

<sup>2</sup>Posted speed along West Street is 25 mph.

<sup>3</sup>Average Speed is 33 mph EB and 32 mph WB on West Street

<sup>4</sup>85<sup>th</sup> Percentile travel speed is 38 mph EB and 35 mph WB on West Street.

The results of the ISD analysis presented in **Table 4** indicate that the available sight lines looking east and west onto West Street exceed the recommended minimum and ideal sight line requirements from AASHTO for the regulatory speed limit and observed travel speeds. MDM recommends that the sight line continue to be maintained and that any new plantings (shrubs, bushes) or physical landscape features to be located within the driveway sight lines should also be maintained at a height of 2 feet or less above the adjacent existing roadway grade to ensure unobstructed lines of sight.

## PROJECTED FUTURE YEAR TRAFFIC VOLUMES

A seven-year planning horizon (year 2022) was selected consistent with industry standard guidelines and to be consistent with future year conditions analysis presented in the DEIR<sup>3</sup> filed for the project on September 30, 2015. Although construction activity will occur prior to the selected 2022 design condition, this horizon year is used in the analysis to present a conservatively higher traffic condition. Likewise, the analysis is based on the highest level of construction activity with 200 workers, though actual worker levels will fall below this threshold for much of the construction period. The construction period also conservatively assumed a vehicle occupancy rate of 1.0 and was estimated under the peak construction period with 200 workers. Fewer workers and the use of a 2016/2017 period would result in conditions with improved operations compared to the analysis shown.

### 2022 No-Build Traffic Volume Networks

To account for future traffic growth in the study area future No-Build traffic volumes are developed by increasing the baseline (2015) volumes by approximately 3.6 percent (0.5 percent compounded annually over 7 years). The resulting 2021 No-Build traffic volumes are displayed in **Figure 5** and **Figure 6**.

### Trip Generation – Peak Construction

Anticipated construction activity at the site will generate a peak of approximately 200 workers with significantly lower activity during the beginning and end of the construction period. The amount of crews and workers will vary based on the specific construction work activities, but will range up to approximately 20 to 25 crews working on site with approximately 8 to 10 workers per crew. To present a conservative (worst case) scenario, trip generation for the Facility's construction impact is estimated based on a peak construction scenario and a vehicle occupancy rate of 1.0.

**Table 5** summarizes the empirically derived trip estimates for the power generation facility under a peak construction scenario of 200 workers. Results indicate that under a peak construction activity scenario, the Facility is conservatively estimated to generate approximately 200 entering vehicle-trips during the weekday morning period (5:00 am to 6:00 am) and 200 exiting vehicle-trips during the weekday evening period (6:00 pm to 7:00 pm). These trips levels do not account for carpooling which may reduce actual vehicle demands at peak construction.

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<sup>3</sup> *Ibid 1*

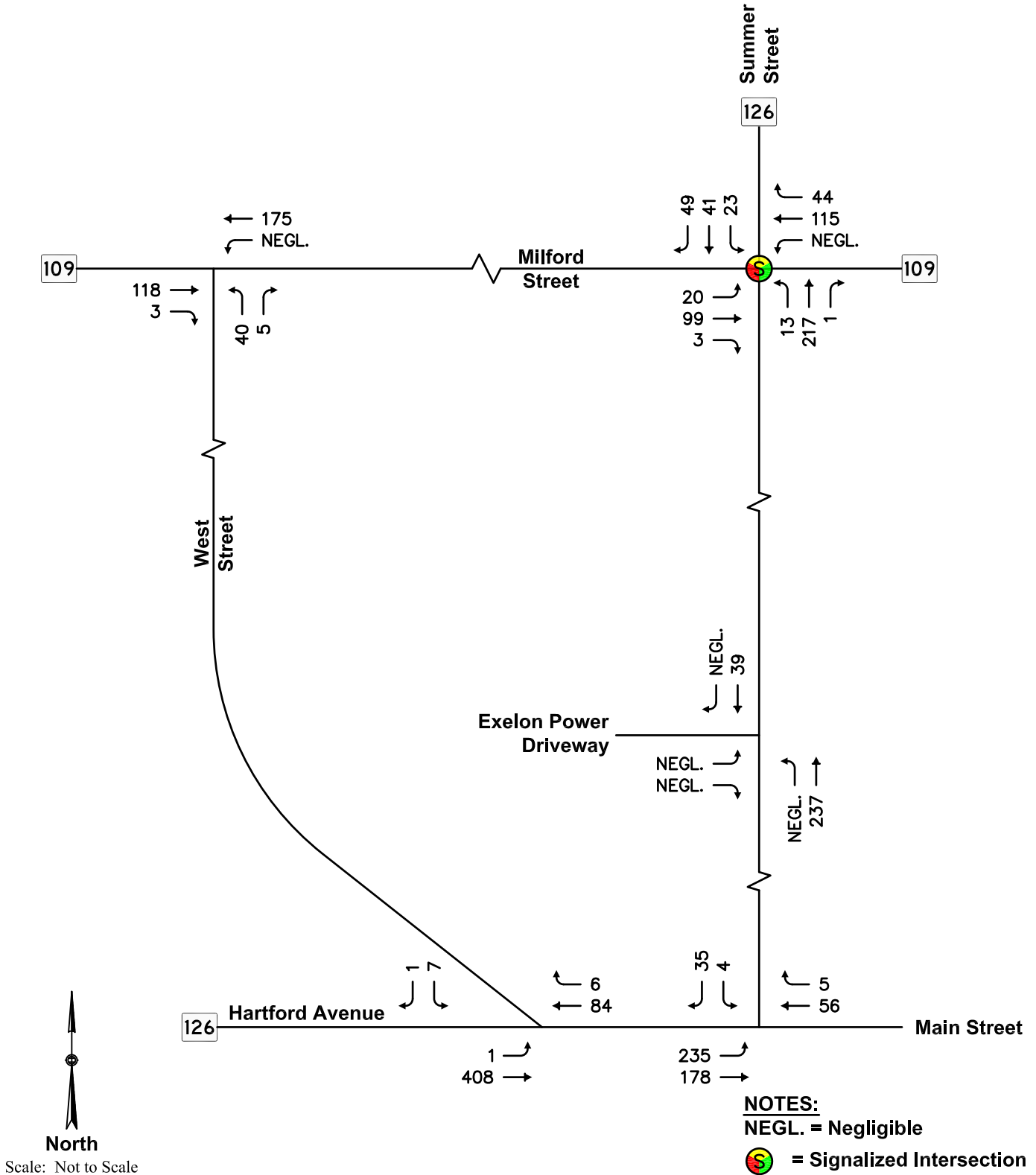


Figure 5

**2022 No-Build Conditions  
 Weekday Morning Peak Hour Traffic Volumes  
 (Construction Period 5am-6am)**

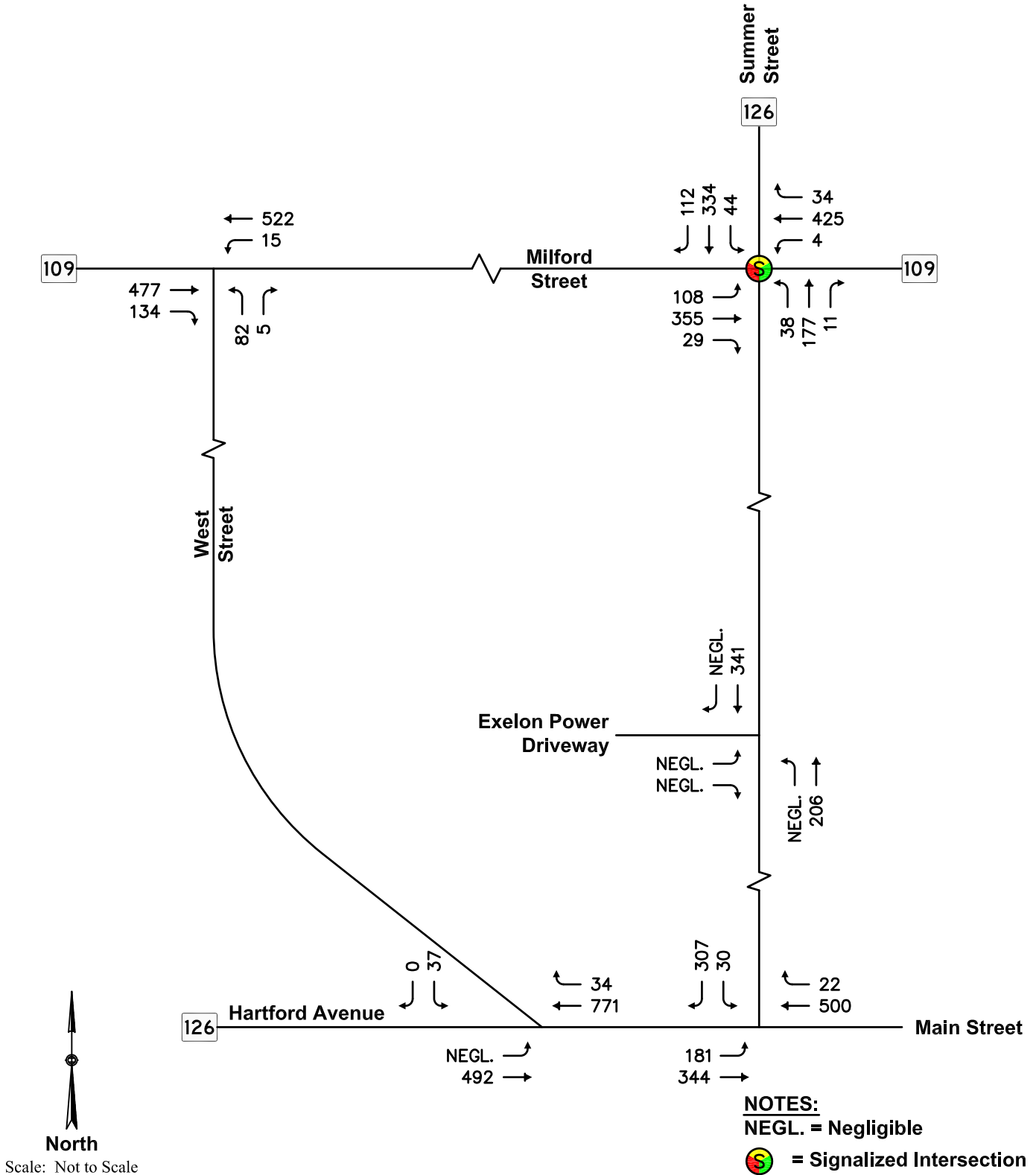


Figure 6

**TABLE 5**  
**Trip Generation Summary – Peak Construction Operations**

<i>Study Period/Direction</i>	<i>Peak Construction Vehicle-trips<sup>1</sup></i>
<i>Morning Study Period (5:00 to 6:00 am):</i>	
Entering	200
Exiting	Negl.
Total	200
<i>Evening Study Period (6:00 to 7:00 pm):</i>	
Entering	Negl.
Exiting	200
Total	200

<sup>1</sup>Based on 200 construction workers with vehicle occupancy of 1.0 workers per vehicle. Analysis conservatively assumes that all workers arrive between 5:00 and 6:00 am and depart between 6:00 and 7:00 pm.

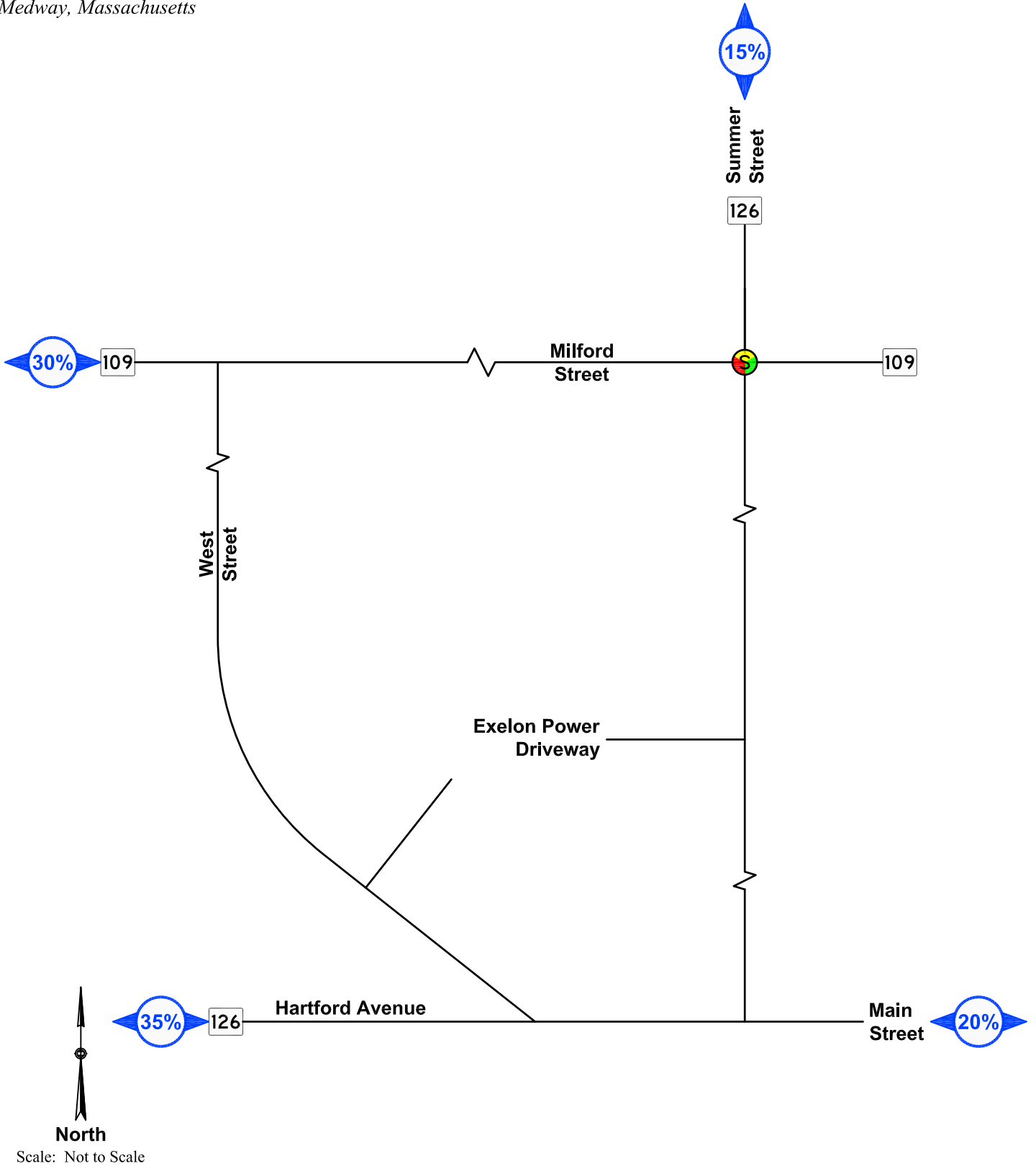
**Trip Distribution – Construction Periods**

Primary routes to/from the site associated with construction employee related trips are will use I-495, Route 109, and Route 126. The distribution for projected traffic for the construction employees is based on Journey to Work Census data. The resulting trip distribution pattern is shown in **Figure 7**. It is estimated that approximately 65% of the construction worker trips will use Route I-495. An aerial view of the construction employee routes from Route I-495 are summarized in **Figure 8**.

Development-related trips for the proposed Site are assigned to the roadway network using the ITE trip-generation estimates shown in **Table 5** and the distribution pattern for the construction employees. Development-related trips at each intersection approach for the weekday morning, and weekday evening construction periods are quantified in the **Figure 9** and **Figure 10**.

**2022 Build Traffic Volume Networks – Construction Periods**

2022 Build condition traffic volumes are derived by adding the incremental traffic increases for the Site’s construction activity to the 2022 No-Build conditions. The 2022 Build condition traffic-volume networks for the weekday morning and weekday evening construction periods are provided in **Figure 11** and **Figure 12**.







**Figure 8**

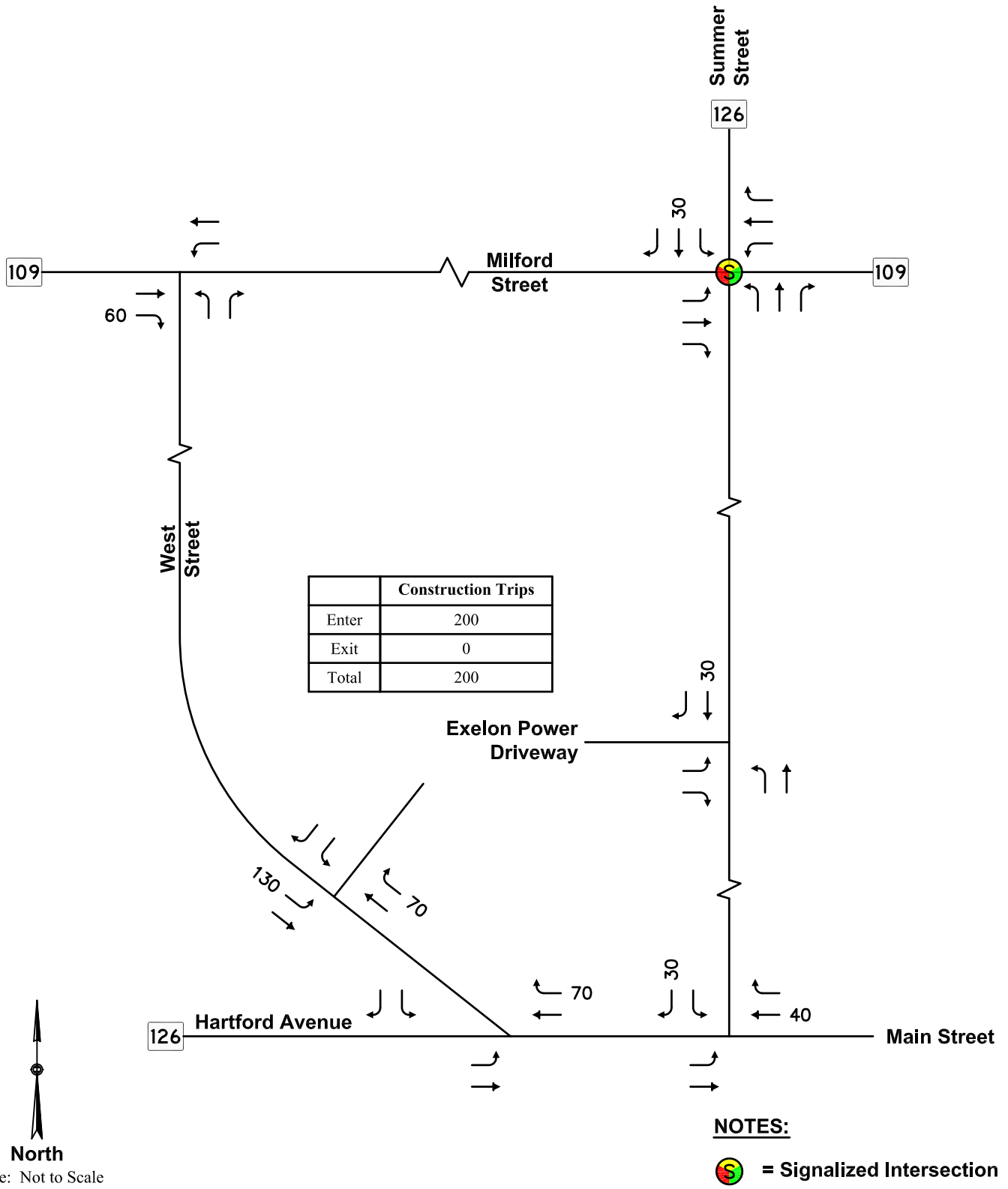


Figure 9

**Site Generated Trips  
 Weekday Morning Peak Hour Traffic Volumes  
 (Construction Period 5am-6am)**

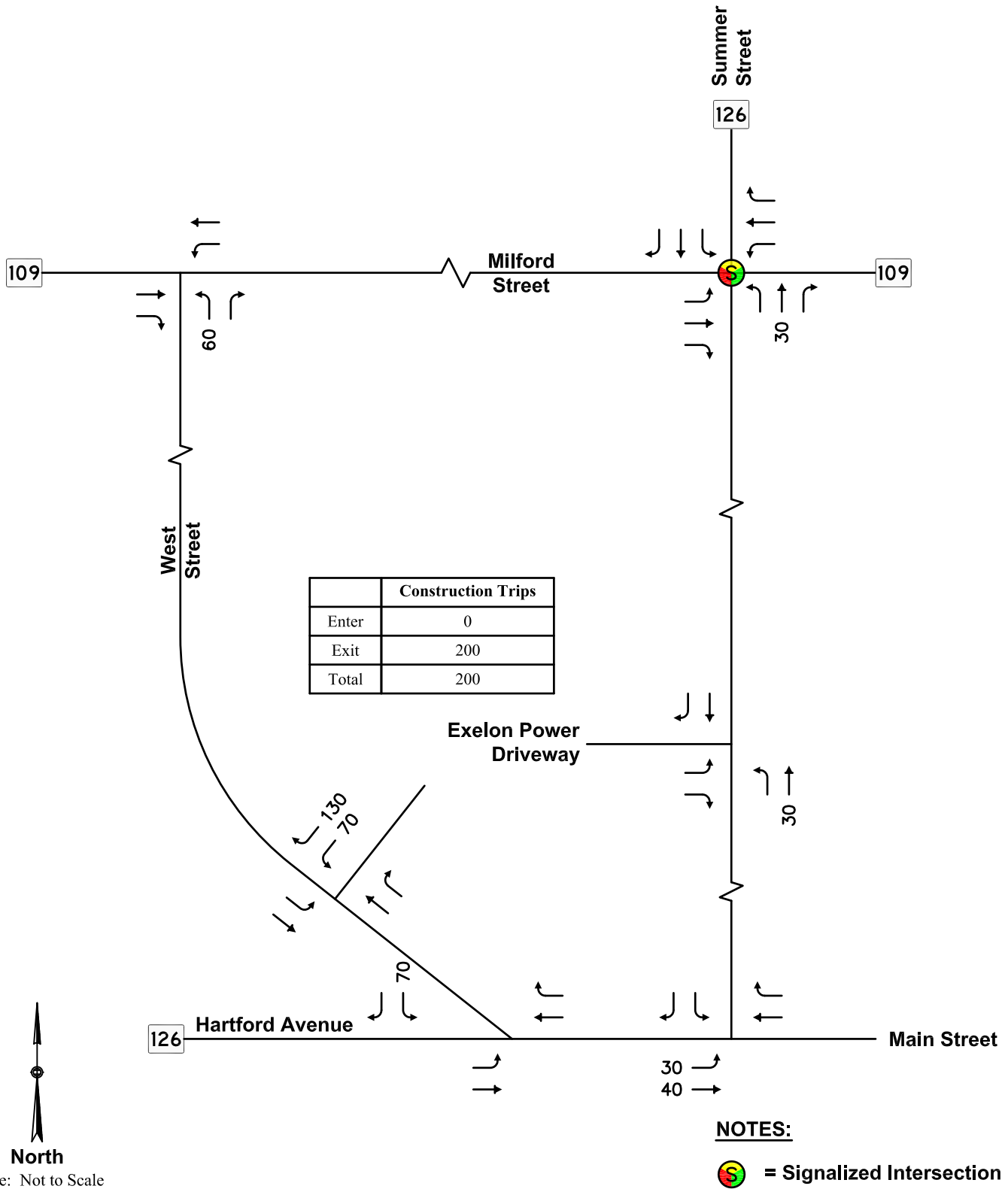


Figure 10

**Site Generated Trips  
 Weekday Evening Peak Hour Traffic Volumes  
 (Construction Period 6pm-7pm)**

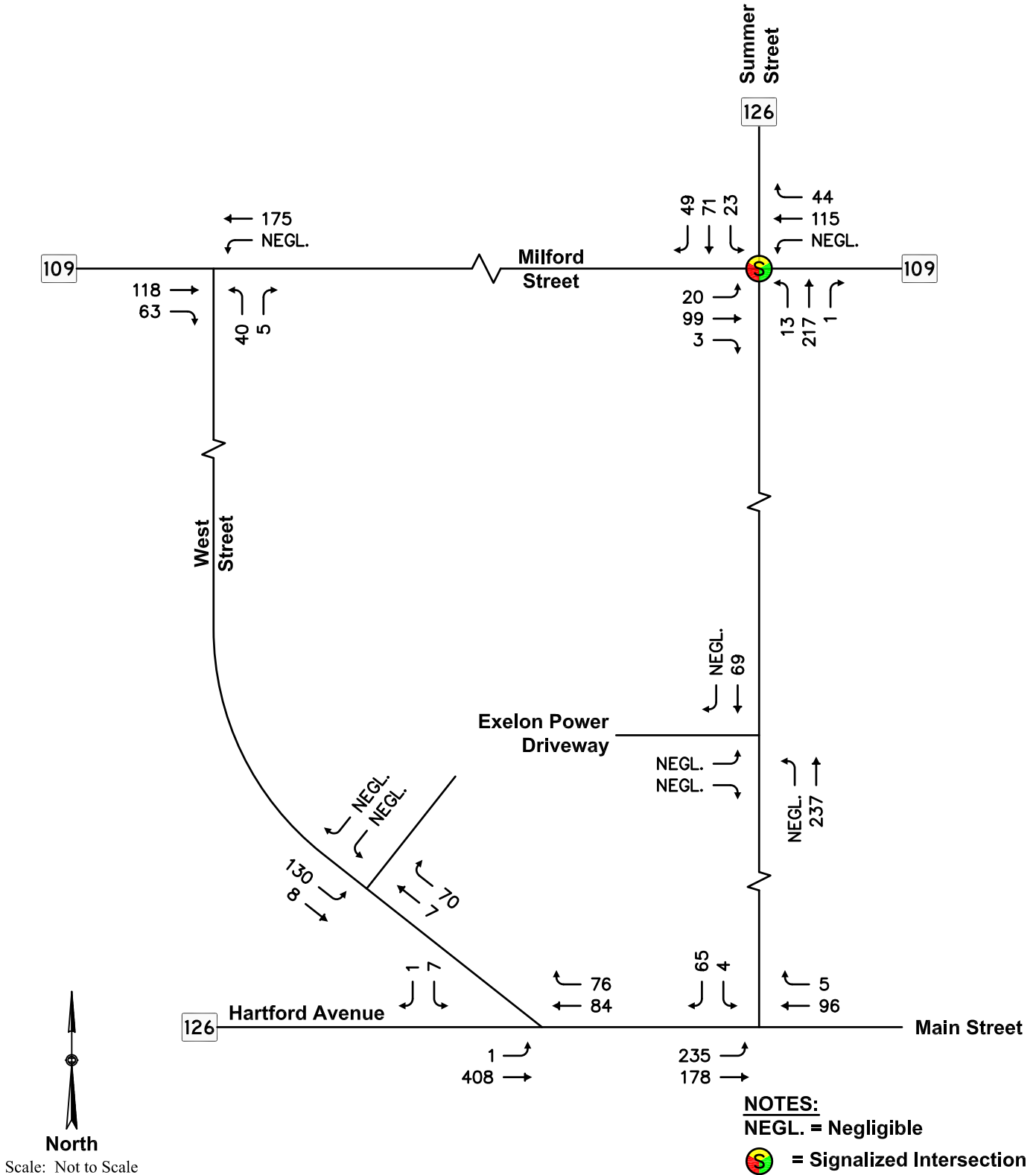


Figure 11

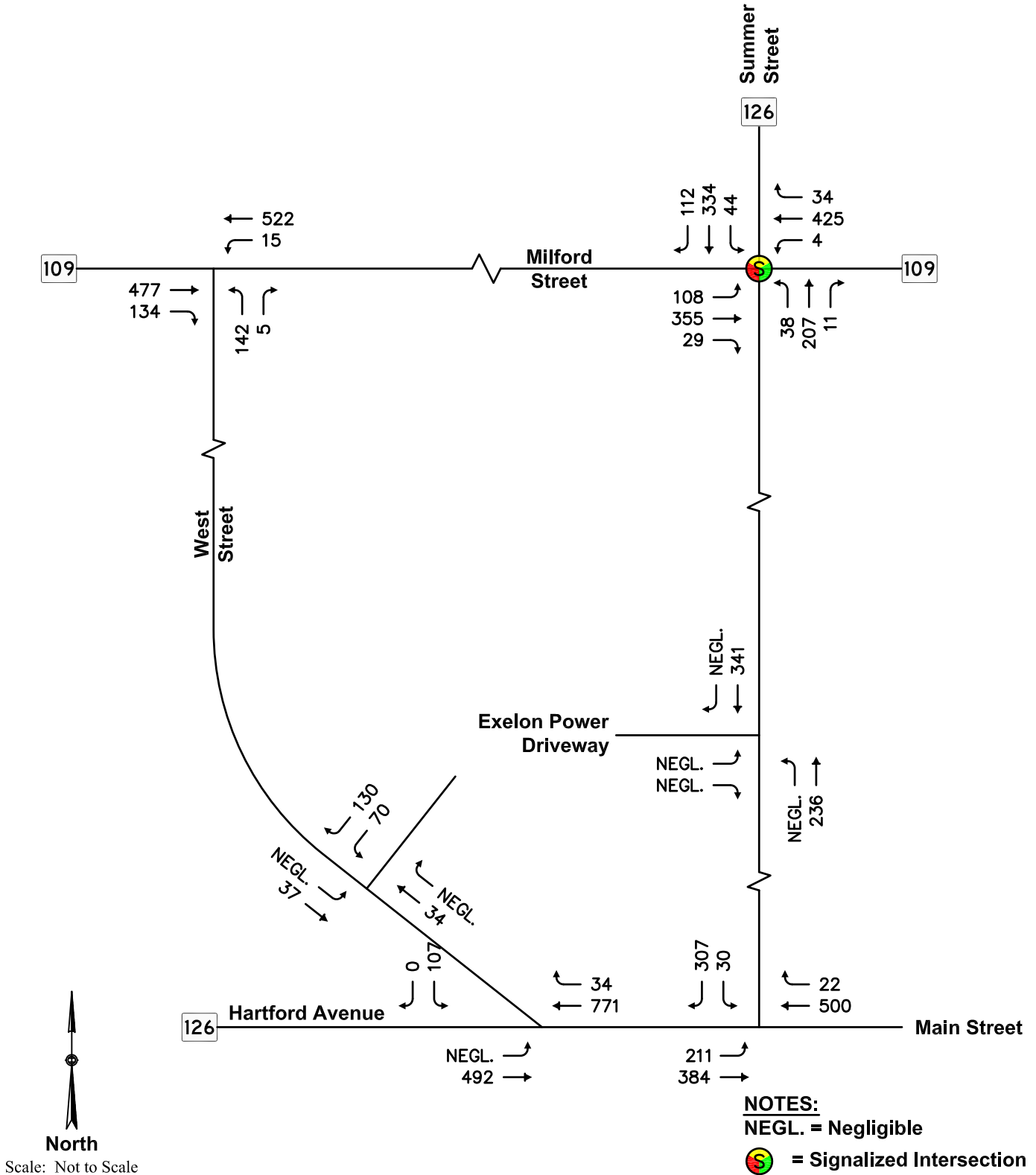


Figure 12

## CAPACITY ANALYSIS – CONSTRUCTION PERIODS

This section provides an overview of operational analysis methodology, an assessment of intersection operations under Baseline and projected future No-Build and Build conditions for the construction periods.

### Analysis Methodology

Intersection capacity analyses are presented in this section for the No-Build, and Build traffic-volume conditions for the construction arrival and departure periods. Capacity analyses, conducted in accordance with EEA/MassDOT guidelines, provide an index of how well the roadway facilities serve the traffic demands placed upon them. The operational results provide the basis for recommended access and roadway improvements in the following section.

Capacity analysis of intersections is developed using the Synchro® computer software, which implements the methods of the 2010 Highway Capacity Manual (HCM). The resulting analysis presents a LOS designation for individual intersection movements. The LOS is a letter designation that provides a qualitative measure of operating conditions based on several factors including roadway geometry, speeds, ambient traffic volumes, traffic controls, and driver characteristics. Since the LOS of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of LOS, depending on the time of day, day of week, or period of year. A range of six levels of service are defined on the basis of average delay, ranging from LOS A (the least delay) to LOS F (delays greater than 50 seconds for unsignalized movements and delays greater than 80 seconds for signalized movements).

### Analysis Results – Construction Periods

LOS analyses were conducted for the No-Build, and Build (5-6 am arrival and 6-7 pm departure periods) conditions for the study intersections. The new construction periods are compared to the original construction periods of 6-7 am and 3-4 pm as outlined in the DEIR; results of the intersection capacity for the construction period are summarized below in **Tables 6** and **Table 7**. The capacity analysis provided for the construction period has been calibrated based on observed vehicle delay characteristics for the unsignalized study intersections as outlined in the DEIR.

**TABLE 6  
INTERSECTION CAPACITY ANALYSIS RESULTS – CONSTRUCTION PERIOD  
WEEKDAY MORNING PEAK HOUR**

Period	Approach	2022 No-Build (5-6 AM) <sup>1</sup>			2022 Build (5-6 AM) <sup>2</sup>			2021 Build (6-7 AM) <sup>3</sup>		
		v/c <sup>4</sup>	Delay <sup>5</sup>	LOS <sup>6</sup>	v/c	Delay	LOS	v/c	Delay	LOS
<i>Summer Street at Milford Street</i>	Eastbound	0.14	7	A	0.14	7	A	0.36	9	A
	Westbound	0.24	10	A	0.24	10	A	0.73	27	C
	Northbound	0.27	11	B	0.27	11	B	0.68	30	C
	Southbound	<u>0.14</u>	<u>8</u>	<u>A</u>	<u>0.18</u>	<u>9</u>	<u>A</u>	<u>0.73</u>	<u>30</u>	<u>C</u>
	<b>Overall</b>	<b>0.27</b>	<b>9</b>	<b>A</b>	<b>0.27</b>	<b>9</b>	<b>A</b>	<b>0.73</b>	<b>24</b>	<b>C</b>
<i>Summer Street at Exelon Power Drwy</i>	Northbound	0.00	<5	A	0.00	<5	A	0.01	<5	A
	EB L/R Exit	0.00	<5	A	0.00	<5	A	0.00	<5	A
<i>Main Street at Summer Street</i>	Eastbound	0.17	<5	A	0.17	8	A	0.27	<5	A
	SB L Exit	0.01	9	A	0.01	9	A	0.03	11	B
	SB R Exit	0.03	8	A	0.05	8	A	0.13	8	A
<i>Route 126 at West Street</i>	Eastbound	0.00	<5	A	0.00	8	A	0.00	<5	A
	SB L/R Exit	0.02	11	B	0.02	12	B	0.06	16	C
<i>Route 109 at West Street</i>	Westbound	0.00	<5	A	0.00	<5	A	0.00	<5	A
	NB L Exit	0.07	10	B	0.07	10	B	0.22	15	B
	NB R Exit	0.01	9	A	0.01	9	A	0.03	10	A
<i>West Street at Proposed Construction Driveway</i>	Eastbound	n/a	n/a	n/a	0.09	7	A	0.09	7	A
	SB L/R Exit	n/a	n/a	n/a	0.00	<5	A	0.00	<5	A

<sup>1</sup>No-Build Conditions based on 5-6 AM (September 2015 Baseline Volumes adjusted to 2022)

<sup>2</sup>Build Conditions based on 5-6 AM (September 2015 Baseline Volumes adjusted to 2022)

<sup>3</sup>Build Conditions based on 6-7 AM (September 2014 Baseline Volumes adjusted to 2021 per DEIR)

<sup>4</sup>Volume-to-capacity ratio

<sup>5</sup>Average control delay per vehicle (in seconds)

<sup>6</sup>Level of service

**TABLE 7  
INTERSECTION CAPACITY ANALYSIS RESULTS – CONSTRUCTION PERIOD  
WEEKDAY EVENING PEAK HOUR**

Period	Approach	2022 No-Build (6-7 PM) <sup>1</sup>			2022 Build (6-7 PM) <sup>2</sup>			2021 Build (3-4 PM) <sup>3</sup>		
		v/c <sup>4</sup>	Delay <sup>5</sup>	LOS <sup>6</sup>	v/c	Delay	LOS	v/c	Delay	LOS
<i>Summer Street at Milford Street</i>	Eastbound	0.41	12	B	0.41	12	B	0.53	14	B
	Westbound	0.69	27	C	0.69	27	C	0.70	28	C
	Northbound	0.38	21	C	0.42	21	C	0.36	20	C
	Southbound	<u>0.75</u>	<u>29</u>	<u>C</u>	<u>0.76</u>	<u>30</u>	<u>C</u>	<u>0.75</u>	<u>29</u>	<u>C</u>
	<b>Overall</b>	<b>0.75</b>	<b>23</b>	<b>C</b>	<b>0.76</b>	<b>23</b>	<b>C</b>	<b>0.75</b>	<b>22</b>	<b>C</b>
<i>Summer Street at Exelon Power Drwy</i>	Northbound	0.00	<5	A	0.00	<5	A	0.00	<5	A
	EB L/R Exit	0.00	<5	A	0.00	<5	A	0.01	13	B
<i>Main Street at Summer Street</i>	Eastbound	0.19	9	A	0.22	9	A	0.25	<5	A
	SB L Exit	0.10	18	C	0.12	20	C	0.16	22	C
	SB R Exit	0.40	12	B	0.40	12	B	0.48	13	B
<i>Route 126 at West Street</i>	Eastbound	0.00	<5	A	0.00	<5	A	0.01	<5	A
	SB L/R Exit	0.13	19	C	0.38	24	C	0.43	29	D
<i>Route 109 at West Street</i>	Westbound	0.02	9	A	0.04	12	B	0.01	<5	A
	NB L Exit	0.22	16	C	0.47	22	C	0.32	17	C
	NB R Exit	0.01	11	B	0.01	11	B	0.01	10	A
<i>West Street at Proposed Construction Driveway</i>	Eastbound	n/a	n/a	n/a	0.00	<5	A	0.00	<5	A
	SB L/R Exit	n/a	n/a	n/a	0.22	10	A	0.22	10	A

<sup>1</sup>No-Build Conditions based on 6-7 PM (September 2015 Baseline Volumes adjusted to 2022)

<sup>2</sup>Build Conditions based on 6-7 PM (September 2015 Baseline Volumes adjusted to 2022)

<sup>3</sup>Build Conditions based on 3-4 PM (September 2014 Baseline Volumes adjusted to 2021 per DEIR)

<sup>4</sup>Volume-to-capacity ratio

<sup>5</sup>Average control delay per vehicle (in seconds)

<sup>6</sup>Level of service



As summarized in **Table 6** and **Table 7**:

- *Summer Street at Milford Street.* The signalized Summer Street at Milford Street intersection will continue to operate below capacity at overall LOS C or better operations the peak construction period.
- *Summer Street at Exelon Power Driveway.* Under peak construction conditions, the Exelon Power Driveway approach to Summer Street will operate at LOS A or better operations. Mainline operations Summer Street are expected to continue to operate well below capacity at LOS A operations with minimal delay.
- *Unsignalized approaches to Routes 126 and 109.* Under peak construction conditions, left turns from unsignalized side streets onto Route 126 and Route 109 will operate at will continue to operate at LOS C or better operations.
- *West Street at Proposed Construction Driveway.* The proposed Construction driveway along West Street will operate well below capacity with nominal delay during the peak construction periods.

In summary, incremental traffic increases at the study intersections during the construction period will be adequately accommodated below-capacity with LOS C or better operations expected. The new construction periods of 5-6 am and 6-7 pm will result in equal or improved LOS compared to the original construction periods of 6-7 am and 3-4 pm.

## MITIGATION

The DEIR recommended a construction traffic management plan that supports the proposed operational needs of the Facility under peak construction conditions while minimizing impact to adjacent roadways. Based on the traffic analysis presented in this evaluation, the conclusions and recommendation outlined in the DEIR remain valid and no additional mitigation is required.

A traffic-construction management plan should be implemented in cooperation with the Town of Medway and the Project's EPC Contractor to accommodate the specific needs of the site and to provide coordination with the Town officials throughout the construction period. Exelon will also coordinate with the Town of Medway with regard to the length of the construction period and any construction permits which may be required. The construction traffic management plan should include but not be limited to the following:

- Designated parking areas should be provided for construction employees. This area is preferred to be in an existing material laydown lot in the southern portion of the site along West Street which will be reinforced during the construction phase of the site and returned to grass upon completion of the project.
- Construction periods (i.e., worker arrival/departure times) and material deliveries should be designated to coincide with off-peak travel periods of the area roadway. The current arrival/ departure periods are 5:00 – 6:00 am and 6:00 – 7:00 pm which have been shown to be off peak travel periods.
- Exelon should establish waiting and staging areas on-site for all material deliveries and the management of truck traffic.
- Dust suppression methods should be implemented at unpaved construction areas as needed (e.g., use of water trucks to wet the ground surface, stabilization of soils, creation of wind breaks, and/or use of stabilized construction and exit points).

# Appendix

- Traffic Volume Data
- Seasonal and Background Growth
- Speed Data
- Sight Line Analysis
- Capacity Analyses



□ Traffic Volume Data



# MDM Transportation Consultants, Inc.

N/S: Summer Street (Route 126)  
Just North of Site Driveway  
Medway, MA

28 Lord Road, Suite 280  
Marlborough, MA 01752  
508-303-0370  
www.mdmtrans.com

Site Code: 79000001  
Station ID:  
Latitude: 0' 0.0000 Undefined

790 Summer Street (Route 126) Volume

Start Time	17-Sep-14 Wed	Southbound		Hour Totals		Northbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		14	45			3	52				
12:15		6	40			1	41				
12:30		2	53			1	41				
12:45		5	38	27	176	3	40	8	174	35	350
01:00		1	44			2	41				
01:15		3	55			1	50				
01:30		5	44			1	37				
01:45		7	50	16	193	2	66	6	194	22	387
02:00		2	56			3	50				
02:15		0	46			0	54				
02:30		1	62			1	55				
02:45		5	86	8	250	4	69	8	228	16	478
03:00		3	69			3	56				
03:15		7	74			4	55				
03:30		2	106			4	50				
03:45		0	112	12	361	4	44	15	205	27	566
04:00		3	110			11	60				
04:15		3	113			11	52				
04:30		5	113			19	47				
04:45		6	121	17	457	17	51	58	210	75	667
05:00		7	117			17	72				
05:15		7	120			27	61				
05:30		14	118			65	55				
05:45		13	96	41	451	75	72	184	260	225	711
06:00		33	97			68	54				
06:15		29	74			96	70				
06:30		36	95			86	49				
06:45		43	59	141	325	96	30	346	203	487	528
07:00		38	61			85	46				
07:15		53	44			110	26				
07:30		60	56			108	39				
07:45		71	41	222	202	102	31	405	142	627	344
08:00		62	34			106	30				
08:15		36	36			131	37				
08:30		58	57			107	27				
08:45		47	41	203	168	82	23	426	117	629	285
09:00		42	30			61	22				
09:15		41	28			54	27				
09:30		36	14			50	42				
09:45		26	18	145	90	46	13	211	104	356	194
10:00		42	20			38	12				
10:15		34	20			44	17				
10:30		40	20			46	15				
10:45		39	10	155	70	43	10	171	54	326	124
11:00		37	11			43	3				
11:15		30	13			53	12				
11:30		50	6			42	2				
11:45		43	18	160	48	58	4	196	21	356	69
<b>Total</b>		<b>1147</b>	<b>2791</b>			<b>2034</b>	<b>1912</b>			<b>3181</b>	<b>4703</b>
<b>Percent</b>		<b>29.1%</b>	<b>70.9%</b>			<b>51.5%</b>	<b>48.5%</b>			<b>40.3%</b>	<b>59.7%</b>

# MDM TRANSPORTATION CONSULTANTS, INC.

West Street  
West of Driveway  
Medway, MA

28 Lord Road, Suite 280  
Marlborough, MA  
www.mdmtrans.com

Site Code: 790

Start Time	22-Sep-15 Tue	Westbound		Hour Totals		Eastbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		2	6			0	3				
12:15		1	4			0	6				
12:30		1	2			0	8				
12:45		0	5	4	17	0	3	0	20	4	37
01:00		0	4			0	4				
01:15		0	5			0	6				
01:30		0	9			0	8				
01:45		1	4	1	22	0	9	0	27	1	49
02:00		0	10			0	4				
02:15		0	8			0	7				
02:30		0	13			0	9				
02:45		0	7	0	38	0	3	0	23	0	61
03:00		0	10			0	8				
03:15		0	7			0	4				
03:30		0	8			0	12				
03:45		0	8	0	33	0	10	0	34	0	67
04:00		0	10			0	9				
04:15		1	10			1	10				
04:30		0	5			0	7				
04:45		0	9	1	34	2	6	3	32	4	66
05:00		1	14			0	16				
05:15		3	6			2	14				
05:30		2	11			0	16				
05:45		2	7	8	38	3	14	5	60	13	98
06:00		1	10			3	12				
06:15		1	8			5	11				
06:30		4	8			3	8				
06:45		6	10	12	36	5	7	16	38	28	74
07:00		2	9			8	6				
07:15		5	11			18	7				
07:30		12	3			12	2				
07:45		10	5	29	28	10	6	48	21	77	49
08:00		15	4			11	4				
08:15		8	9			8	3				
08:30		9	6			8	3				
08:45		6	4	38	23	4	7	31	17	69	40
09:00		3	5			6	0				
09:15		7	2			4	0				
09:30		6	2			3	0				
09:45		1	5	17	14	4	1	17	1	34	15
10:00		3	9			3	3				
10:15		4	1			3	1				
10:30		2	5			2	1				
10:45		8	1	17	16	3	1	11	6	28	22
11:00		5	0			2	0				
11:15		2	0			6	0				
11:30		4	1			7	2				
11:45		6	1	17	2	7	0	22	2	39	4
<b>Total</b>		<b>144</b>	<b>301</b>			<b>153</b>	<b>281</b>			<b>297</b>	<b>582</b>
<b>Percent</b>		<b>32.4%</b>	<b>67.6%</b>			<b>35.3%</b>	<b>64.7%</b>			<b>33.8%</b>	<b>66.2%</b>
<b>Combined Total</b>		<b>445</b>				<b>434</b>				<b>879</b>	

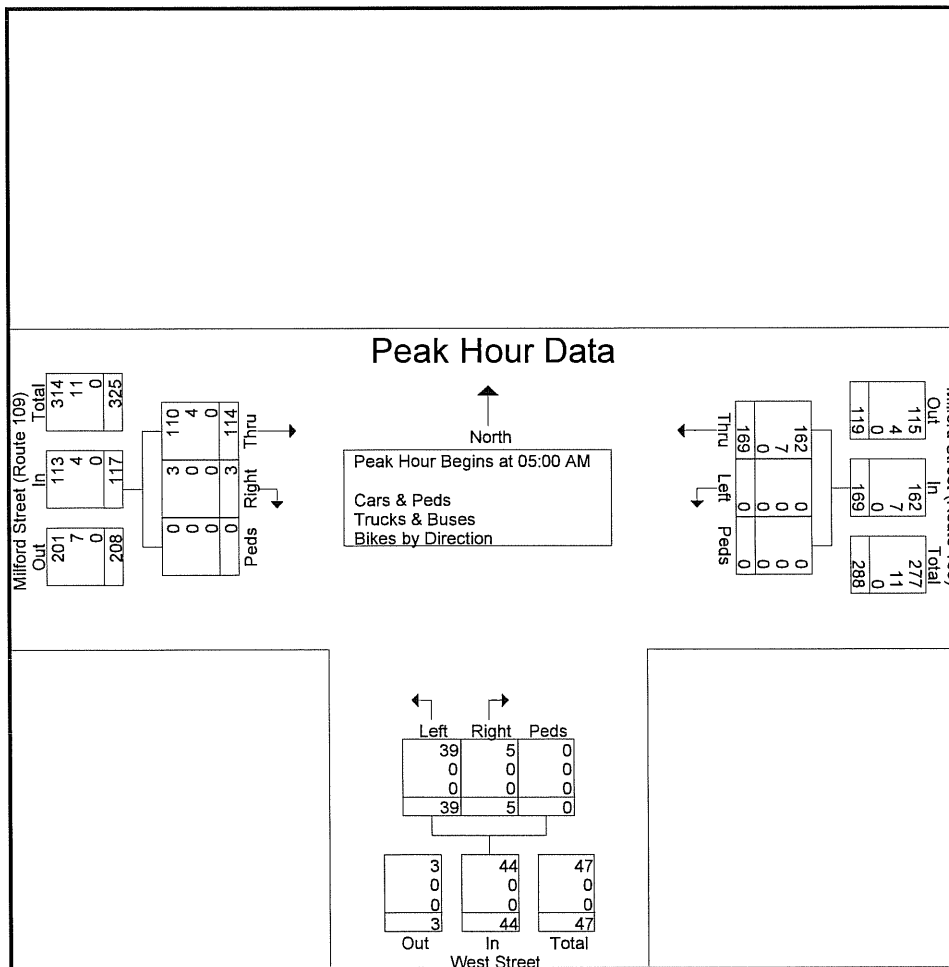


**Transportation Data Corporation**  
 Mario Perone, mperone1@verizon.net  
 tel (781) 587-0086 cell (781) 439-4999

S: West Street  
 E/W: Milford Street (Route 109)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616A  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Start Time	Milford Street (Route 109) From East				West Street From South				Milford Street (Route 109) From West				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 AM													
05:00 AM	25	0	0	25	0	8	0	8	0	10	0	10	43
05:15 AM	23	0	0	23	0	7	0	7	0	21	0	21	51
05:30 AM	56	0	0	56	1	11	0	12	0	35	0	35	103
05:45 AM	65	0	0	65	4	13	0	17	3	48	0	51	133
Total Volume	169	0	0	169	5	39	0	44	3	114	0	117	330
% App. Total	100	0	0		11.4	88.6	0		2.6	97.4	0		
PHF	.650	.000	.000	.650	.313	.750	.000	.647	.250	.594	.000	.574	.620
Cars & Peds	162	0	0	162	5	39	0	44	3	110	0	113	319
% Cars & Peds	95.9	0	0	95.9	100	100	0	100	100	96.5	0	96.6	96.7
Trucks & Buses	7	0	0	7	0	0	0	0	0	4	0	4	11
% Trucks & Buses	4.1	0	0	4.1	0	0	0	0	0	3.5	0	3.4	3.3
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0





**Transportation Data Corporation**

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tel (781) 587-0086 cell (781) 439-4999

S: West Street  
E/W: Milford Street (Route 109)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616A  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Groups Printed- Trucks & Buses

Start Time	Milford Street (Route 109) From East			West Street From South			Milford Street (Route 109) From West			Int. Total
	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	
05:00 AM	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0
05:30 AM	6	0	0	0	0	0	0	0	0	6
05:45 AM	1	0	0	0	0	0	0	4	0	5
Total	7	0	0	0	0	0	0	4	0	11
Grand Total	7	0	0	0	0	0	0	4	0	11
Apprch %	100	0	0	0	0	0	0	100	0	
Total %	63.6	0	0	0	0	0	0	36.4	0	

Start Time	Milford Street (Route 109) From East				West Street From South				Milford Street (Route 109) From West				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	6	0	0	6	0	0	0	0	0	0	0	0	6
05:45 AM	1	0	0	1	0	0	0	0	0	4	0	4	5
Total Volume	7	0	0	7	0	0	0	0	0	4	0	4	11
% App. Total	100	0	0		0	0	0		0	100	0		
PHF	.292	.000	.000	.292	.000	.000	.000	.000	.000	.250	.000	.250	.458

Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 AM

## Transportation Data Corporation

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

S: West Street  
E/W: Milford Street (Route 109)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616A  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Groups Printed- Cars & Peds

Start Time	Milford Street (Route 109) From East			West Street From South			Milford Street (Route 109) From West			Int. Total
	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	
05:00 AM	25	0	0	0	8	0	0	10	0	43
05:15 AM	23	0	0	0	7	0	0	21	0	51
05:30 AM	50	0	0	1	11	0	0	35	0	97
05:45 AM	64	0	0	4	13	0	3	44	0	128
<b>Total</b>	<b>162</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>39</b>	<b>0</b>	<b>3</b>	<b>110</b>	<b>0</b>	<b>319</b>
<b>Grand Total</b>	<b>162</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>39</b>	<b>0</b>	<b>3</b>	<b>110</b>	<b>0</b>	<b>319</b>
<b>Apprch %</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>11.4</b>	<b>88.6</b>	<b>0</b>	<b>2.7</b>	<b>97.3</b>	<b>0</b>	
<b>Total %</b>	<b>50.8</b>	<b>0</b>	<b>0</b>	<b>1.6</b>	<b>12.2</b>	<b>0</b>	<b>0.9</b>	<b>34.5</b>	<b>0</b>	

Start Time	Milford Street (Route 109) From East				West Street From South				Milford Street (Route 109) From West				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 AM													
05:00 AM	25	0	0	25	0	8	0	8	0	10	0	10	43
05:15 AM	23	0	0	23	0	7	0	7	0	21	0	21	51
05:30 AM	50	0	0	50	1	11	0	12	0	35	0	35	97
05:45 AM	64	0	0	64	4	13	0	17	3	44	0	47	128
<b>Total Volume</b>	<b>162</b>	<b>0</b>	<b>0</b>	<b>162</b>	<b>5</b>	<b>39</b>	<b>0</b>	<b>44</b>	<b>3</b>	<b>110</b>	<b>0</b>	<b>113</b>	<b>319</b>
<b>% App. Total</b>	<b>100</b>	<b>0</b>	<b>0</b>		<b>11.4</b>	<b>88.6</b>	<b>0</b>		<b>2.7</b>	<b>97.3</b>	<b>0</b>		
<b>PHF</b>	<b>.633</b>	<b>.000</b>	<b>.000</b>	<b>.633</b>	<b>.313</b>	<b>.750</b>	<b>.000</b>	<b>.647</b>	<b>.250</b>	<b>.625</b>	<b>.000</b>	<b>.601</b>	<b>.623</b>

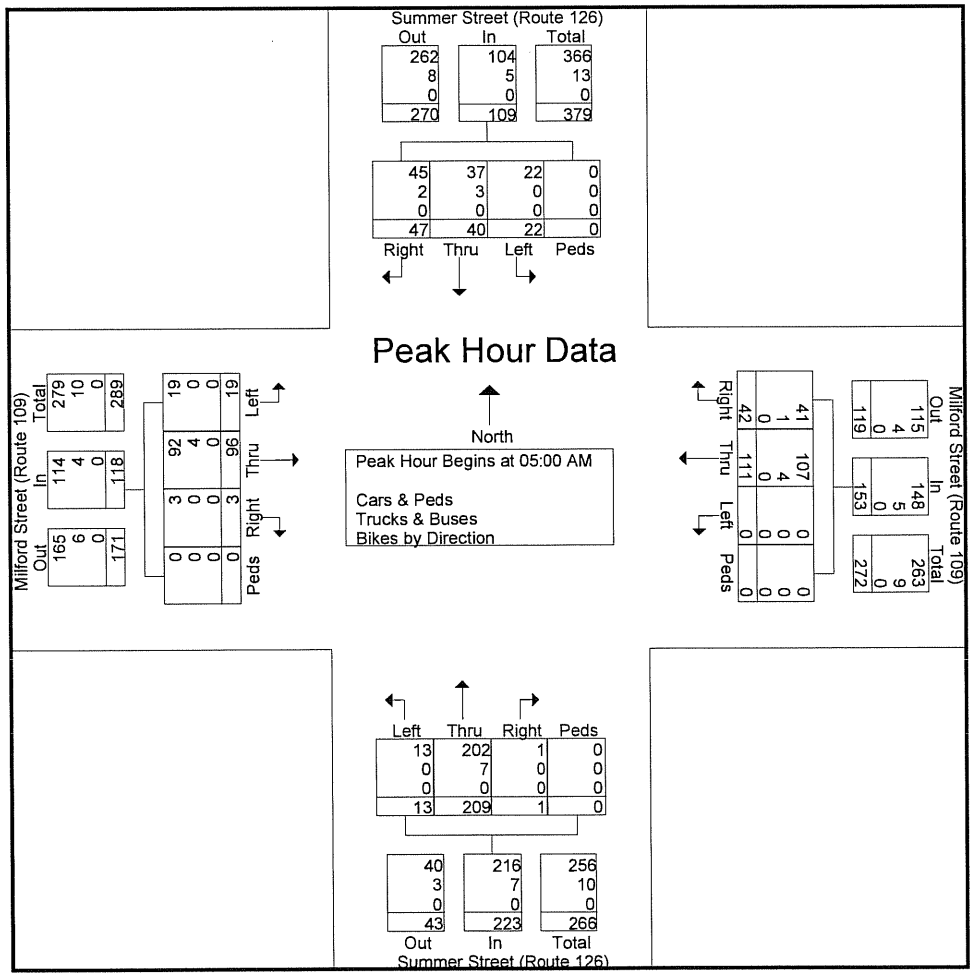


**Transportation Data Corporation**  
 Mario Perone, mperone1@verizon.net  
 tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
 E/W: Milford Street (Route 109)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616B  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 AM																					
05:00 AM	8	11	1	0	20	7	18	0	0	25	0	20	3	0	23	1	10	1	0	12	80
05:15 AM	4	5	2	0	11	8	20	0	0	28	0	36	1	0	37	0	19	3	0	22	98
05:30 AM	19	7	8	0	34	12	33	0	0	45	0	89	3	0	92	1	28	7	0	36	207
05:45 AM	16	17	11	0	44	15	40	0	0	55	1	64	6	0	71	1	39	8	0	48	218
Total Volume	47	40	22	0	109	42	111	0	0	153	1	209	13	0	223	3	96	19	0	118	603
% App. Total	43.1	36.7	20.2	0		27.5	72.5	0	0		0.4	93.7	5.8	0		2.5	81.4	16.1	0		
PHF	.618	.588	.500	.000	.619	.700	.694	.000	.000	.695	.250	.587	.542	.000	.606	.750	.615	.594	.000	.615	.692
Cars & Peds	45	37	22	0	104	41	107	0	0	148	1	202	13	0	216	3	92	19	0	114	582
% Cars & Peds	95.7	92.5	100	0	95.4	97.6	96.4	0	0	96.7	100	96.7	100	0	96.9	100	95.8	100	0	96.6	96.5
Trucks & Buses	2	3	0	0	5	1	4	0	0	5	0	7	0	0	7	0	4	0	0	4	21
% Trucks & Buses	4.3	7.5	0	0	4.6	2.4	3.6	0	0	3.3	0	3.3	0	0	3.1	0	4.2	0	0	3.4	3.5
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)

E/W: Milford Street (Route 109)

City, State: Medway, MA

Client: MDM/M. Houle

File Name : 04616B

Site Code : 790

Start Date : 9/22/2015

Page No : 1

Groups Printed- Bikes by Direction

Start Time	Summer Street (Route 126) From North				Milford Street (Route 109) From East				Summer Street (Route 126) From South				Milford Street (Route 109) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %																	

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 05:00 AM																						
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

# Transportation Data Corporation

Mario Perone, [mperone1@verizon.net](mailto:mperone1@verizon.net)  
tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
E/W: Milford Street (Route 109)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616B  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

### Groups Printed- Trucks & Buses

Start Time	Summer Street (Route 126) From North				Milford Street (Route 109) From East				Summer Street (Route 126) From South				Milford Street (Route 109) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
05:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
05:30 AM	1	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	6
05:45 AM	1	2	0	0	0	0	0	0	0	5	0	0	0	3	0	0	11
<b>Total</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>21</b>
<b>Grand Total</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>21</b>
Apprch %	40	60	0	0	20	80	0	0	0	100	0	0	0	100	0	0	
Total %	9.5	14.3	0	0	4.8	19	0	0	0	33.3	0	0	0	19	0	0	

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 AM																					
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
05:15 AM	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
05:30 AM	1	0	0	0	1	0	4	0	0	4	0	1	0	0	1	0	0	0	0	0	6
05:45 AM	1	2	0	0	3	0	0	0	0	0	0	5	0	0	5	0	3	0	0	3	11
<b>Total Volume</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>21</b>
% App. Total	40	60	0	0		20	80	0	0		0	100	0	0		0	100	0	0		
PHF	.500	.375	.000	.000	.417	.250	.250	.000	.000	.313	.000	.350	.000	.000	.350	.000	.333	.000	.000	.333	.477



# Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)

E/W: Milford Street (Route 109)

City, State: Medway, MA

Client: MDM/M. Houle

File Name : 04616B

Site Code : 790

Start Date : 9/22/2015

Page No : 1

Groups Printed- Cars & Peds

Start Time	Summer Street (Route 126) From North				Milford Street (Route 109) From East				Summer Street (Route 126) From South				Milford Street (Route 109) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
05:00 AM	8	11	1	0	7	18	0	0	0	19	3	0	1	9	1	0	78
05:15 AM	4	4	2	0	7	20	0	0	0	36	1	0	0	19	3	0	96
05:30 AM	18	7	8	0	12	29	0	0	0	88	3	0	1	28	7	0	201
05:45 AM	15	15	11	0	15	40	0	0	1	59	6	0	1	36	8	0	207
<b>Total</b>	<b>45</b>	<b>37</b>	<b>22</b>	<b>0</b>	<b>41</b>	<b>107</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>202</b>	<b>13</b>	<b>0</b>	<b>3</b>	<b>92</b>	<b>19</b>	<b>0</b>	<b>582</b>
<b>Grand Total</b>	<b>45</b>	<b>37</b>	<b>22</b>	<b>0</b>	<b>41</b>	<b>107</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>202</b>	<b>13</b>	<b>0</b>	<b>3</b>	<b>92</b>	<b>19</b>	<b>0</b>	<b>582</b>
Apprch %	43.3	35.6	21.2	0	27.7	72.3	0	0	0.5	93.5	6	0	2.6	80.7	16.7	0	
Total %	7.7	6.4	3.8	0	7	18.4	0	0	0.2	34.7	2.2	0	0.5	15.8	3.3	0	

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 AM																					
05:00 AM	8	11	1	0	20	7	18	0	0	25	0	19	3	0	22	1	9	1	0	11	78
05:15 AM	4	4	2	0	10	7	20	0	0	27	0	36	1	0	37	0	19	3	0	22	96
05:30 AM	18	7	8	0	33	12	29	0	0	41	0	88	3	0	91	1	28	7	0	36	201
05:45 AM	15	15	11	0	41	15	40	0	0	55	1	59	6	0	66	1	36	8	0	45	207
Total Volume	45	37	22	0	104	41	107	0	0	148	1	202	13	0	216	3	92	19	0	114	582
% App. Total	43.3	35.6	21.2	0		27.7	72.3	0	0		0.5	93.5	6	0		2.6	80.7	16.7	0		
PHF	.625	.617	.500	.000	.634	.683	.669	.000	.000	.673	.250	.574	.542	.000	.593	.750	.639	.594	.000	.633	.703



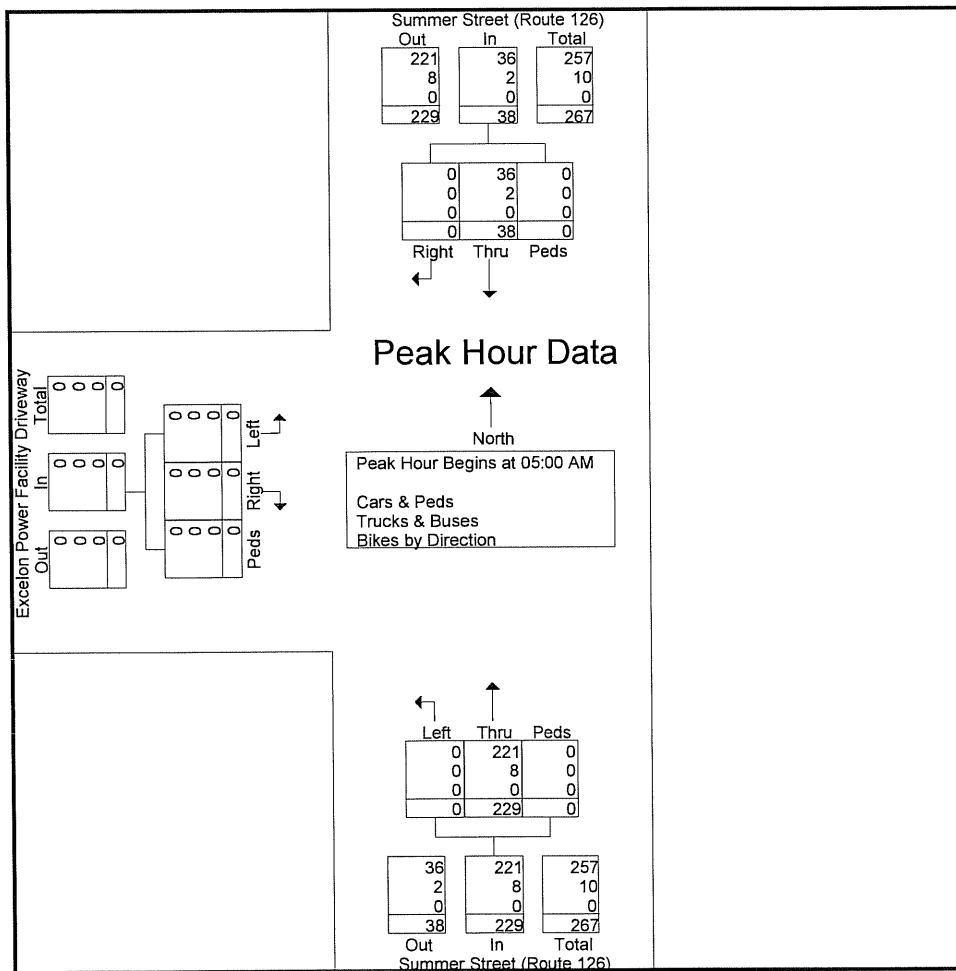
# Transportation Data Corporation

Mario Perone, [mperone1@verizon.net](mailto:mperone1@verizon.net)  
tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
W: Excelon Power Facility Driveway  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616C  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Excelon Power Facility Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 AM													
05:00 AM	0	10	0	10	25	0	0	25	0	0	0	0	35
05:15 AM	0	6	0	6	42	0	0	42	0	0	0	0	48
05:30 AM	0	7	0	7	94	0	0	94	0	0	0	0	101
05:45 AM	0	15	0	15	68	0	0	68	0	0	0	0	83
Total Volume	0	38	0	38	229	0	0	229	0	0	0	0	267
% App. Total	0	100	0		100	0	0		0	0	0		
PHF	.000	.633	.000	.633	.609	.000	.000	.609	.000	.000	.000	.000	.661
Cars & Peds	0	36	0	36	221	0	0	221	0	0	0	0	257
% Cars & Peds	0	94.7	0	94.7	96.5	0	0	96.5	0	0	0	0	96.3
Trucks & Buses	0	2	0	2	8	0	0	8	0	0	0	0	10
% Trucks & Buses	0	5.3	0	5.3	3.5	0	0	3.5	0	0	0	0	3.7
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0



**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

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City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616C  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Groups Printed- Bikes by Direction

Start Time	Summer Street (Route 126) From North			Summer Street (Route 126) From South			Excelon Power Facility Driveway From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
05:00 AM	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0
Total %										

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Excelon Power Facility Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 AM

**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
 W: Excelon Power Facility Driveway  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616C  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	Summer Street (Route 126) From North			Summer Street (Route 126) From South			Excelon Power Facility Driveway From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
05:00 AM	0	0	0	1	0	0	0	0	0	1
05:15 AM	0	0	0	1	0	0	0	0	0	1
05:30 AM	0	0	0	2	0	0	0	0	0	2
05:45 AM	0	2	0	4	0	0	0	0	0	6
Total	0	2	0	8	0	0	0	0	0	10
Grand Total	0	2	0	8	0	0	0	0	0	10
Apprch %	0	100	0	100	0	0	0	0	0	
Total %	0	20	0	80	0	0	0	0	0	

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Excelon Power Facility Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
05:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
05:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
05:30 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
05:45 AM	0	2	0	2	4	0	0	4	0	0	0	0	6
Total Volume	0	2	0	2	8	0	0	8	0	0	0	0	10
% App. Total	0	100	0		100	0	0		0	0	0		
PHF	.000	.250	.000	.250	.500	.000	.000	.500	.000	.000	.000	.000	.417

Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 AM

**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
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City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616C  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Groups Printed- Cars & Peds

Start Time	Summer Street (Route 126) From North			Summer Street (Route 126) From South			Excelon Power Facility Driveway From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
05:00 AM	0	10	0	24	0	0	0	0	0	34
05:15 AM	0	6	0	41	0	0	0	0	0	47
05:30 AM	0	7	0	92	0	0	0	0	0	99
05:45 AM	0	13	0	64	0	0	0	0	0	77
Total	0	36	0	221	0	0	0	0	0	257
Grand Total	0	36	0	221	0	0	0	0	0	257
Apprch %	0	100	0	100	0	0	0	0	0	
Total %	0	14	0	86	0	0	0	0	0	

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Excelon Power Facility Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
05:00 AM	0	10	0	10	24	0	0	24	0	0	0	0	34
05:15 AM	0	6	0	6	41	0	0	41	0	0	0	0	47
05:30 AM	0	7	0	7	92	0	0	92	0	0	0	0	99
05:45 AM	0	13	0	13	64	0	0	64	0	0	0	0	77
Total Volume	0	36	0	36	221	0	0	221	0	0	0	0	257
% App. Total	0	100	0		100	0	0		0	0	0		
PHF	.000	.692	.000	.692	.601	.000	.000	.601	.000	.000	.000	.000	.649

Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 AM

# Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
 W: Excelon Power Facility Driveway  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616C  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

Start Time	Summer Street (Route 126) From North			Summer Street (Route 126) From South			Excelon Power Facility Driveway From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
05:00 AM	0	10	0	25	0	0	0	0	0	35
05:15 AM	0	6	0	42	0	0	0	0	0	48
05:30 AM	0	7	0	94	0	0	0	0	0	101
05:45 AM	0	15	0	68	0	0	0	0	0	83
<b>Total</b>	<b>0</b>	<b>38</b>	<b>0</b>	<b>229</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>267</b>
Grand Total	0	38	0	229	0	0	0	0	0	267
Approch %	0	100	0	100	0	0	0	0	0	
Total %	0	14.2	0	85.8	0	0	0	0	0	
Cars & Peds	0	36	0	221	0	0	0	0	0	257
% Cars & Peds	0	94.7	0	96.5	0	0	0	0	0	96.3
Trucks & Buses	0	2	0	8	0	0	0	0	0	10
% Trucks & Buses	0	5.3	0	3.5	0	0	0	0	0	3.7
Bikes by Direction	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Excelon Power Facility Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
05:00 AM	0	10	0	10	25	0	0	25	0	0	0	0	35
05:15 AM	0	6	0	6	42	0	0	42	0	0	0	0	48
05:30 AM	0	7	0	7	94	0	0	94	0	0	0	0	101
05:45 AM	0	15	0	15	68	0	0	68	0	0	0	0	83
<b>Total Volume</b>	<b>0</b>	<b>38</b>	<b>0</b>	<b>38</b>	<b>229</b>	<b>0</b>	<b>0</b>	<b>229</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>267</b>
% App. Total	0	100	0		100	0	0		0	0	0		
PHF	.000	.633	.000	.633	.609	.000	.000	.609	.000	.000	.000	.000	.661
Cars & Peds	0	36	0	36	221	0	0	221	0	0	0	0	257
% Cars & Peds	0	94.7	0	94.7	96.5	0	0	96.5	0	0	0	0	96.3
Trucks & Buses	0	2	0	2	8	0	0	8	0	0	0	0	10
% Trucks & Buses	0	5.3	0	5.3	3.5	0	0	3.5	0	0	0	0	3.7
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 AM

# Transportation Data Corporation

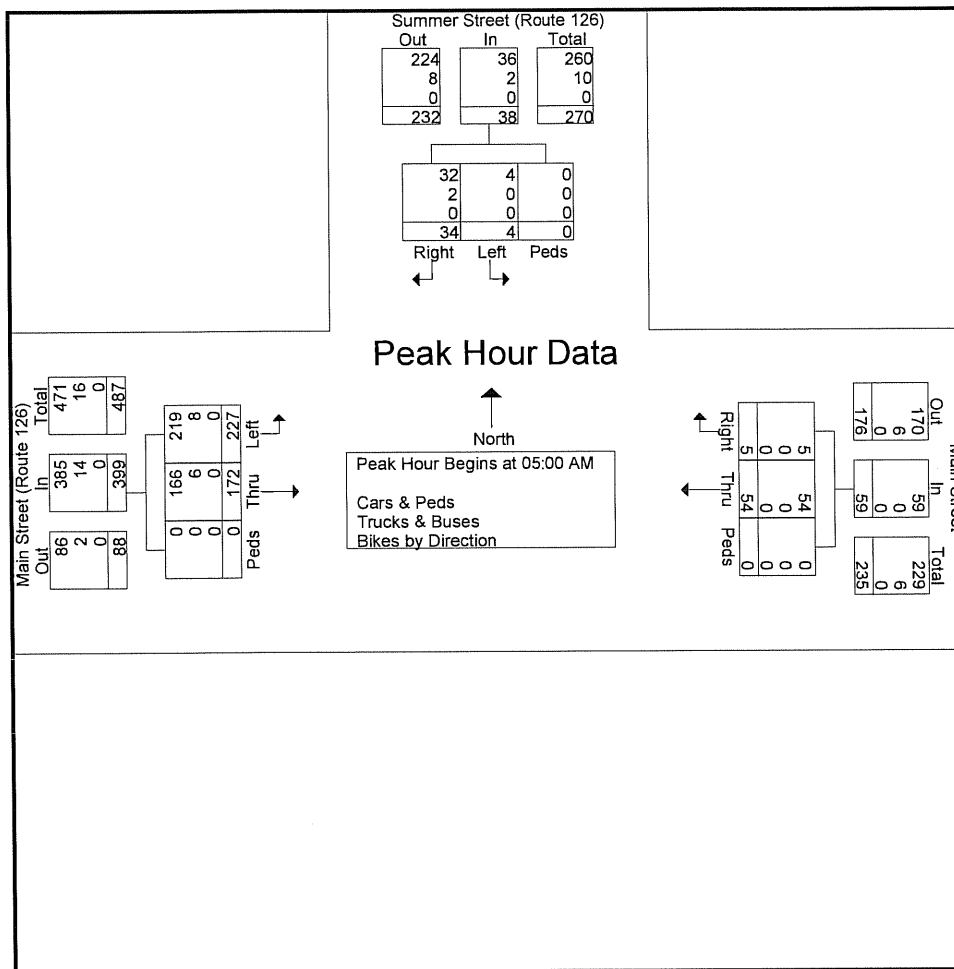
Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N: Summer Street (Route 126)  
 E/W: Main Street/(Route 126)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616D  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Start Time	Summer Street (Route 126) From North				Main Street From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 AM													
05:00 AM	10	0	0	10	2	12	0	14	22	25	0	47	71
05:15 AM	4	2	0	6	1	11	0	12	29	42	0	71	89
05:30 AM	6	1	0	7	1	14	0	15	40	93	0	133	155
05:45 AM	14	1	0	15	1	17	0	18	81	67	0	148	181
Total Volume	34	4	0	38	5	54	0	59	172	227	0	399	496
% App. Total	89.5	10.5	0		8.5	91.5	0		43.1	56.9	0		
PHF	.607	.500	.000	.633	.625	.794	.000	.819	.531	.610	.000	.674	.685
Cars & Peds	32	4	0	36	5	54	0	59	166	219	0	385	480
% Cars & Peds	94.1	100	0	94.7	100	100	0	100	96.5	96.5	0	96.5	96.8
Trucks & Buses	2	0	0	2	0	0	0	0	6	8	0	14	16
% Trucks & Buses	5.9	0	0	5.3	0	0	0	0	3.5	3.5	0	3.5	3.2
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0





**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

N: Summer Street (Route 126)  
E/W: Main Street/(Route 126)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616D  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Groups Printed- Bikes by Direction

Start Time	Summer Street (Route 126) From North			Main Street From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
05:00 AM	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0
Total %										

Start Time	Summer Street (Route 126) From North				Main Street From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 AM

**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N: Summer Street (Route 126)  
 E/W: Main Street/(Route 126)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616D  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	Summer Street (Route 126) From North			Main Street From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
05:00 AM	0	0	0	0	0	0	1	1	0	2
05:15 AM	0	0	0	0	0	0	2	1	0	3
05:30 AM	0	0	0	0	0	0	1	2	0	3
05:45 AM	2	0	0	0	0	0	2	4	0	8
Total	2	0	0	0	0	0	6	8	0	16
Grand Total	2	0	0	0	0	0	6	8	0	16
Apprch %	100	0	0	0	0	0	42.9	57.1	0	
Total %	12.5	0	0	0	0	0	37.5	50	0	

Start Time	Summer Street (Route 126) From North				Main Street From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
05:00 AM	0	0	0	0	0	0	0	0	1	1	0	2	2
05:15 AM	0	0	0	0	0	0	0	0	2	1	0	3	3
05:30 AM	0	0	0	0	0	0	0	0	1	2	0	3	3
05:45 AM	2	0	0	2	0	0	0	0	2	4	0	6	8
Total Volume	2	0	0	2	0	0	0	0	6	8	0	14	16
% App. Total	100	0	0		0	0	0		42.9	57.1	0		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.750	.500	.000	.583	.500

Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 AM

# Transportation Data Corporation

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

N: Summer Street (Route 126)  
E/W: Main Street/(Route 126)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616D  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Groups Printed- Cars & Peds

Start Time	Summer Street (Route 126) From North			Main Street From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
05:00 AM	10	0	0	2	12	0	21	24	0	69
05:15 AM	4	2	0	1	11	0	27	41	0	86
05:30 AM	6	1	0	1	14	0	39	91	0	152
05:45 AM	12	1	0	1	17	0	79	63	0	173
<b>Total</b>	<b>32</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>54</b>	<b>0</b>	<b>166</b>	<b>219</b>	<b>0</b>	<b>480</b>
<b>Grand Total</b>	<b>32</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>54</b>	<b>0</b>	<b>166</b>	<b>219</b>	<b>0</b>	<b>480</b>
<b>Apprch %</b>	<b>88.9</b>	<b>11.1</b>	<b>0</b>	<b>8.5</b>	<b>91.5</b>	<b>0</b>	<b>43.1</b>	<b>56.9</b>	<b>0</b>	
<b>Total %</b>	<b>6.7</b>	<b>0.8</b>	<b>0</b>	<b>1</b>	<b>11.2</b>	<b>0</b>	<b>34.6</b>	<b>45.6</b>	<b>0</b>	

Start Time	Summer Street (Route 126) From North				Main Street From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
05:00 AM	10	0	0	10	2	12	0	14	21	24	0	45	69
05:15 AM	4	2	0	6	1	11	0	12	27	41	0	68	86
05:30 AM	6	1	0	7	1	14	0	15	39	91	0	130	152
05:45 AM	12	1	0	13	1	17	0	18	79	63	0	142	173
<b>Total Volume</b>	<b>32</b>	<b>4</b>	<b>0</b>	<b>36</b>	<b>5</b>	<b>54</b>	<b>0</b>	<b>59</b>	<b>166</b>	<b>219</b>	<b>0</b>	<b>385</b>	<b>480</b>
<b>% App. Total</b>	<b>88.9</b>	<b>11.1</b>	<b>0</b>		<b>8.5</b>	<b>91.5</b>	<b>0</b>		<b>43.1</b>	<b>56.9</b>	<b>0</b>		
<b>PHF</b>	<b>.667</b>	<b>.500</b>	<b>.000</b>	<b>.692</b>	<b>.625</b>	<b>.794</b>	<b>.000</b>	<b>.819</b>	<b>.525</b>	<b>.602</b>	<b>.000</b>	<b>.678</b>	<b>.694</b>

Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 AM

**Transportation Data Corporation**  
 Mario Perone, mperone1@verizon.net  
 tel (781) 587-0086 cell (781) 439-4999

N: Summer Street (Route 126)  
 E/W: Main Street/(Route 126)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616D  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

Start Time	Summer Street (Route 126) From North			Main Street From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
05:00 AM	10	0	0	2	12	0	22	25	0	71
05:15 AM	4	2	0	1	11	0	29	42	0	89
05:30 AM	6	1	0	1	14	0	40	93	0	155
05:45 AM	14	1	0	1	17	0	81	67	0	181
<b>Total</b>	<b>34</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>54</b>	<b>0</b>	<b>172</b>	<b>227</b>	<b>0</b>	<b>496</b>
Grand Total	34	4	0	5	54	0	172	227	0	496
Apprch %	89.5	10.5	0	8.5	91.5	0	43.1	56.9	0	
Total %	6.9	0.8	0	1	10.9	0	34.7	45.8	0	
Cars & Peds	32	4	0	5	54	0	166	219	0	480
% Cars & Peds	94.1	100	0	100	100	0	96.5	96.5	0	96.8
Trucks & Buses	2	0	0	0	0	0	6	8	0	16
% Trucks & Buses	5.9	0	0	0	0	0	3.5	3.5	0	3.2
Bikes by Direction	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0

Start Time	Summer Street (Route 126) From North				Main Street From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
05:00 AM	10	0	0	10	2	12	0	14	22	25	0	47	71
05:15 AM	4	2	0	6	1	11	0	12	29	42	0	71	89
05:30 AM	6	1	0	7	1	14	0	15	40	93	0	133	155
05:45 AM	14	1	0	15	1	17	0	18	81	67	0	148	181
<b>Total Volume</b>	<b>34</b>	<b>4</b>	<b>0</b>	<b>38</b>	<b>5</b>	<b>54</b>	<b>0</b>	<b>59</b>	<b>172</b>	<b>227</b>	<b>0</b>	<b>399</b>	<b>496</b>
% App. Total	89.5	10.5	0		8.5	91.5	0		43.1	56.9	0		
PHF	.607	.500	.000	.633	.625	.794	.000	.819	.531	.610	.000	.674	.685
Cars & Peds	32	4	0	36	5	54	0	59	166	219	0	385	480
% Cars & Peds	94.1	100	0	94.7	100	100	0	100	96.5	96.5	0	96.5	96.8
Trucks & Buses	2	0	0	2	0	0	0	0	6	8	0	14	16
% Trucks & Buses	5.9	0	0	5.3	0	0	0	0	3.5	3.5	0	3.5	3.2
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 05:00 AM

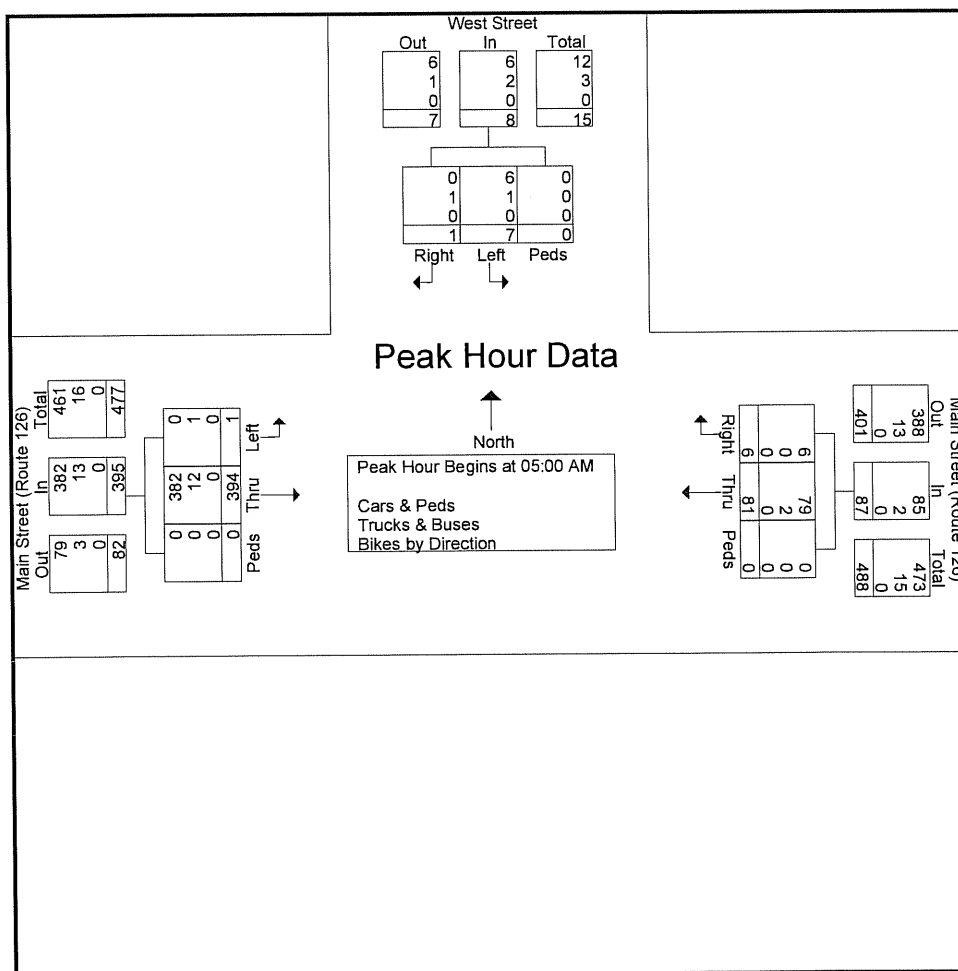
# Transportation Data Corporation

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

N: West Street  
E/W: Main Street (Route 126)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616E  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Start Time	West Street From North				Main Street (Route 126) From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 AM													
05:00 AM	0	0	0	0	1	21	0	22	47	0	0	47	69
05:15 AM	1	2	0	3	3	13	0	16	69	1	0	70	89
05:30 AM	0	0	0	0	2	16	0	18	134	0	0	134	152
05:45 AM	0	5	0	5	0	31	0	31	144	0	0	144	180
Total Volume	1	7	0	8	6	81	0	87	394	1	0	395	490
% App. Total	12.5	87.5	0		6.9	93.1	0		99.7	0.3	0		
PHF	.250	.350	.000	.400	.500	.653	.000	.702	.684	.250	.000	.686	.681
Cars & Peds	0	6	0	6	6	79	0	85	382	0	0	382	473
% Cars & Peds	0	85.7	0	75.0	100	97.5	0	97.7	97.0	0	0	96.7	96.5
Trucks & Buses	1	1	0	2	0	2	0	2	12	1	0	13	17
% Trucks & Buses	100	14.3	0	25.0	0	2.5	0	2.3	3.0	100	0	3.3	3.5
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0



**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

N: West Street  
E/W: Main Street (Route 126)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616E  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Groups Printed- Bikes by Direction

Start Time	West Street From North			Main Street (Route 126) From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
05:00 AM	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0
Total %										

Start Time	West Street From North				Main Street (Route 126) From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 AM

## Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N: West Street  
 E/W: Main Street (Route 126)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616E  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	West Street From North			Main Street (Route 126) From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
05:00 AM	0	0	0	0	0	0	2	0	0	2
05:15 AM	1	1	0	0	0	0	2	1	0	5
05:30 AM	0	0	0	0	0	0	2	0	0	2
05:45 AM	0	0	0	0	2	0	6	0	0	8
<b>Total</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>17</b>
<b>Grand Total</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>17</b>
Apprch %	50	50	0	0	100	0	92.3	7.7	0	
Total %	5.9	5.9	0	0	11.8	0	70.6	5.9	0	

Start Time	West Street From North				Main Street (Route 126) From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 AM													
05:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
05:15 AM	1	1	0	2	0	0	0	0	2	1	0	3	5
05:30 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
05:45 AM	0	0	0	0	0	2	0	2	6	0	0	6	8
<b>Total Volume</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>13</b>	<b>17</b>
% App. Total	50	50	0		0	100	0		92.3	7.7	0		
PHF	.250	.250	.000	.250	.000	.250	.000	.250	.500	.250	.000	.542	.531

**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N: West Street  
 E/W: Main Street (Route 126)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616E  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Cars & Peds

Start Time	West Street From North			Main Street (Route 126) From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
05:00 AM	0	0	0	1	21	0	45	0	0	67
05:15 AM	0	1	0	3	13	0	67	0	0	84
05:30 AM	0	0	0	2	16	0	132	0	0	150
05:45 AM	0	5	0	0	29	0	138	0	0	172
Total	0	6	0	6	79	0	382	0	0	473
Grand Total	0	6	0	6	79	0	382	0	0	473
Apprch %	0	100	0	7.1	92.9	0	100	0	0	
Total %	0	1.3	0	1.3	16.7	0	80.8	0	0	

Start Time	West Street From North				Main Street (Route 126) From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
05:00 AM	0	0	0	0	1	21	0	22	45	0	0	45	67
05:15 AM	0	1	0	1	3	13	0	16	67	0	0	67	84
05:30 AM	0	0	0	0	2	16	0	18	132	0	0	132	150
05:45 AM	0	5	0	5	0	29	0	29	138	0	0	138	172
Total Volume	0	6	0	6	6	79	0	85	382	0	0	382	473
% App. Total	0	100	0		7.1	92.9	0		100	0	0		
PHF	.000	.300	.000	.300	.500	.681	.000	.733	.692	.000	.000	.692	.688

Peak Hour Analysis From 05:00 AM to 05:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 AM





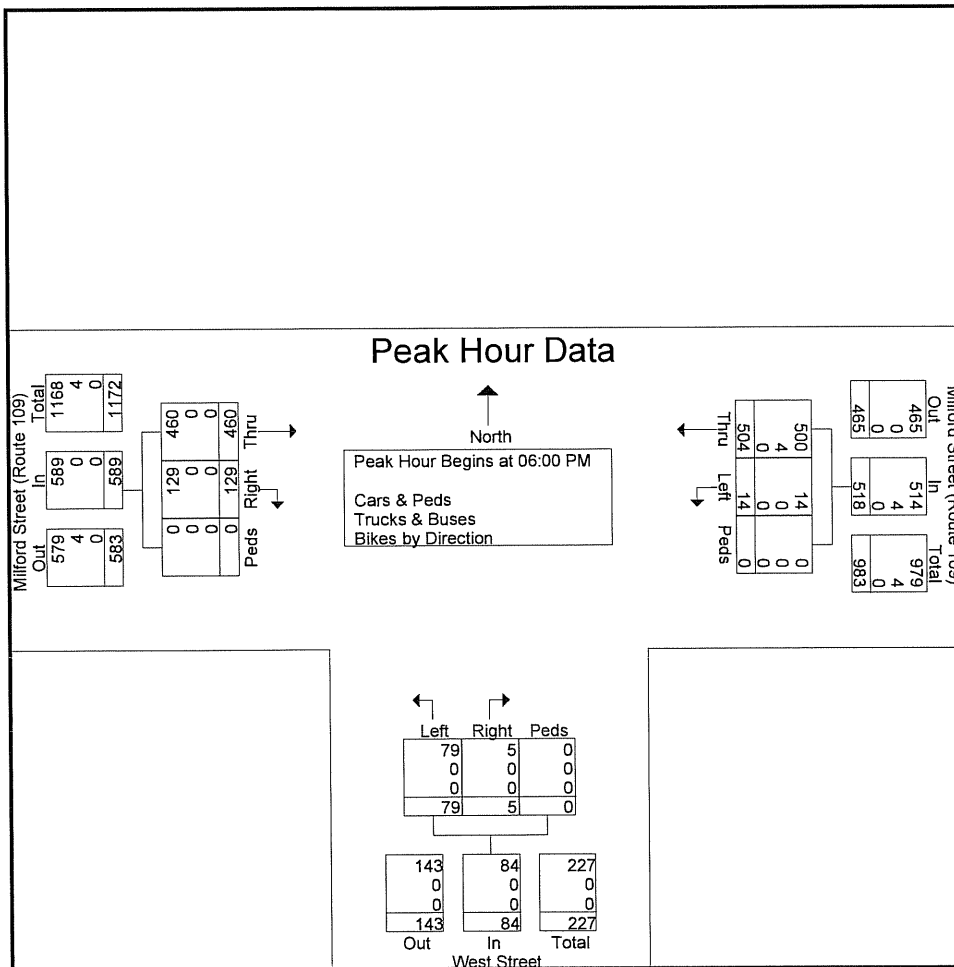
# Transportation Data Corporation

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

S: West Street  
E/W: Milford Street (Route 109)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616AA  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Start Time	Milford Street (Route 109) From East				West Street From South				Milford Street (Route 109) From West				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:00 PM													
06:00 PM	147	6	0	153	0	17	0	17	48	131	0	179	349
06:15 PM	125	4	0	129	1	15	0	16	32	114	0	146	291
06:30 PM	131	3	0	134	3	20	0	23	25	105	0	130	287
06:45 PM	101	1	0	102	1	27	0	28	24	110	0	134	264
Total Volume	504	14	0	518	5	79	0	84	129	460	0	589	1191
% App. Total	97.3	2.7	0		6	94	0		21.9	78.1	0		
PIIF	.857	.583	.000	.846	.417	.731	.000	.750	.672	.878	.000	.823	.853
Cars & Peds	500	14	0	514	5	79	0	84	129	460	0	589	1187
% Cars & Peds	99.2	100	0	99.2	100	100	0	100	100	100	0	100	99.7
Trucks & Buses	4	0	0	4	0	0	0	0	0	0	0	0	4
% Trucks & Buses	0.8	0	0	0.8	0	0	0	0	0	0	0	0	0.3
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0



**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

S: West Street  
 E/W: Milford Street (Route 109)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616AA  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Bikes by Direction

Start Time	Milford Street (Route 109) From East			West Street From South			Milford Street (Route 109) From West			Int. Total
	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0
Total %										

Start Time	Milford Street (Route 109) From East				West Street From South				Milford Street (Route 109) From West				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM

**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

S: West Street  
 E/W: Milford Street (Route 109)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616AA  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	Milford Street (Route 109) From East			West Street From South			Milford Street (Route 109) From West			Int. Total
	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	
06:00 PM	3	0	0	0	0	0	0	0	0	3
06:15 PM	1	0	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	4	0	0	0	0	0	0	0	0	4
Grand Total	4	0	0	0	0	0	0	0	0	4
Apprch %	100	0	0	0	0	0	0	0	0	
Total %	100	0	0	0	0	0	0	0	0	

Start Time	Milford Street (Route 109) From East				West Street From South			Milford Street (Route 109) From West				Int. Total	
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds		App. Total
06:00 PM	3	0	0	3	0	0	0	0	0	0	0	0	3
06:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	4	0	0	4	0	0	0	0	0	0	0	0	4
% App. Total	100	0	0		0	0	0		0	0	0		
PHF	.333	.000	.000	.333	.000	.000	.000	.000	.000	.000	.000	.000	.333

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM

## Transportation Data Corporation

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

S: West Street  
E/W: Milford Street (Route 109)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616AA  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Groups Printed- Cars & Peds

Start Time	Milford Street (Route 109) From East			West Street From South			Milford Street (Route 109) From West			Int. Total
	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	
06:00 PM	144	6	0	0	17	0	48	131	0	346
06:15 PM	124	4	0	1	15	0	32	114	0	290
06:30 PM	131	3	0	3	20	0	25	105	0	287
06:45 PM	101	1	0	1	27	0	24	110	0	264
<b>Total</b>	<b>500</b>	<b>14</b>	<b>0</b>	<b>5</b>	<b>79</b>	<b>0</b>	<b>129</b>	<b>460</b>	<b>0</b>	<b>1187</b>
<b>Grand Total</b>	<b>500</b>	<b>14</b>	<b>0</b>	<b>5</b>	<b>79</b>	<b>0</b>	<b>129</b>	<b>460</b>	<b>0</b>	<b>1187</b>
Apprch %	97.3	2.7	0	6	94	0	21.9	78.1	0	
Total %	42.1	1.2	0	0.4	6.7	0	10.9	38.8	0	

Start Time	Milford Street (Route 109) From East				West Street From South				Milford Street (Route 109) From West				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
06:00 PM	144	6	0	150	0	17	0	17	48	131	0	179	346
06:15 PM	124	4	0	128	1	15	0	16	32	114	0	146	290
06:30 PM	131	3	0	134	3	20	0	23	25	105	0	130	287
06:45 PM	101	1	0	102	1	27	0	28	24	110	0	134	264
<b>Total Volume</b>	<b>500</b>	<b>14</b>	<b>0</b>	<b>514</b>	<b>5</b>	<b>79</b>	<b>0</b>	<b>84</b>	<b>129</b>	<b>460</b>	<b>0</b>	<b>589</b>	<b>1187</b>
<b>% App. Total</b>	<b>97.3</b>	<b>2.7</b>	<b>0</b>		<b>6</b>	<b>94</b>	<b>0</b>		<b>21.9</b>	<b>78.1</b>	<b>0</b>		
PHF	.868	.583	.000	.857	.417	.731	.000	.750	.672	.878	.000	.823	.858

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM



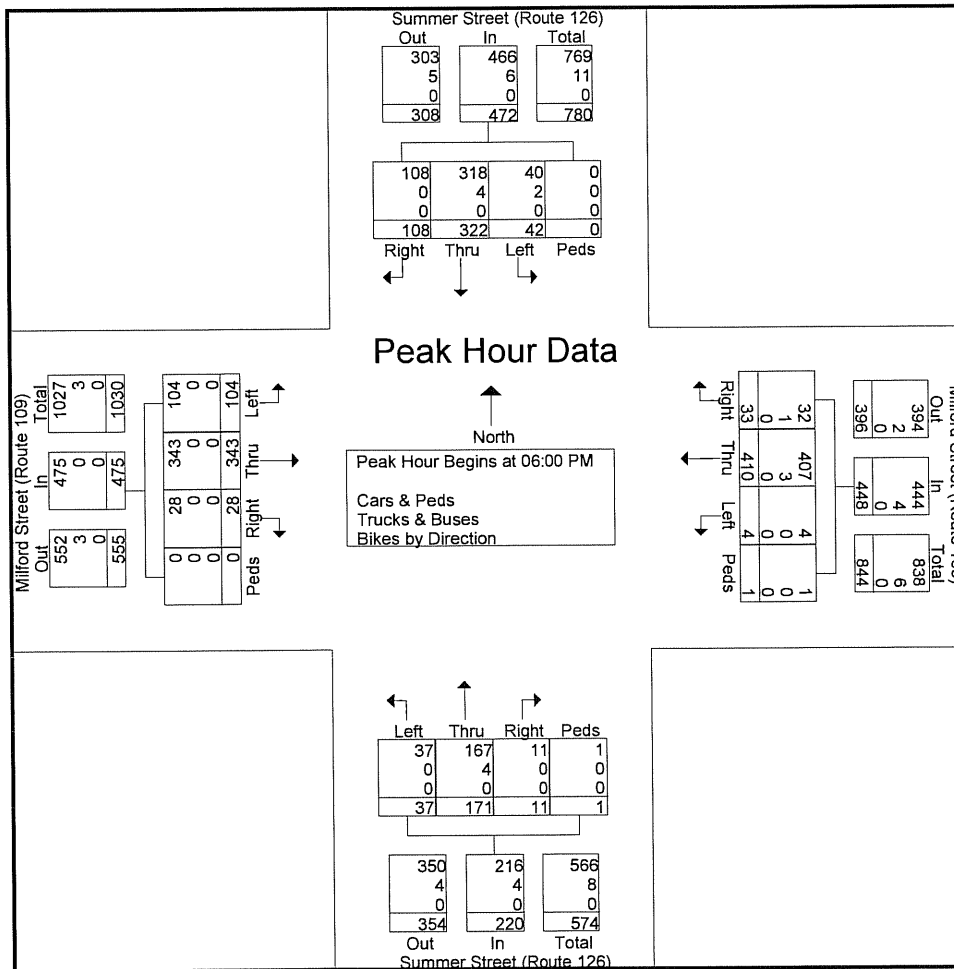
# Transportation Data Corporation

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
E/W: Milford Street (Route 109)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616BB  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 06:00 PM																						
06:00 PM	38	93	9	0	140	10	110	1	0	121	4	42	10	0	56	8	94	32	0	134	451	
06:15 PM	21	86	13	0	120	9	103	2	1	115	1	42	7	1	51	11	78	24	0	113	399	
06:30 PM	23	73	8	0	104	9	120	1	0	130	4	51	10	0	65	3	82	28	0	113	412	
06:45 PM	26	70	12	0	108	5	77	0	0	82	2	36	10	0	48	6	89	20	0	115	353	
Total Volume	108	322	42	0	472	33	410	4	1	448	11	171	37	1	220	28	343	104	0	475	1615	
% App. Total	22.9	68.2	8.9	0		7.4	91.5	0.9	0.2		5	77.7	16.8	0.5		5.9	72.2	21.9	0			
PHF	.711	.866	.808	.000	.843	.825	.854	.500	.250	.862	.688	.838	.925	.250	.846	.636	.912	.813	.000	.886	.895	
Cars & Peds	108	318	40	0	466	32	407	4	1	444	11	167	37	1	216	28	343	104	0	475	1601	
% Cars & Peds	100	98.8	95.2	0	98.7	97.0	99.3	100	100	99.1	100	97.7	100	100	98.2	100	100	100	0	100	99.1	
Trucks & Buses	0	4	2	0	6	1	3	0	0	4	0	4	0	0	4	0	0	0	0	0	0	14
% Trucks & Buses	0	1.2	4.8	0	1.3	3.0	0.7	0	0	0.9	0	2.3	0	0	1.8	0	0	0	0	0	0.9	
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



# Transportation Data Corporation

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
E/W: Milford Street (Route 109)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616BB  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Groups Printed- Bikes by Direction

Start Time	Summer Street (Route 126) From North				Milford Street (Route 109) From East				Summer Street (Route 126) From South				Milford Street (Route 109) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Grand Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %																	

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 06:00 PM																						
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Volume</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>% App. Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



# Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)

E/W: Milford Street (Route 109)

City, State: Medway, MA

Client: MDM/M. Houle

File Name : 04616BB

Site Code : 790

Start Date : 9/22/2015

Page No : 1

### Groups Printed- Trucks & Buses

Start Time	Summer Street (Route 126) From North				Milford Street (Route 109) From East				Summer Street (Route 126) From South				Milford Street (Route 109) From West				Int. Total	
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
	06:00 PM	0	2	0	0	0	3	0	0	0	1	0	0	0	0	0		0
06:15 PM	0	1	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	4
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	1	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4
<b>Total</b>	0	4	2	0	1	3	0	0	0	4	0	0	0	0	0	0	0	14
<b>Grand Total</b>	0	4	2	0	1	3	0	0	0	4	0	0	0	0	0	0	0	14
Apprch %	0	66.7	33.3	0	25	75	0	0	0	100	0	0	0	0	0	0	0	
Total %	0	28.6	14.3	0	7.1	21.4	0	0	0	28.6	0	0	0	0	0	0	0	

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
	06:00 PM	0	2	0	0	2	0	3	0	0	3	0	1	0	0	1	0	0	0	0	
06:15 PM	0	1	0	0	1	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	4
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	1	2	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
<b>Total Volume</b>	0	4	2	0	6	1	3	0	0	4	0	4	0	0	4	0	0	0	0	0	14
% App. Total	0	66.7	33.3	0		25	75	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.500	.250	.000	.500	.250	.250	.000	.000	.333	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.583

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM

**Transportation Data Corporation**  
 Mario Perone, mperone1@verizon.net  
 tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
 E/W: Milford Street (Route 109)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616BB  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Cars & Peds

Start Time	Summer Street (Route 126) From North				Milford Street (Route 109) From East				Summer Street (Route 126) From South				Milford Street (Route 109) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
06:00 PM	38	91	9	0	10	107	1	0	4	41	10	0	8	94	32	0	445
06:15 PM	21	85	13	0	8	103	2	1	1	40	7	1	11	78	24	0	395
06:30 PM	23	73	8	0	9	120	1	0	4	51	10	0	3	82	28	0	412
06:45 PM	26	69	10	0	5	77	0	0	2	35	10	0	6	89	20	0	349
<b>Total</b>	<b>108</b>	<b>318</b>	<b>40</b>	<b>0</b>	<b>32</b>	<b>407</b>	<b>4</b>	<b>1</b>	<b>11</b>	<b>167</b>	<b>37</b>	<b>1</b>	<b>28</b>	<b>343</b>	<b>104</b>	<b>0</b>	<b>1601</b>
<b>Grand Total</b>	<b>108</b>	<b>318</b>	<b>40</b>	<b>0</b>	<b>32</b>	<b>407</b>	<b>4</b>	<b>1</b>	<b>11</b>	<b>167</b>	<b>37</b>	<b>1</b>	<b>28</b>	<b>343</b>	<b>104</b>	<b>0</b>	<b>1601</b>
Apprch %	23.2	68.2	8.6	0	7.2	91.7	0.9	0.2	5.1	77.3	17.1	0.5	5.9	72.2	21.9	0	
Total %	6.7	19.9	2.5	0	2	25.4	0.2	0.1	0.7	10.4	2.3	0.1	1.7	21.4	6.5	0	

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 PM																					
06:00 PM	38	91	9	0	138	10	107	1	0	118	4	41	10	0	55	8	94	32	0	134	445
06:15 PM	21	85	13	0	119	8	103	2	1	114	1	40	7	1	49	11	78	24	0	113	395
06:30 PM	23	73	8	0	104	9	120	1	0	130	4	51	10	0	65	3	82	28	0	113	412
06:45 PM	26	69	10	0	105	5	77	0	0	82	2	35	10	0	47	6	89	20	0	115	349
Total Volume	108	318	40	0	466	32	407	4	1	444	11	167	37	1	216	28	343	104	0	475	1601
% App. Total	23.2	68.2	8.6	0		7.2	91.7	0.9	0.2		5.1	77.3	17.1	0.5		5.9	72.2	21.9	0		
PHF	.711	.874	.769	.000	.844	.800	.848	.500	.250	.854	.688	.819	.925	.250	.831	.636	.912	.813	.000	.886	.899

# Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)

E/W: Milford Street (Route 109)

City, State: Medway, MA

Client: MDM/M. Houle

File Name : 04616BB

Site Code : 790

Start Date : 9/22/2015

Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

Start Time	Summer Street (Route 126) From North				Milford Street (Route 109) From East				Summer Street (Route 126) From South				Milford Street (Route 109) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
	06:00 PM	38	93	9	0	10	110	1	0	4	42	10	0	8	94	32	
06:15 PM	21	86	13	0	9	103	2	1	1	42	7	1	11	78	24	0	399
06:30 PM	23	73	8	0	9	120	1	0	4	51	10	0	3	82	28	0	412
06:45 PM	26	70	12	0	5	77	0	0	2	36	10	0	6	89	20	0	353
<b>Total</b>	<b>108</b>	<b>322</b>	<b>42</b>	<b>0</b>	<b>33</b>	<b>410</b>	<b>4</b>	<b>1</b>	<b>11</b>	<b>171</b>	<b>37</b>	<b>1</b>	<b>28</b>	<b>343</b>	<b>104</b>	<b>0</b>	<b>1615</b>
<b>Grand Total</b>	<b>108</b>	<b>322</b>	<b>42</b>	<b>0</b>	<b>33</b>	<b>410</b>	<b>4</b>	<b>1</b>	<b>11</b>	<b>171</b>	<b>37</b>	<b>1</b>	<b>28</b>	<b>343</b>	<b>104</b>	<b>0</b>	<b>1615</b>
Apprch %	22.9	68.2	8.9	0	7.4	91.5	0.9	0.2	5	77.7	16.8	0.5	5.9	72.2	21.9	0	
Total %	6.7	19.9	2.6	0	2	25.4	0.2	0.1	0.7	10.6	2.3	0.1	1.7	21.2	6.4	0	
Cars & Peds	108	318	40	0	32	407	4	1	11	167	37	1	28	343	104	0	1601
% Cars & Peds	100	98.8	95.2	0	97	99.3	100	100	100	97.7	100	100	100	100	100	0	99.1
Trucks & Buses	0	4	2	0	1	3	0	0	0	4	0	0	0	0	0	0	14
% Trucks & Buses	0	1.2	4.8	0	3	0.7	0	0	0	2.3	0	0	0	0	0	0	0.9
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Summer Street (Route 126) From North					Milford Street (Route 109) From East					Summer Street (Route 126) From South					Milford Street (Route 109) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
	06:00 PM	38	93	9	0	140	10	110	1	0	121	4	42	10	0	56	8	94	32	0	
06:15 PM	21	86	13	0	120	9	103	2	1	115	1	42	7	1	51	11	78	24	0	113	399
06:30 PM	23	73	8	0	104	9	120	1	0	130	4	51	10	0	65	3	82	28	0	113	412
06:45 PM	26	70	12	0	108	5	77	0	0	82	2	36	10	0	48	6	89	20	0	115	353
<b>Total Volume</b>	<b>108</b>	<b>322</b>	<b>42</b>	<b>0</b>	<b>472</b>	<b>33</b>	<b>410</b>	<b>4</b>	<b>1</b>	<b>448</b>	<b>11</b>	<b>171</b>	<b>37</b>	<b>1</b>	<b>220</b>	<b>28</b>	<b>343</b>	<b>104</b>	<b>0</b>	<b>475</b>	<b>1615</b>
% App. Total	22.9	68.2	8.9	0		7.4	91.5	0.9	0.2		5	77.7	16.8	0.5		5.9	72.2	21.9	0		
PHF	.711	.866	.808	.000	.843	.825	.854	.500	.250	.862	.688	.838	.925	.250	.846	.636	.912	.813	.000	.886	.895
Cars & Peds	108	318	40	0	466	32	407	4	1	444	11	167	37	1	216	28	343	104	0	475	1601
% Cars & Peds	100	98.8	95.2	0	98.7	97.0	99.3	100	100	99.1	100	97.7	100	100	98.2	100	100	100	0	100	99.1
Trucks & Buses	0	4	2	0	6	1	3	0	0	4	0	4	0	0	4	0	0	0	0	0	14
% Trucks & Buses	0	1.2	4.8	0	1.3	3.0	0.7	0	0	0.9	0	2.3	0	0	1.8	0	0	0	0	0	0.9
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

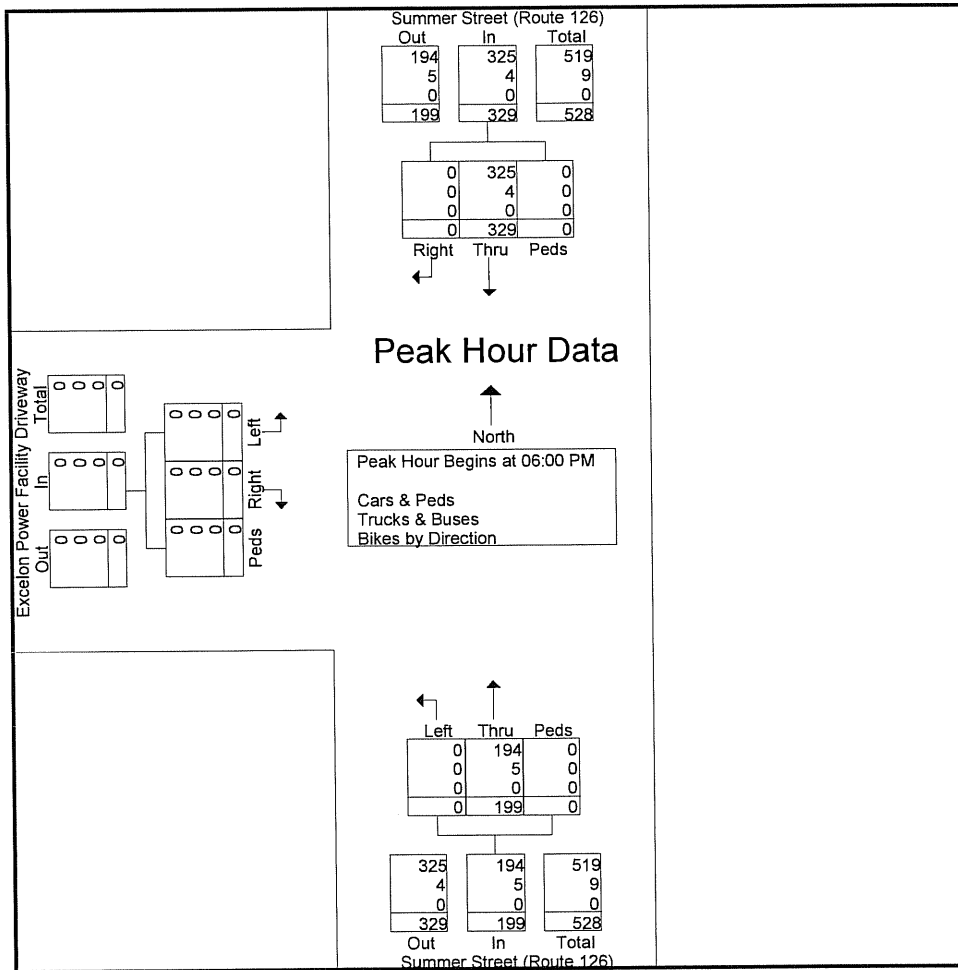
Peak Hour for Entire Intersection Begins at 06:00 PM

**Transportation Data Corporation**  
 Mario Perone, mperone1@verizon.net  
 tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
 W: Excelon Power Facility Driveway  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616CC  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Excelon Power Facility Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:00 PM													
06:00 PM	0	87	0	87	47	0	0	47	0	0	0	0	134
06:15 PM	0	88	0	88	46	0	0	46	0	0	0	0	134
06:30 PM	0	80	0	80	59	0	0	59	0	0	0	0	139
06:45 PM	0	74	0	74	47	0	0	47	0	0	0	0	121
Total Volume	0	329	0	329	199	0	0	199	0	0	0	0	528
% App. Total	0	100	0		100	0	0		0	0	0		
PHF	.000	.935	.000	.935	.843	.000	.000	.843	.000	.000	.000	.000	.950
Cars & Peds	0	325	0	325	194	0	0	194	0	0	0	0	519
% Cars & Peds	0	98.8	0	98.8	97.5	0	0	97.5	0	0	0	0	98.3
Trucks & Buses	0	4	0	4	5	0	0	5	0	0	0	0	9
% Trucks & Buses	0	1.2	0	1.2	2.5	0	0	2.5	0	0	0	0	1.7
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0





**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
 W: Excelon Power Facility Driveway  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616CC  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	Summer Street (Route 126) From North			Summer Street (Route 126) From South			Excelon Power Facility Driveway From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
06:00 PM	0	2	0	1	0	0	0	0	0	3
06:15 PM	0	1	0	3	0	0	0	0	0	4
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	1	0	1	0	0	0	0	0	2
Total	0	4	0	5	0	0	0	0	0	9
Grand Total	0	4	0	5	0	0	0	0	0	9
Apprch %	0	100	0	100	0	0	0	0	0	
Total %	0	44.4	0	55.6	0	0	0	0	0	

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Excelon Power Facility Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
06:00 PM	0	2	0	2	1	0	0	1	0	0	0	0	3
06:15 PM	0	1	0	1	3	0	0	3	0	0	0	0	4
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total Volume	0	4	0	4	5	0	0	5	0	0	0	0	9
% App. Total	0	100	0		100	0	0		0	0	0		
PHF	.000	.500	.000	.500	.417	.000	.000	.417	.000	.000	.000	.000	.563

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM

## Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: Summer Street (Route 126)  
 W: Excelon Power Facility Driveway  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616CC  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Cars & Peds

Start Time	Summer Street (Route 126) From North			Summer Street (Route 126) From South			Excelon Power Facility Driveway From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
06:00 PM	0	85	0	46	0	0	0	0	0	131
06:15 PM	0	87	0	43	0	0	0	0	0	130
06:30 PM	0	80	0	59	0	0	0	0	0	139
06:45 PM	0	73	0	46	0	0	0	0	0	119
<b>Total</b>	<b>0</b>	<b>325</b>	<b>0</b>	<b>194</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>519</b>
<b>Grand Total</b>	<b>0</b>	<b>325</b>	<b>0</b>	<b>194</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>519</b>
Apprch %	0	100	0	100	0	0	0	0	0	
Total %	0	62.6	0	37.4	0	0	0	0	0	

Start Time	Summer Street (Route 126) From North				Summer Street (Route 126) From South				Excelon Power Facility Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
06:00 PM	0	85	0	85	46	0	0	46	0	0	0	0	131
06:15 PM	0	87	0	87	43	0	0	43	0	0	0	0	130
06:30 PM	0	80	0	80	59	0	0	59	0	0	0	0	139
06:45 PM	0	73	0	73	46	0	0	46	0	0	0	0	119
<b>Total Volume</b>	<b>0</b>	<b>325</b>	<b>0</b>	<b>325</b>	<b>194</b>	<b>0</b>	<b>0</b>	<b>194</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>519</b>
<b>% App. Total</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>100</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100</b>
PHF	.000	.934	.000	.934	.822	.000	.000	.822	.000	.000	.000	.000	.933

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM





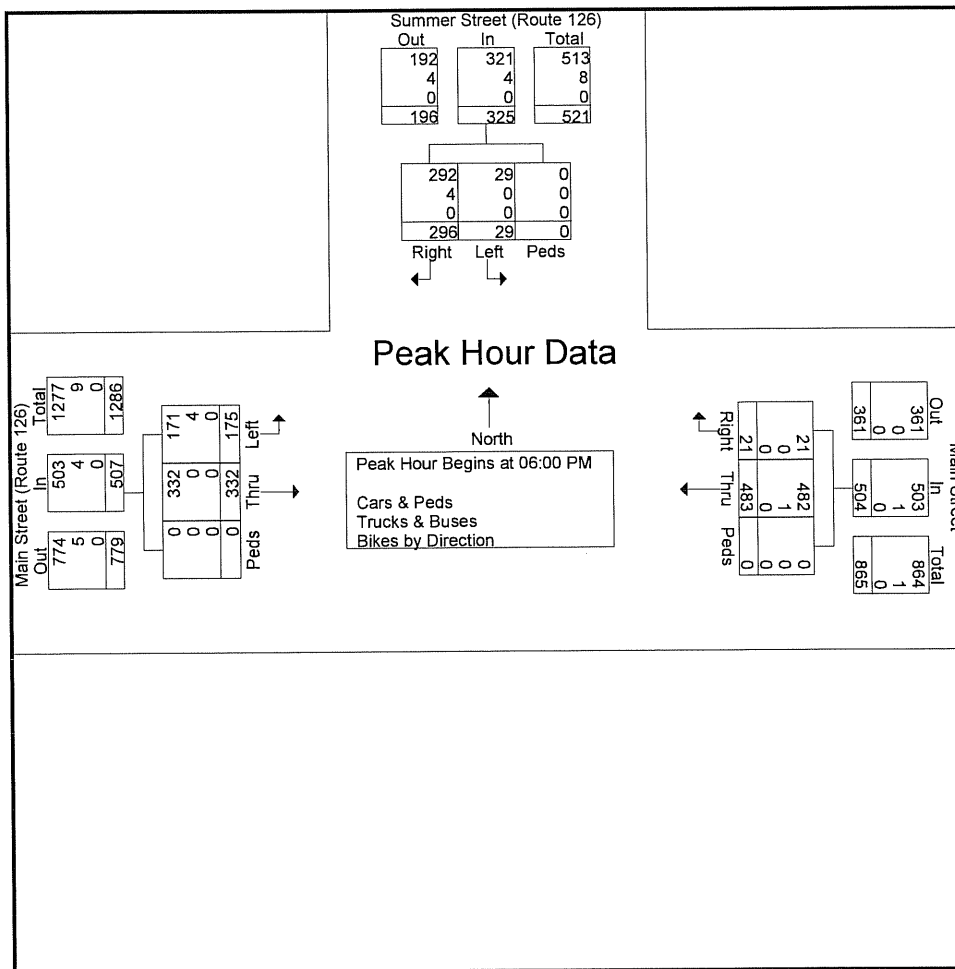
# Transportation Data Corporation

Mario Perone, [mperone1@verizon.net](mailto:mperone1@verizon.net)  
tel (781) 587-0086 cell (781) 439-4999

N: Summer Street (Route 126)  
E/W: Main Street/(Route 126)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616DD  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Start Time	Summer Street (Route 126) From North				Main Street From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:00 PM													
06:00 PM	75	10	0	85	3	133	0	136	86	44	0	130	351
06:15 PM	82	6	0	88	7	136	0	143	68	40	0	108	339
06:30 PM	70	7	0	77	6	114	0	120	91	49	0	140	337
06:45 PM	69	6	0	75	5	100	0	105	87	42	0	129	309
Total Volume	296	29	0	325	21	483	0	504	332	175	0	507	1336
% App. Total	91.1	8.9	0		4.2	95.8	0		65.5	34.5	0		
PHF	.902	.725	.000	.923	.750	.888	.000	.881	.912	.893	.000	.905	.952
Cars & Peds	292	29	0	321	21	482	0	503	332	171	0	503	1327
% Cars & Peds	98.6	100	0	98.8	100	99.8	0	99.8	100	97.7	0	99.2	99.3
Trucks & Buses	4	0	0	4	0	1	0	1	0	4	0	4	9
% Trucks & Buses	1.4	0	0	1.2	0	0.2	0	0.2	0	2.3	0	0.8	0.7
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0





# Transportation Data Corporation

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

N: Summer Street (Route 126)  
E/W: Main Street/(Route 126)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616DD  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Groups Printed- Trucks & Buses

Start Time	Summer Street (Route 126) From North			Main Street From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
06:00 PM	2	0	0	0	0	0	0	1	0	3
06:15 PM	1	0	0	0	0	0	0	2	0	3
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	1	0	0	0	1	0	0	1	0	3
<b>Total</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>9</b>
<b>Grand Total</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>9</b>
Apprch %	100	0	0	0	100	0	0	100	0	
Total %	44.4	0	0	0	11.1	0	0	44.4	0	

Start Time	Summer Street (Route 126) From North				Main Street From East			Main Street (Route 126) From West				Int. Total	
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds		App. Total
06:00 PM	2	0	0	2	0	0	0	0	0	1	0	1	3
06:15 PM	1	0	0	1	0	0	0	0	0	2	0	2	3
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	1	0	0	1	0	1	0	1	0	1	0	1	3
<b>Total Volume</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>9</b>
% App. Total	100	0	0		0	100	0		0	100	0		
PHF	.500	.000	.000	.500	.000	.250	.000	.250	.000	.500	.000	.500	.750

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM

# Transportation Data Corporation

Mario Perone, mperone1@verizon.net  
tel (781) 587-0086 cell (781) 439-4999

N: Summer Street (Route 126)  
E/W: Main Street/(Route 126)  
City, State: Medway, MA  
Client: MDM/M. Houle

File Name : 04616DD  
Site Code : 790  
Start Date : 9/22/2015  
Page No : 1

Groups Printed- Cars & Peds

Start Time	Summer Street (Route 126) From North			Main Street From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
06:00 PM	73	10	0	3	133	0	86	43	0	348
06:15 PM	81	6	0	7	136	0	68	38	0	336
06:30 PM	70	7	0	6	114	0	91	49	0	337
06:45 PM	68	6	0	5	99	0	87	41	0	306
<b>Total</b>	<b>292</b>	<b>29</b>	<b>0</b>	<b>21</b>	<b>482</b>	<b>0</b>	<b>332</b>	<b>171</b>	<b>0</b>	<b>1327</b>
<b>Grand Total</b>	<b>292</b>	<b>29</b>	<b>0</b>	<b>21</b>	<b>482</b>	<b>0</b>	<b>332</b>	<b>171</b>	<b>0</b>	<b>1327</b>
Apprch %	91	9	0	4.2	95.8	0	66	34	0	
Total %	22	2.2	0	1.6	36.3	0	25	12.9	0	

Start Time	Summer Street (Route 126) From North				Main Street From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
06:00 PM	73	10	0	83	3	133	0	136	86	43	0	129	348
06:15 PM	81	6	0	87	7	136	0	143	68	38	0	106	336
06:30 PM	70	7	0	77	6	114	0	120	91	49	0	140	337
06:45 PM	68	6	0	74	5	99	0	104	87	41	0	128	306
<b>Total Volume</b>	<b>292</b>	<b>29</b>	<b>0</b>	<b>321</b>	<b>21</b>	<b>482</b>	<b>0</b>	<b>503</b>	<b>332</b>	<b>171</b>	<b>0</b>	<b>503</b>	<b>1327</b>
% App. Total	91	9	0		4.2	95.8	0		66	34	0		
PHF	.901	.725	.000	.922	.750	.886	.000	.879	.912	.872	.000	.898	.953

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM



# Transportation Data Corporation

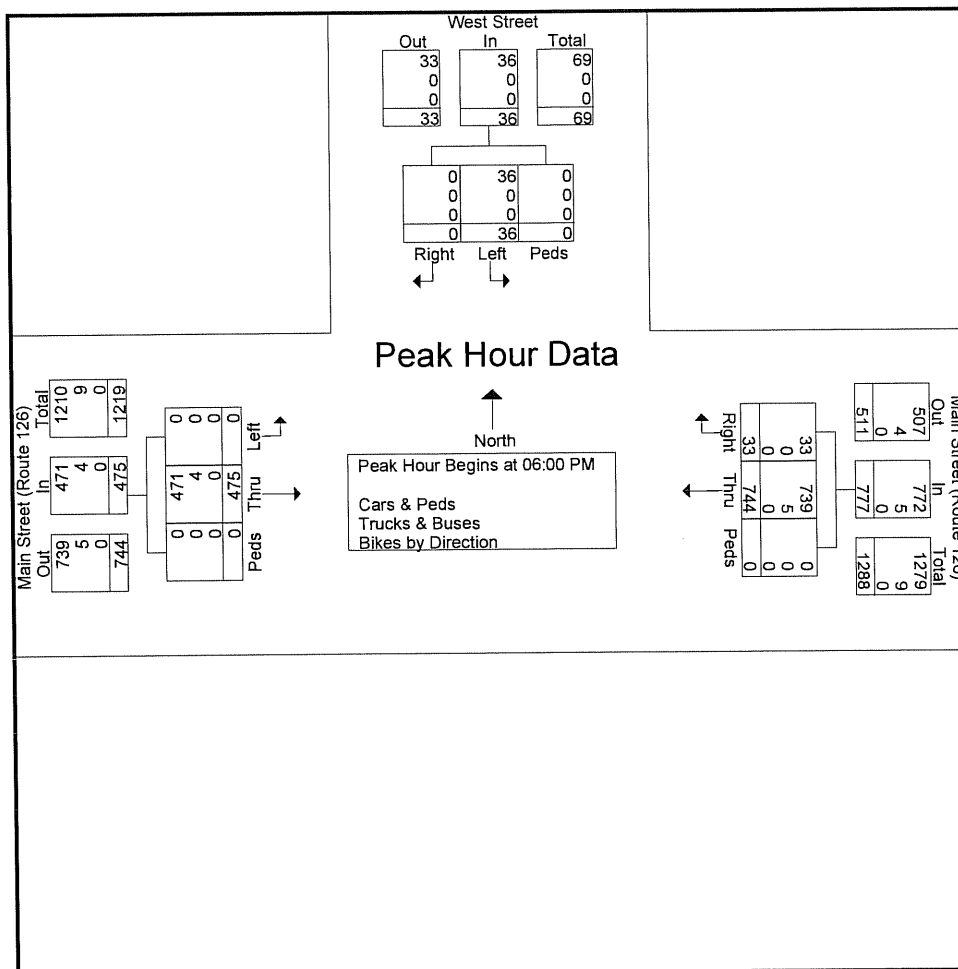
Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N: West Street  
 E/W: Main Street (Route 126)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616EE  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Start Time	West Street From North				Main Street (Route 126) From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:00 PM													
06:00 PM	0	13	0	13	9	197	0	206	118	0	0	118	337
06:15 PM	0	6	0	6	5	213	0	218	104	0	0	104	328
06:30 PM	0	11	0	11	11	169	0	180	128	0	0	128	319
06:45 PM	0	6	0	6	8	165	0	173	125	0	0	125	304
Total Volume	0	36	0	36	33	744	0	777	475	0	0	475	1288
% App. Total	0	100	0	100	4.2	95.8	0	99.4	100	0	0	99.2	99.3
PHF	.000	.692	.000	.692	.750	.873	.000	.891	.928	.000	.000	.928	.955
Cars & Peds	0	36	0	36	33	739	0	772	471	0	0	471	1279
% Cars & Peds	0	100	0	100	100	99.3	0	99.4	99.2	0	0	99.2	99.3
Trucks & Buses	0	0	0	0	0	5	0	5	4	0	0	4	9
% Trucks & Buses	0	0	0	0	0	0.7	0	0.6	0.8	0	0	0.8	0.7
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0



**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N: West Street  
 E/W: Main Street (Route 126)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616EE  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Bikes by Direction

Start Time	West Street From North			Main Street (Route 126) From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0
Total %										

Start Time	West Street From North				Main Street (Route 126) From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM

**Transportation Data Corporation**

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N: West Street  
 E/W: Main Street (Route 126)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616EE  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	West Street From North			Main Street (Route 126) From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
06:00 PM	0	0	0	0	2	0	1	0	0	3
06:15 PM	0	0	0	0	1	0	2	0	0	3
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	2	0	1	0	0	3
Total	0	0	0	0	5	0	4	0	0	9
Grand Total	0	0	0	0	5	0	4	0	0	9
Apprch %	0	0	0	0	100	0	100	0	0	
Total %	0	0	0	0	55.6	0	44.4	0	0	

Start Time	West Street From North				Main Street (Route 126) From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
06:00 PM	0	0	0	0	0	2	0	2	1	0	0	1	3
06:15 PM	0	0	0	0	0	1	0	1	2	0	0	2	3
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	2	0	2	1	0	0	1	3
Total Volume	0	0	0	0	0	5	0	5	4	0	0	4	9
% App. Total	0	0	0	0	0	100	0	100	100	0	0	100	
PHF	.000	.000	.000	.000	.000	.625	.000	.625	.500	.000	.000	.500	.750

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM



# Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N: West Street  
 E/W: Main Street (Route 126)  
 City, State: Medway, MA  
 Client: MDM/M. Houle

File Name : 04616EE  
 Site Code : 790  
 Start Date : 9/22/2015  
 Page No : 1

Groups Printed- Cars & Peds

Start Time	West Street From North			Main Street (Route 126) From East			Main Street (Route 126) From West			Int. Total
	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	
06:00 PM	0	13	0	9	195	0	117	0	0	334
06:15 PM	0	6	0	5	212	0	102	0	0	325
06:30 PM	0	11	0	11	169	0	128	0	0	319
06:45 PM	0	6	0	8	163	0	124	0	0	301
<b>Total</b>	0	36	0	33	739	0	471	0	0	1279
<b>Grand Total</b>	0	36	0	33	739	0	471	0	0	1279
<b>Apprch %</b>	0	100	0	4.3	95.7	0	100	0	0	
<b>Total %</b>	0	2.8	0	2.6	57.8	0	36.8	0	0	

Start Time	West Street From North				Main Street (Route 126) From East				Main Street (Route 126) From West				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
06:00 PM	0	13	0	13	9	195	0	204	117	0	0	117	334
06:15 PM	0	6	0	6	5	212	0	217	102	0	0	102	325
06:30 PM	0	11	0	11	11	169	0	180	128	0	0	128	319
06:45 PM	0	6	0	6	8	163	0	171	124	0	0	124	301
<b>Total Volume</b>	0	36	0	36	33	739	0	772	471	0	0	471	1279
<b>% App. Total</b>	0	100	0		4.3	95.7	0		100	0	0		
<b>PHF</b>	.000	.692	.000	.692	.750	.871	.000	.889	.920	.000	.000	.920	.957

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM



□ Seasonal and Background Growth



SECTION I - CONTINUOUS COUNTING STATION MONTHLY AVERAGE DAILY TRAFFIC

September  
Adjustment  
to Year

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
07	47,505	47,283	49,268	49,136	50,000	52,000	53,000	52,322	49,031	50,571	49,662	47,007	49,732	
	-4%	-2%	-3%	1%	1%	-4%	-8%	-7%	-1%	-3%	-4%	-1%	-3%	
08	45,614	46,112	47,829	49,816	50,518	49,936	48,629	48,759	48,531	49,009	47,490	46,696	48,245	
	-3%	1%	-3%	-2%	0%	0%	-2%	-3%	-2%	-1%	0%	2%	-1%	
09	44,103	46,434	46,455	49,049	49,474	49,934	47,638	47,056	47,762	48,663	47,379	47,564	47,626	
	-1%	0%	2%	0%	0%	1%	-1%	1%	1%	1%	2%	2%	1%	
11	43,244	46,150	48,016	48,943	49,787	50,525	46,812	48,234	48,825	49,198	49,151	49,888	48,231	
	7%	2%	1%	-1%	1%	-1%	3%	4%	0%	2%	2%	-5%	1%	
12	46,381	46,883	48,608	48,662	50,126	49,961	48,380	49,941	48,882	50,056	50,015	47,600	48,791	
	0%	-1%	-2%	1%	1%	-9%	3%	-1%	2%	0%	-1%	2%	0%	
13	46,393	46,220	47,421	49,359	50,657	45,623	49,797	49,223	49,935	50,021	49,651	48,441	48,562	
													-0.65%	
														1.00
														Average

STATION 3180 - MILFORD - RTE.I-495 - AT MEDWAY T.L.

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
05	67,586	71,945	74,150	79,123	84,600	90,062	88,165	91,494	83,189	79,428	78,746	75,126	80,301	
	7%	-1%	3%	-1%	-5%	-5%	-4%	-2%	1%	1%	1%	2%	0%	
06	72,492	71,145	76,347	78,305	80,480	85,728	84,957	89,595	83,740	80,518	79,468	76,386	79,930	
	-2%	-1%	-4%	-2%	6%	3%	4%	2%	-1%	2%	-2%	-5%	0%	
07	70,749	70,432	73,596	76,751	85,024	88,000	88,401	91,080	83,309	82,221	77,941	72,362	79,989	
	-2%	-3%	3%	-1%	-7%	-8%	-4%	-5%	-5%	-3%	-5%	-2%	-4%	
08	69,200	68,456	76,000	75,934	79,352	81,166	84,701	86,189	78,778	79,645	73,861	70,747	77,002	
	-5%	1%	-8%	1%	-1%	-1%	-1%	1%	6%	0%	2%	3%	0%	
09	65,444	69,136	69,739	76,913	78,876	80,700	84,000	86,829	83,273	79,419	75,486	73,169	76,915	
	3%	-1%	5%	1%	-1%	7%	4%	4%	0%	4%	3%	3%	3%	
10	67,428	68,595	73,544	77,906	77,940	86,167	87,728	90,295	83,483	82,244	77,516	75,273	79,010	
	-3%	2%	1%	-1%	3%	1%	-1%	-4%	1%	-2%	2%	2%	0%	
11	65,217	69,804	73,992	77,115	80,458	87,344	86,859	87,108	84,288	80,223	78,698	76,729	78,986	
	8%	2%	1%	1%	2%	0%	-1%	4%	-1%	3%	1%	-2%	1%	
12	70,333	71,280	74,372	78,117	81,707	87,015	85,909	90,589	83,100	82,647	79,543	74,989	79,967	
													-0.04%	
														0.96
														Average

Average Adjustment Factors 0.98  
Average Yearly Growth Calculated -0.35%  
Yearly Growth Factor Used 0.5%



□ Speed Data











**MDM Transportation Consultants, Inc.**

28 Lord Road, Suite 280  
Marlborough, MA 01752

West Street  
West of Driveway  
Medway, Ma

Site Code: 790

WEST STREET WEST OF DRIVEWAY\_SPEED

Westbound		15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
Start Time		20	20	25	30	35	40	45	50	55	60	65	70	75	999	
09/20/15	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
06:00	0	2	2	2	2	0	1	0	0	0	0	0	0	0	0	7
07:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
08:00	0	0	0	0	1	3	1	0	0	0	0	0	0	0	0	5
09:00	0	0	0	0	4	8	1	0	0	0	0	0	0	0	0	13
10:00	0	0	2	2	4	12	3	1	0	0	0	0	0	0	0	22
11:00	0	0	2	2	4	8	3	0	0	0	0	0	0	0	0	17
12 PM	0	0	0	0	7	8	3	0	0	0	0	0	0	0	0	18
13:00	0	0	0	0	3	6	2	0	0	0	0	0	0	0	0	11
14:00	0	0	1	1	1	10	1	0	0	0	0	0	0	0	0	13
15:00	0	0	0	0	2	7	5	0	0	0	0	0	0	0	0	14
16:00	0	1	0	0	4	11	4	0	0	0	0	0	0	0	0	20
17:00	0	0	4	4	10	12	2	0	0	0	0	0	0	0	0	28
18:00	0	1	2	2	5	13	3	0	0	0	0	0	0	0	0	24
19:00	0	0	0	0	7	8	0	0	0	0	0	0	0	0	0	15
20:00	0	0	0	0	2	7	3	0	0	0	0	0	0	0	0	12
21:00	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
22:00	0	0	0	0	3	2	1	0	0	0	0	0	0	0	0	6
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	13	59	125	34	1	1	1	0	0	0	0	0	0	237



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West Street  
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Medway, Ma

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WEST STREET WEST OF DRIVEWAY\_SPEED

Westbound	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
09/22/15	0	0	0	1	1	2	0	0	0	0	0	0	0	0	4
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	2	1	1	3	1	0	0	0	0	0	0	0	8
06:00	0	0	1	0	7	4	0	0	0	0	0	0	0	0	12
07:00	0	0	1	5	16	6	1	0	0	0	0	0	0	0	29
08:00	0	0	1	8	20	9	0	0	0	0	0	0	0	0	38
09:00	0	0	0	5	6	5	1	0	0	0	0	0	0	0	17
10:00	0	0	2	4	10	1	0	0	0	0	0	0	0	0	17
11:00	0	0	0	7	6	4	0	0	0	0	0	0	0	0	17
12 PM	0	0	0	5	6	3	3	0	0	0	0	0	0	0	17
13:00	0	1	1	3	12	5	0	0	0	0	0	0	0	0	22
14:00	0	1	4	10	17	6	0	0	0	0	0	0	0	0	38
15:00	0	0	1	10	16	4	2	0	0	0	0	0	0	0	33
16:00	0	0	2	12	14	5	1	0	0	0	0	0	0	0	34
17:00	0	0	1	6	20	10	1	0	0	0	0	0	0	0	38
18:00	0	1	0	10	22	3	0	0	0	0	0	0	0	0	36
19:00	0	0	2	10	13	3	0	0	0	0	0	0	0	0	28
20:00	0	0	4	9	8	2	0	0	0	0	0	0	0	0	23
21:00	0	0	1	3	9	0	1	0	0	0	0	0	0	0	14
22:00	0	0	0	9	6	0	1	0	0	0	0	0	0	0	16
23:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Total	0	4	23	120	211	75	12	0	0	0	0	0	0	0	445

Grand Total	2	24	127	621	1128	369	33	3	0	0	0	0	0	0	2307
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15th Percentile : 26 MPH  
 50th Percentile : 31 MPH  
 85th Percentile : 35 MPH  
 95th Percentile : 38 MPH  
  
 Mean Speed(Average) : 32 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 1749  
 Percent in Pace : 75.8%  
 Number of Vehicles > 30 MPH : 1533  
 Percent of Vehicles > 30 MPH : 66.4%

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WEST STREET WEST OF DRIVEWAY\_SPEED

Start Time	15	16	20	21	25	26	30	31	35	36	40	41	45	46	50	51	55	56	60	61	65	66	70	71	75	76	Total
09/17/15	0	0	0	0	0	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:00	0	0	0	0	0	1	1	4	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
06:00	0	0	0	3	3	4	4	10	10	3	3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	22	22
07:00	0	0	0	2	2	16	16	11	11	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38
08:00	0	1	0	0	0	9	9	9	9	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	28
09:00	0	0	0	1	1	3	3	11	11	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	19	19
10:00	0	0	0	1	1	2	2	6	6	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
11:00	0	0	0	0	0	2	2	6	6	4	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	13	13
12 PM	0	0	0	1	1	2	2	13	13	5	5	3	3	0	0	0	0	0	0	0	0	0	0	0	0	24	24
13:00	0	0	0	2	2	6	6	9	9	7	7	1	1	0	0	0	0	0	0	0	0	0	0	0	0	25	25
14:00	0	2	0	2	2	6	6	15	15	6	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	32	32
15:00	0	0	0	0	0	9	9	12	12	7	7	2	2	0	0	0	0	0	0	0	0	0	0	0	0	30	30
16:00	0	0	0	0	0	6	6	12	12	10	10	1	1	0	0	0	0	0	0	0	0	0	0	0	0	29	29
17:00	0	0	0	2	2	9	9	21	21	8	8	4	4	0	0	0	0	0	0	0	0	0	0	0	0	44	44
18:00	0	0	0	1	1	9	9	15	15	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31
19:00	0	0	0	0	0	4	4	5	5	6	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	16	16
20:00	0	0	0	0	0	2	2	10	10	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	15	15
21:00	0	0	0	0	0	2	2	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
22:00	0	0	0	0	0	1	1	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
23:00	0	0	0	0	0	0	0	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
Total	0	3	15	95	179	94	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	404	404

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## WEST STREET WEST OF DRIVEWAY\_SPEED

Eastbound		16	21	26	31	36	41	46	51	56	61	66	71	76	Total
Start	Time	20	25	30	35	40	45	50	55	60	65	70	75	999	
09/18/15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
05:00	0	0	1	0	4	0	1	0	0	0	0	0	0	0	6
06:00	0	0	0	4	8	2	4	0	0	0	0	0	0	0	18
07:00	0	2	5	10	15	8	1	0	0	0	0	0	0	0	41
08:00	0	0	1	3	11	7	1	0	0	0	0	0	0	0	23
09:00	0	0	1	2	9	4	1	0	0	0	0	0	0	0	17
10:00	0	0	2	4	10	4	1	0	0	0	0	0	0	0	21
11:00	0	0	2	6	13	7	1	0	0	0	0	0	0	0	29
12 PM	0	0	0	0	9	4	1	0	0	0	0	0	0	0	14
13:00	0	0	0	6	10	5	1	0	0	0	0	0	0	0	22
14:00	0	0	1	5	13	6	0	1	0	0	0	0	0	0	26
15:00	1	3	2	11	13	3	0	0	0	0	0	0	0	0	33
16:00	0	0	1	10	17	12	3	0	0	0	0	0	0	0	43
17:00	0	0	1	9	14	10	4	0	0	0	0	0	0	0	38
18:00	0	0	0	3	13	4	1	2	0	0	0	0	0	0	23
19:00	0	0	1	4	4	3	2	0	0	0	0	0	0	0	14
20:00	0	0	0	2	7	5	0	1	0	0	0	0	0	0	15
21:00	0	0	0	4	5	4	1	0	0	0	0	0	0	0	14
22:00	0	0	2	0	6	2	0	0	0	0	0	0	0	0	10
23:00	0	0	0	0	3	0	1	0	0	0	0	0	0	0	4
Total	1	5	20	83	188	90	24	4	0	0	0	0	0	0	415



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WEST STREET WEST OF DRIVEWAY\_SPEED

Eastbound		15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	999	
09/19/15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	0	2	2	1	1	0	0	0	0	0	0	0	0	0	6
07:00	0	0	1	1	6	3	2	0	0	0	0	0	0	0	0	0	13
08:00	0	1	0	5	9	2	1	0	0	0	0	0	0	0	0	0	18
09:00	0	0	1	7	14	2	2	0	0	0	0	0	0	0	0	0	26
10:00	1	0	1	8	6	10	2	1	0	0	0	0	0	0	0	0	29
11:00	0	2	0	6	10	7	4	0	0	0	0	0	0	0	0	0	29
12 PM	0	0	1	4	10	5	3	1	0	0	0	0	0	0	0	0	24
13:00	0	0	1	5	15	12	2	2	0	0	0	0	0	0	0	0	37
14:00	0	0	3	4	12	6	1	2	0	0	0	0	0	0	0	0	28
15:00	1	0	0	11	11	2	1	0	0	0	0	0	0	0	0	0	26
16:00	0	0	0	6	13	5	2	1	0	0	0	0	0	0	0	0	27
17:00	0	1	0	4	9	8	0	0	0	0	0	0	0	0	0	0	22
18:00	0	0	1	2	10	1	2	0	0	1	0	0	0	0	0	0	17
19:00	0	0	0	5	10	4	1	0	0	0	0	0	0	0	0	0	20
20:00	0	0	0	2	4	2	1	0	0	0	0	0	0	0	0	0	9
21:00	0	0	0	1	5	1	1	0	0	0	0	0	0	0	0	0	8
22:00	0	0	1	3	3	2	0	0	0	0	0	0	0	0	0	0	9
23:00	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	5
Total	2	4	11	79	153	76	26	7	1	1	0	0	0	0	0	0	359





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WEST STREET WEST OF DRIVEWAY\_SPEED

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
09/22/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	2	0	0	1	0	0	0	0	0	0	0	0	3
05:00	0	1	0	2	1	0	1	0	0	0	0	0	0	0	5
06:00	0	0	0	4	8	1	3	0	0	0	0	0	0	0	16
07:00	0	0	3	11	20	12	2	0	0	0	0	0	0	0	48
08:00	0	1	0	5	15	9	1	0	0	0	0	0	0	0	31
09:00	0	2	1	5	6	3	3	0	0	0	0	0	0	0	17
10:00	0	0	0	3	4	3	1	0	0	0	0	0	0	0	11
11:00	1	0	0	11	5	4	0	1	0	0	0	0	0	0	22
12 PM	0	0	0	4	12	4	0	0	0	0	0	0	0	0	20
13:00	0	1	2	4	11	9	0	0	0	0	0	0	0	0	27
14:00	1	0	1	7	5	7	2	0	0	0	0	0	0	0	23
15:00	1	0	2	9	16	5	1	0	0	0	0	0	0	0	34
16:00	0	0	0	6	13	12	1	0	0	0	0	0	0	0	32
17:00	0	0	1	9	25	15	7	3	0	0	0	0	0	0	60
18:00	0	0	0	8	23	7	0	0	0	0	0	0	0	0	38
19:00	0	0	0	5	10	6	0	0	0	0	0	0	0	0	21
20:00	0	1	0	5	7	3	0	0	1	0	0	0	0	0	17
21:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
22:00	0	0	2	1	0	3	0	0	0	0	0	0	0	0	6
23:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
Total	3	6	14	99	182	105	20	4	1	0	0	0	0	0	434
Grand Total	10	22	83	492	979	547	123	21	2	0	0	0	0	0	2279

15th Percentile :	27 MPH
50th Percentile :	32 MPH
85th Percentile :	38 MPH
95th Percentile :	41 MPH
Mean Speed(Average) :	33 MPH
10 MPH Pace Speed :	31-40 MPH
Number in Pace :	1526
Percent in Pace :	67.0%
Number of Vehicles > 30 MPH :	1672
Percent of Vehicles > 30 MPH :	73.4%

□ Sight Line Analysis



## Intersection Sight Distance Calculations

Source: *A Policy on Geometric Design of Highways and Street, 6th Edition*; AASHTO; 2011.

$$\text{ISD} = 1.47 * V * t$$

V = speed

t = time gap

t = 7.5 s for a passenger car for Left Turn from a Stop

t = 6.5 s for a passenger car for Right Turn from a Stop

### Posted (Regulatory) Speed Limit

Proposed Site Driveway ISD =  $1.47 * 25 * 7.5 = 276 \text{ ft}$  **SAY 280 ft**  
(left-turn from a stop)

Proposed Site Driveway ISD =  $1.47 * 25 * 6.5 = 239 \text{ ft}$  **SAY 240 ft**  
(right-turn from a stop)

**Stopping Sight Distance - Posted**

		SPEED (MPH)	BRAKE REACTION DISTANCE (FT)	BRAKING DISTANCE (FT)	CALCULATED STOPPING SIGHT DISTANCE (FT)
Direction 1	EB	25	91.875	59.9	151.8
Direction 2	EB	25	91.875	59.9	151.8

INPUTS	Direction 1	Direction 2
Travel Direction	EB	EB
Speed	25	25
Grade	0	0
t	2.5	2.5
a	11.2	11.2

**Stopping Sight Distance (SSD) - Source: AASHTO**

SSD = Reaction Distance + Brake Distance

Reaction Distance =  $1.47 \times t \times V$

Brake Distance =  $V^2 / (30 \times ((a/32.2)+G))$

Where:  
t = reaction time (sec)  
V = travel speed (mph)  
G = roadway grade  
a = deceleration rate (ft/sec<sup>2</sup>)



## Stopping Sight Distance - Average

		SPEED (MPH)	BRAKE REACTION DISTANCE (FT)	BRAKING DISTANCE (FT)	CALCULATED STOPPING SIGHT DISTANCE (FT)
Direction 1	EB	33	121.275	104.4	225.6
Direction 2	WB	32	117.6	98.1	215.7

<u>INPUTS</u>	<u>Direction 1</u>	<u>Direction 2</u>
Travel Direction	EB	WB
Speed	33	32
Grade	0	0
t	2.5	2.5
a	11.2	11.2

### Stopping Sight Distance (SSD) - Source: AASHTO

SSD = Reaction Distance + Brake Distance

Reaction Distance =  $1.47 \times t \times V$

Brake Distance =  $V^2 / (30 \times ((a/32.2)+G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G = roadway grade

a = deceleration rate (ft/sec<sup>2</sup>)

## Stopping Sight Distance - 85th Percentile

		SPEED (MPH)	BRAKE REACTION DISTANCE (FT)	BRAKING DISTANCE (FT)	CALCULATED STOPPING SIGHT DISTANCE (FT)
Direction 1	EB	38	139.65	138.4	278.0
Direction 2	EB	35	128.625	117.4	246.0

### INPUTS

Travel Direction  
Speed  
Grade  
t  
a

### Direction 1

EB  
38  
0  
2.5  
11.2

### Direction 2

EB  
35  
0  
2.5  
11.2

### Stopping Sight Distance (SSD) - Source: AASHTO

SSD = Reaction Distance + Brake Distance

Reaction Distance =  $1.47 \times t \times V$

Brake Distance =  $V^2 / (30 \times ((a/32.2)+G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G = roadway grade



















a = deceleration rate (ft/sec<sup>2</sup>)

□ Capacity Analyses















Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2022 No-Build Conditions  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	99	3	0	115	44	13	217	1	23	41	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Friction		0.996			0.963			0.999			0.941	
Flt Protected	0.950							0.997			0.990	
Satd. Flow (prot)	1770	2023	0	0	2042	0	0	2042	0	0	1929	0
Flt Permitted	0.406							0.982			0.907	
Satd. Flow (perm)	756	2023	0	0	2042	0	0	2012	0	0	1767	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			25						43	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	21	102	3	0	119	45	13	224	1	24	42	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	105	0	0	164	0	0	238	0	0	117	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2022 No-Build Conditions  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	11.3	12.2			10.6			14.3			14.3	
Actuated g/C Ratio	0.35	0.38			0.33			0.44			0.44	
v/c Ratio	0.04	0.14			0.24			0.27			0.14	
Control Delay	6.7	7.0			9.9			10.6			7.5	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	6.7	7.0			9.9			10.6			7.5	
LOS	A	A			A			B			A	
Approach Delay		7.0			9.9			10.6			7.5	
Approach LOS		A			A			B			A	
90th %ile Green (s)	6.9	23.3		11.4	11.4		13.5	13.5		13.5	13.5	
90th %ile Term Code	Gap	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
70th %ile Green (s)	0.0	10.0		10.0	10.0		11.2	11.2		11.2	11.2	
70th %ile Term Code	Skip	Min		Min	Min		Gap	Gap		Hold	Hold	
50th %ile Green (s)	0.0	10.0		10.0	10.0		8.5	8.5		8.5	8.5	
50th %ile Term Code	Skip	Min		Min	Min		Gap	Gap		Hold	Hold	
30th %ile Green (s)	0.0	10.0		10.0	10.0		7.8	7.8		7.8	7.8	
30th %ile Term Code	Skip	Hold		Min	Min		Gap	Gap		Hold	Hold	
10th %ile Green (s)	0.0	0.0		0.0	0.0		21.8	21.8		21.8	21.8	
10th %ile Term Code	Skip	Skip		Skip	Skip		Dwell	Dwell		Dwell	Dwell	
Queue Length 50th (ft)	2	9			13			26			8	
Queue Length 95th (ft)	10	31			69			99			44	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	615	2023			1983			1852			1630	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.03	0.05			0.08			0.13			0.07	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 32.2

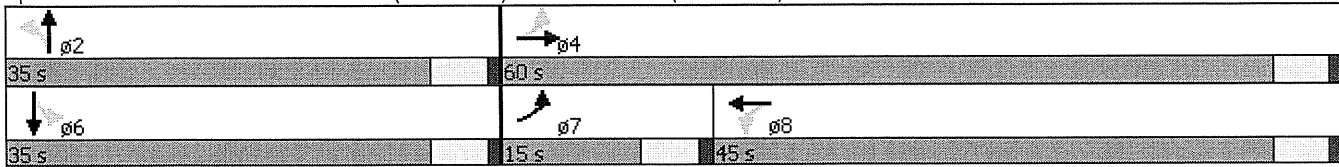
Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2022 No-Build Conditions  
 Weekday Morning Peak Hour

Natural Cycle: 40  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.27  
 Intersection Signal Delay: 9.2  
 Intersection Capacity Utilization 38.9%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 46.8  
 70th %ile Actuated Cycle: 31.2  
 50th %ile Actuated Cycle: 28.5  
 30th %ile Actuated Cycle: 27.8  
 10th %ile Actuated Cycle: 26.8

Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	237	39	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	0	0	0	247	41	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	288	41	41	0	-	0
Stage 1	41	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	707	809	1390	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	707	809	1390	-	-	-
Mov Cap-2 Maneuver	707	-	-	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	799	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1390	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-



Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	235	178	56	5	4	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	29	15	10	0	5
Mvmt Flow	250	189	60	5	4	37

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	65	0	62
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.15	-	2.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.245	-	2.5
Pot Cap-1 Maneuver	1518	-	1409
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1518	-	1409
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	4.5	0	7.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1518	-	-	-	916	1409
HCM Lane V/C Ratio	0.165	-	-	-	0.005	0.026
HCM Control Delay (s)	7.8	-	-	-	8.9	7.6
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	-	0	0.1

HCM 2010 TWSC  
4: Main Street (Route 126) & West Street

2022 No-Build Conditions  
Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	408	84	6	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	8	0	0	0
Mvmt Flow	1	439	90	6	8	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	97	0	94
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	4.5
Pot Cap-1 Maneuver	1509	-	754
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1509	-	754
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1509	-	-	-	580
HCM Lane V/C Ratio	0.001	-	-	-	0.015
HCM Control Delay (s)	7.4	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	118	3	0	175	40	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	3	21	100	2	0	0
Mvmt Flow	151	4	0	224	51	6



















Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	155
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	5.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	996
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	996
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	771	873	-	-	996	-
HCM Lane V/C Ratio	0.067	0.007	-	-	-	-
HCM Control Delay (s)	10	9.2	-	-	0	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-













Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2022 Build Condition  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	99	3	0	115	44	13	217	1	23	71	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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		0.996			0.963			0.999			0.953	
Flt Protected	0.950							0.997			0.992	
Satd. Flow (prot)	1770	2023	0	0	2042	0	0	2042	0	0	1946	0
Flt Permitted	0.406							0.981			0.925	
Satd. Flow (perm)	756	2023	0	0	2042	0	0	2010	0	0	1814	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			25						29	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	21	102	3	0	119	45	13	224	1	24	73	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	105	0	0	164	0	0	238	0	0	148	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2022 Build Condition  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	11.3	12.2			10.6			14.3			14.3	
Actuated g/C Ratio	0.35	0.38			0.33			0.44			0.44	
v/c Ratio	0.04	0.14			0.24			0.27			0.18	
Control Delay	6.7	7.0			9.9			10.6			8.9	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	6.7	7.0			9.9			10.6			8.9	
LOS	A	A			A			B			A	
Approach Delay		7.0			9.9			10.6			8.9	
Approach LOS		A			A			B			A	
90th %ile Green (s)	6.9	23.3		11.4	11.4		13.5	13.5		13.5	13.5	
90th %ile Term Code	Gap	Hold		Gap	Gap		Gap	Gap		Hold	Hold	
70th %ile Green (s)	0.0	10.0		10.0	10.0		11.2	11.2		11.2	11.2	
70th %ile Term Code	Skip	Min		Min	Min		Gap	Gap		Hold	Hold	
50th %ile Green (s)	0.0	10.0		10.0	10.0		8.5	8.5		8.5	8.5	
50th %ile Term Code	Skip	Min		Min	Min		Gap	Gap		Hold	Hold	
30th %ile Green (s)	0.0	10.0		10.0	10.0		7.8	7.8		7.8	7.8	
30th %ile Term Code	Skip	Hold		Min	Min		Gap	Gap		Hold	Hold	
10th %ile Green (s)	0.0	0.0		0.0	0.0		21.8	21.8		21.8	21.8	
10th %ile Term Code	Skip	Skip		Skip	Skip		Dwell	Dwell		Dwell	Dwell	
Queue Length 50th (ft)	2	9			13			26			12	
Queue Length 95th (ft)	10	31			69			99			58	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	615	2023			1983			1850			1672	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.03	0.05			0.08			0.13			0.09	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 32.2

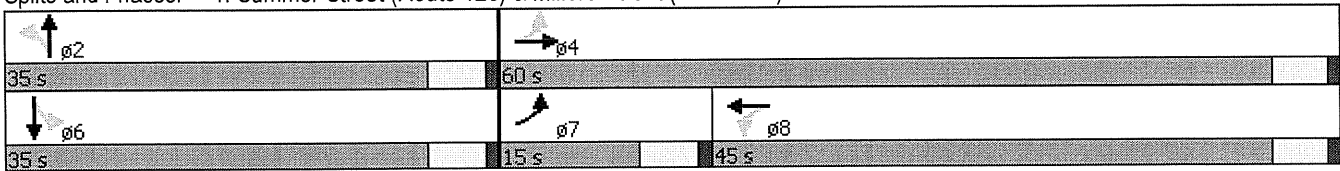
Lanes, Volumes, Timings  
1: Summer Street (Route 126) & Milford Street (Route 109)

2022 Build Condition  
Weekday Morning Peak Hour

Natural Cycle: 40  
Control Type: Actuated-Uncoordinated  
Maximum v/c Ratio: 0.27  
Intersection Signal Delay: 9.4  
Intersection Capacity Utilization 40.1%  
Analysis Period (min) 15  
90th %ile Actuated Cycle: 46.8  
70th %ile Actuated Cycle: 31.2  
50th %ile Actuated Cycle: 28.5  
30th %ile Actuated Cycle: 27.8  
10th %ile Actuated Cycle: 26.8

Intersection LOS: A  
ICU Level of Service A

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2022 Build Condition  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	237	69	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	0	0	0	247	72	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	319	72	72	0	-	0
Stage 1	72	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	678	774	1353	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	678	774	1353	-	-	-
Mov Cap-2 Maneuver	678	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	799	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1353	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	235	178	96	5	4	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	29	15	10	0	5
Mvmt Flow	250	189	102	5	4	69

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	107	0	105
Stage 1	-	-	105
Stage 2	-	-	689
Critical Hdwy	4.15	-	2.5
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	2.5
Pot Cap-1 Maneuver	1465	-	1388
Stage 1	-	-	1276
Stage 2	-	-	645
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1465	-	895
Mov Cap-2 Maneuver	-	-	895
Stage 1	-	-	1276
Stage 2	-	-	535

Approach	EB	WB	SB
HCM Control Delay, s	4.5	0	7.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1465	-	-	-	895	1388
HCM Lane V/C Ratio	0.171	-	-	-	0.005	0.05
HCM Control Delay (s)	8	-	-	-	9	7.7
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	-	0	0.2



HCM 2010 TWSC  
4: Main Street (Route 126) & West Street

2022 Build Condition  
Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	408	84	76	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	8	0	0	0
Mvmt Flow	1	439	90	82	8	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	172	0	131
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	4.5
Pot Cap-1 Maneuver	1417	-	736
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1417	-	736
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1417	-	-	-	565
HCM Lane V/C Ratio	0.001	-	-	-	0.015
HCM Control Delay (s)	7.5	0	-	-	11.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	118	63	0	175	40	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	3	21	100	2	0	0
Mvmt Flow	151	81	0	224	51	6



















Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	416
Stage 1	-	-	192
Stage 2	-	-	224
Critical Hdwy	-	5.1	3.8
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	3.1	3.8
Pot Cap-1 Maneuver	-	922	755
Stage 1	-	-	785
Stage 2	-	-	760
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	922	755
Mov Cap-2 Maneuver	-	-	755
Stage 1	-	-	785
Stage 2	-	-	760

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	755	855	-	-	922	-
HCM Lane V/C Ratio	0.068	0.007	-	-	-	-
HCM Control Delay (s)	10.1	9.2	-	-	0	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-













Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	248	10	12	434	54	31	312	12	29	216	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Flt Protected	0.950				0.985			0.996			0.950	
Satd. Flow (prot)	1770	2019	0	0	2094	0	0	2033	0	0	1943	0
Flt Permitted	0.253				0.991			0.926			0.950	
Satd. Flow (perm)	471	2019	0	0	2077	0	0	1890	0	0	1854	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			8			2			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	159	256	10	12	447	56	32	322	12	30	223	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	266	0	0	515	0	0	366	0	0	402	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
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	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
 Weekday Morning Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	37.2	37.2			22.5			18.9			18.9	
Actuated g/C Ratio	0.56	0.56			0.34			0.28			0.28	
v/c Ratio	0.36	0.24			0.73			0.68			0.73	
Control Delay	10.4	8.7			26.6			29.5			29.7	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	10.4	8.7			26.6			29.5			29.7	
LOS	B	A			C			C			C	
Approach Delay		9.4			26.6			29.5			29.7	
Approach LOS		A			C			C			C	
90th %ile Green (s)	10.0	51.0		36.0	36.0		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Gap	Gap		Max	Max		Max	Max	
70th %ile Green (s)	10.0	42.5		27.5	27.5		23.1	23.1		23.1	23.1	
70th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
50th %ile Green (s)	10.0	37.3		22.3	22.3		18.5	18.5		18.5	18.5	
50th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
30th %ile Green (s)	9.2	31.3		17.1	17.1		14.6	14.6		14.6	14.6	
30th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
10th %ile Green (s)	6.9	24.5		12.6	12.6		10.7	10.7		10.7	10.7	
10th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
Queue Length 50th (ft)	27	47			176			129			134	
Queue Length 95th (ft)	72	114			336			264			277	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	469	1677			1322			901			900	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.34	0.16			0.39			0.41			0.45	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 66.7

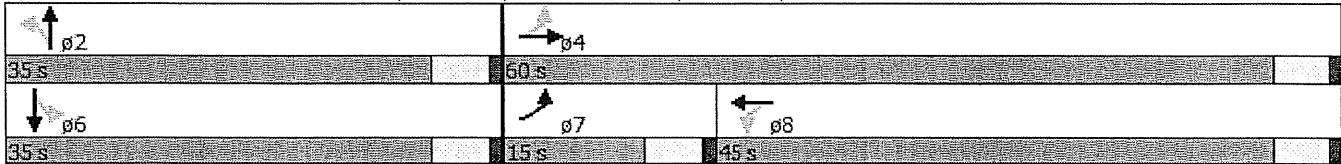
Lanes, Volumes, Timings  
1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
Weekday Morning Peak Hour

Natural Cycle: 60  
Control Type: Actuated-Uncoordinated  
Maximum v/c Ratio: 0.73  
Intersection Signal Delay: 23.7  
Intersection Capacity Utilization 80.5%  
Analysis Period (min) 15  
90th %ile Actuated Cycle: 91  
70th %ile Actuated Cycle: 75.6  
50th %ile Actuated Cycle: 65.8  
30th %ile Actuated Cycle: 55.9  
10th %ile Actuated Cycle: 45.2

Intersection LOS: C  
ICU Level of Service D

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2021 Build Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	6	370	180	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	0	0	6	385	188	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	589	191	194	0	-	0
Stage 1	191	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	474	653	1214	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	471	653	1214	-	-	-
Mov Cap-2 Maneuver	471	-	-	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	679	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1214	-	-	-	-
HCM Lane V/C Ratio	0.005	-	-	-	-
HCM Control Delay (s)	8	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	343	517	139	33	17	170
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	29	15	10	0	5
Mvmt Flow	365	550	148	35	18	181

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	183	0	1445
Stage 1	-	-	165
Stage 2	-	-	1280
Critical Hdwy	4.15	-	2.5
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	2.5
Pot Cap-1 Maneuver	1374	-	836
Stage 1	-	-	1190
Stage 2	-	-	319
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1374	-	614
Mov Cap-2 Maneuver	-	-	614
Stage 1	-	-	1190
Stage 2	-	-	234

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1374	-	-	-	614	1359
HCM Lane V/C Ratio	0.266	-	-	-	0.029	0.133
HCM Control Delay (s)	8.6	-	-	-	11	8.1
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	1.1	-	-	-	0.1	0.5

HCM 2010 TWSC  
 4: Main Street (Route 126) & West Street

2021 Build Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	842	229	80	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	8	0	0	0
Mvmt Flow	1	905	246	86	19	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	332	0	1197
Stage 1	-	-	289
Stage 2	-	-	908
Critical Hdwy	4.1	-	4.5
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	4.5
Pot Cap-1 Maneuver	1239	-	345
Stage 1	-	-	618
Stage 2	-	-	343
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1239	-	344
Mov Cap-2 Maneuver	-	-	344
Stage 1	-	-	618
Stage 2	-	-	342

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1239	-	-	-	344
HCM Lane V/C Ratio	0.001	-	-	-	0.056
HCM Control Delay (s)	7.9	0	-	-	16.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2



HCM 2010 TWSC  
5: West Street & Milford Street (Route 109)

2021 Build Conditions  
Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	372	77	1	499	81	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	3	21	100	2	0	0
Mvmt Flow	477	99	1	640	104	23

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	576
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	5.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	651
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	651
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	479	709	-	-	651	-
HCM Lane V/C Ratio	0.217	0.033	-	-	0.002	-
HCM Control Delay (s)	14.6	10.2	-	-	10.5	0
HCM Lane LOS	B	B	-	-	B	A
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0	-

HCM 2010 TWSC  
 6: West Street & Exelon Power Construction Driveway

2021 Build Conditions  
 Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	130	18	10	70	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	141	20	11	76	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	87	0	49
Stage 1	-	-	49
Stage 2	-	-	302
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1522	-	1025
Stage 1	-	-	979
Stage 2	-	-	755
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1522	-	1025
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	979
Stage 2	-	-	684

Approach	EB	WB	SB
HCM Control Delay, s	6.7	0	0
HCM LOS			A




















Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1522	-	-	-	-
HCM Lane V/C Ratio	0.093	-	-	-	-
HCM Control Delay (s)	7.6	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	-

Lanes, Volumes, Timings

2022 No-Build Conditions













1: Summer Street (Route 126) & Milford Street (Route 109)

Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	355	29	4	425	34	38	177	11	44	334	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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		0.989			0.990			0.994			0.969	
Flt Protected	0.950							0.992			0.996	
Satd. Flow (prot)	1770	2011	0	0	2108	0	0	2020	0	0	1970	0
Flt Permitted	0.254				0.997			0.862			0.953	
Satd. Flow (perm)	473	2011	0	0	2101	0	0	1756	0	0	1885	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			5			3			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	111	366	30	4	438	35	39	182	11	45	344	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	396	0	0	477	0	0	232	0	0	504	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
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	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2022 No-Build Conditions  
 Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	32.1	32.1			21.8			23.3			23.3	
Actuated g/C Ratio	0.48	0.48			0.33			0.35			0.35	
v/c Ratio	0.27	0.41			0.69			0.38			0.75	
Control Delay	11.4	12.2			27.1			20.8			29.4	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	11.4	12.2			27.1			20.8			29.4	
LOS	B	B			C			C			C	
Approach Delay		12.0			27.1			20.8			29.4	
Approach LOS		B			C			C			C	
90th %ile Green (s)	10.0	48.0		33.0	33.0		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
70th %ile Green (s)	10.0	41.2		26.2	26.2		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
50th %ile Green (s)	9.5	37.1		22.6	22.6		24.9	24.9		24.9	24.9	
50th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
30th %ile Green (s)	7.9	30.3		17.4	17.4		19.1	19.1		19.1	19.1	
30th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
10th %ile Green (s)	0.0	10.9		10.9	10.9		12.1	12.1		12.1	12.1	
10th %ile Term Code	Skip	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
Queue Length 50th (ft)	24	97			184			75			189	
Queue Length 95th (ft)	53	174			308			158			#374	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	447	1607			1336			893			965	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.25	0.25			0.36			0.26			0.52	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 66.7

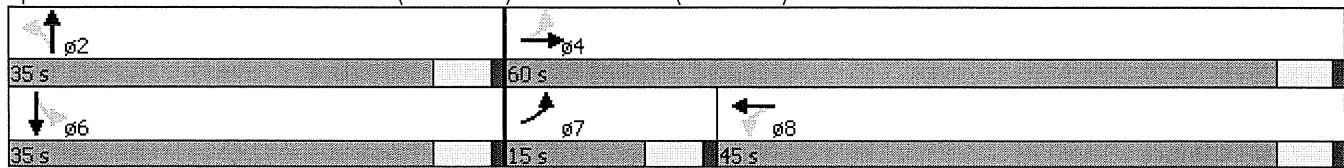
Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2022 No-Build Conditions  
 Weekday Evening Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 22.5  
 Intersection Capacity Utilization 88.7%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 88  
 70th %ile Actuated Cycle: 81.2  
 50th %ile Actuated Cycle: 72  
 30th %ile Actuated Cycle: 59.4  
 10th %ile Actuated Cycle: 33  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Intersection LOS: C  
 ICU Level of Service E

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



HCM 2010 TWSC  
 2: Summer Street (Route 126) & Exelon Power Dwy

2022 No-Build Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	206	341	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	0	0	0	215	355	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	570	355	355	0	-	0
Stage 1	355	-	-	-	-	-
Stage 2	215	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	486	515	1051	-	-	-
Stage 1	714	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	486	515	1051	-	-	-
Mov Cap-2 Maneuver	486	-	-	-	-	-
Stage 1	714	-	-	-	-	-
Stage 2	826	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1051	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	181	344	500	22	30	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	8	20	10	0	1
Mvmt Flow	193	366	532	23	32	327

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	555	0	1295
Stage 1	-	-	544
Stage 2	-	-	751
Critical Hdwy	4.15	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	4.1
Pot Cap-1 Maneuver	1001	-	384
Stage 1	-	-	521
Stage 2	-	-	424
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1001	-	310
Mov Cap-2 Maneuver	-	-	310
Stage 1	-	-	521
Stage 2	-	-	342

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1001	-	-	-	310	810
HCM Lane V/C Ratio	0.192	-	-	-	0.103	0.403
HCM Control Delay (s)	9.5	-	-	-	17.9	12.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.7	-	-	-	0.3	2

HCM 2010 TWSC  
4: Main Street (Route 126) & West Street

2022 No-Build Conditions  
Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	492	771	34	37	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	25	2	3	10	9	0
Mvmt Flow	0	523	820	36	39	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	856	0	1361
Stage 1	-	-	838
Stage 2	-	-	523
Critical Hdwy	4.35	-	4.5
Critical Hdwy Stg 1	-	-	5.49
Critical Hdwy Stg 2	-	-	5.49
Follow-up Hdwy	2.425	-	4.5
Pot Cap-1 Maneuver	694	-	304
Stage 1	-	-	360
Stage 2	-	-	491
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	694	-	304
Mov Cap-2 Maneuver	-	-	304
Stage 1	-	-	360
Stage 2	-	-	491

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	694	-	-	-	304
HCM Lane V/C Ratio	-	-	-	-	0.129
HCM Control Delay (s)	0	-	-	-	18.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4



Intersection

Int Delay, s/veh 1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	477	134	15	522	82	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	1	13	3	5	0
Mvmt Flow	555	156	17	607	95	6


















Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	710	0	1275	633
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	642	-
Critical Hdwy	-	-	4.23	-	3.8	3.8
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.317	-	3.8	3.8
Pot Cap-1 Maneuver	-	-	840	-	449	666
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	494	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	840	-	435	666
Mov Cap-2 Maneuver	-	-	-	-	435	-
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	479	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	435	666	-	-	840	-
HCM Lane V/C Ratio	0.219	0.009	-	-	0.021	-
HCM Control Delay (s)	15.6	10.5	-	-	9.4	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-













Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2022 Build Condition  
 Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	355	29	4	425	34	38	207	11	44	334	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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
Frnt		0.989			0.990			0.994			0.969	
Flt Protected	0.950							0.993			0.996	
Satd. Flow (prot)	1770	2011	0	0	2108	0	0	2023	0	0	1970	0
Flt Permitted	0.254				0.997			0.876			0.949	
Satd. Flow (perm)	473	2011	0	0	2101	0	0	1784	0	0	1877	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			5			2			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	111	366	30	4	438	35	39	213	11	45	344	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	396	0	0	477	0	0	263	0	0	504	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2022 Build Condition  
 Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	32.1	32.1			21.8			23.4			23.4	
Actuated g/C Ratio	0.48	0.48			0.33			0.35			0.35	
v/c Ratio	0.27	0.41			0.69			0.42			0.76	
Control Delay	11.4	12.2			27.1			21.4			29.5	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	11.4	12.2			27.1			21.4			29.5	
LOS	B	B			C			C			C	
Approach Delay		12.0			27.1			21.4			29.5	
Approach LOS		B			C			C			C	
90th %ile Green (s)	10.0	48.0		33.0	33.0		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
70th %ile Green (s)	10.0	41.2		26.2	26.2		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
50th %ile Green (s)	9.5	37.1		22.6	22.6		25.1	25.1		25.1	25.1	
50th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
30th %ile Green (s)	7.9	30.3		17.4	17.4		19.2	19.2		19.2	19.2	
30th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
10th %ile Green (s)	0.0	10.9		10.9	10.9		12.2	12.2		12.2	12.2	
10th %ile Term Code	Skip	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
Queue Length 50th (ft)	24	98			185			87			190	
Queue Length 95th (ft)	53	174			308			180			#378	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	446	1605			1335			906			960	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.25	0.25			0.36			0.29			0.53	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 66.8

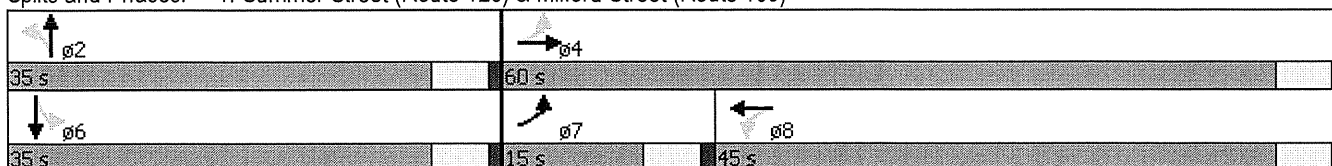
Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2022 Build Condition  
 Weekday Evening Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 22.6  
 Intersection Capacity Utilization 89.4%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 88  
 70th %ile Actuated Cycle: 81.2  
 50th %ile Actuated Cycle: 72.2  
 30th %ile Actuated Cycle: 59.5  
 10th %ile Actuated Cycle: 33.1  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Intersection LOS: C  
 ICU Level of Service E

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	236	341	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	0	0	0	246	355	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	601	355	355	0	-	0
Stage 1	355	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Critical Hdwy	6.4	7.2	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	2.497	-	-	-
Pot Cap-1 Maneuver	467	515	1051	-	-	-
Stage 1	714	-	-	-	-	-
Stage 2	800	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	467	515	1051	-	-	-
Mov Cap-2 Maneuver	467	-	-	-	-	-
Stage 1	714	-	-	-	-	-
Stage 2	800	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1051	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	211	384	500	22	30	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	29	15	10	0	5
Mvmt Flow	224	409	532	23	32	327

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	555	0	1401
Stage 1	-	-	544
Stage 2	-	-	857
Critical Hdwy	4.15	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	4.1
Pot Cap-1 Maneuver	1001	-	356
Stage 1	-	-	521
Stage 2	-	-	380
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1001	-	276
Mov Cap-2 Maneuver	-	-	276
Stage 1	-	-	521
Stage 2	-	-	295

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1001	-	-	-	276	810
HCM Lane V/C Ratio	0.224	-	-	-	0.116	0.403
HCM Control Delay (s)	9.6	-	-	-	19.7	12.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.9	-	-	-	0.4	2

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	492	771	34	107	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	8	0	0	0
Mvmt Flow	0	529	829	37	115	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	866	0	1376
Stage 1	-	-	847
Stage 2	-	-	529
Critical Hdwy	4.1	-	4.5
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	4.5
Pot Cap-1 Maneuver	786	-	300
Stage 1	-	-	364
Stage 2	-	-	495
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	786	-	300
Mov Cap-2 Maneuver	-	-	300
Stage 1	-	-	364
Stage 2	-	-	495

Approach	EB	WB	SB
HCM Control Delay, s	0	0	24.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	786	-	-	-	300
HCM Lane V/C Ratio	-	-	-	-	0.384
HCM Control Delay (s)	0	-	-	-	24.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.7

Intersection

Int Delay, s/veh 2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	477	134	15	522	142	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	3	21	100	2	0	0
Mvmt Flow	612	172	19	669	182	6

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	783
Stage 1	-	-	697
Stage 2	-	-	708
Critical Hdwy	-	-	5.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	527
Stage 1	-	-	470
Stage 2	-	-	465
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	527
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	470
Stage 2	-	-	438






















Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	21.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	389	641	-	-	527	-
HCM Lane V/C Ratio	0.468	0.01	-	-	0.036	-
HCM Control Delay (s)	22.1	10.7	-	-	12.1	0
HCM Lane LOS	C	B	-	-	B	A
HCM 95th %tile Q(veh)	2.4	0	-	-	0.1	-















Lanes, Volumes, Timings  
1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	118	451	45	22	378	45	23	210	9	32	356	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	16	16	16	16	16	16	16	16	16
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	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		0.986			0.986			0.995			0.968	
Flt Protected	0.950				0.998			0.995			0.997	
Satd. Flow (prot)	1770	2006	0	0	2095	0	0	2029	0	0	1969	0
Flt Permitted	0.273				0.961			0.937			0.968	
Satd. Flow (perm)	509	2006	0	0	2017	0	0	1911	0	0	1911	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			7			2			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6900			1000			2000			1000	
Travel Time (s)		156.8			22.7			45.5			22.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	0%	0%	1%	3%	5%	5%	7%	3%	7%	2%
Adj. Flow (vph)	122	465	46	23	390	46	24	216	9	33	367	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	511	0	0	459	0	0	249	0	0	524	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	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
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	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

2021 Build Conditions  
 Weekday Evening Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	15.0	60.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.8%	63.2%		47.4%	47.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	10.0	55.0		40.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	32.4	32.4			21.9			24.4			24.4	
Actuated g/C Ratio	0.48	0.48			0.32			0.36			0.36	
v/c Ratio	0.30	0.53			0.70			0.36			0.75	
Control Delay	11.8	14.2			27.9			20.1			28.8	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	11.8	14.2			27.9			20.1			28.8	
LOS	B	B			C			C			C	
Approach Delay		13.7			27.9			20.1			28.8	
Approach LOS		B			C			C			C	
90th %ile Green (s)	10.0	47.1		32.1	32.1		30.0	30.0		30.0	30.0	
90th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
70th %ile Green (s)	10.0	41.3		26.3	26.3		30.0	30.0		30.0	30.0	
70th %ile Term Code	Max	Hold		Gap	Gap		Hold	Hold		Max	Max	
50th %ile Green (s)	9.5	36.1		21.6	21.6		25.7	25.7		25.7	25.7	
50th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
30th %ile Green (s)	8.1	30.7		17.6	17.6		20.1	20.1		20.1	20.1	
30th %ile Term Code	Gap	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
10th %ile Green (s)	0.0	12.7		12.7	12.7		15.0	15.0		15.0	15.0	
10th %ile Term Code	Skip	Hold		Gap	Gap		Hold	Hold		Gap	Gap	
Queue Length 50th (ft)	27	138			179			79			194	
Queue Length 95th (ft)	58	237			299			164			#403	
Internal Link Dist (ft)		6820			920			1920			920	
Turn Bay Length (ft)	150											
Base Capacity (vph)	447	1598			1279			926			933	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.27	0.32			0.36			0.27			0.56	

Intersection Summary

Area Type: Other  
 Cycle Length: 95  
 Actuated Cycle Length: 67.7

Lanes, Volumes, Timings  
 1: Summer Street (Route 126) & Milford Street (Route 109)

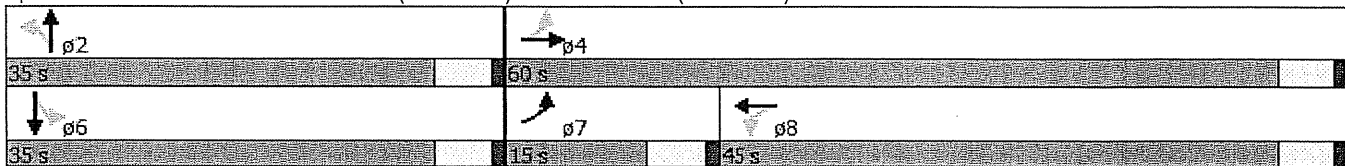
2021 Build Conditions  
 Weekday Evening Peak Hour

Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 22.3  
 Intersection Capacity Utilization 96.2%  
 Analysis Period (min) 15  
 90th %ile Actuated Cycle: 87.1  
 70th %ile Actuated Cycle: 81.3  
 50th %ile Actuated Cycle: 71.8  
 30th %ile Actuated Cycle: 60.8  
 10th %ile Actuated Cycle: 37.7

Intersection LOS: C  
 ICU Level of Service F

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

Splits and Phases: 1: Summer Street (Route 126) & Milford Street (Route 109)



Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	4	0	250	399	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	100	33	2	7	0
Mvmt Flow	2	4	0	260	416	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	676	416	416
Stage 1	416	-	-
Stage 2	260	-	-
Critical Hdwy	6.4	7.2	4.43
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	4.2	2.497
Pot Cap-1 Maneuver	422	471	995
Stage 1	670	-	-
Stage 2	788	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	422	471	995
Mov Cap-2 Maneuver	422	-	-
Stage 1	670	-	-
Stage 2	788	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	995	-	453	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	13.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	236	414	493	14	38	365
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	8	20	10	0	1
Mvmt Flow	251	440	524	15	40	388

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	539	0	1475
Stage 1	-	-	532
Stage 2	-	-	943
Critical Hdwy	4.15	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.245	-	4.1
Pot Cap-1 Maneuver	1014	-	338
Stage 1	-	-	527
Stage 2	-	-	348
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1014	-	254
Mov Cap-2 Maneuver	-	-	254
Stage 1	-	-	527
Stage 2	-	-	262

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1014	-	-	-	254	815
HCM Lane V/C Ratio	0.248	-	-	-	0.159	0.476
HCM Control Delay (s)	9.7	-	-	-	21.8	13.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	1	-	-	-	0.6	2.6

HCM 2010 TWSC  
 4: Main Street (Route 126) & West Street

2021 Build Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	4	583	825	33	107	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	25	2	3	10	9	0
Mvmt Flow	4	620	878	35	114	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	913	0	895
Stage 1	-	-	895
Stage 2	-	-	629
Critical Hdwy	4.35	-	4.5
Critical Hdwy Stg 1	-	-	5.49
Critical Hdwy Stg 2	-	-	5.49
Follow-up Hdwy	2.425	-	4.5
Pot Cap-1 Maneuver	659	-	434
Stage 1	-	-	340
Stage 2	-	-	443
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	659	-	434
Mov Cap-2 Maneuver	-	-	264
Stage 1	-	-	340
Stage 2	-	-	439

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	28.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	659	-	-	-	264
HCM Lane V/C Ratio	0.006	-	-	-	0.431
HCM Control Delay (s)	10.5	0	-	-	28.6
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	2

Intersection

Int Delay, s/veh 1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	480	119	9	492	127	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	160
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	1	13	3	5	0
Mvmt Flow	558	138	10	572	148	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	697
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.23
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.317
Pot Cap-1 Maneuver	-	-	850
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	850
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	457	668	-	-	850	-
HCM Lane V/C Ratio	0.323	0.01	-	-	0.012	-
HCM Control Delay (s)	16.6	10.4	-	-	9.3	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	1.4	0	-	-	0	-

HCM 2010 TWSC  
 6: West Street & Exelon Power Construction Driveway

2021 Build Conditions  
 Weekday Evening Peak Hour

Intersection

Int Delay, s/veh 7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	37	37	0	70	130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	40	40	0	76	141

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	40	0	80
Stage 1	-	-	40
Stage 2	-	-	40
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1583	-	927
Stage 1	-	-	988
Stage 2	-	-	988
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1583	-	927
Mov Cap-2 Maneuver	-	-	927
Stage 1	-	-	988
Stage 2	-	-	988

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1583	-	-	-	996
HCM Lane V/C Ratio	-	-	-	-	0.218
HCM Control Delay (s)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.8