

# MEMORANDUM

**TO:** Mr. Philip Gray  
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Boston, MA 02116

**FROM:** F. Giles Ham, P.E. *and*  
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**DATE:** December 1, 2017

**RE:** 7704

**SUBJECT:** Fuller Middle School Feasibility Study – Existing Conditions  
Framingham, Massachusetts

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## INTRODUCTION

Vanasse & Associates, Inc. (VAI) has prepared this evaluation of existing conditions as part of the initial phase of the Fuller Middle School Feasibility Study associated with the Fuller Middle School off Flagg Street in Framingham, Massachusetts. This study includes observations of existing traffic, pick-up and drop-off circulation, busing, pedestrians, vehicle queuing, level-of-service operations and safety deficiencies in the vicinity of the project site, and makes recommendations to enhance future traffic operations in the vicinity of the school.

The study area for this report includes portions of Flagg Street, including the following locations:

- Warren Road at Oaks Road
- Oaks Road at Flagg Street
- Flagg Street at Fuller School Drive A
- Flagg Street at Visitor Parking Lot
- Flagg Street at Fuller School Drive B and McCarthy School Parking Lot
- Flagg Street at Fuller School Drive C and McCarthy School Parking Lot
- Flagg Street at Fuller School Drive D
- Flagg Street at McCarthy School North Drive and Mass Bay Community College
- Flagg Street at McCarthy School South Drive
- Flagg Street at Normandy Road
- Flagg Street at Warren Road

Figure 1 graphically depicts the site location map and Figure 2 graphically depicts the study area intersections.

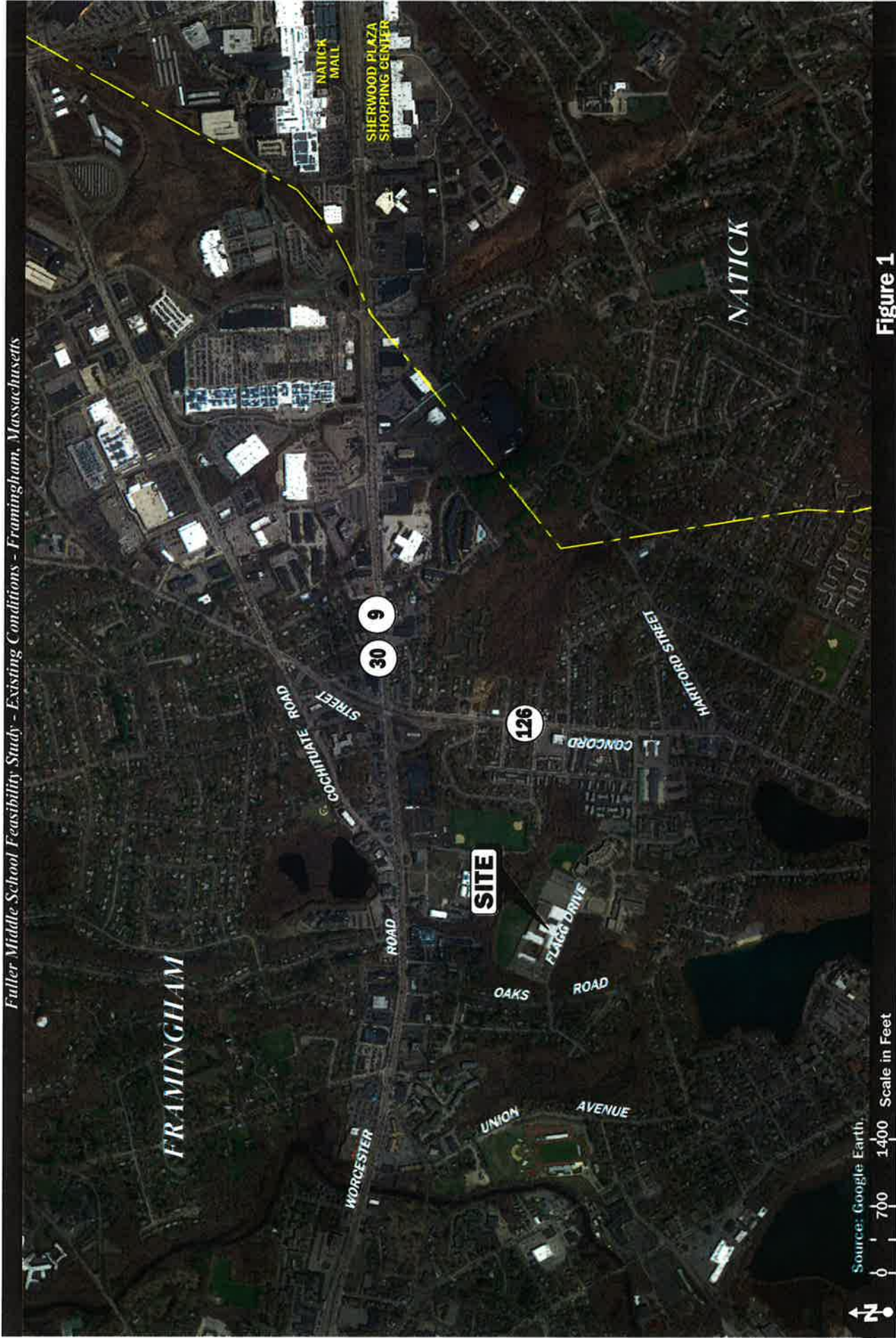


Figure 1

Site Location Map





**Legend:**

- Traffic, Pedestrian and Bicycle Count
- ✕ Pedestrian Crosswalk Count

- Traffic and Pedestrian Count Locations**
- 1- Flagg Drive at Oaks Road
  - 2- Flagg Drive at the Community Engagement Driveway
  - 3- Flagg Drive at Bus Drop-Off
  - 4- Flagg Drive at Visitor Parking Lot
  - 5- Flagg Drive at Fuller School Drive A/McCarthy School
  - 6- Flagg Drive at Fuller School Drive B/McCarthy School
  - 7- Flagg Drive at Fuller School Drive C
  - 8- Flagg Drive at McCarthy School North Drive/  
Mass Bay Community College
  - 9- Flagg Drive at McCarthy School South Drive
  - 10- Flagg Drive at Normandy Road
  - 11- Warren Road at Oaks Road
  - 12- Flagg Drive at Warren Road

Source: Google Earth.  
 0 260 520 Scale in Feet

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Figure 2

Study Area Intersections

## **STUDY METHODOLOGY**

This study was generally performed in accordance with industry and state guidelines for the preparation of traffic studies and was conducted in two distinct stages. The first stage involved an assessment of existing traffic conditions in the study area and included an inventory of roadway geometrics, observations of traffic flow, and collection of peak-period traffic counts during hours of school arrivals and departures. In the second stage of the study, measures were evaluated to address traffic and safety issues, if any, identified in stage one of the study.

## **EXISTING CONDITIONS**

A comprehensive field inventory of existing traffic conditions on the study area roadways was conducted in October of 2017. The field investigation consisted of an inventory of existing roadway geometrics, traffic volumes, and operating characteristics, as well as posted speed limits and land use information within the study area. The study area for the project was selected to contain the major roadways providing access to the project site includes portions of Flagg Street. Specifically, traffic counts were conducted at the following intersections located along these roadways which are accommodate the majority of school-related traffic.

- Warren Road at Oaks Road
- Oaks Road at Flagg Street
- Flagg Street at Fuller School Drive A
- Flagg Street at Visitor Parking Lot
- Flagg Street at Fuller School Drive B and McCarthy School Parking Lot
- Flagg Street at Fuller School Drive C and McCarthy School Parking Lot
- Flagg Street at Fuller School Drive D
- Flagg Street at McCarthy School North Drive and Mass Bay Community College
- Flagg Street at McCarthy School South Drive
- Flagg Street at Normandy Road
- Flagg Street at Warren Road

### **Geometry**

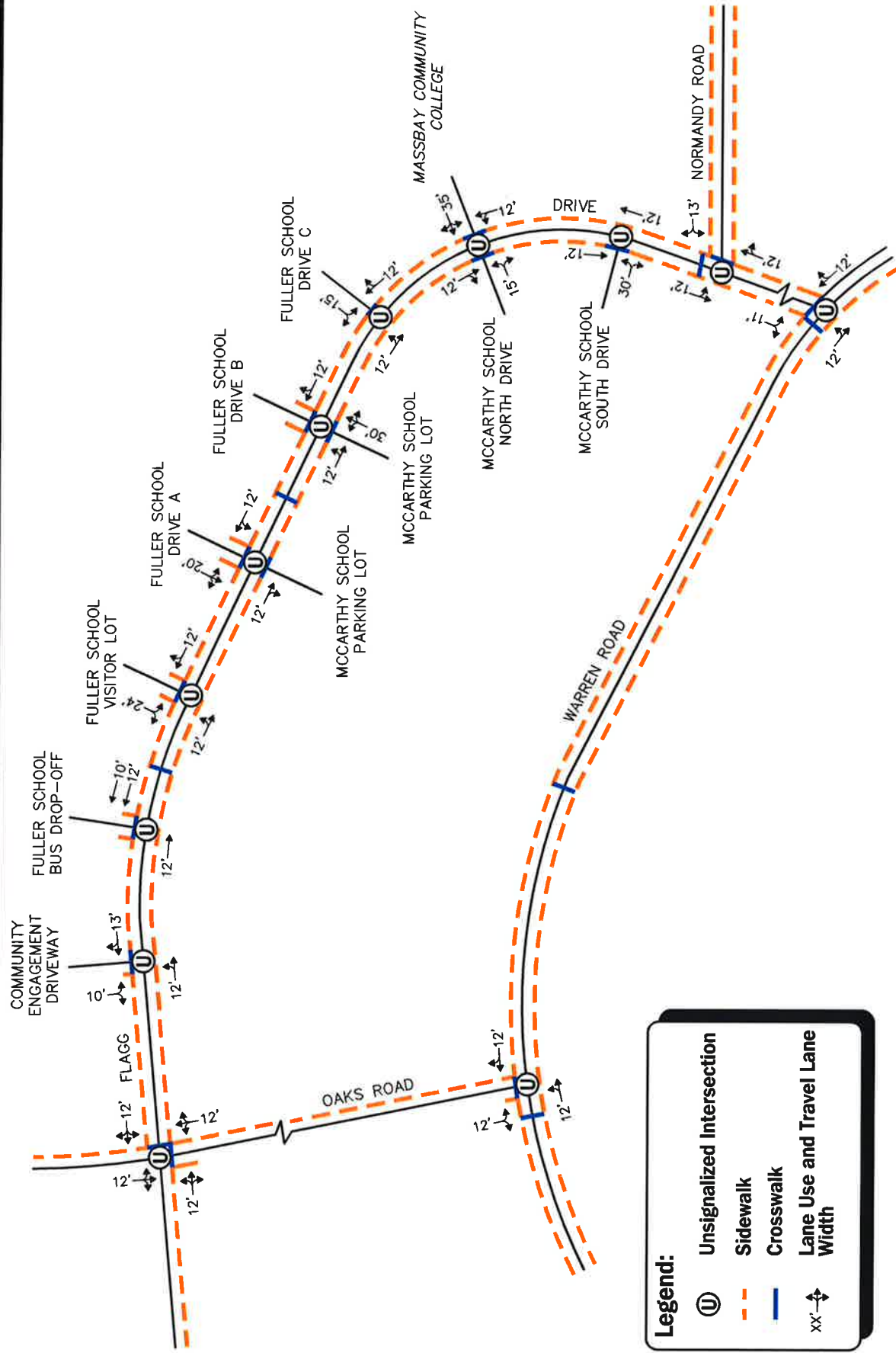
The existing lane usage and travel lane widths for the study area are depicted in Figure 3. As shown, the school access and egress is provided via Flagg Street and this roadway accommodates a single lane in each direction.

## **EXISTING TRAFFIC CONDITIONS**

In order to establish existing traffic-volume demands and flow patterns within the study area, manual turning movement counts (TMCs) and vehicle classification counts were completed in October of 2017 during the weekday morning (7:00 to 9:00 AM) and weekday afternoon (1:30 to 3:30 PM) time periods at each of the study area intersections. These time periods correspond to the peak hours of school arrivals and departures. A summary of the peak hour traffic volumes surrounding the Middle School are depicted in Figures 4 and 5, and presented in Table 1. In general, the morning peak hour occurs between 7:30 and 8:30 AM and the afternoon peak hour occurs between 2:00 and 3:00 PM.







**Legend:**

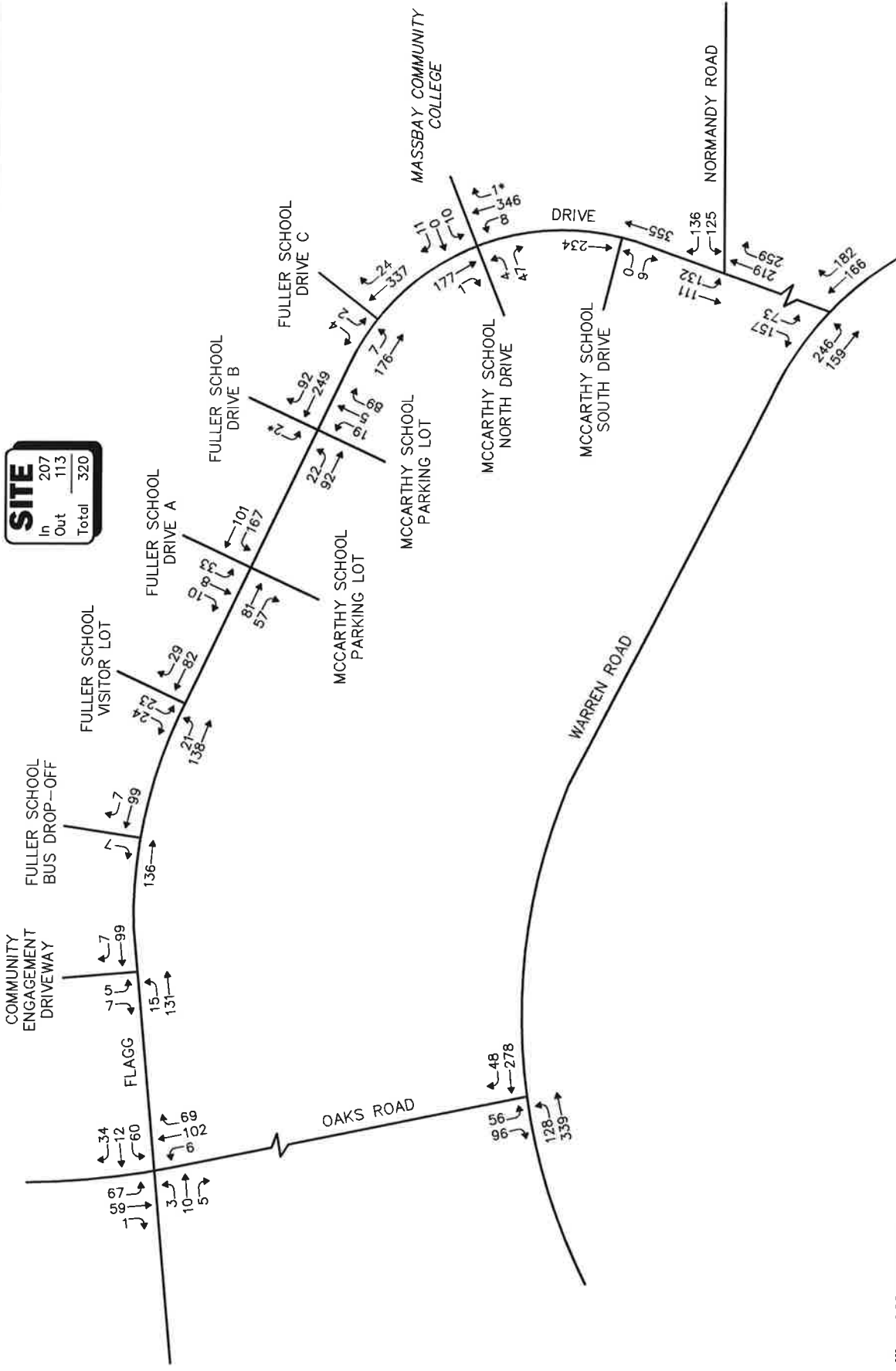
- Ⓢ Unsignalized Intersection
- - - Sidewalk
- Crosswalk
- xx' Lane Use and Travel Lane Width



Not To Scale

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**Figure 3**  
Existing Lane Use and Travel Lane Width



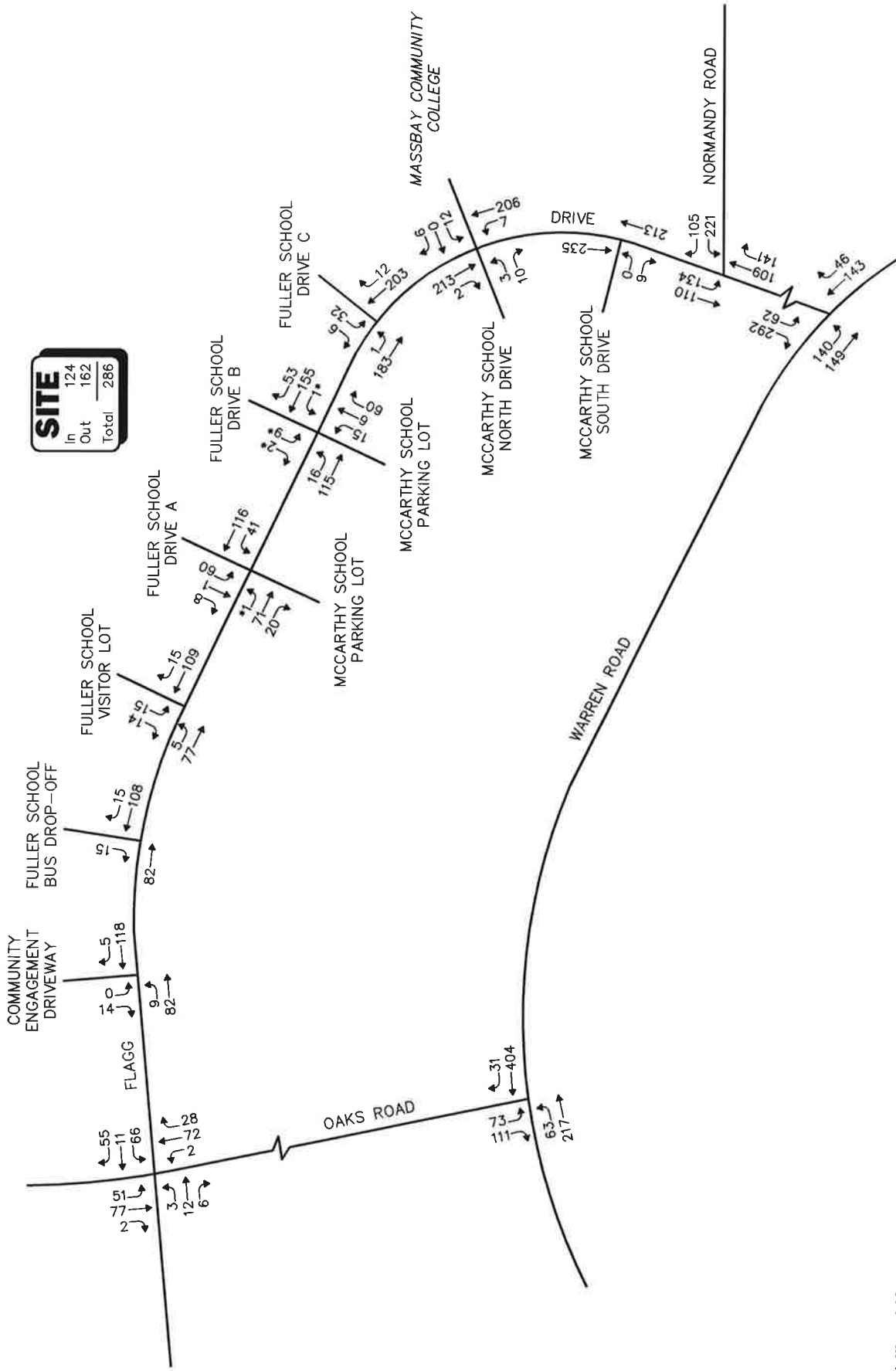
\* Illegal Movement  
Not To Scale



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Figure 4

2017 Existing  
Weekday Morning  
Peak Hour Traffic Volumes



\* Illegal Movement  
Not To Scale

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Figure 5  
2017 Existing  
Weekday Afternoon  
Peak Hour Traffic Volumes

**Table 1**  
**2017 EXISTING TRAFFIC VOLUMES**

Location	Daily <sup>a</sup>	VPH <sup>b</sup>	K Factor <sup>c</sup>	Directional Distribution <sup>d</sup>
<b><i>Flagg Street, at the Fuller Middle School</i></b>				
Weekday Morning	2,200	272	12.3	59% EB
Weekday Evening	2,200	216	9.8	57% WB

<sup>a</sup>Average traffic in vehicles per day.

<sup>b</sup>Vehicles per hour, based on TMCs conducted November 2017.

<sup>c</sup>Percent of daily traffic occurring during the peak hour.

<sup>d</sup>Percent traveling in peak direction.

NB = northbound; SB = southbound.

Flagg Street in the vicinity of the Fuller Middle School was found to accommodate approximately 2,200 vehicles on an average weekday (two-way, 24-hour volume), with approximately 272 vehicles per hour (vph) during the weekday morning peak hour and approximately 216 vph during the weekday evening peak hour. Table 2 summarizes the vehicle trips entering and exiting the Fuller Middle School during the weekday morning and weekday evening peak hours.

**Table 2**  
**FULLER MIDDLE SCHOOL EXISTING TRAFFIC VOLUMES**

Time Period	Existing Volumes <sup>a</sup>
<b>Weekday Morning Peak Hour</b>	
Entering	207
Exiting	113
Total	320
<b>Weekday Evening Peak Hour</b>	
Entering	124
Exiting	162
Total	286

As can be seen in Table 2, Fuller Middle School experiences 320 vehicles trips (207 entering and 113 exiting) during the weekday morning peak hour, and 286 vehicle trips (124 entering and 162 exiting) during the weekday evening peak hour.

The Fuller Middle School drop-off time is at 7:55 AM, with 17 school buses. The Fuller Middle School pick-up time is at 2:25 PM, with 15 school buses. Bus and van drop-off and pick-up occurs in an exclusive bus lane parallel to Flagg Street, directly outside the Fuller Middle School. The buses are separated from Flagg Street traffic by pavement striping. A maximum queue of 12 vehicles for pick-ups was observed during the afternoon in the school parking lot.





The McCarthy School is also located on the south side of Flagg Street, just east of the Fuller Middle School. The McCarthy School drop-off time is at 8:00 AM, with 12 school buses. The McCarthy School pick-up time is at 2:15 PM, with 11 school buses.

### **PEDESTRIAN FACILITIES**

A comprehensive field inventory of pedestrian facilities within the study area was undertaken in October 2017. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways and at the study intersections. In general, sidewalks are provided along both side of Flagg Street, the east side of Oaks Road and both sides of Warren Road. Crosswalks are provided at all study area intersections. Figures 6 and 7 graphically depicts the pedestrian volumes at the crosswalks during the weekday morning and weekday evening peak hours.

### **SPOT SPEED MEASUREMENTS**

Vehicle travel speed measurements were performed on Flagg Street in the vicinity of the Fuller Middle School in conjunction with the ATR counts. Table 3 summarizes the vehicle travel speed measurements.



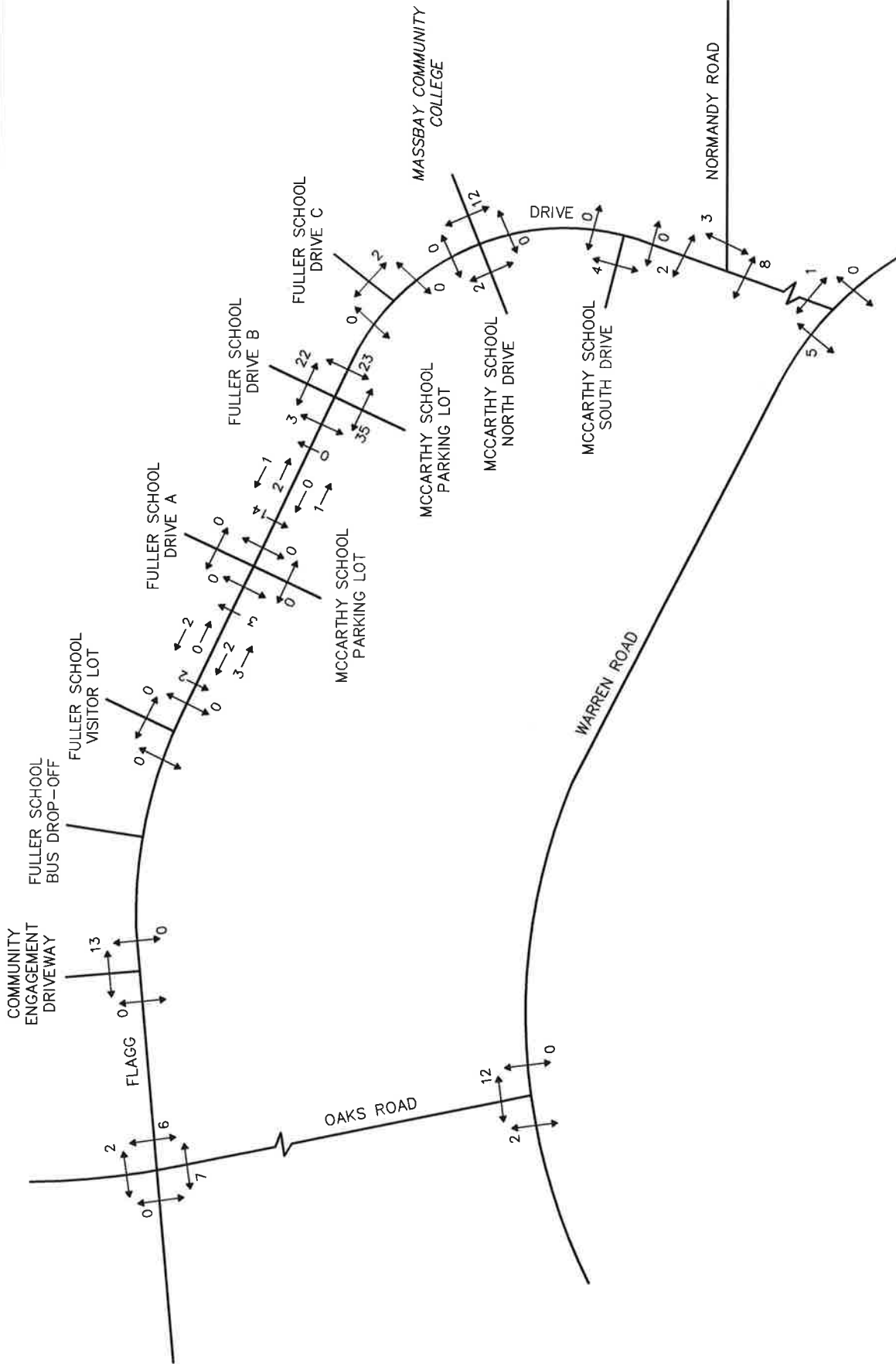


Figure 6

2017 Existing  
Weekday Morning  
Pedestrian Crosswalk Counts

Not To Scale

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Transportation Engineers & Planners

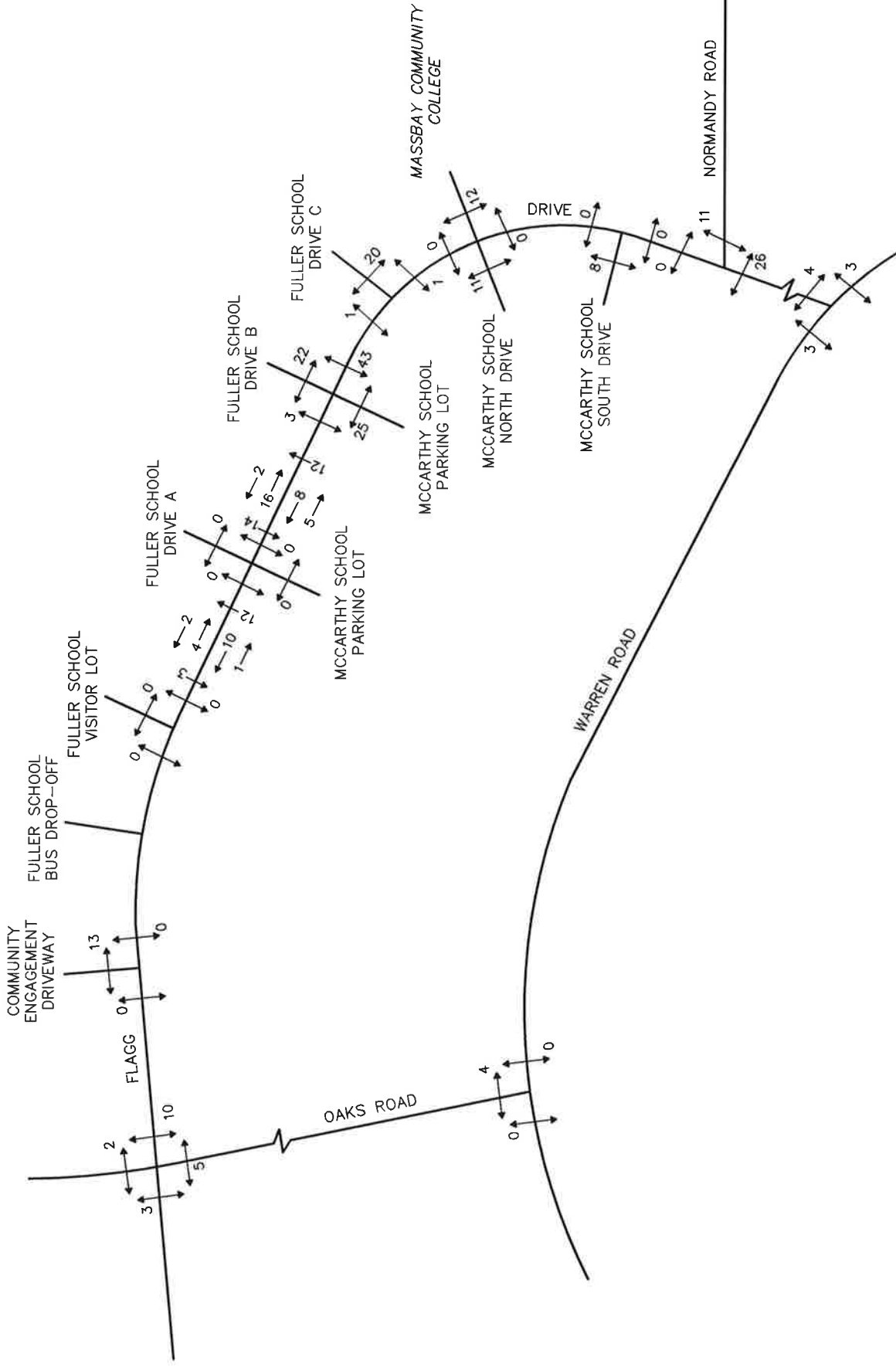


Figure 7

2017 Existing  
Weekday Afternoon  
Pedestrian Crosswalk Counts

Not To Scale

Vanasse & Associates, Inc.





**Table 3**  
**VEHICLE TRAVEL SPEED MEASUREMENTS**

	Flagg Street	
	Eastbound	Westbound
Mean Travel Speed (mph)	29	27
85 <sup>th</sup> Percentile Speed (mph)	35	33
Posted Speed Limit (mph)	20	20

mph = miles per hour.

As can be seen in Table 3, the mean (average) vehicle travel speed along Flagg Street in the vicinity of the Fuller Middle School was found to be approximately 29 mph in the eastbound direction and 27 mph in the westbound direction. The measured 85<sup>th</sup> percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below, was found to be approximately 35 mph in the eastbound and 33 mph in the westbound direction. The 85<sup>th</sup> percentile speed is used as the basis of engineering design and in the evaluation of sight distances, and is often used in establishing posted speed limits.

### **MOTOR VEHICLE CRASH SUMMARY**

Motor vehicle crash information for the study area intersections was provided by the MassDOT Highway Division Safety Management/Traffic Operations Unit for the most recent five-year period available (2010 through 2014) in order to examine motor vehicle crash trends occurring within the study area. MassDOT's average motor vehicle crash rate for unsignalized intersections in District 3 is 0.66. The data is summarized by intersection, type, severity, and day of occurrence, and presented in Table 4.

As can be seen in Table 3, the location that experienced the greatest number of motor vehicle collisions over the last five years of available data was the intersection of Flagg Street at Mass Bay Community College and McCarthy School. Over the five-year review period a total of 6 motor vehicle collisions were reported at this location, the majority of which involved single-vehicle collisions. The majority of collisions at this location resulted in property damage only, with no reported fatalities over the five-year review period.

All study area intersections exhibit crash rates that fall below the MassDOT average crash rate for this District.



**Table 4**  
**MOTOR VEHICLE CRASH DATA SUMMARY<sup>a</sup>**

	Warren Road at Oaks Road	Normandy Road at Flagg Street	Flagg Street at Mass Bay College & McCarthy School	Oaks Road at Flagg Street
<i>Year:</i>				
2010	0	1	1	0
2011	0	0	0	0
2012	1	2	1	1
2013	1	0	1	0
<u>2014</u>	<u>0</u>	<u>0</u>	<u>3</u>	<u>0</u>
Total	2	3	6	1
Average	0.4	0.60	1.20	0.20
Rate <sup>b</sup>	0.11	0.18	0.64	0.13
Significant? <sup>c</sup>	No	No	No	No
<i>Type:</i>				
Angle	0	1	1	1
Rear-End	1	1	2	0
Head-On	0	0	0	0
Sideswipe	0	1	0	0
Fixed Object	0	0	3	0
Pedestrian	0	0	0	0
<u>Unknown/Other</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	2	3	6	1
<i>Road Surface</i>				
<i>Conditions:</i>	1	2	5	0
Clear	1	0	1	1
Cloudy/Rain	0	1	0	0
Snow/Ice	0	0	0	0
Fog	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>Unknown/Other</u>	<u>2</u>	<u>3</u>	<u>6</u>	<u>1</u>
Total				
<i>Severity:</i>				
Property Damage Only	2	3	4	1
Personal Injury	0	0	2	0
<u>Fatality</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	3	6	1

<sup>a</sup>Source: MassDOT Safety Management/Traffic Operations Unit records, 2010 through 2014.

## **TRAFFIC OPERATIONS**

Measuring existing and future traffic volumes quantifies traffic flow within the study area. To assess quality of flow, roadway capacity and vehicle queue analyses were conducted under Existing traffic-volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them, with vehicle queue analyses providing a secondary measure of the operational characteristics of an intersection or section of roadway under study.

## **Methodology**

### **Levels of Service**

A primary result of capacity analyses is the assignment of level of service to traffic facilities under various traffic-flow conditions.<sup>1</sup> The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with level-of-service (LOS) A representing the best operating conditions and LOS F representing congested or constrained operating conditions.

Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year.

### **Unsignalized Intersections**

The six levels of service 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 levels of service of unsignalized intersections are determined by application of a procedure described in the *2010 Highway Capacity Manual*.<sup>2</sup> Level of service 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 level of service at unsignalized intersections are also given in the *2010 Highway Capacity Manual*. Table 5 summarizes the relationship between level of service and average control delay for two way stop controlled and all-way stop controlled intersections.

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<sup>1</sup>The capacity analysis methodology is based on the concepts and procedures presented in the *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

<sup>2</sup>*Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.



**Table 5  
LEVEL-OF-SERVICE CRITERIA FOR  
UNSIGNALIZED INTERSECTIONS<sup>a</sup>**

Level-Of-Service by Volume-to-Capacity Ratio		Average Control Delay (Seconds Per Vehicle)
v/c ≤ 1.0	v/c > 1.0	
A	F	≤10.0
B	F	10.1 to 15.0
C	F	15.1 to 25.0
D	F	25.1 to 35.0
E	F	35.1 to 50.0
F	F	>50.0

<sup>a</sup>Source: *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010; page 19-2.

## **ANALYSIS RESULTS**

Level-of-service analyses were conducted for 2017 Existing conditions for the study area intersections. The results of the intersection capacity analysis within the study area are described below, with a tabular summary provided in Table 7.

### **Unsignalized Intersection Analysis Results**

#### **Warren Road at Oaks Road**

Under Existing conditions, the critical movements at this intersection (turns from Oaks Road) operate at LOS D during the weekday morning peak hour and at LOS C during the weekday afternoon peak hour.

#### **Oaks Road at Flagg Street**

Under Existing conditions, the all movements at this intersection operate at LOS A during both the weekday morning and weekday afternoon peak hours.

#### **Flagg Street at Fuller School Drive A**

Under Existing conditions, the critical movements at this intersection (turns from Fuller Drive) operate at LOS B during the weekday morning peak hour and at LOS A during the weekday afternoon peak hour.

#### **Flagg Street at Visitor Parking Lot**

Under Existing conditions, the critical movements at this intersection (turns from Visitor Parking Lot) operate at LOS B during both the weekday morning and weekday afternoon peak hours.

#### **Flagg Street at Fuller School Drive B and McCarthy School Parking Lot**

Under Existing conditions, the critical movements at this intersection (turns from Fuller Drive) operate at LOS C during the weekday morning peak hour and at LOS B during the weekday afternoon peak hour.



### **Flagg Street at Fuller School Drive C and McCarthy School Parking Lot**

Under Existing conditions, the critical movements at this intersection (turns from Fuller Drive) operate at LOS B during both the weekday morning and weekday afternoon peak hours.

### **Flagg Street at Fuller School Drive D**

Under Existing conditions, the critical movements at this intersection (turns from Fuller Drive) operate at LOS B during the weekday morning peak hour and at LOS C during the weekday afternoon peak hour.

### **Flagg Street at McCarthy School North Drive and Mass Bay Community College**

Under Existing conditions, the critical movements at this intersection (turns from McCarthy School) operate at LOS C during the weekday morning peak hour and at LOS B during the weekday afternoon peak hour. Under Existing conditions, the critical movements at this intersection (turns from Mass Bay Community College) operate at LOS C during both the weekday morning and weekday afternoon peak hours.

### **Flagg Street at McCarthy School South Drive**

Under Existing conditions, the critical movements at this intersection (turns from McCarthy School) operate at LOS B during both the weekday morning and weekday afternoon peak hours.

### **Flagg Street at Normandy Road**

Under Existing conditions, the critical movements at this intersection (turns from Normandy Road) operate at LOS F during both the weekday morning and weekday afternoon peak hours.

### **Flagg Street at Warren Road**

Under Existing conditions, the critical movements at this intersection (turns from Flagg Street) operate at LOS F during the weekday morning peak hour and at LOS C during the weekday afternoon peak hour.

Overall, traffic conditions operate well based upon industry standards. Minimal levels of congestion and delay were observed at the peak school drop-off and pick-up times.

**Table 7**  
**UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY**

Unsignalized Intersection Movements	2017 Existing			
	Demand <sup>a</sup>	Delay <sup>b</sup>	LOS <sup>c</sup>	Queue <sup>d</sup>
<b>Warren Road at Oaks Road</b>				
<i>Weekday Morning :</i>				
Oaks Road SB LT/RT	152	30.4	D	4
<i>Weekday Afternoon:</i>				
Oaks Road SB LT/RT	184	20.3	C	3
<b>Oaks Road at Flagg Street</b>				
<i>Weekday Morning :</i>				
Flagg Street EB	18	8.2	A	0
Flagg Street WB	106	9.8	A	0
Oaks Road NB	177	9.4	A	0
Oaks Road SB	127	9.1	A	0
<i>Weekday Afternoon:</i>				
Flagg Street EB	21	7.8	A	0
Flagg Street WB	132	9.4	A	0
Oaks Road NB	102	8.3	A	0
Oaks Road SB	130	8.7	A	0
<b>Flagg Street at Community Engagement Drive</b>				
<i>Weekday Morning :</i>				
Fuller Drive SB LT/RT	12	10.2	B	0
<i>Weekday Afternoon:</i>				
Fuller Drive SB LT/RT	14	9.0	A	0
<b>Flagg Street at Visitor Parking Lot</b>				
<i>Weekday Morning :</i>				
Visitor Parking Lot SB LT/RT	47	11.2	B	0
<i>Weekday Afternoon:</i>				
Visitor Parking Lot SB LT/RT	29	10.1	B	0
<b>Flagg Street at Fuller School Drive A and McCarthy School Parking Lot</b>				
<i>Weekday Morning :</i>				
Fuller Drive SB LT/TH	41	24.5	C	2
Fuller Drive SB RT	10	9.1	A	0
<i>Weekday Afternoon:</i>				
Fuller Drive SB LT/TH	61	12.7	B	1
Fuller Drive SB RT	8	9.1	A	0
<b>Flagg Street at Fuller School Drive B and McCarthy School Parking Lot</b>				
<i>Weekday Morning :</i>				
McCarthy Parking Lot NB LT/TH	24	13.9	B	0
McCarthy Parking Lot NB RT	89	9.9	A	1
<i>Weekday Afternoon:</i>				
McCarthy Parking Lot NB LT/TH	21	12.0	B	0
McCarthy Parking Lot NB RT	60	9.7	A	0
<b>Flagg Street at Fuller School Drive C</b>				
<i>Weekday Morning :</i>				
Fuller Drive SB LT/RT	6	12.5	B	0
<i>Weekday Afternoon:</i>				
Fuller Drive SB LT/RT	38	15.2	C	1

See Notes at End of Table.



**Table 7 (Continued)**  
**UNIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY**

Unsignalized Intersection Movements	2017 Existing			
	Demand <sup>a</sup>	Delay <sup>b</sup>	LOS <sup>c</sup>	Queue <sup>d</sup>
<b>Flagg Street at McCarthy School North Drive and Mass Bay College</b>				
<i>Weekday Morning :</i>				
McCarthy School EB LT/RT	51	20.2	C	0
MassBay College WB LT	10	23.3	C	0
MassBay College WB RT	11	12.0	B	0
<i>Weekday Afternoon:</i>				
McCarthy School EB LT/RT	13	14.5	B	0
MassBay College WB LT	12	15.0	C	0
MassBay College WB RT	6	9.7	A	0
<b>Flagg Street at McCarthy School South Drive</b>				
<i>Weekday Morning :</i>				
McCarthy Parking Lot EB LT/RT	9	10.7	B	0
<i>Weekday Afternoon:</i>				
McCarthy Parking Lot EB LT/RT	9	10.4	B	0
<b>Flagg Street at Normandy Road</b>				
<i>Weekday Morning :</i>				
Normandy Road WB LT/RT	261	>50.0	F	12
<i>Weekday Afternoon:</i>				
Normandy Road WB LT/RT	326	>50.0	F	15
<b>Flagg Street at Warren Road</b>				
<i>Weekday Morning :</i>				
Flagg Street SB LT/RT	230	>50.0	F	8
<i>Weekday Afternoon:</i>				
Flagg Street SB LT/RT	354	16.6	C	4

<sup>a</sup>Demand in vehicles per hour

<sup>b</sup>Delay in seconds per vehicle

<sup>c</sup>Level of service

<sup>d</sup>Queue Length in Vehicles

NB = northbound; WB = westbound; LT = left-turning movements; RT = right-turning movements

## RECOMMENDATIONS

A number of existing conditions that do not meet industry practices were noted and should be incorporated in future plans. The measures will enhance safety conditions in the area.

Based upon our evaluation, the following is recommended:

- The 4-way STOP intersection of Flagg Street at Oaks Street should have “All-Stop” signs installed beneath the STOP-signs.
- All school driveways should be placed under STOP-control (Fuller School Drive A, Fuller School Drive B and Fuller School Drive D)
- Advanced-warning signs, School Zone signs, Pedestrian signs, pavement markings and traffic control devices (i.e., flashing school speed limit signs) should be provided along Flagg Street.
- Appropriate One-Way and Do Not Enter signage should be installed at the Fuller School Drive B and Fuller School Drive C.
- All signs and other pavement markings to be installed within the Project site shall conform to the applicable standards of the current Manual on Uniform Traffic Devices (MUTCD).<sup>3</sup>
- Signs and landscaping adjacent to the school driveway intersections should be designed and maintained so as not to restrict lines of sight.
- Restriping of crosswalks on Flagg Street should be provided for safe crossings.

The following signs follow industry practices as noted above.

### School Zone Signage



### Pedestrian Signage



<sup>3</sup>Ibid 4

## Traffic Control Signage



The above recommendations can be incorporated into future planning designs.

The next step in the process will be a coordinated effort with Jonathan Levi Architects to review alternative designs. The review will include, but is not limited to the following:

- Safe pedestrian environment
- Safe pedestrian crossing of Flagg Street
- School access and egress
- Student drop-off/pick-up area
- Bus loading area
- Off-site location review
- School and area signage plan

These elements will be reviewed with report with respect to the increased school population and new school alternatives.

## APPENDIX

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TURNING MOVEMENT COUNTS  
AUTOMATIC TRAFFIC RECORDER COUNTS  
PEDESTRIAN COUNTS  
CAPACITY ANALYSIS

## TURNING MOVEMENT COUNTS

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**Accurate Counts**  
978-664-2565

N/S Street : Oaks Road  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040011  
Site Code : 77040011  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Cars - Trucks - Buses

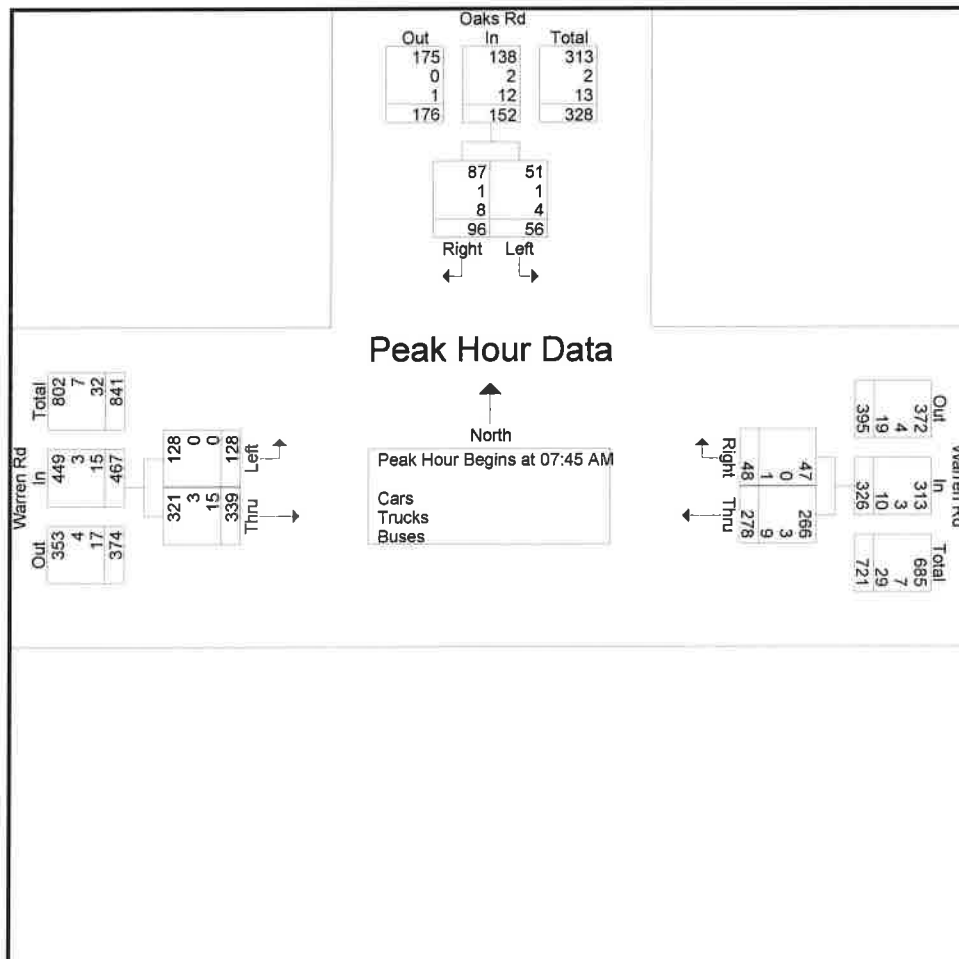
Start Time	Oaks Rd From North		Warren Rd From East		Warren Rd From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	5	5	53	5	15	52	135
07:15 AM	7	16	44	4	19	67	157
07:30 AM	7	12	39	7	39	60	164
07:45 AM	7	18	57	13	34	103	232
<b>Total</b>	<b>26</b>	<b>51</b>	<b>193</b>	<b>29</b>	<b>107</b>	<b>282</b>	<b>688</b>
08:00 AM	18	37	72	17	49	86	279
08:15 AM	14	25	91	10	21	81	242
08:30 AM	17	16	58	8	24	69	192
08:45 AM	10	14	61	4	27	78	194
<b>Total</b>	<b>59</b>	<b>92</b>	<b>282</b>	<b>39</b>	<b>121</b>	<b>314</b>	<b>907</b>
<b>Grand Total</b>	<b>85</b>	<b>143</b>	<b>475</b>	<b>68</b>	<b>228</b>	<b>596</b>	<b>1595</b>
Apprch %	37.3	62.7	87.5	12.5	27.7	72.3	
Total %	5.3	9	29.8	4.3	14.3	37.4	
Cars	80	134	460	67	228	572	1541
% Cars	94.1	93.7	96.8	98.5	100	96	96.6
Trucks	1	1	4	0	0	4	10
% Trucks	1.2	0.7	0.8	0	0	0.7	0.6
Buses	4	8	11	1	0	20	44
% Buses	4.7	5.6	2.3	1.5	0	3.4	2.8

**Accurate Counts**  
978-664-2565

N/S Street : Oaks Road  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040011  
Site Code : 77040011  
Start Date : 10/31/2017  
Page No : 2

Start Time	Oaks Rd From North			Warren Rd From East			Warren Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	7	18	25	57	13	70	34	103	137	232
08:00 AM	18	37	55	72	17	89	49	86	135	279
08:15 AM	14	25	39	91	10	101	21	81	102	242
08:30 AM	17	16	33	58	8	66	24	69	93	192
Total Volume	56	96	152	278	48	326	128	339	467	945
% App. Total	36.8	63.2		85.3	14.7		27.4	72.6		
PHF	.778	.649	.691	.764	.706	.807	.653	.823	.852	.847
Cars	51	87	138	266	47	313	128	321	449	900
% Cars	91.1	90.6	90.8	95.7	97.9	96.0	100	94.7	96.1	95.2
Trucks	1	1	2	3	0	3	0	3	3	8
% Trucks	1.8	1.0	1.3	1.1	0	0.9	0	0.9	0.6	0.8
Buses	4	8	12	9	1	10	0	15	15	37
% Buses	7.1	8.3	7.9	3.2	2.1	3.1	0	4.4	3.2	3.9



**Accurate Counts**  
978-664-2565

N/S Street : Oaks Road  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040011  
Site Code : 77040011  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Bikes Peds

Start Time	Oaks Rd From North			Warren Rd From East			Warren Rd From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	1	0	0	0	0	0	0	1	0	1
07:45 AM	0	0	5	0	0	0	3	1	2	7	4	11
<b>Total</b>	0	0	6	0	0	0	3	1	2	8	4	12
08:00 AM	0	0	3	1	0	0	1	0	0	3	2	5
08:15 AM	0	0	2	0	0	0	0	0	0	2	0	2
08:30 AM	0	0	2	0	0	0	0	0	0	2	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	7	1	0	0	1	0	0	7	2	9
<b>Grand Total</b>	0	0	13	1	0	0	4	1	2	15	6	21
Apprch %	0	0		100	0		80	20				
Total %	0	0		16.7	0		66.7	16.7		71.4	28.6	

**Accurate Counts**  
978-664-2565

N/S Street : Oaks Road  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040011  
Site Code : 77040011  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Cars - Trucks - Buses

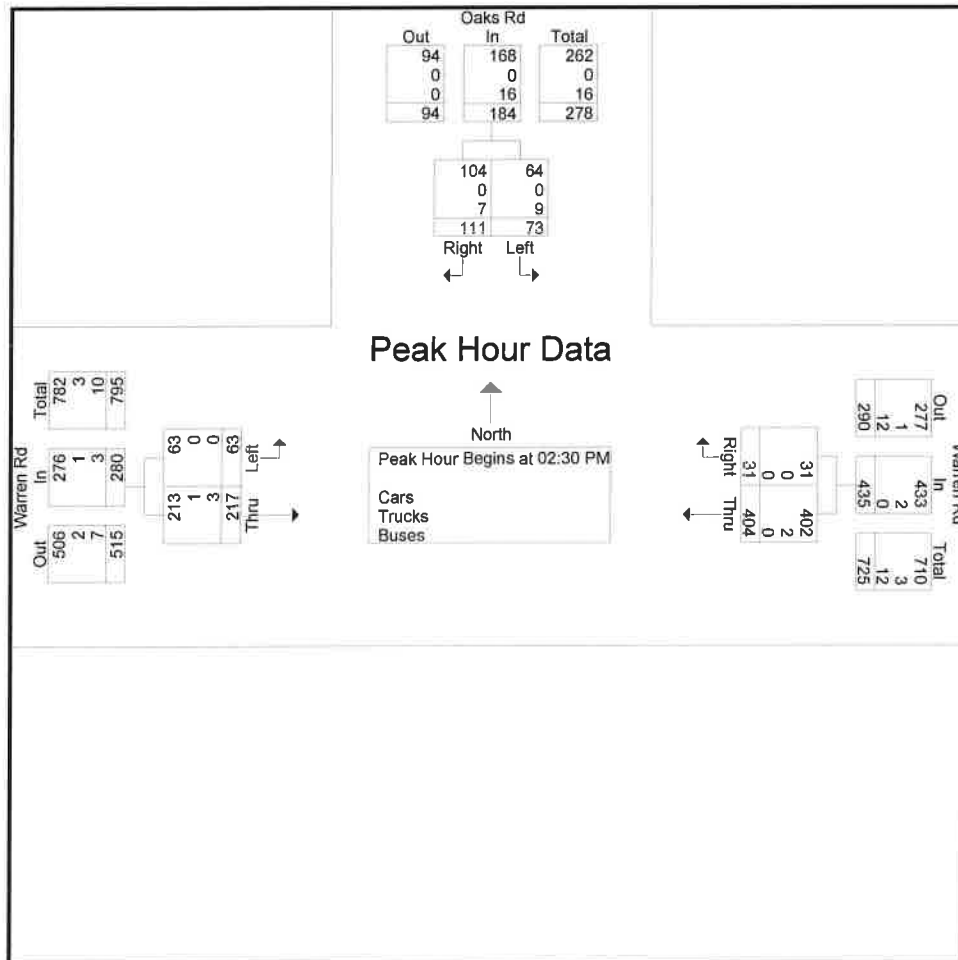
Start Time	Oaks Rd From North		Warren Rd From East		Warren Rd From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
01:30 PM	11	21	66	5	16	39	158
01:45 PM	8	17	76	3	24	50	178
<b>Total</b>	<b>19</b>	<b>38</b>	<b>142</b>	<b>8</b>	<b>40</b>	<b>89</b>	<b>336</b>
02:00 PM	11	20	74	6	26	57	194
02:15 PM	12	24	101	3	24	44	208
02:30 PM	29	24	103	6	15	54	231
02:45 PM	17	28	91	11	20	46	213
<b>Total</b>	<b>69</b>	<b>96</b>	<b>369</b>	<b>26</b>	<b>85</b>	<b>201</b>	<b>846</b>
03:00 PM	19	34	106	10	16	56	241
03:15 PM	8	25	104	4	12	61	214
<b>Grand Total</b>	<b>115</b>	<b>193</b>	<b>721</b>	<b>48</b>	<b>153</b>	<b>407</b>	<b>1637</b>
Apprch %	37.3	62.7	93.8	6.2	27.3	72.7	
Total %	7	11.8	44	2.9	9.3	24.9	
Cars	104	186	708	48	153	385	1584
% Cars	90.4	96.4	98.2	100	100	94.6	96.8
Trucks	1	0	4	0	0	1	6
% Trucks	0.9	0	0.6	0	0	0.2	0.4
Buses	10	7	9	0	0	21	47
% Buses	8.7	3.6	1.2	0	0	5.2	2.9

**Accurate Counts**  
978-664-2565

N/S Street : Oaks Road  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040011  
Site Code : 77040011  
Start Date : 10/31/2017  
Page No : 2

Start Time	Oaks Rd From North			Warren Rd From East			Warren Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:30 PM										
02:30 PM	29	24	53	103	6	109	15	54	69	231
02:45 PM	17	28	45	91	11	102	20	46	66	213
03:00 PM	19	34	53	106	10	116	16	56	72	241
03:15 PM	8	25	33	104	4	108	12	61	73	214
Total Volume	73	111	184	404	31	435	63	217	280	899
% App. Total	39.7	60.3		92.9	7.1		22.5	77.5		
PHF	.629	.816	.868	.953	.705	.938	.788	.889	.959	.933
Cars	64	104	168	402	31	433	63	213	276	877
% Cars	87.7	93.7	91.3	99.5	100	99.5	100	98.2	98.6	97.6
Trucks	0	0	0	2	0	2	0	1	1	3
% Trucks	0	0	0	0.5	0	0.5	0	0.5	0.4	0.3
Buses	9	7	16	0	0	0	0	3	3	19
% Buses	12.3	6.3	8.7	0	0	0	0	1.4	1.1	2.1





**Accurate Counts**  
978-664-2565

N/S Street : Oaks Road  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040011  
Site Code : 77040011  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Bikes Peds

Start Time	Oaks Rd From North			Warren Rd From East			Warren Rd From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	1	0	0	0	0	0	0	1	0	1
<b>Total</b>	0	0	1	0	0	0	0	0	0	1	0	1
02:00 PM	0	0	0	1	0	0	0	0	1	1	1	2
02:15 PM	0	0	4	0	0	0	0	0	0	4	0	4
02:30 PM	0	2	2	1	0	0	0	0	0	2	3	5
02:45 PM	0	0	1	0	0	0	0	0	0	1	0	1
<b>Total</b>	0	2	7	2	0	0	0	0	1	8	4	12
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	1	0	0	0	0	0	0	1	0	1
<b>Grand Total</b>	0	2	9	2	0	0	0	0	1	10	4	14
Apprch %	0	100		100	0		0	0				
<b>Total %</b>	0	50		50	0		0	0		71.4	28.6	

# Accurate Counts

978-664-2565

N/S Street : Oaks Road  
 E/W Street: Flagg Drive  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040001  
 Site Code : 77040001  
 Start Date : 10/31/2017  
 Page No : 1

## Groups Printed- Cars - Trucks - Buses

Start Time	Oaks Rd From North			Flagg Dr From East			Oaks Rd From South			Flagg Dr From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	11	6	0	0	4	6	0	15	2	0	1	1	46
07:15 AM	17	13	0	4	0	3	0	19	5	0	1	4	66
07:30 AM	14	10	0	4	3	4	2	31	13	0	2	3	86
07:45 AM	19	11	1	15	4	5	0	27	16	0	2	2	102
<b>Total</b>	<b>61</b>	<b>40</b>	<b>1</b>	<b>23</b>	<b>11</b>	<b>18</b>	<b>2</b>	<b>92</b>	<b>36</b>	<b>0</b>	<b>6</b>	<b>10</b>	<b>300</b>
08:00 AM	21	15	0	29	2	16	3	28	31	2	6	0	153
08:15 AM	13	23	0	12	3	9	1	16	7	1	0	0	85
08:30 AM	9	22	0	2	2	4	1	24	7	0	1	1	73
08:45 AM	9	14	0	1	4	4	0	25	6	0	2	0	65
<b>Total</b>	<b>52</b>	<b>74</b>	<b>0</b>	<b>44</b>	<b>11</b>	<b>33</b>	<b>5</b>	<b>93</b>	<b>51</b>	<b>3</b>	<b>9</b>	<b>1</b>	<b>376</b>
<b>Grand Total</b>	<b>113</b>	<b>114</b>	<b>1</b>	<b>67</b>	<b>22</b>	<b>51</b>	<b>7</b>	<b>185</b>	<b>87</b>	<b>3</b>	<b>15</b>	<b>11</b>	<b>676</b>
Approch %	49.6	50	0.4	47.9	15.7	36.4	2.5	66.3	31.2	10.3	51.7	37.9	
Total %	16.7	16.9	0.1	9.9	3.3	7.5	1	27.4	12.9	0.4	2.2	1.6	
Cars	113	112	1	58	19	50	7	185	85	3	14	11	658
% Cars	100	98.2	100	86.6	86.4	98	100	100	97.7	100	93.3	100	97.3
Trucks	0	0	0	1	1	0	0	0	0	0	0	0	2
% Trucks	0	0	0	1.5	4.5	0	0	0	0	0	0	0	0.3
Buses	0	2	0	8	2	1	0	0	2	0	1	0	16
% Buses	0	1.8	0	11.9	9.1	2	0	0	2.3	0	6.7	0	2.4

**Accurate Counts**  
978-664-2565

N/S Street : Oaks Road  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040001  
Site Code : 77040001  
Start Date : 10/31/2017  
Page No : 2

Start Time	Oaks Rd From North			Flagg Dr From East			Oaks Rd From South			Flagg Dr From West			Int. Total			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:30 AM																
07:30 AM	14	10	0	4	3	4	11	2	31	13	46	0	2	3	5	86
07:45 AM	19	11	1	15	4	5	24	0	27	16	43	0	2	2	4	102
08:00 AM	21	15	0	29	2	16	47	3	28	31	62	2	6	0	8	153
08:15 AM	13	23	0	12	3	9	24	1	16	7	24	1	0	0	1	85
Total Volume	67	59	1	60	12	34	106	6	102	67	175	3	10	5	18	426
% App. Total	52.8	46.5	0.8	56.6	11.3	32.1		3.4	58.3	38.3		16.7	55.6	27.8		
PHF	.798	.641	.250	.517	.750	.531	.564	.500	.823	.540	.706	.375	.417	.417	.563	.696
Cars	67	57	1	51	10	33	94	6	102	65	173	3	9	5	17	409
% Cars	100	96.6	100	85.0	83.3	97.1	88.7	100	100	97.0	98.9	100	90.0	100	94.4	96.0
Trucks	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	1.7	0	0	0.9	0	0	0	0	0	0	0	0	0.2
Buses	0	2	0	8	2	1	11	0	0	2	2	0	1	0	1	16
% Buses	0	3.4	0	13.3	16.7	2.9	10.4	0	0	3.0	1.1	0	10.0	0	5.6	3.8

# Accurate Counts

978-664-2565

N/S Street : Oaks Road  
 E/W Street: Flagg Drive  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040001  
 Site Code : 77040001  
 Start Date : 10/31/2017  
 Page No : 1

Start Time	Groups Printed- Bikes Peds															
	Oaks Rd From North				Flagg Dr From East				Oaks Rd From South				Flagg Dr From West			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	1	0	0	0	5	0	0	3	3	0	0	0	0
Total	0	0	0	2	0	0	1	6	0	0	3	3	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Total	0	0	0	0	0	0	0	3	0	0	0	6	0	0	0	0
Grand Total	0	0	0	2	0	0	1	9	0	0	3	9	0	0	0	0
Approch %	0	0	0		0	0	100		0	0	100		0	0	0	
Total %	0	0	0		0	0	25		0	0	75		0	0	0	
													83.3			16.7

**Accurate Counts**  
978-664-2565

N/S Street : Oaks Road  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040001  
Site Code : 77040001  
Start Date : 10/31/2017  
Page No : 1

Start Time	Groups Printed- Cars - Trucks - Buses												
	Oaks Rd From North			Flagg Dr From East			Oaks Rd From South			Flagg Dr From West			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
01:30 PM	7	16	1	4	4	10	0	20	1	0	2	4	69
01:45 PM	14	14	1	5	2	19	0	16	3	1	1	0	76
<b>Total</b>	<b>21</b>	<b>30</b>	<b>2</b>	<b>9</b>	<b>6</b>	<b>29</b>	<b>0</b>	<b>36</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>145</b>
02:00 PM	14	19	2	4	1	15	0	17	14	1	4	2	93
02:15 PM	14	19	0	14	4	11	0	19	5	2	2	1	91
02:30 PM	5	20	0	26	2	10	0	16	3	0	4	1	87
02:45 PM	12	19	0	13	4	13	2	20	3	0	2	2	90
<b>Total</b>	<b>45</b>	<b>77</b>	<b>2</b>	<b>57</b>	<b>11</b>	<b>49</b>	<b>2</b>	<b>72</b>	<b>25</b>	<b>3</b>	<b>12</b>	<b>6</b>	<b>361</b>
03:00 PM	9	21	0	18	2	16	3	14	4	1	2	1	91
03:15 PM	7	18	1	11	3	12	1	11	2	0	2	1	69
<b>Grand Total</b>	<b>82</b>	<b>146</b>	<b>5</b>	<b>95</b>	<b>22</b>	<b>106</b>	<b>6</b>	<b>133</b>	<b>35</b>	<b>5</b>	<b>19</b>	<b>12</b>	<b>666</b>
<b>Apprch %</b>	<b>35.2</b>	<b>62.7</b>	<b>2.1</b>	<b>42.6</b>	<b>9.9</b>	<b>47.5</b>	<b>3.4</b>	<b>76.4</b>	<b>20.1</b>	<b>13.9</b>	<b>52.8</b>	<b>33.3</b>	
<b>Total %</b>	<b>12.3</b>	<b>21.9</b>	<b>0.8</b>	<b>14.3</b>	<b>3.3</b>	<b>15.9</b>	<b>0.9</b>	<b>20</b>	<b>5.3</b>	<b>0.8</b>	<b>2.9</b>	<b>1.8</b>	
<b>Cars</b>	<b>82</b>	<b>144</b>	<b>5</b>	<b>79</b>	<b>22</b>	<b>104</b>	<b>6</b>	<b>133</b>	<b>35</b>	<b>5</b>	<b>18</b>	<b>12</b>	<b>645</b>
<b>% Cars</b>	<b>100</b>	<b>98.6</b>	<b>100</b>	<b>83.2</b>	<b>100</b>	<b>98.1</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>94.7</b>	<b>100</b>	<b>96.8</b>
<b>Trucks</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>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>% Trucks</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>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Buses</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>21</b>
<b>% Buses</b>	<b>0</b>	<b>1.4</b>	<b>0</b>	<b>16.8</b>	<b>0</b>	<b>1.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5.3</b>	<b>0</b>	<b>3.2</b>



## Accurate Counts

978-664-2565

N/S Street : Oaks Road  
 E/W Street: Flagg Drive  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040001  
 Site Code : 77040001  
 Start Date : 10/31/2017  
 Page No : 2

Start Time	Oaks Rd From North			Flagg Dr From East			Oaks Rd From South			Flagg Dr From West			Int. Total				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total					
02:00 PM	14	19	2	35	4	1	15	20	0	17	14	31	1	4	2	7	93
02:15 PM	14	19	0	33	14	4	11	29	0	19	5	24	2	2	1	5	91
02:30 PM	5	20	0	25	26	2	10	38	0	16	3	19	0	4	1	5	87
02:45 PM	12	19	0	31	13	4	13	30	2	20	3	25	0	2	2	4	90
Total Volume	45	77	2	124	57	11	49	117	2	72	25	99	3	12	6	21	361
% App. Total	36.3	62.1	1.6		48.7	9.4	41.9		2	72.7	25.3		14.3	57.1	28.6		
PHF	.804	.963	.250	.886	.548	.688	.817	.770	.250	.900	.446	.798	.375	.750	.750	.750	.970
Cars	45	75	2	122	41	11	47	99	2	72	25	99	3	11	6	20	340
% Cars	100	97.4	100	98.4	71.9	100	95.9	84.6	100	100	100	100	100	91.7	100	95.2	94.2
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	2	0	2	16	0	2	18	0	0	0	0	0	1	0	1	21
% Buses	0	2.6	0	1.6	28.1	0	4.1	15.4	0	0	0	0	0	8.3	0	4.8	5.8

Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 02:00 PM

# Accurate Counts

978-664-2565

N/S Street : Oaks Road  
 E/W Street: Flagg Drive  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040001  
 Site Code : 77040001  
 Start Date : 10/31/2017  
 Page No : 1

Start Time	Groups Printed- Bikes Peds																		
	Oaks Rd From North				Flagg Dr From East				Oaks Rd From South				Flagg Dr From West						
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	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	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	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	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	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	0	0
Approch %	0	0	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	84.8	15.2	0

**Accurate Counts**  
978-664-2565

N/S Street : Middle School West Dwy  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040002  
Site Code : 77040002  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Cars - Trucks - Buses

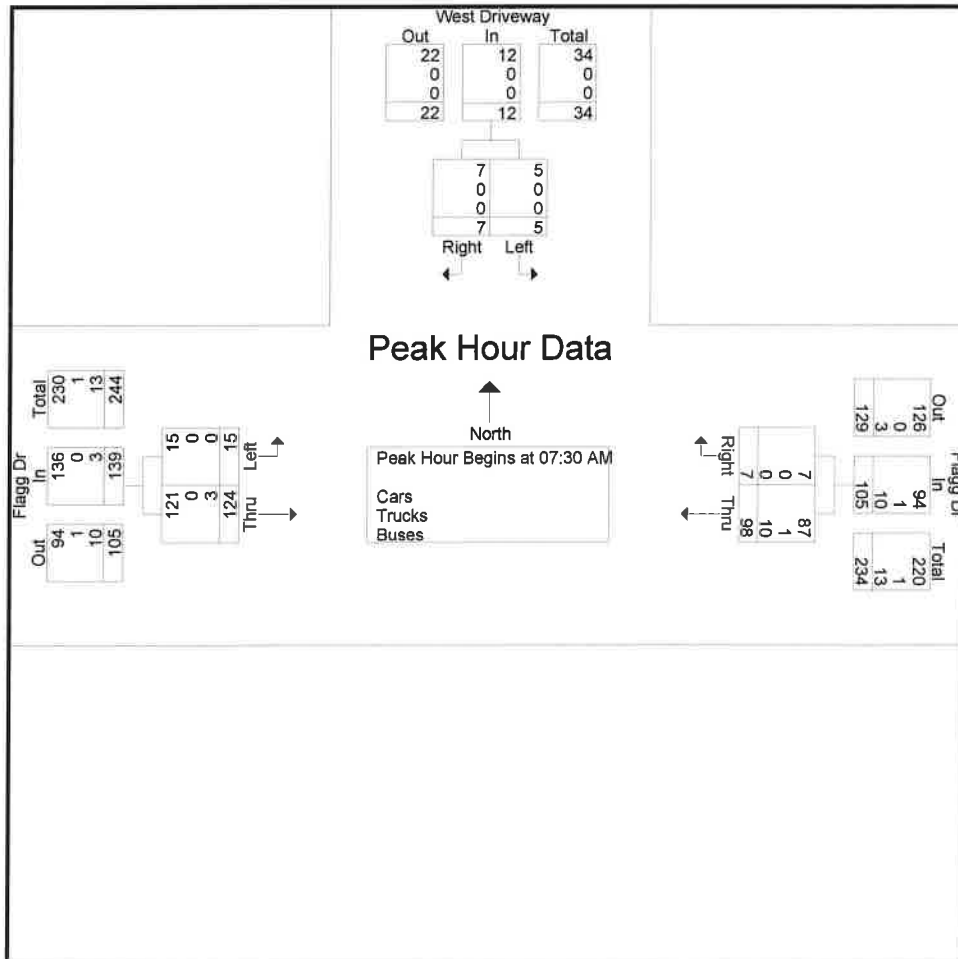
Start Time	West Driveway From North		Flagg Dr From East		Flagg Dr From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	1	0	9	0	2	10	22
07:15 AM	4	2	6	3	0	20	35
07:30 AM	1	0	11	1	2	29	44
07:45 AM	2	3	23	2	5	27	62
<b>Total</b>	<b>8</b>	<b>5</b>	<b>49</b>	<b>6</b>	<b>9</b>	<b>86</b>	<b>163</b>
08:00 AM	0	4	42	1	8	49	104
08:15 AM	2	0	22	3	0	19	46
08:30 AM	2	0	8	3	2	16	31
08:45 AM	2	0	8	3	2	15	30
<b>Total</b>	<b>6</b>	<b>4</b>	<b>80</b>	<b>10</b>	<b>12</b>	<b>99</b>	<b>211</b>
<b>Grand Total</b>	<b>14</b>	<b>9</b>	<b>129</b>	<b>16</b>	<b>21</b>	<b>185</b>	<b>374</b>
Apprch %	60.9	39.1	89	11	10.2	89.8	
Total %	3.7	2.4	34.5	4.3	5.6	49.5	
Cars	14	9	117	16	21	182	359
% Cars	100	100	90.7	100	100	98.4	96
Trucks	0	0	2	0	0	0	2
% Trucks	0	0	1.6	0	0	0	0.5
Buses	0	0	10	0	0	3	13
% Buses	0	0	7.8	0	0	1.6	3.5

**Accurate Counts**  
978-664-2565

N/S Street : Middle School West Dwy  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040002  
Site Code : 77040002  
Start Date : 10/31/2017  
Page No : 2

Start Time	West Driveway From North			Flagg Dr From East			Flagg Dr From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	1	0	1	11	1	12	2	29	31	44
07:45 AM	2	3	5	23	2	25	5	27	32	62
08:00 AM	0	4	4	42	1	43	8	49	57	104
08:15 AM	2	0	2	22	3	25	0	19	19	46
<b>Total Volume</b>	5	7	12	98	7	105	15	124	139	256
<b>% App. Total</b>	41.7	58.3		93.3	6.7		10.8	89.2		
PHF	.625	.438	.600	.583	.583	.610	.469	.633	.610	.615
Cars	5	7	12	87	7	94	15	121	136	242
% Cars	100	100	100	88.8	100	89.5	100	97.6	97.8	94.5
Trucks	0	0	0	1	0	1	0	0	0	1
% Trucks	0	0	0	1.0	0	1.0	0	0	0	0.4
Buses	0	0	0	10	0	10	0	3	3	13
% Buses	0	0	0	10.2	0	9.5	0	2.4	2.2	5.1



**Accurate Counts**  
978-664-2565

N/S Street : Middle School West Dwy  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040002  
Site Code : 77040002  
Start Date : 10/31/2017  
Page No : 1

Start Time	West Driveway From North			Flagg Dr From East			Flagg Dr From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	1	0	0	0	0	1	0	1	1	2
07:30 AM	0	0	4	0	0	0	0	0	0	4	0	4
07:45 AM	0	0	8	0	0	0	0	0	0	8	0	8
<b>Total</b>	0	0	13	0	0	0	0	1	0	13	1	14
08:00 AM	0	0	1	0	0	0	0	0	0	1	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	1	0	0	0	0	0	0	1	0	1
<b>Grand Total</b>	0	0	14	0	0	0	0	1	0	14	1	15
Apprch %	0	0		0	0		0	100				
Total %	0	0		0	0		0	100		93.3	6.7	



**Accurate Counts**  
978-664-2565

N/S Street : Middle School West Dwy  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040002  
Site Code : 77040002  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Cars - Trucks - Buses

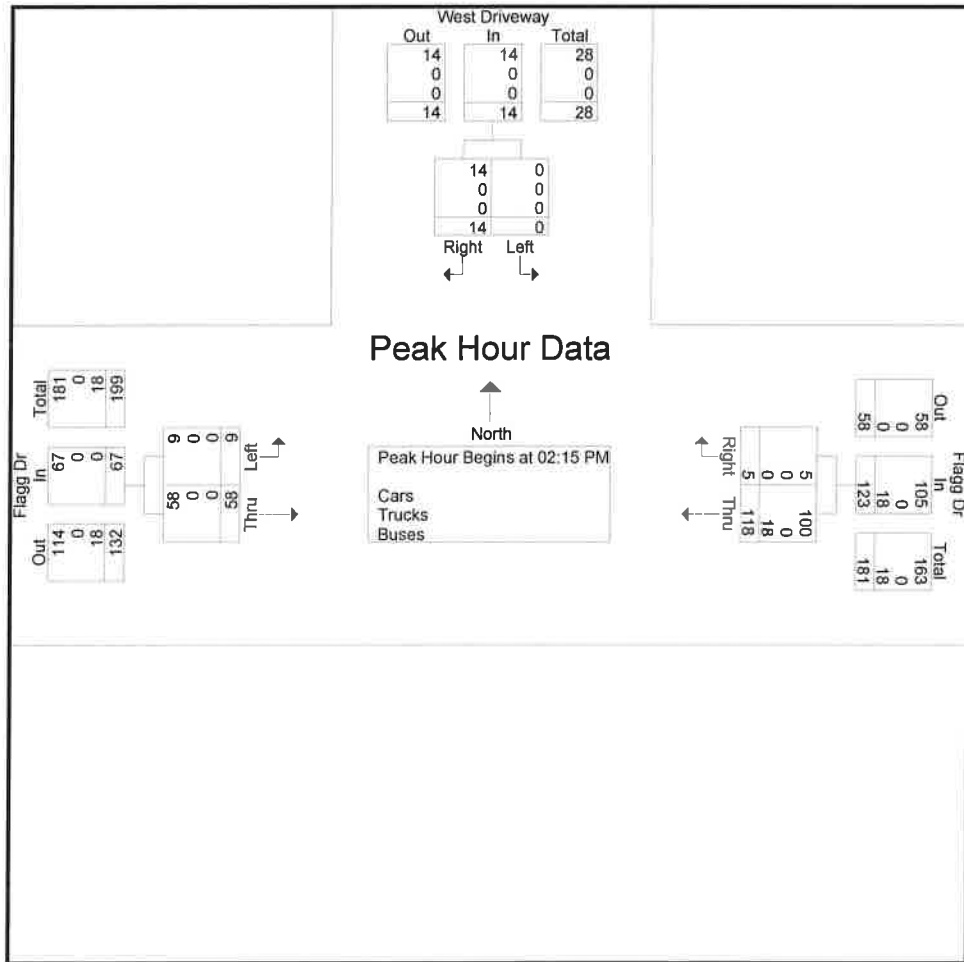
Start Time	West Driveway From North		Flagg Dr From East		Flagg Dr From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
01:30 PM	0	0	18	0	0	9	27
01:45 PM	1	1	23	1	1	17	44
<b>Total</b>	<b>1</b>	<b>1</b>	<b>41</b>	<b>1</b>	<b>1</b>	<b>26</b>	<b>71</b>
02:00 PM	1	1	17	1	3	28	51
02:15 PM	0	2	28	1	2	19	52
02:30 PM	0	6	32	2	2	11	53
02:45 PM	0	1	26	1	4	12	44
<b>Total</b>	<b>1</b>	<b>10</b>	<b>103</b>	<b>5</b>	<b>11</b>	<b>70</b>	<b>200</b>
03:00 PM	0	5	32	1	1	16	55
03:15 PM	2	6	20	1	0	9	38
<b>Grand Total</b>	<b>4</b>	<b>22</b>	<b>196</b>	<b>8</b>	<b>13</b>	<b>121</b>	<b>364</b>
Apprch %	15.4	84.6	96.1	3.9	9.7	90.3	
Total %	1.1	6	53.8	2.2	3.6	33.2	
<b>Cars</b>	<b>4</b>	<b>22</b>	<b>178</b>	<b>8</b>	<b>13</b>	<b>120</b>	<b>345</b>
<b>% Cars</b>	<b>100</b>	<b>100</b>	<b>90.8</b>	<b>100</b>	<b>100</b>	<b>99.2</b>	<b>94.8</b>
<b>Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>% Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Buses</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>19</b>
<b>% Buses</b>	<b>0</b>	<b>0</b>	<b>9.2</b>	<b>0</b>	<b>0</b>	<b>0.8</b>	<b>5.2</b>

**Accurate Counts**  
978-664-2565

N/S Street : Middle School West Dwy  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040002  
Site Code : 77040002  
Start Date : 10/31/2017  
Page No : 2

Start Time	West Driveway From North			Flagg Dr From East			Flagg Dr From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:15 PM										
02:15 PM	0	2	2	28	1	29	2	19	21	52
02:30 PM	0	6	6	32	2	34	2	11	13	53
02:45 PM	0	1	1	26	1	27	4	12	16	44
03:00 PM	0	5	5	32	1	33	1	16	17	55
Total Volume	0	14	14	118	5	123	9	58	67	204
% App. Total	0	100		95.9	4.1		13.4	86.6		
PHF	.000	.583	.583	.922	.625	.904	.563	.763	.798	.927
Cars	0	14	14	100	5	105	9	58	67	186
% Cars	0	100	100	84.7	100	85.4	100	100	100	91.2
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0
Buses	0	0	0	18	0	18	0	0	0	18
% Buses	0	0	0	15.3	0	14.6	0	0	0	8.8



**Accurate Counts**  
978-664-2565

N/S Street : Middle School West Dwy  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040002  
Site Code : 77040002  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Bikes Peds

Start Time	West Driveway From North			Flagg Dr From East			Flagg Dr From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	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
02:00 PM	0	0	1	0	0	0	0	1	0	1	1	2
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	11	0	0	0	0	0	0	11	0	11
02:45 PM	0	0	1	0	0	0	0	0	0	1	0	1
Total	0	0	13	0	0	0	0	1	0	13	1	14
03:00 PM	0	0	1	0	0	0	0	0	0	1	0	1
03:15 PM	0	0	3	0	0	0	0	0	0	3	0	3
Grand Total	0	0	17	0	0	0	0	1	0	17	1	18
Apprch %	0	0		0	0		0	100				
Total %	0	0		0	0		0	100		94.4	5.6	

**Accurate Counts**  
978-664-2565

N/S Street : Bus Drop-Off  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040003  
Site Code : 77040003  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Bus Lane

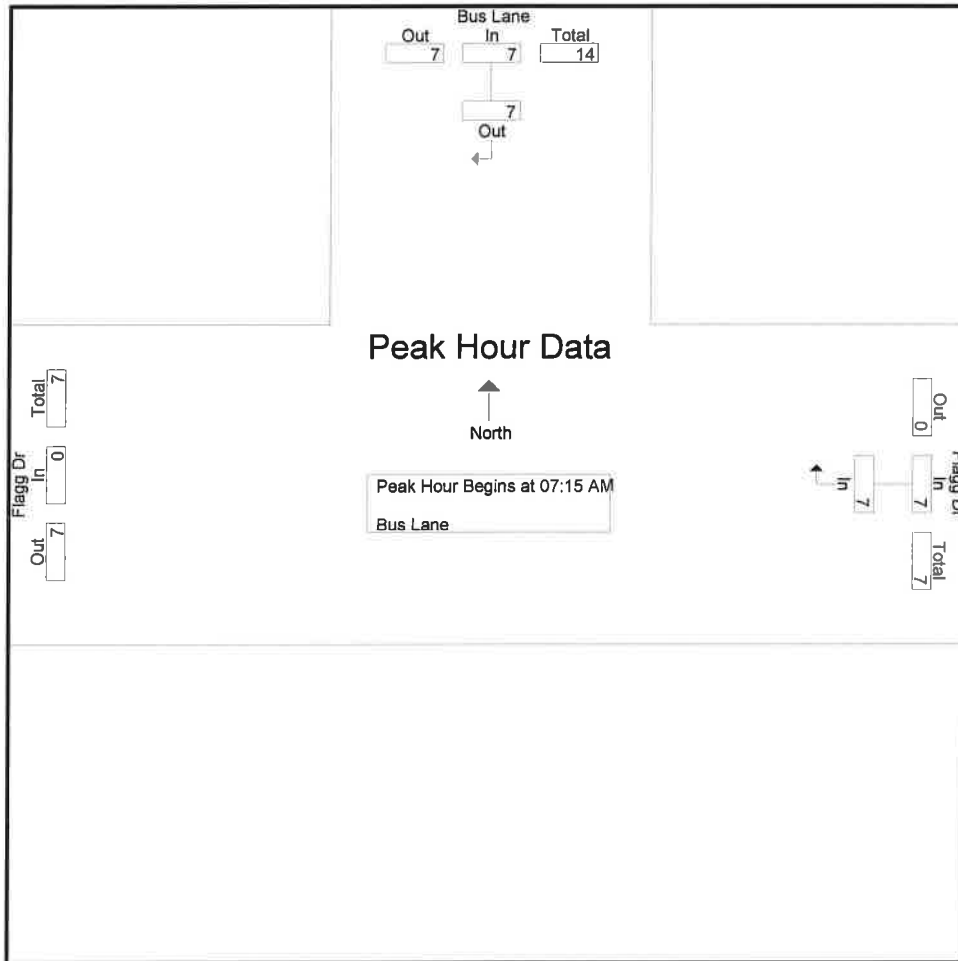
Start Time	Bus Lane From North		Flagg Dr From East		Int. Total
	Out	In	Out	In	
07:00 AM	0		0		0
07:15 AM	0		0		0
07:30 AM	0		1		1
07:45 AM	5		5		10
<b>Total</b>	<b>5</b>		<b>6</b>		<b>11</b>
08:00 AM	2		1		3
08:15 AM	0		0		0
08:30 AM	0		0		0
08:45 AM	0		0		0
<b>Total</b>	<b>2</b>		<b>1</b>		<b>3</b>
<b>Grand Total</b>	<b>7</b>		<b>7</b>		<b>14</b>
Apprch %	100		100		
Total %	50		50		

**Accurate Counts**  
978-664-2565

N/S Street : Bus Drop-Off  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040003  
Site Code : 77040003  
Start Date : 10/31/2017  
Page No : 2

Start Time	Bus Lane From North		Flagg Dr From East		From West		Int. Total
	Out	App. Total	In	App. Total	App. Total		
<b>Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1</b>							
<b>Peak Hour for Entire Intersection Begins at 07:15 AM</b>							
07:15 AM	0	0	0	0	0	0	0
07:30 AM	0	0	1	1	0	0	1
07:45 AM	5	5	5	5	0	0	10
08:00 AM	2	2	1	1	0	0	3
<b>Total Volume</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>14</b>
<b>% App. Total</b>	<b>100</b>		<b>100</b>				
<b>PHF</b>	<b>.350</b>	<b>.350</b>	<b>.350</b>	<b>.350</b>	<b>.000</b>	<b>.000</b>	<b>.350</b>



**Accurate Counts**  
978-664-2565

N/S Street : Bus Drop-Off  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040003  
Site Code : 77040003  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Bus Lane

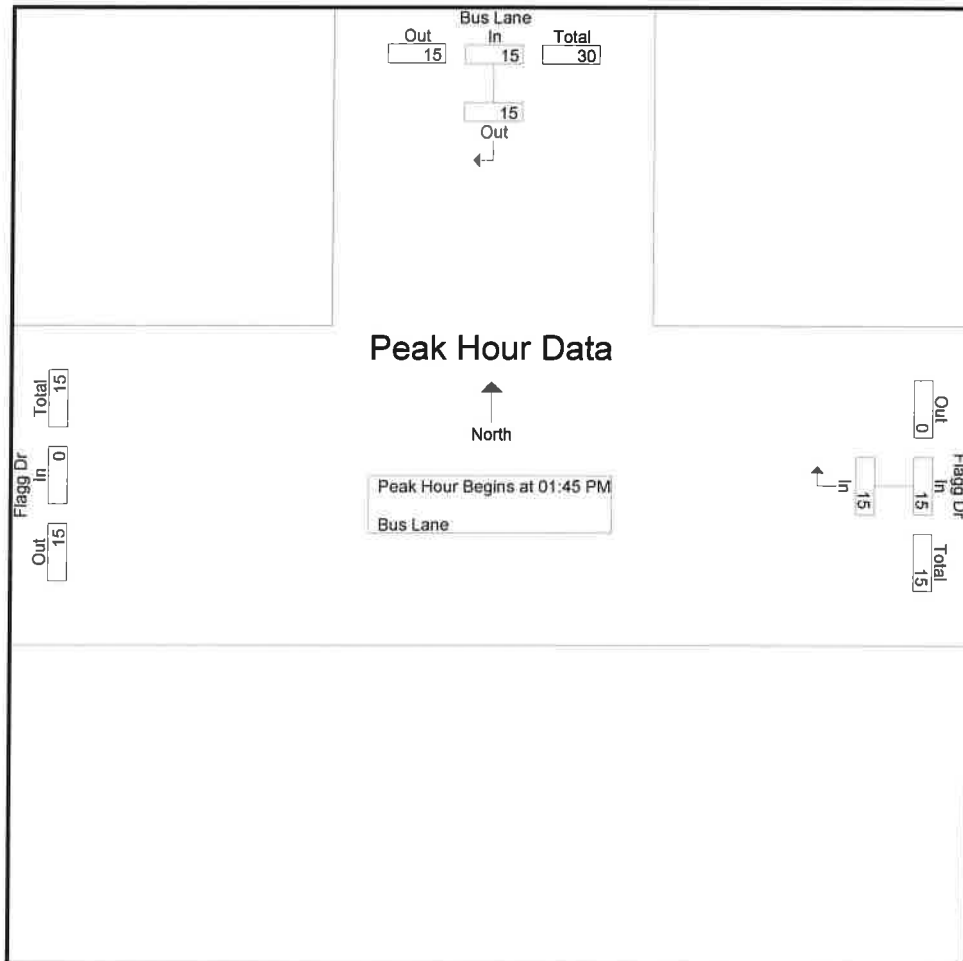
Start Time	Bus Lane From North		Flagg Dr From East		Int. Total
	Out	In	Out	In	
01:30 PM	0		0		0
01:45 PM	0		0		0
<b>Total</b>	<b>0</b>		<b>0</b>		<b>0</b>
02:00 PM	0		0		0
02:15 PM	0		7		7
02:30 PM	15		8		23
02:45 PM	0		0		0
<b>Total</b>	<b>15</b>		<b>15</b>		<b>30</b>
03:00 PM	0		0		0
03:15 PM	0		0		0
<b>Grand Total</b>	<b>15</b>		<b>15</b>		<b>30</b>
Apprch %	100		100		
Total %	50		50		

**Accurate Counts**  
978-664-2565

N/S Street : Bus Drop-Off  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040003  
Site Code : 77040003  
Start Date : 10/31/2017  
Page No : 2

Start Time	Bus Lane From North		Flagg Dr From East		From West	Int. Total
	Out	App. Total	In	App. Total	App. Total	
Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1						
Peak Hour for Entire Intersection Begins at 01:45 PM						
01:45 PM	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0
02:15 PM	0	0	7	7	0	7
02:30 PM	15	15	8	8	0	23
Total Volume	15	15	15	15	0	30
% App. Total	100		100			
PHF	.250	.250	.469	.469	.000	.326





**Accurate Counts**  
978-664-2565

N/S Street : Visitor / Handicap Lot  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040004  
Site Code : 77040004  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Cars - Trucks - Buses

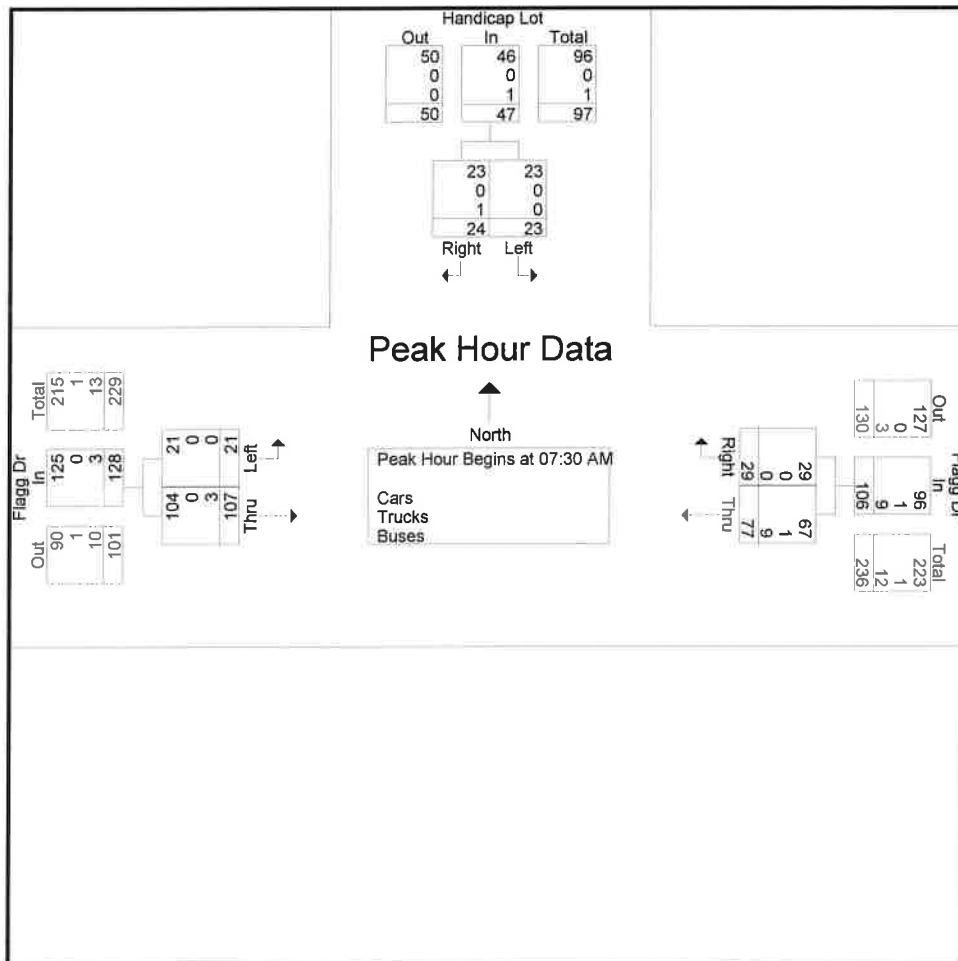
Start Time	Handicap Lot From North		Flagg Dr From East		Flagg Dr From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	0	0	8	1	3	8	20
07:15 AM	2	7	5	4	7	20	45
07:30 AM	9	4	8	11	7	22	61
07:45 AM	7	5	22	7	5	28	74
<b>Total</b>	<b>18</b>	<b>16</b>	<b>43</b>	<b>23</b>	<b>22</b>	<b>78</b>	<b>200</b>
08:00 AM	4	11	26	7	7	40	95
08:15 AM	3	4	21	4	2	17	51
08:30 AM	0	1	10	0	1	17	29
08:45 AM	0	0	10	0	0	18	28
<b>Total</b>	<b>7</b>	<b>16</b>	<b>67</b>	<b>11</b>	<b>10</b>	<b>92</b>	<b>203</b>
<b>Grand Total</b>	<b>25</b>	<b>32</b>	<b>110</b>	<b>34</b>	<b>32</b>	<b>170</b>	<b>403</b>
Apprch %	43.9	56.1	76.4	23.6	15.8	84.2	
Total %	6.2	7.9	27.3	8.4	7.9	42.2	
Cars	25	31	99	34	32	167	388
% Cars	100	96.9	90	100	100	98.2	96.3
Trucks	0	0	2	0	0	0	2
% Trucks	0	0	1.8	0	0	0	0.5
Buses	0	1	9	0	0	3	13
% Buses	0	3.1	8.2	0	0	1.8	3.2

**Accurate Counts**  
978-664-2565

N/S Street : Visitor / Handicap Lot  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040004  
Site Code : 77040004  
Start Date : 10/31/2017  
Page No : 2

Start Time	Handicap Lot From North			Flagg Dr From East			Flagg Dr From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	9	4	13	8	11	19	7	22	29	61
07:45 AM	7	5	12	22	7	29	5	28	33	74
08:00 AM	4	11	15	26	7	33	7	40	47	95
08:15 AM	3	4	7	21	4	25	2	17	19	51
<b>Total Volume</b>	<b>23</b>	<b>24</b>	<b>47</b>	<b>77</b>	<b>29</b>	<b>106</b>	<b>21</b>	<b>107</b>	<b>128</b>	<b>281</b>
<b>% App. Total</b>	<b>48.9</b>	<b>51.1</b>		<b>72.6</b>	<b>27.4</b>		<b>16.4</b>	<b>83.6</b>		
PHF	.639	.545	.783	.740	.659	.803	.750	.669	.681	.739
Cars	23	23	46	67	29	96	21	104	125	267
% Cars	100	95.8	97.9	87.0	100	90.6	100	97.2	97.7	95.0
Trucks	0	0	0	1	0	1	0	0	0	1
% Trucks	0	0	0	1.3	0	0.9	0	0	0	0.4
Buses	0	1	1	9	0	9	0	3	3	13
% Buses	0	4.2	2.1	11.7	0	8.5	0	2.8	2.3	4.6



**Accurate Counts**  
978-664-2565

N/S Street : Visitor / Handicap Lot  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040004  
Site Code : 77040004  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Bikes Peds

Start Time	Handicap Lot From North			Flagg Dr From East			Flagg Dr From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	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
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	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
<b>Grand Total</b>	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0				
Total %										0	0	

**Accurate Counts**  
978-664-2565

N/S Street : Visitor / Handicap Lot  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040004  
Site Code : 77040004  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Cars - Trucks - Buses

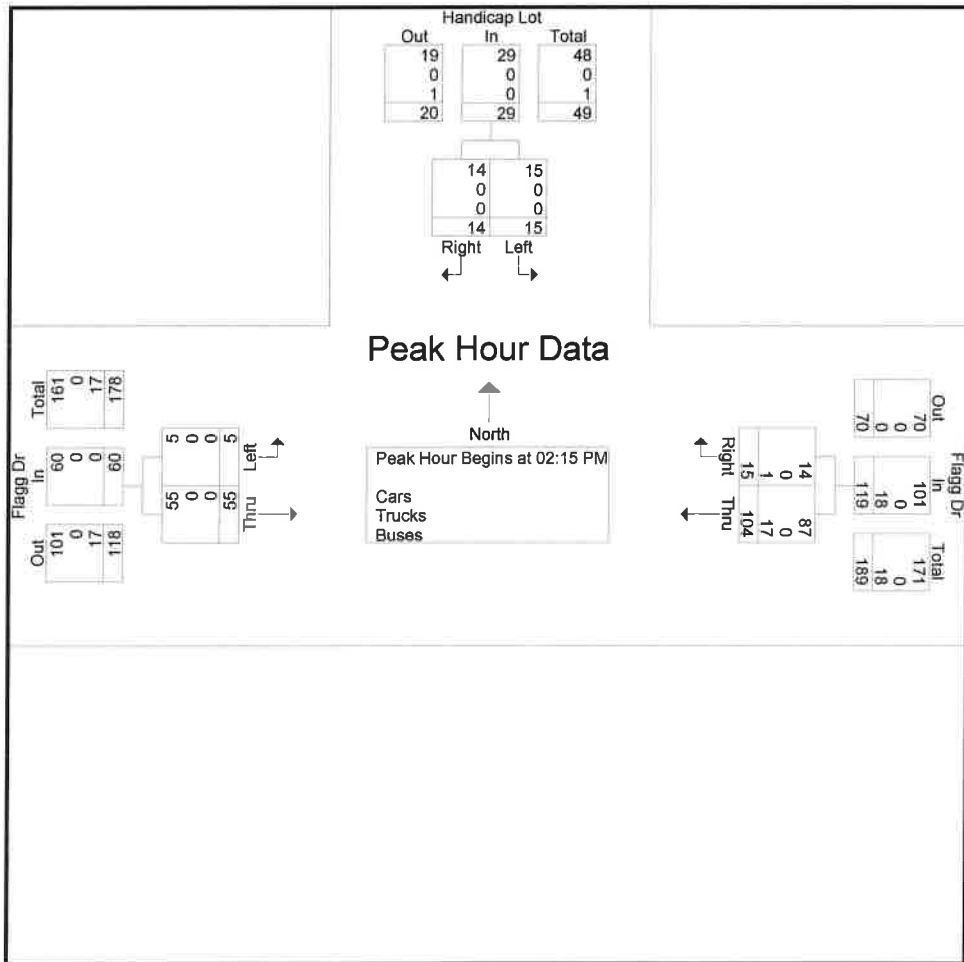
Start Time	Handicap Lot From North		Flagg Dr From East		Flagg Dr From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
01:30 PM	1	0	19	1	1	8	30
01:45 PM	1	0	24	3	1	18	47
<b>Total</b>	<b>2</b>	<b>0</b>	<b>43</b>	<b>4</b>	<b>2</b>	<b>26</b>	<b>77</b>
02:00 PM	1	1	16	2	0	27	47
02:15 PM	5	0	36	7	0	17	65
02:30 PM	5	2	22	4	2	13	48
02:45 PM	2	5	24	2	2	9	44
<b>Total</b>	<b>13</b>	<b>8</b>	<b>98</b>	<b>15</b>	<b>4</b>	<b>66</b>	<b>204</b>
03:00 PM	3	7	22	2	1	16	51
03:15 PM	5	0	22	5	0	11	43
<b>Grand Total</b>	<b>23</b>	<b>15</b>	<b>185</b>	<b>26</b>	<b>7</b>	<b>119</b>	<b>375</b>
Apprch %	60.5	39.5	87.7	12.3	5.6	94.4	
Total %	6.1	4	49.3	6.9	1.9	31.7	
<b>Cars</b>	<b>23</b>	<b>15</b>	<b>168</b>	<b>24</b>	<b>7</b>	<b>118</b>	<b>355</b>
<b>% Cars</b>	<b>100</b>	<b>100</b>	<b>90.8</b>	<b>92.3</b>	<b>100</b>	<b>99.2</b>	<b>94.7</b>
<b>Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>% Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Buses</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>20</b>
<b>% Buses</b>	<b>0</b>	<b>0</b>	<b>9.2</b>	<b>7.7</b>	<b>0</b>	<b>0.8</b>	<b>5.3</b>

**Accurate Counts**  
978-664-2565

N/S Street : Visitor / Handicap Lot  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040004  
Site Code : 77040004  
Start Date : 10/31/2017  
Page No : 2

Start Time	Handicap Lot From North			Flagg Dr From East			Flagg Dr From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:15 PM										
02:15 PM	5	0	5	36	7	43	0	17	17	65
02:30 PM	5	2	7	22	4	26	2	13	15	48
02:45 PM	2	5	7	24	2	26	2	9	11	44
03:00 PM	3	7	10	22	2	24	1	16	17	51
Total Volume	15	14	29	104	15	119	5	55	60	208
% App. Total	51.7	48.3		87.4	12.6		8.3	91.7		
PHF	.750	.500	.725	.722	.536	.692	.625	.809	.882	.800
Cars	15	14	29	87	14	101	5	55	60	190
% Cars	100	100	100	83.7	93.3	84.9	100	100	100	91.3
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0
Buses	0	0	0	17	1	18	0	0	0	18
% Buses	0	0	0	16.3	6.7	15.1	0	0	0	8.7



**Accurate Counts**  
978-664-2565

N/S Street : Visitor / Handicap Lot  
E/W Street: Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040004  
Site Code : 77040004  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Bikes Peds

Start Time	Handicap Lot From North			Flagg Dr From East			Flagg Dr From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	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
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	1	0	0	0	0	0	0	1	1
<b>Total</b>	0	0	0	1	0	0	0	0	0	0	1	1
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
<b>Grand Total</b>	0	0	0	1	0	0	0	0	0	0	1	1
Apprch %	0	0		100	0		0	0				
<b>Total %</b>	0	0		100	0		0	0		0	100	

# Vanasse & Associates

Flagg Dr at Fuller Exit / McCarthy Entrance  
Framingham, MA

Weather: Clear

File Name : 770401am

Site Code : 00770701

Start Date : 11/1/2017

Page No : 1

## Groups Printed- Cars - Trucks - Buses

Start Time	Fuller School Exit From North					Flagg Drive From East					McCarthy School Entrance From South					Flagg Drive 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	0	0	0	0	0	0	11	6	0	17	0	0	0	0	0	5	9	1	0	15	32
07:15 AM	0	0	2	0	2	0	16	14	0	30	0	0	0	0	0	3	22	0	0	25	57
07:30 AM	1	1	1	0	3	0	20	24	0	44	0	0	0	0	0	11	24	0	0	35	82
07:45 AM	3	5	23	0	31	0	26	67	0	93	0	0	0	0	0	16	22	0	0	38	162
Total	4	6	26	0	36	0	73	111	0	184	0	0	0	0	0	35	77	1	0	113	333
08:00 AM	6	2	7	0	15	0	29	62	0	91	0	0	0	0	0	27	13	0	0	40	146
08:15 AM	1	0	1	0	2	0	16	7	0	23	0	0	1	0	1	6	13	0	0	19	45
08:30 AM	0	0	2	0	2	0	11	5	0	16	0	0	0	0	0	4	12	0	0	16	34
08:45 AM	1	0	1	0	2	0	10	2	0	12	0	0	0	0	0	1	16	0	0	17	31
Total	8	2	11	0	21	0	66	76	0	142	0	0	1	0	1	38	54	0	0	92	256
Grand Total	12	8	37	0	57	0	139	187	0	326	0	0	1	0	1	73	131	1	0	205	589
Apprch %	21.1	14	64.9	0		0	42.6	57.4	0		0	0	100	0		35.6	63.9	0.5	0		
Total %	2	1.4	6.3	0	9.7	0	23.6	31.7	0	55.3	0	0	0.2	0	0.2	12.4	22.2	0.2	0	34.8	
Cars	12	8	29	0	49	0	127	182	0	309	0	0	1	0	1	73	129	1	0	203	562
% Cars	100	100	78.4	0	86	0	91.4	97.3	0	94.8	0	0	100	0	100	100	98.5	100	0	99	95.4
Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
% Trucks	0	0	0	0	0	0	1.4	0	0	0.6	0	0	0	0	0	0	0	0	0	0	0.3
Buses	0	0	8	0	8	0	10	5	0	15	0	0	0	0	0	0	2	0	0	2	25
% Buses	0	0	21.6	0	14	0	7.2	2.7	0	4.6	0	0	0	0	0	0	1.5	0	0	1	4.2

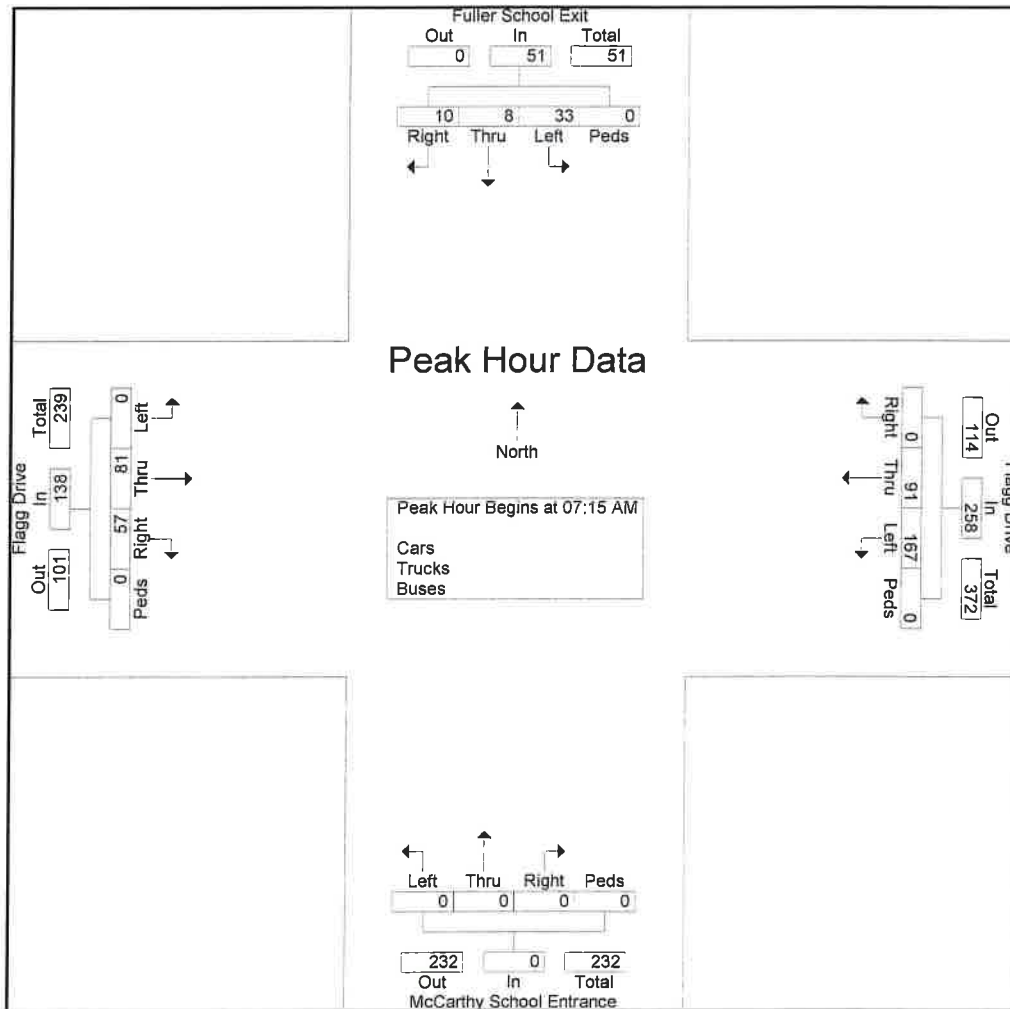
# Vanasse & Associates

Flagg Dr at Fuller Exit / McCarthy Entrance  
Framingham, MA

Weather: Clear

File Name : 770401am  
Site Code : 00770701  
Start Date : 11/1/2017  
Page No : 3

Start Time	Fuller School Exit From North					Flagg Drive From East					McCarthy School Entrance From South					Flagg Drive 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	0	0	2	0	2	0	16	14	0	30	0	0	0	0	0	3	22	0	0	25	57
07:30 AM	1	1	1	0	3	0	20	24	0	44	0	0	0	0	0	11	24	0	0	35	82
07:45 AM	3	5	23	0	31	0	26	67	0	93	0	0	0	0	0	16	22	0	0	38	162
08:00 AM	6	2	7	0	15	0	29	62	0	91	0	0	0	0	0	27	13	0	0	40	146
Total Volume	10	8	33	0	51	0	91	167	0	258	0	0	0	0	0	57	81	0	0	138	447
% App. Total	19.6	15.7	64.7	0		0	35.3	64.7	0		0	0	0	0		41.3	58.7	0	0		
PHF	.417	.400	.359	.000	.411	.000	.784	.623	.000	.694	.000	.000	.000	.000	.000	.528	.844	.000	.000	.863	.690





# Vanasse & Associates

Flagg Dr at Fuller Exit / McCarthy Entrance  
Framingham, MA

Weather: Clear

File Name : 770401pm  
Site Code : 00770701  
Start Date : 11/1/2017  
Page No : 1

## Groups Printed- Cars - Trucks - Buses

Start Time	Fuller School Exit From North					Flagg Frive From East					McCarthy School Entrance From South					Flagg Frive 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	
01:30 PM	2	0	4	0	6	0	18	4	0	22	0	0	0	0	0	0	6	0	0	6	34
01:45 PM	1	0	1	0	2	0	27	6	0	33	0	0	0	0	0	5	11	0	0	16	51
Total	3	0	5	0	8	0	45	10	0	55	0	0	0	0	0	5	17	0	0	22	85
02:00 PM	0	0	5	0	5	0	16	17	0	33	0	0	0	0	0	8	24	0	0	32	70
02:15 PM	5	1	19	0	25	0	33	15	0	48	0	0	0	0	0	4	19	0	0	23	96
02:30 PM	2	0	35	0	37	0	25	3	0	28	0	0	0	0	0	3	17	1	0	21	86
02:45 PM	8	0	10	0	18	0	16	2	0	18	0	0	0	0	0	0	12	0	0	12	48
Total	15	1	69	0	85	0	90	37	0	127	0	0	0	0	0	15	72	1	0	88	300
03:00 PM	13	0	3	0	16	0	12	0	0	12	0	0	0	0	0	1	16	0	0	17	45
03:15 PM	4	0	5	0	9	0	20	0	0	20	0	0	0	0	0	1	15	0	0	16	45
Grand Total	35	1	82	0	118	0	167	47	0	214	0	0	0	0	0	22	120	1	0	143	475
Apprch %	29.7	0.8	69.5	0		0	78	22	0		0	0	0	0		15.4	83.9	0.7	0		
Total %	7.4	0.2	17.3	0	24.8	0	35.2	9.9	0	45.1	0	0	0	0	0	4.6	25.3	0.2	0	30.1	
Cars	35	1	82	0	118	0	149	40	0	189	0	0	0	0	0	22	119	1	0	142	449
% Cars	100	100	100	0	100	0	89.2	85.1	0	88.3	0	0	0	0	0	100	99.2	100	0	99.3	94.5
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	0	0	0	0	0	18	7	0	25	0	0	0	0	0	0	1	0	0	1	26
% Buses	0	0	0	0	0	0	10.8	14.9	0	11.7	0	0	0	0	0	0	0.8	0	0	0.7	5.5

# Vanasse & Associates

Flagg Dr at Fuller Exit / McCarthy Entrance  
Framingham, MA

Weather: Clear

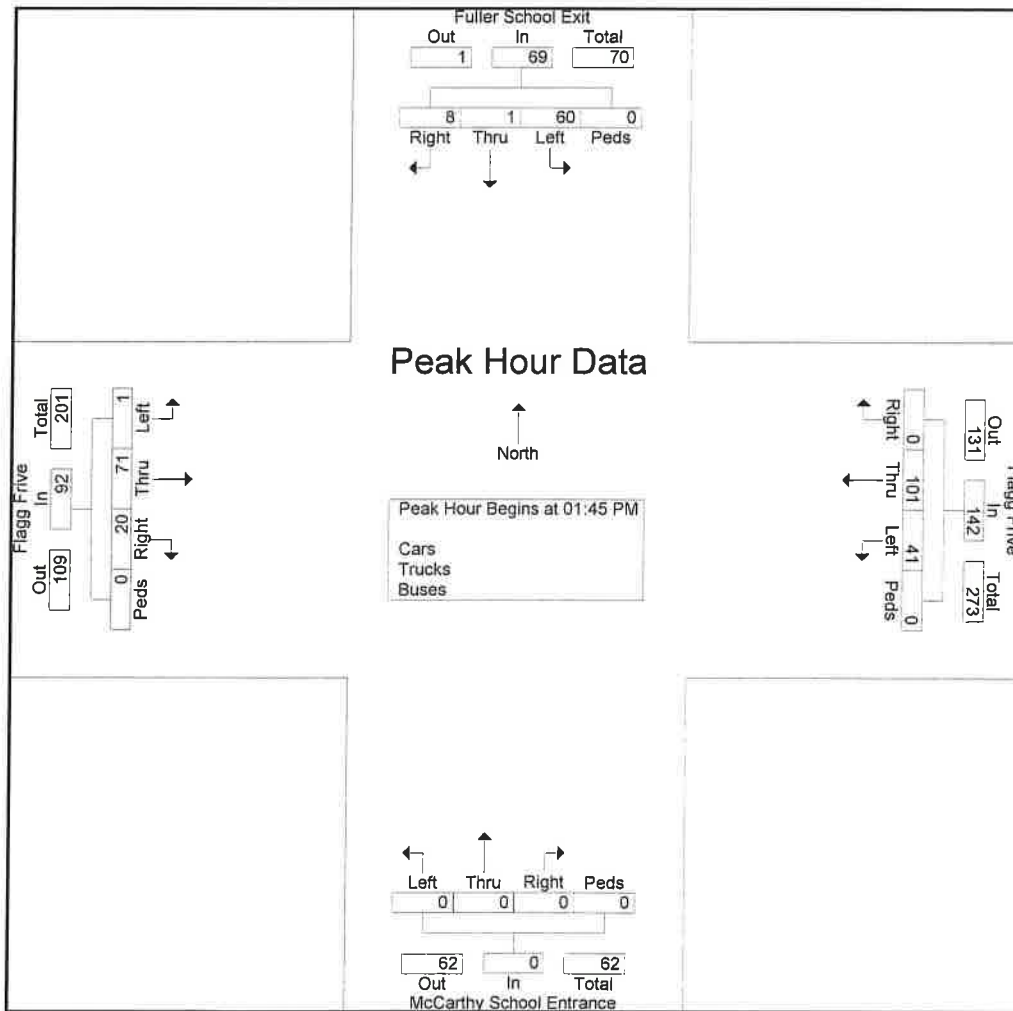
File Name : 770401pm

Site Code : 00770701

Start Date : 11/1/2017

Page No : 3

Start Time	Fuller School Exit From North					Flagg Frive From East					McCarthy School Entrance From South					Flagg Frive 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 01:30 PM to 03:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:45 PM																					
01:45 PM	1	0	1	0	2	0	27	6	0	33	0	0	0	0	0	5	11	0	0	16	51
02:00 PM	0	0	5	0	5	0	16	17	0	33	0	0	0	0	0	8	24	0	0	32	70
02:15 PM	5	1	19	0	25	0	33	15	0	48	0	0	0	0	0	4	19	0	0	23	96
02:30 PM	2	0	35	0	37	0	25	3	0	28	0	0	0	0	0	3	17	1	0	21	86
Total Volume	8	1	60	0	69	0	101	41	0	142	0	0	0	0	0	20	71	1	0	92	303
% App. Total	11.6	1.4	87	0		0	71.1	28.9	0		0	0	0	0		21.7	77.2	1.1	0		
PHF	.400	.250	.429	.000	.466	.000	.765	.603	.000	.740	.000	.000	.000	.000	.000	.625	.740	.250	.000	.719	.789



# Accurate Counts

978-664-2565

N/S Street : Fuller / Mass Bay Entrance  
 E/W Street : Flagg Drive  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040006  
 Site Code : 77040006  
 Start Date : 10/31/2017  
 Page No : 1

Start Time	Fuller / Mass Bay From North			Flagg Dr From East			McCarthy Exit From South			Flagg Dr From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	0	3	0	0	1	0	0	0	4
07:15 AM	0	0	0	0	0	13	0	0	1	8	0	0	22
07:30 AM	0	0	0	0	0	20	1	0	0	5	0	0	26
07:45 AM	0	0	0	0	0	42	3	0	21	10	0	0	76
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>78</b>	<b>4</b>	<b>0</b>	<b>23</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>128</b>
08:00 AM	0	0	0	0	0	24	12	5	53	5	0	0	99
08:15 AM	2	0	0	0	0	6	3	0	15	2	0	0	28
08:30 AM	0	0	0	0	0	3	0	0	1	3	0	0	7
08:45 AM	0	0	0	0	0	1	0	0	0	3	0	0	4
<b>Total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>15</b>	<b>5</b>	<b>69</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>138</b>
<b>Grand Total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>112</b>	<b>19</b>	<b>5</b>	<b>92</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>266</b>
Apprch %	100	0	0	0	0	100	16.4	4.3	79.3	100	0	0	
Total %	0.8	0	0	0	0	42.1	7.1	1.9	34.6	13.5	0	0	
Cars	2	0	0	0	0	105	19	5	92	36	0	0	259
% Cars	100	0	0	0	0	93.8	100	100	100	100	0	0	97.4
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	0	0	0	0	7	0	0	0	0	0	0	7
% Buses	0	0	0	0	0	6.2	0	0	0	0	0	0	2.6

# Accurate Counts

978-664-2565

N/S Street : Fuller / Mass Bay Entrance  
 E/W Street : Flagg Drive  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040006  
 Site Code : 77040006  
 Start Date : 10/31/2017  
 Page No : 2

Start Time	Fuller / Mass Bay From North			Flagg Dr From East			McCarthy Exit From South			Flagg Dr From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30 AM	0	0	0	0	0	20	1	0	0	5	0	0	5
07:45 AM	0	0	0	0	0	42	3	0	21	10	0	0	10
08:00 AM	0	0	0	0	0	24	12	5	53	5	0	0	5
08:15 AM	2	0	0	0	0	6	3	0	15	2	0	0	2
Total Volume	2	0	0	0	0	92	19	5	89	22	0	0	22
% App. Total	100	0	0	0	0	100	16.8	4.4	78.8	100	0	0	0
PHF	.250	.000	.000	.250	.548	.548	.396	.250	.420	.404	.000	.000	.550
Cars	2	0	0	2	85	85	19	5	89	113	0	0	22
% Cars	100	0	0	100	92.4	92.4	100	100	100	100	0	0	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	0	0	0	7	7	0	0	0	0	0	0	0
% Buses	0	0	0	0	7.6	7.6	0	0	0	0	0	0	0

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:30 AM

# Accurate Counts

978-664-2565

N/S Street : Fuller / Mass Bay Entrance  
 E/W Street : Flagg Drive  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040006  
 Site Code : 77040006  
 Start Date : 10/31/2017  
 Page No : 1

Start Time	Fuller / Mass Bay From North												Flagg Dr From East												Groups Printed- Bikes Peds												McCarthy Exit From South												Flagg Dr From West											
	Left				Right				Thru				Left				Right				Thru				Left				Right				Thru				Left				Right				Thru				Left				Right				Thru			
	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds																
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
Approch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												

88 1 89  
 98.9 1.1



# Accurate Counts

978-664-2565

N/S Street : Fuller / Mass Bay Entrance  
 EW Street : Flagg Drive  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040006  
 Site Code : 77040006  
 Start Date : 10/31/2017  
 Page No : 2

Start Time	Fuller / Mass Bay From North				Flagg Dr From East				McCarthy Exit From South				Flagg Dr From West					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total	
02:00 PM	1	0	0	1	0	0	24	24	1	2	3	6	8	0	0	0	8	39
02:15 PM	2	0	0	2	0	0	17	17	7	3	31	41	4	0	0	0	4	64
02:30 PM	3	0	0	3	1	0	11	12	4	1	15	20	3	0	0	0	3	38
02:45 PM	3	0	2	5	0	0	1	1	3	0	11	14	1	0	0	0	1	21
Total Volume	9	0	2	11	1	0	53	54	15	6	60	81	16	0	0	0	16	162
% App. Total	81.8	0	18.2		1.9	0	98.1		18.5	7.4	74.1		100	0	0	0		
PHF	.750	.000	.250	.550	.250	.000	.552	.563	.536	.500	.484	.494	.500	.000	.000	.000	.500	.633
Cars	9	0	2	11	1	0	51	52	15	6	60	81	16	0	0	0	16	160
% Cars	100	0	100	100	100	0	96.2	96.3	100	100	100	100	100	0	0	0	100	98.8
Trucks	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	2
% Trucks	0	0	0	0	0	0	3.8	3.7	0	0	0	0	0	0	0	0	0	1.2
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 02:00 PM

# Accurate Counts

978-664-2565

N/S Street : Fuller / Mass Bay Entrance  
 E/W Street : Flagg Drive  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040006  
 Site Code : 77040006  
 Start Date : 10/31/2017  
 Page No : 1

Start Time	Fuller / Mass Bay From North												Flagg Dr From East						McCarthy Exit From South						Flagg Dr From West																				
	Left			Right			Thru			Peds			Left			Right			Thru			Peds			Left			Right			Thru														
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	1	0	0			
01:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	3	0	0
<b>Total</b>	<b>1</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>0</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>0</b>	<b>0</b>	<b>0</b>	<b>3</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>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>
02:00 PM	0	0	0	0	0	0	0	0	0	7	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	29	0	0	13	0	0	0	0	0	0	0	0	13	0	0	0	0	0	1	0	0	0	0	0	43	2	0	2	0	0	45	2	0	45	2	0
02:30 PM	0	0	0	0	0	0	0	0	0	7	0	0	8	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	34	2	0	2	0	0	36	2	0	36	2	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	7	2	0	2	0	0	9	2	0	9	2	0
<b>Total</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>0</b>	<b>43</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25</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>93</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>99</b>	<b>6</b>	<b>0</b>	<b>99</b>	<b>6</b>	<b>0</b>			
03:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	6	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	14	1	0	1	0	0	15	1	0	15	1	0			
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0	0	3	0	0			
<b>Grand Total</b>	<b>1</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>48</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>1</b>	<b>0</b>	<b>36</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>113</b>	<b>8</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>121</b>	<b>8</b>	<b>0</b>	<b>121</b>	<b>8</b>	<b>0</b>						
<b>Approch %</b>	<b>100</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>80</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>100</b>	<b>0</b>	<b>100</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</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>93.4</b>	<b>6.6</b>	<b>0</b>	<b>6.6</b>	<b>0</b>	<b>0</b>	<b>6.6</b>	<b>0</b>	<b>0</b>	<b>6.6</b>	<b>0</b>	<b>0</b>			
<b>Total %</b>	<b>12.5</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>50</b>	<b>0</b>	<b>0</b>	<b>12.5</b>	<b>12.5</b>	<b>0</b>	<b>12.5</b>	<b>12.5</b>	<b>0</b>	<b>0</b>	<b>12.5</b>	<b>0</b>	<b>0</b>	<b>12.5</b>	<b>0</b>	<b>0</b>	<b>12.5</b>	<b>0</b>	<b>93.4</b>	<b>6.6</b>	<b>0</b>	<b>6.6</b>	<b>0</b>	<b>0</b>	<b>6.6</b>	<b>0</b>	<b>0</b>	<b>6.6</b>	<b>0</b>	<b>0</b>						



**Accurate Counts**  
978-664-2565

N/S Street : Mass Bay Staff Driveway  
E/W Street : Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040007  
Site Code : 77040007  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Cars

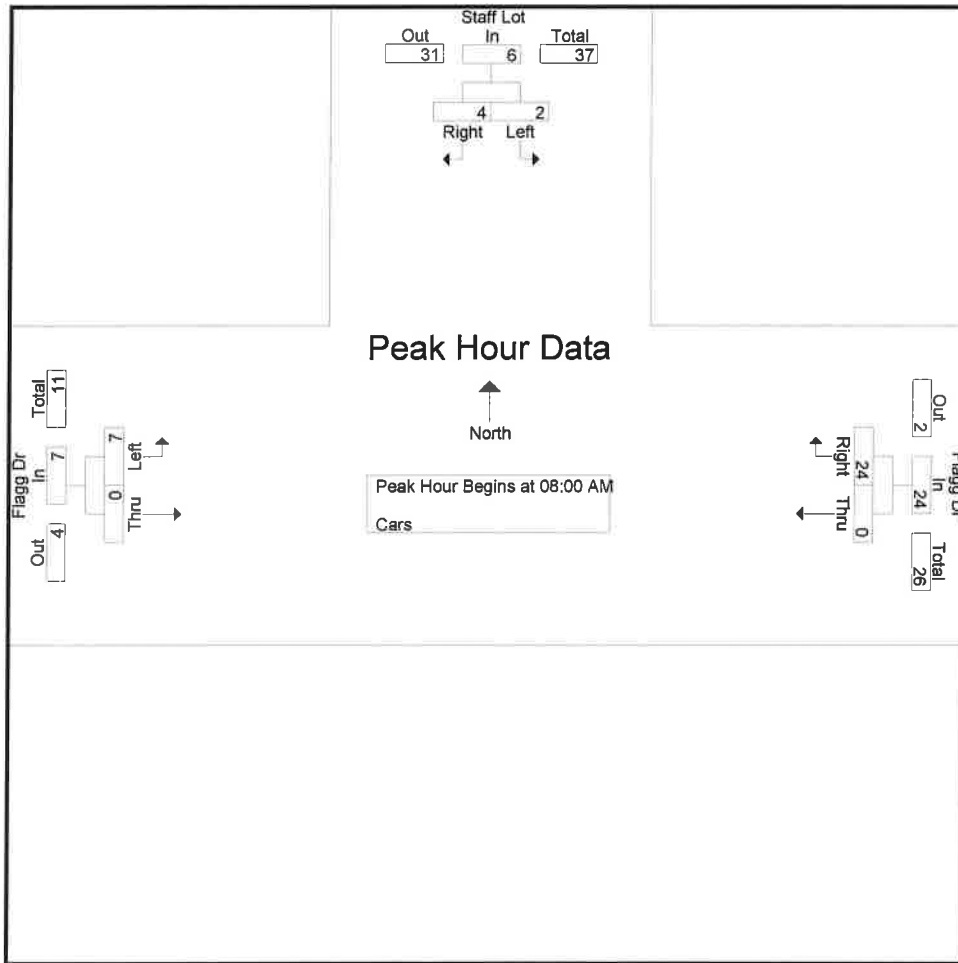
Start Time	Staff Lot From North		Flagg Dr From East		Flagg Dr From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	0	0	0	0	0	0	0
07:15 AM	0	0	0	1	0	0	1
07:30 AM	0	0	0	1	0	0	1
07:45 AM	0	1	0	2	0	0	3
<b>Total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>5</b>
08:00 AM	2	0	0	5	2	0	9
08:15 AM	0	3	0	1	1	0	5
08:30 AM	0	1	0	8	1	0	10
08:45 AM	0	0	0	10	3	0	13
<b>Total</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>24</b>	<b>7</b>	<b>0</b>	<b>37</b>
<b>Grand Total</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>28</b>	<b>7</b>	<b>0</b>	<b>42</b>
Apprch %	28.6	71.4	0	100	100	0	
Total %	4.8	11.9	0	66.7	16.7	0	

**Accurate Counts**  
978-664-2565

N/S Street : Mass Bay Staff Driveway  
E/W Street : Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040007  
Site Code : 77040007  
Start Date : 10/31/2017  
Page No : 2

Start Time	Staff Lot From North			Flagg Dr From East			Flagg Dr From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	2	0	2	0	5	5	2	0	2	9
08:15 AM	0	3	3	0	1	1	1	0	1	5
08:30 AM	0	1	1	0	8	8	1	0	1	10
08:45 AM	0	0	0	0	10	10	3	0	3	13
Total Volume	2	4	6	0	24	24	7	0	7	37
% App. Total	33.3	66.7		0	100		100	0		
PHF	.250	.333	.500	.000	.600	.600	.583	.000	.583	.712



**Accurate Counts**  
978-664-2565

N/S Street : Mass Bay Staff Driveway  
E/W Street : Flagg Drive  
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Weather : Clear

File Name : 77040007  
Site Code : 77040007  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Bikes Peds

Start Time	Staff Lot From North			Flagg Dr From East			Flagg Dr From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	1	0	0	0	0	0	0	1	0	1
07:30 AM	0	0	3	0	0	0	0	0	0	3	0	3
07:45 AM	0	0	6	0	0	0	0	0	0	6	0	6
<b>Total</b>	0	0	10	0	0	0	0	0	0	10	0	10
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	2	0	0	0	0	0	0	2	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	2	0	0	0	0	0	0	2	0	2
<b>Grand Total</b>	0	0	12	0	0	0	0	0	0	12	0	12
Apprch %	0	0		0	0		0	0				
Total %										100	0	

**Accurate Counts**  
978-664-2565

N/S Street : Mass Bay Staff Driveway  
E/W Street : Flagg Drive  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040007  
Site Code : 77040007  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Cars

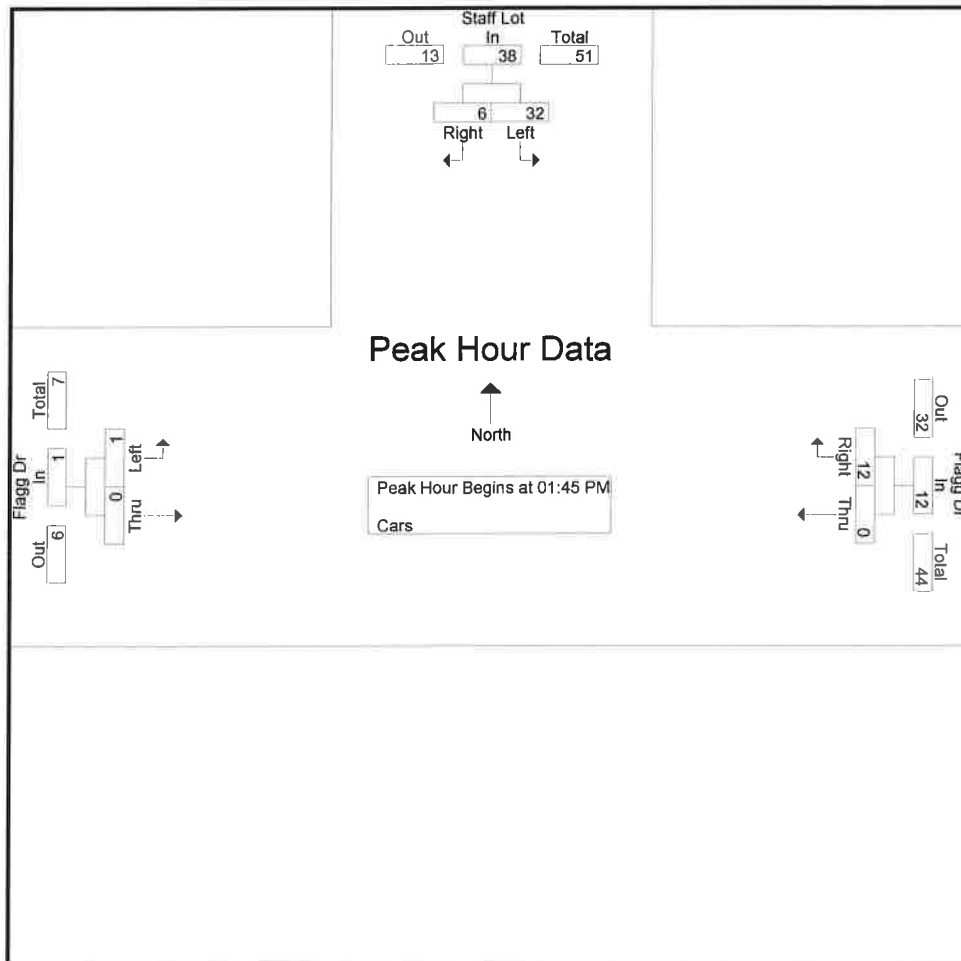
Start Time	Staff Lot From North		Flagg Dr From East		Flagg Dr From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
01:30 PM	2	1	0	3	0	0	6
01:45 PM	7	2	0	2	0	0	11
<b>Total</b>	<b>9</b>	<b>3</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>17</b>
02:00 PM	3	0	0	4	1	0	8
02:15 PM	12	3	0	2	0	0	17
02:30 PM	10	1	0	4	0	0	15
02:45 PM	2	2	0	2	1	0	7
<b>Total</b>	<b>27</b>	<b>6</b>	<b>0</b>	<b>12</b>	<b>2</b>	<b>0</b>	<b>47</b>
03:00 PM	3	1	0	0	0	0	4
03:15 PM	6	0	0	1	0	0	7
<b>Grand Total</b>	<b>45</b>	<b>10</b>	<b>0</b>	<b>18</b>	<b>2</b>	<b>0</b>	<b>75</b>
Apprch %	81.8	18.2	0	100	100	0	
Total %	60	13.3	0	24	2.7	0	

**Accurate Counts**  
978-664-2565

N/S Street : Mass Bay Staff Driveway  
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File Name : 77040007  
Site Code : 77040007  
Start Date : 10/31/2017  
Page No : 2

Start Time	Staff Lot From North			Flagg Dr From East			Flagg Dr From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 01:45 PM										
01:45 PM	7	2	9	0	2	2	0	0	0	11
02:00 PM	3	0	3	0	4	4	1	0	1	8
02:15 PM	12	3	15	0	2	2	0	0	0	17
02:30 PM	10	1	11	0	4	4	0	0	0	15
Total Volume	32	6	38	0	12	12	1	0	1	51
% App. Total	84.2	15.8		0	100		100	0		
PHF	.667	.500	.633	.000	.750	.750	.250	.000	.250	.750



**Accurate Counts**  
978-664-2565

N/S Street : Mass Bay Staff Driveway  
E/W Street : Flagg Drive  
City/State : Framingham, MA  
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File Name : 77040007  
Site Code : 77040007  
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Page No : 1

Groups Printed- Bikes Peds

Start Time	Staff Lot From North			Flagg Dr From East			Flagg Dr From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	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
02:00 PM	0	0	1	0	0	0	0	0	0	1	0	1
02:15 PM	0	0	0	0	0	0	0	0	1	1	0	1
02:30 PM	0	0	19	0	0	1	0	0	0	20	0	20
02:45 PM	0	0	2	0	0	0	0	0	0	2	0	2
Total	0	0	22	0	0	1	0	0	1	24	0	24
03:00 PM	0	0	5	0	0	3	0	0	0	8	0	8
03:15 PM	0	0	1	0	0	1	0	0	0	2	0	2
Grand Total	0	0	28	0	0	5	0	0	1	34	0	34
Apprch %	0	0		0	0		0	0				
Total %										100	0	

**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
 EW Street : Mass Bay Drwy/McCarthy West  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040008  
 Site Code : 77040008  
 Start Date : 10/31/2017  
 Page No : 1

Start Time	Groups Printed- Cars - Trucks - Buses												Int. Total				
	Flagg Dr From North			Mass Bay Drwy From East			Flagg Dr From South			McCarthy West Drwy From West							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right					
07:00 AM	0	6	0	0	0	0	0	0	0	21	0	0	0	0	0	3	30
07:15 AM	0	12	0	0	0	0	0	0	0	34	0	0	0	0	0	3	49
07:30 AM	0	12	0	1	0	0	1	0	0	55	0	0	0	0	0	1	70
07:45 AM	0	52	1	6	0	6	3	0	1	102	1	0	0	0	0	1	172
<b>Total</b>	0	82	1	7	0	6	4	0	6	212	1	0	0	0	0	8	321
08:00 AM	0	78	0	1	0	5	4	0	0	127	0	0	0	2	0	18	235
08:15 AM	0	30	0	2	0	0	0	0	0	36	0	0	0	2	0	27	97
08:30 AM	0	8	0	0	0	0	1	0	0	20	0	0	0	0	0	6	35
08:45 AM	0	14	0	2	0	0	0	0	0	28	0	0	0	0	0	3	47
<b>Total</b>	0	130	0	5	0	5	5	0	5	211	0	0	0	4	0	54	414
<b>Grand Total</b>	0	212	1	12	0	11	9	0	11	423	1	0	0	4	0	62	735
Approch %	0	99.5	0.5	52.2	0	47.8	2.1	0	0	97.7	0.2	0	0	6.1	0	93.9	
Total %	0	28.8	0.1	1.6	0	1.5	1.2	0	0	57.6	0.1	0	0	0.5	0	8.4	
Cars	0	202	0	12	0	10	3	0	0	399	0	0	0	4	0	57	687
% Cars	0	95.3	0	100	0	90.9	33.3	0	0	94.3	0	0	0	100	0	91.9	93.5
Trucks	0	1	1	0	0	1	0	0	0	1	1	0	0	0	0	0	5
% Trucks	0	0.5	100	0	0	9.1	0	0	0	0.2	100	0	0	0	0	0	0.7
Buses	0	9	0	0	0	0	6	0	0	23	0	0	0	0	0	5	43
% Buses	0	4.2	0	0	0	0	66.7	0	0	5.4	0	0	0	0	0	8.1	5.9

**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
E/W Street: Mass Bay Drwy/McCarthy West  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040008  
Site Code : 77040008  
Start Date : 10/31/2017  
Page No : 2

Start Time	Flagg Dr From North			Mass Bay Drwy From East			Flagg Dr From South			McCarthy West Drwy From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 07:30 AM														
07:30 AM	0	12	0	1	0	0	1	55	0	0	0	1	1	70
07:45 AM	0	52	1	6	0	6	12	102	1	0	0	1	1	172
08:00 AM	0	78	0	1	0	5	6	127	0	2	0	18	20	235
08:15 AM	0	30	0	2	0	0	2	36	0	2	0	27	29	97
Total Volume	0	172	1	10	0	11	21	320	1	4	0	47	51	574
% App. Total	0	99.4	0.6	47.6	0	52.4	2.4	97.3	0.3	7.8	0	92.2		
PHF	.000	.551	.250	.417	.000	.458	.438	.630	.250	.500	.000	.435	.440	.611
Cars	0	162	0	10	0	10	20	297	0	4	0	42	46	527
% Cars	0	94.2	0	100	0	90.9	95.2	92.8	0	100	0	89.4	90.2	91.8
Trucks	0	1	1	0	0	1	1	0	1	0	0	0	0	4
% Trucks	0	0.6	100	0	0	9.1	4.8	0	100	0	0	0	0	0.7
Buses	0	9	0	0	0	0	0	23	0	6	0	5	5	43
% Buses	0	5.2	0	0	0	0	0	7.2	0	75.0	0	10.6	9.8	7.5



**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
 E/W Street : Mass Bay Drwy/McCarthy West  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040008  
 Site Code : 77040008  
 Start Date : 10/31/2017  
 Page No : 1

Start Time	Groups Printed- Bikes Peds																
	Flagg Dr From North			Mass Bay Drwy From East			Flagg Dr From South			McCarthy West Drwy From West							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	1	6
<b>Total</b>	<b>0</b>	<b>1</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>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>1</b>	<b>10</b>
08:00 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	5	2	7
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>2</b>	<b>11</b>
<b>Grand Total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>3</b>	<b>21</b>
Approch %	0	100	0	100	0	0	0	100	0	0	0	0	0	0			
Total %	0	33.3	0	33.3	0	0	0	33.3	0	0	0	0	0	0	85.7	14.3	

**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
E/W Street : Mass Bay Drwy/McCarthy West  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040008  
Site Code : 77040008  
Start Date : 10/31/2017  
Page No : 1

Start Time	Groups Printed- Cars - Trucks - Buses												
	Flagg Dr From North			Mass Bay Drwy From East			Flagg Dr From South			McCarthy West Drwy From West			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
01:30 PM	0	15	0	1	0	1	0	0	21	0	0	1	39
01:45 PM	0	21	0	5	0	1	2	31	0	0	0	0	60
<b>Total</b>	0	36	0	6	0	2	2	52	0	0	0	1	99
02:00 PM	0	26	2	4	0	1	4	62	0	0	0	0	99
02:15 PM	0	76	0	2	0	3	1	55	0	2	0	7	146
02:30 PM	0	80	0	1	0	1	0	40	0	1	0	3	126
02:45 PM	0	38	0	0	0	0	0	15	0	1	0	6	60
<b>Total</b>	0	220	2	7	0	5	5	172	0	4	0	16	431
03:00 PM	0	31	0	4	0	1	0	11	0	0	0	4	51
03:15 PM	0	32	0	7	0	1	0	26	0	0	0	4	70
<b>Grand Total</b>	0	319	2	24	0	9	7	261	0	4	0	25	651
<b>Approch %</b>	0	99.4	0.6	72.7	0	27.3	2.6	97.4	0	13.8	0	86.2	
<b>Total %</b>	0	49	0.3	3.7	0	1.4	1.1	40.1	0	0.6	0	3.8	
<b>Cars</b>	0	319	1	24	0	9	0	238	0	3	0	19	613
<b>% Cars</b>	0	100	50	100	0	100	0	91.2	0	75	0	76	94.2
<b>Trucks</b>	0	0	0	0	0	0	0	1	0	0	0	1	2
<b>% Trucks</b>	0	0	0	0	0	0	0	0.4	0	0	0	4	0.3
<b>Buses</b>	0	0	1	0	0	0	7	22	0	1	0	5	36
<b>% Buses</b>	0	0	50	0	0	0	100	8.4	0	25	0	20	5.5



# Accurate Counts

978-664-2565

N/S Street : Flagg Drive  
 E/W Street: Mass Bay Drwy/McCarthy West  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040008  
 Site Code : 77040008  
 Start Date : 10/31/2017  
 Page No : 1

Start Time	Groups Printed- Bikes Peds																	
	Flagg Dr From North			Mass Bay Drwy From East			Flagg Dr From South			McCarthy West Drwy From West								
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right						
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
02:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
02:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
02:30 PM	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	8	19	0
02:45 PM	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	3	1
Total	0	1	0	0	0	0	15	0	0	1	1	0	0	0	0	9	24	2
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
Grand Total	0	1	0	0	0	0	15	0	0	1	1	0	0	0	0	16	33	2
Approch %	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0
Total %	0	50	0	0	0	0	0	0	0	50	0	0	0	0	0	94.3	5.7	0

**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
E/W Street: NormandyRd/McCarthyEast Drwy  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040009  
Site Code : 77040009  
Start Date : 10/31/2017  
Page No : 1

Start Time	Groups Printed- Cars - Trucks - Buses												
	Flagg Dr From North			Normandy Rd From East			Flagg Dr From South			McCarthy School East Drwy From West			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	9	0	0	29	0	12	0	9	60	0	1	0	120
07:15 AM	11	4	0	22	0	27	0	12	43	0	0	0	119
07:30 AM	9	5	0	19	0	31	0	23	42	0	0	0	129
07:45 AM	35	28	0	27	0	46	0	72	60	0	0	0	268
<b>Total</b>	<b>64</b>	<b>37</b>	<b>0</b>	<b>97</b>	<b>0</b>	<b>116</b>	<b>0</b>	<b>116</b>	<b>205</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>636</b>
08:00 AM	59	36	0	26	0	52	0	68	50	0	2	6	299
08:15 AM	28	29	0	38	0	23	0	13	86	0	0	1	218
08:30 AM	8	7	0	34	0	15	0	9	63	0	0	0	136
08:45 AM	9	9	0	28	0	12	0	15	73	0	0	1	147
<b>Total</b>	<b>104</b>	<b>81</b>	<b>0</b>	<b>126</b>	<b>0</b>	<b>102</b>	<b>0</b>	<b>105</b>	<b>272</b>	<b>0</b>	<b>2</b>	<b>8</b>	<b>800</b>
<b>Grand Total</b>	<b>168</b>	<b>118</b>	<b>0</b>	<b>223</b>	<b>0</b>	<b>218</b>	<b>0</b>	<b>221</b>	<b>477</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>1436</b>
<b>Approch %</b>	<b>58.7</b>	<b>41.3</b>	<b>0</b>	<b>50.6</b>	<b>0</b>	<b>49.4</b>	<b>0</b>	<b>31.7</b>	<b>68.3</b>	<b>0</b>	<b>27.3</b>	<b>72.7</b>	
<b>Total %</b>	<b>11.7</b>	<b>8.2</b>	<b>0</b>	<b>15.5</b>	<b>0</b>	<b>15.2</b>	<b>0</b>	<b>15.4</b>	<b>33.2</b>	<b>0</b>	<b>0.2</b>	<b>0.6</b>	
<b>Cars</b>	<b>159</b>	<b>113</b>	<b>0</b>	<b>218</b>	<b>0</b>	<b>209</b>	<b>0</b>	<b>199</b>	<b>464</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>1366</b>
<b>% Cars</b>	<b>94.6</b>	<b>95.8</b>	<b>0</b>	<b>97.8</b>	<b>0</b>	<b>95.9</b>	<b>0</b>	<b>90</b>	<b>97.3</b>	<b>0</b>	<b>66.7</b>	<b>25</b>	<b>95.1</b>
<b>Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>
<b>% Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.9</b>	<b>0</b>	<b>0.5</b>	<b>0</b>	<b>0.5</b>	<b>0.2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.3</b>
<b>Buses</b>	<b>9</b>	<b>5</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>21</b>	<b>12</b>	<b>0</b>	<b>1</b>	<b>6</b>	<b>65</b>
<b>% Buses</b>	<b>5.4</b>	<b>4.2</b>	<b>0</b>	<b>1.3</b>	<b>0</b>	<b>3.7</b>	<b>0</b>	<b>9.5</b>	<b>2.5</b>	<b>0</b>	<b>33.3</b>	<b>75</b>	<b>4.5</b>

# Accurate Counts

978-664-2565

N/S Street : Flagg Drive  
 E/W Street: NormandyRd/McCarthyEast Drwy  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040009  
 Site Code : 77040009  
 Start Date : 10/31/2017  
 Page No : 2

Start Time	Flagg Dr From North			Normandy Rd From East			Flagg Dr From South			McCarthy School East Drwy From West			Int. Total			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	App. Total	App. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:45 AM																
07:45 AM	35	28	0	27	0	46	73	0	72	60	0	0	0	0	0	268
08:00 AM	59	36	0	26	0	52	78	0	68	50	0	2	6	8	299	
08:15 AM	28	29	0	38	0	23	61	0	13	86	0	0	1	1	218	
08:30 AM	8	7	0	34	0	15	49	0	9	63	0	0	0	0	136	
Total Volume	130	100	0	125	0	136	261	0	162	259	0	2	7	9	921	
% App. Total	56.5	43.5	0	47.9	0	52.1		0	38.5	61.5	0	22.2	77.8			
PHF	.551	.694	.000	.822	.000	.654	.837	.000	.563	.753	.000	.250	.292	.281	.770	
Cars	121	95	0	121	0	129	250	0	141	253	0	1	1	2	862	
% Cars	93.1	95.0	0	96.8	0	94.9	95.8	0	87.0	97.7	0	50.0	14.3	22.2	93.6	
Trucks	0	0	0	2	0	0	2	0	1	1	0	0	0	0	4	
% Trucks	0	0	0	1.6	0	0	0.8	0	0.6	0.4	0	0	0	0	0.4	
Buses	9	5	0	2	0	7	9	0	20	5	0	1	6	7	55	
% Buses	6.9	5.0	0	1.6	0	5.1	3.4	0	12.3	1.9	0	50.0	85.7	77.8	6.0	



**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
E/W Street : NormandyRd/McCarthyEast Drwy  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040009  
Site Code : 77040009  
Start Date : 10/31/2017  
Page No : 1

Start Time	Groups Printed- Cars - Trucks - Buses												
	Flagg Dr From North			Normandy Rd From East			Flagg Dr From South			McCarthy School East Drwy From West			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
01:30 PM	10	6	0	48	0	16	0	5	39	0	0	0	124
01:45 PM	18	9	0	43	0	24	0	9	38	0	0	0	141
<b>Total</b>	28	15	0	91	0	40	0	14	77	0	0	0	265
02:00 PM	22	8	0	61	0	43	1	28	39	0	0	0	202
02:15 PM	54	35	0	43	0	34	0	23	27	0	2	6	224
02:30 PM	33	48	0	54	0	16	0	20	39	0	1	0	211
02:45 PM	22	18	0	63	0	12	0	3	36	0	0	0	154
<b>Total</b>	131	109	0	221	0	105	1	74	141	0	3	6	791
03:00 PM	27	15	0	75	0	13	1	1	38	0	0	0	170
03:15 PM	22	18	0	68	0	18	1	7	43	0	0	0	177
<b>Grand Total</b>	208	157	0	455	0	176	3	96	299	0	3	6	1403
Apprch %	57	43	0	72.1	0	27.9	0.8	24.1	75.1	0	33.3	66.7	
Total %	14.8	11.2	0	32.4	0	12.5	0.2	6.8	21.3	0	0.2	0.4	
Cars	208	153	0	452	0	175	2	68	293	0	1	0	1352
% Cars	100	97.5	0	99.3	0	99.4	66.7	70.8	98	0	33.3	0	96.4
Trucks	0	0	0	0	0	0	1	0	1	0	0	0	2
% Trucks	0	0	0	0	0	0	33.3	0	0.3	0	0	0	0.1
Buses	0	4	0	3	0	1	0	28	5	0	2	6	49
% Buses	0	2.5	0	0.7	0	0.6	0	29.2	1.7	0	66.7	100	3.5



**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
 E/W Street : NormandyRd/McCarthyEast Drwy  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040009  
 Site Code : 77040009  
 Start Date : 10/31/2017  
 Page No : 2

Start Time	Flagg Dr From North			Normandy Rd From East			Flagg Dr From South			McCarthy School East Drwy From West			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	
02:00 PM	22	8	0	61	0	43	104	1	28	39	68	0	0	0	202
02:15 PM	54	35	0	43	0	34	77	0	23	27	50	0	2	6	224
02:30 PM	33	48	0	54	0	16	70	0	20	39	59	0	1	0	211
02:45 PM	22	18	0	63	0	12	75	0	3	36	39	0	0	0	154
Total Volume	131	109	0	221	0	105	326	1	74	141	216	0	3	6	791
% App. Total	54.6	45.4	0	67.8	0	32.2		0.5	34.3	65.3		0	33.3	66.7	
PHF	.606	.568	.000	.877	.000	.610	.784	.250	.661	.904	.794	.000	.375	.250	.883
Cats	131	105	0	218	0	104	322	1	48	136	185	0	1	0	744
% Cars	100	96.3	0	98.6	0	99.0	98.8	100	64.9	96.5	85.6	0	33.3	0	94.1
Trucks	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	0.7	0.5	0	0	0	0.1
Buses	0	4	0	3	0	1	4	0	26	4	30	0	2	6	46
% Buses	0	3.7	0	1.4	0	1.0	1.2	0	35.1	2.8	13.9	0	66.7	100	5.8

Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:00 PM

# Accurate Counts

978-664-2565

N/S Street : Flagg Drive  
 E/W Sireet: NormandyRd/McCarthyEast Drwy  
 City/State : Framingham, MA  
 Weather : Clear

File Name : 77040009  
 Site Code : 77040009  
 Start Date : 10/31/2017  
 Page No : 1

Start Time	Groups Printed- Bikes Peds												Exclu. Total	Inclu. Total	Int. Total			
	Flagg Dr From North			Normandy Rd From East			Flagg Dr From South			McCarthy School East Drwy From West								
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right						
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
01:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	8	1	9
Total	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	11	1	12
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
02:15 PM	0	0	0	4	0	0	1	0	0	16	0	0	0	0	0	18	4	22
02:30 PM	0	0	0	0	0	0	7	0	0	6	0	0	0	0	0	20	1	21
02:45 PM	0	0	0	0	0	1	3	0	0	2	0	0	0	0	0	5	1	6
Total	0	0	0	4	0	1	11	0	1	26	0	0	0	0	0	45	6	51
03:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	5	0	5
03:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	4
Grand Total	0	0	0	4	0	1	12	0	1	35	0	0	0	0	0	65	7	72
Apprch %	0	0	0	80	0	20		0	50	50	0	0	0	0	0			
Total %	0	0	0	57.1	0	14.3		0	14.3	14.3	0	0	0	0	0	90.3	9.7	

**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040012  
Site Code : 77040012  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Cars - Trucks - Buses

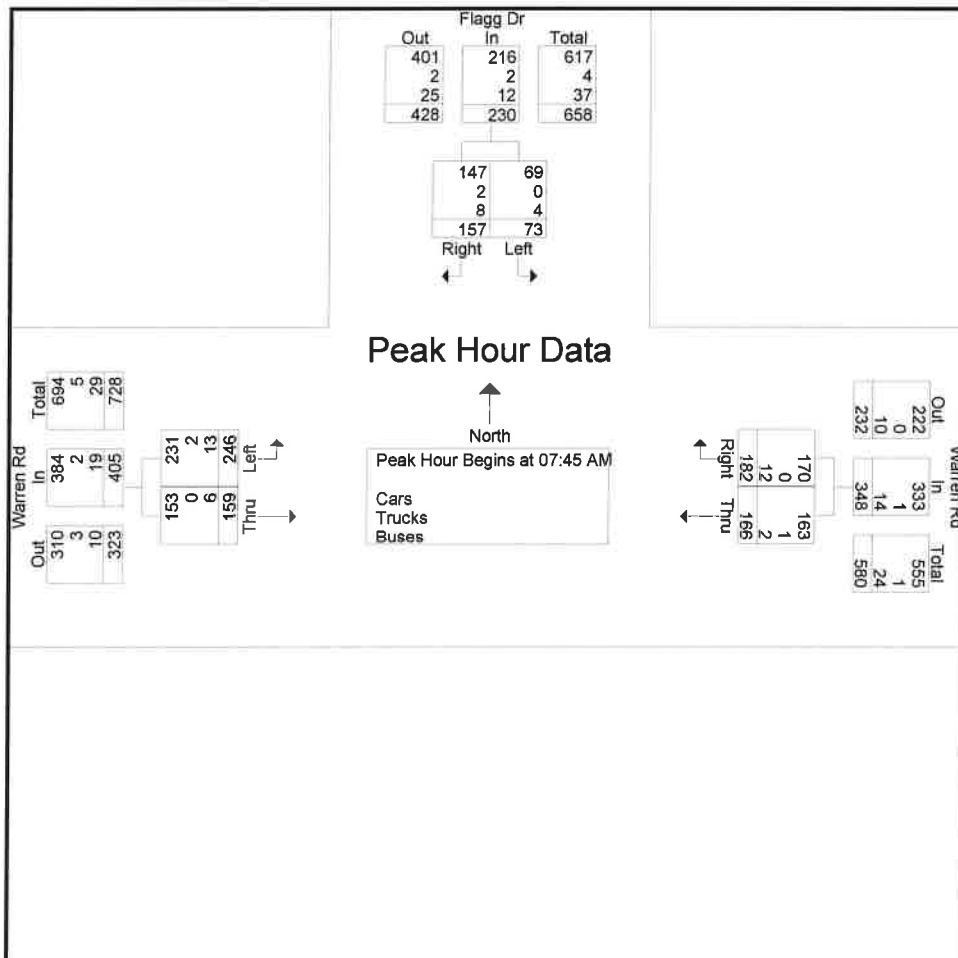
Start Time	Flagg Dr From North		Warren Rd From East		Warren Rd From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	1	27	28	28	35	22	141
07:15 AM	6	20	28	16	41	37	148
07:30 AM	3	22	24	31	34	29	143
07:45 AM	16	35	40	48	87	34	260
<b>Total</b>	<b>26</b>	<b>104</b>	<b>120</b>	<b>123</b>	<b>197</b>	<b>122</b>	<b>692</b>
08:00 AM	27	44	45	71	54	47	288
08:15 AM	15	53	41	39	57	39	244
08:30 AM	15	25	40	24	48	39	191
08:45 AM	13	26	38	40	51	39	207
<b>Total</b>	<b>70</b>	<b>148</b>	<b>164</b>	<b>174</b>	<b>210</b>	<b>164</b>	<b>930</b>
<b>Grand Total</b>	<b>96</b>	<b>252</b>	<b>284</b>	<b>297</b>	<b>407</b>	<b>286</b>	<b>1622</b>
Apprch %	27.6	72.4	48.9	51.1	58.7	41.3	
Total %	5.9	15.5	17.5	18.3	25.1	17.6	
Cars	92	241	279	281	387	278	1558
% Cars	95.8	95.6	98.2	94.6	95.1	97.2	96.1
Trucks	0	2	2	0	2	2	8
% Trucks	0	0.8	0.7	0	0.5	0.7	0.5
Buses	4	9	3	16	18	6	56
% Buses	4.2	3.6	1.1	5.4	4.4	2.1	3.5

**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040012  
Site Code : 77040012  
Start Date : 10/31/2017  
Page No : 2

Start Time	Flagg Dr From North			Warren Rd From East			Warren Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	16	35	51	40	48	88	87	34	121	260
08:00 AM	27	44	71	45	71	116	54	47	101	288
08:15 AM	15	53	68	41	39	80	57	39	96	244
08:30 AM	15	25	40	40	24	64	48	39	87	191
<b>Total Volume</b>	<b>73</b>	<b>157</b>	<b>230</b>	<b>166</b>	<b>182</b>	<b>348</b>	<b>246</b>	<b>159</b>	<b>405</b>	<b>983</b>
<b>% App. Total</b>	<b>31.7</b>	<b>68.3</b>		<b>47.7</b>	<b>52.3</b>		<b>60.7</b>	<b>39.3</b>		
PHF	.676	.741	.810	.922	.641	.750	.707	.846	.837	.853
Cars	69	147	216	163	170	333	231	153	384	933
% Cars	94.5	93.6	93.9	98.2	93.4	95.7	93.9	96.2	94.8	94.9
Trucks	0	2	2	1	0	1	2	0	2	5
% Trucks	0	1.3	0.9	0.6	0	0.3	0.8	0	0.5	0.5
Buses	4	8	12	2	12	14	13	6	19	45
% Buses	5.5	5.1	5.2	1.2	6.6	4.0	5.3	3.8	4.7	4.6



**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040012  
Site Code : 77040012  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Bikes Peds

Start Time	Flagg Dr From North			Warren Rd From East			Warren Rd From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	1	0	0	0	0	0	1	2	0	2
07:45 AM	0	0	0	0	1	0	0	0	0	0	1	1
<b>Total</b>	0	0	1	0	1	0	0	0	1	2	1	3
08:00 AM	0	0	0	0	0	0	0	1	3	3	1	4
08:15 AM	0	0	1	0	0	0	0	0	1	2	0	2
08:30 AM	0	0	0	0	0	0	0	0	1	1	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	1	0	0	0	0	1	5	6	1	7
<b>Grand Total</b>	0	0	2	0	1	0	0	1	6	8	2	10
Apprch %	0	0		0	100		0	100				
Total %	0	0		0	50		0	50		80	20	

**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040012  
Site Code : 77040012  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Cars - Trucks - Buses

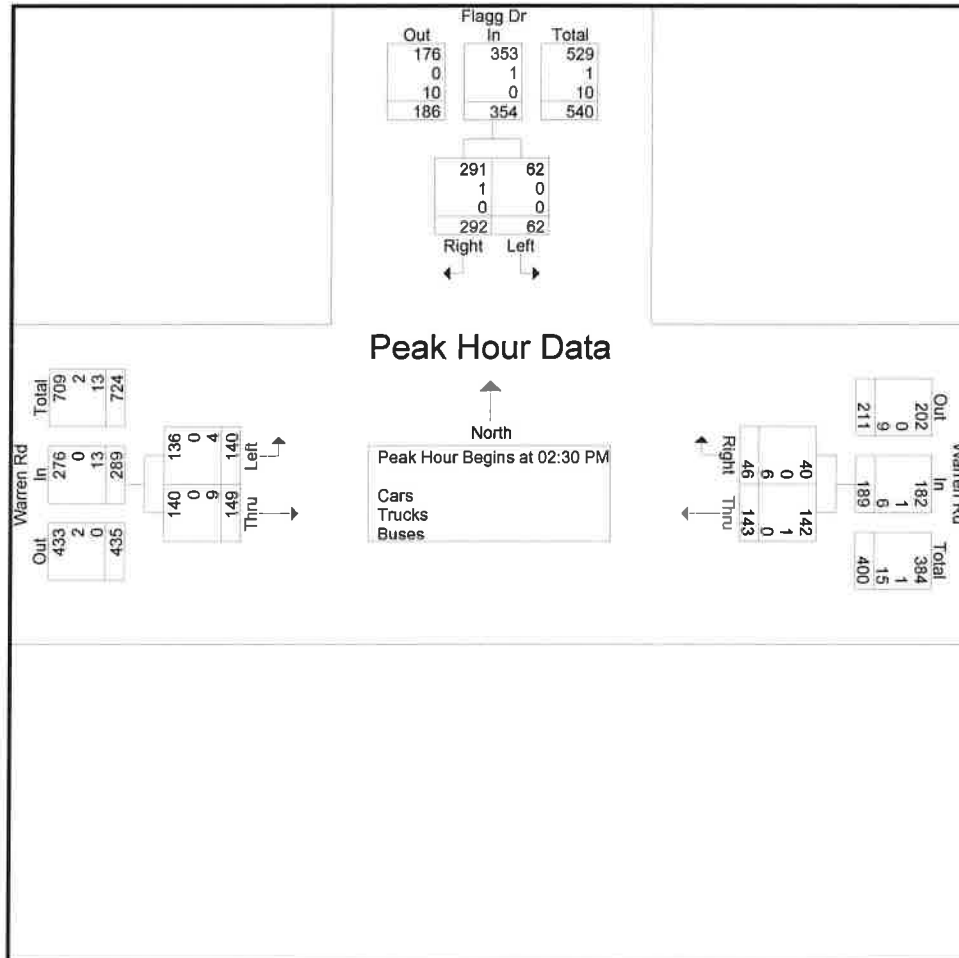
Start Time	Flagg Dr From North		Warren Rd From East		Warren Rd From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
01:30 PM	12	41	27	13	31	21	145
01:45 PM	3	49	30	17	32	29	160
<b>Total</b>	<b>15</b>	<b>90</b>	<b>57</b>	<b>30</b>	<b>63</b>	<b>50</b>	<b>305</b>
02:00 PM	9	60	27	16	52	19	183
02:15 PM	27	67	35	19	26	23	197
02:30 PM	24	75	31	14	45	40	229
02:45 PM	11	73	38	12	28	37	199
<b>Total</b>	<b>71</b>	<b>275</b>	<b>131</b>	<b>61</b>	<b>151</b>	<b>119</b>	<b>808</b>
03:00 PM	12	76	38	11	28	41	206
03:15 PM	15	68	36	9	39	31	198
<b>Grand Total</b>	<b>113</b>	<b>509</b>	<b>262</b>	<b>111</b>	<b>281</b>	<b>241</b>	<b>1517</b>
Apprch %	18.2	81.8	70.2	29.8	53.8	46.2	
Total %	7.4	33.6	17.3	7.3	18.5	15.9	
<b>Cars</b>	<b>109</b>	<b>499</b>	<b>260</b>	<b>98</b>	<b>259</b>	<b>230</b>	<b>1455</b>
% Cars	96.5	98	99.2	88.3	92.2	95.4	95.9
<b>Trucks</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>4</b>
% Trucks	0	0.2	0.4	0.9	0	0.4	0.3
<b>Buses</b>	<b>4</b>	<b>9</b>	<b>1</b>	<b>12</b>	<b>22</b>	<b>10</b>	<b>58</b>
% Buses	3.5	1.8	0.4	10.8	7.8	4.1	3.8

**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040012  
Site Code : 77040012  
Start Date : 10/31/2017  
Page No : 2

Start Time	Flagg Dr From North			Warren Rd From East			Warren Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:30 PM										
02:30 PM	24	75	99	31	14	45	45	40	85	229
02:45 PM	11	73	84	38	12	50	28	37	65	199
03:00 PM	12	76	88	38	11	49	28	41	69	206
03:15 PM	15	68	83	36	9	45	39	31	70	198
Total Volume	62	292	354	143	46	189	140	149	289	832
% App. Total	17.5	82.5		75.7	24.3		48.4	51.6		
PHF	.646	.961	.894	.941	.821	.945	.778	.909	.850	.908
Cars	62	291	353	142	40	182	136	140	276	811
% Cars	100	99.7	99.7	99.3	87.0	96.3	97.1	94.0	95.5	97.5
Trucks	0	1	1	1	0	1	0	0	0	2
% Trucks	0	0.3	0.3	0.7	0	0.5	0	0	0	0.2
Buses	0	0	0	0	6	6	4	9	13	19
% Buses	0	0	0	0	13.0	3.2	2.9	6.0	4.5	2.3



**Accurate Counts**  
978-664-2565

N/S Street : Flagg Drive  
E/W Street: Warren Road  
City/State : Framingham, MA  
Weather : Clear

File Name : 77040012  
Site Code : 77040012  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Bikes Peds

Start Time	Flagg Dr From North			Warren Rd From East			Warren Rd From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
01:30 PM	0	0	0	0	0	0	0	0	1	1	0	1
01:45 PM	0	0	0	0	0	1	0	0	0	1	0	1
<b>Total</b>	0	0	0	0	0	1	0	0	1	2	0	2
02:00 PM	0	0	1	1	0	0	0	0	1	2	1	3
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	1	2	0	0	3	0	0	0	5	1	6
02:45 PM	0	0	0	0	0	0	0	0	2	2	0	2
<b>Total</b>	0	1	3	1	0	3	0	0	3	9	2	11
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	2	0	0	0	0	0	1	3	0	3
<b>Grand Total</b>	0	1	5	1	0	4	0	0	5	14	2	16
Apprch %	0	100		100	0		0	0				
<b>Total %</b>	0	50		50	0		0	0		87.5	12.5	



AUTOMATIC TRAFFIC RECORDER COUNTS

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# Vanasse & Associates

Vanasse & Associates  
 Location: Flagg Drive  
 Location: In Front of Fuller Middle School  
 City: Framingham, MA

35 New England Business Center Dr, Suite 140  
 Andover, MA 01810

Site Code: 00770401

Start Time	01-Nov-17 Wed	Westbound		Hour Totals		Eastbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		*	14			*	8				
12:15		*	12			*	16				
12:30		*	20			*	15				
12:45		*	20	0	66	*	14	0	53	0	119
01:00		*	13			*	6				
01:15		*	15			*	8				
01:30		*	17			*	11				
01:45		*	24	0	69	*	14	0	39	0	108
02:00		*	22			*	30				
02:15		*	28			*	24				
02:30		*	32			*	14				
02:45		*	30	0	112	*	14	0	82	0	194
03:00		*	26			*	17				
03:15		*	22			*	17				
03:30		*	24			*	11				
03:45		*	17	0	89	*	10	0	55	0	144
04:00		*	25			*	21				
04:15		*	13			*	20				
04:30		*	13			*	22				
04:45		*	23	0	74	*	19	0	82	0	156
05:00		*	20			*	16				
05:15		*	24			*	16				
05:30		*	14			*	7				
05:45		*	16	0	74	*	16	0	55	0	129
06:00		*	27			*	13				
06:15		*	22			*	12				
06:30		*	24			*	9				
06:45		*	14	0	87	*	11	0	45	0	132
07:00		11	11			9	6				
07:15		7	8			23	6				
07:30		20	5			22	3				
07:45		26	5	64	29	34	5	88	20	152	49
08:00		35	12			49	5				
08:15		31	6			22	3				
08:30		9	9			17	4				
08:45		11	5	86	32	20	4	108	16	194	48
09:00		14	7			16	9				
09:15		10	6			9	8				
09:30		15	7			15	7				
09:45		15	6	54	26	23	3	63	27	117	53
10:00		18	3			13	2				
10:15		9	1			11	3				
10:30		12	1			3	1				
10:45		16	0	55	5	11	0	38	6	93	11
11:00		21	1			14	3				
11:15		7	3			14	3				
11:30		21	2			17	1				
11:45		17	0	66	6	12	0	57	7	123	13
<b>Total</b>		<b>325</b>	<b>669</b>			<b>354</b>	<b>487</b>			<b>679</b>	<b>1156</b>
<b>Percent</b>		<b>32.7%</b>	<b>67.3%</b>			<b>42.1%</b>	<b>57.9%</b>			<b>37.0%</b>	<b>63.0%</b>

# Vanasse & Associates

Vanasse & Associates  
 Location: Flagg Drive  
 Location: In Front of Fuller Middle School  
 City: Framingham, MA

35 New England Business Center Dr, Suite 140  
 Andover, MA 01810

Site Code: 00770401

Start Time	02-Nov-17 Thu	Westbound		Hour Totals		Eastbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	33			0	27				
12:15		0	36			1	24				
12:30		0	16			0	22				
12:45		0	20	0	105	0	38	1	111	1	216
01:00		0	23			1	11				
01:15		1	27			0	11				
01:30		0	14			0	5				
01:45		0	42	1	106	0	8	1	35	2	141
02:00		0	11			0	13				
02:15		1	18			1	13				
02:30		0	22			0	6				
02:45		0	18	1	69	0	14	1	46	2	115
03:00		0	30			0	13				
03:15		0	24			0	22				
03:30		0	23			0	9				
03:45		0	19	0	96	0	12	0	56	0	152
04:00		0	16			1	14				
04:15		0	9			0	17				
04:30		0	21			0	14				
04:45		0	23	0	69	0	17	1	62	1	131
05:00		0	17			0	22				
05:15		1	19			1	17				
05:30		0	22			1	16				
05:45		0	22	1	80	6	21	8	76	9	156
06:00		2	20			0	25				
06:15		1	39			2	28				
06:30		3	17			5	28				
06:45		6	15	12	91	6	13	13	94	25	185
07:00		10	7			18	14				
07:15		10	8			25	5				
07:30		27	12			20	3				
07:45		30	7	77	34	35	8	98	30	175	64
08:00		33	52			46	40				
08:15		18	11			27	6				
08:30		8	10			19	4				
08:45		14	12	73	85	19	3	111	53	184	138
09:00		12	12			21	5				
09:15		11	9			23	5				
09:30		16	7			19	6				
09:45		10	6	49	34	13	11	76	27	125	61
10:00		9	4			12	4				
10:15		11	0			10	3				
10:30		16	2			10	2				
10:45		14	2	50	8	15	2	47	11	97	19
11:00		19	0			12	2				
11:15		21	3			13	1				
11:30		30	2			15	1				
11:45		13	0	83	5	11	0	51	4	134	9
<b>Total</b>		<b>347</b>	<b>782</b>			<b>408</b>	<b>605</b>			<b>755</b>	<b>1387</b>
<b>Percent</b>		<b>30.7%</b>	<b>69.3%</b>			<b>40.3%</b>	<b>59.7%</b>			<b>35.2%</b>	<b>64.8%</b>

# Vanasse & Associates

35 New England Business Center Dr, Suite 140  
Andover, MA 01810

Vanasse & Associates  
Location: Flagg Drive  
Location: In Front of Fuller Middle School  
City: Framingham, MA

Site Code: 00770401

Start Time	03-Nov-17 Fri	Westbound		Hour Totals		Eastbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	10			0	6				
12:15		1	12			0	12				
12:30		1	10			0	15				
12:45		0	21	2	53	0	10	0	43	2	96
01:00		1	15			0	9				
01:15		0	20			1	12				
01:30		0	6			0	4				
01:45		0	*	1	41	0	*	1	25	2	66
02:00		1	*			1	*				
02:15		0	*			0	*				
02:30		0	*			0	*				
02:45		0	*	1	0	0	*	1	0	2	0
03:00		0	*			0	*				
03:15		0	*			0	*				
03:30		0	*			0	*				
03:45		0	*	0	0	0	*	0	0	0	0
04:00		0	*			0	*				
04:15		0	*			0	*				
04:30		0	*			0	*				
04:45		0	*	0	0	0	*	0	0	0	0
05:00		0	*			0	*				
05:15		0	*			0	*				
05:30		0	*			2	*				
05:45		1	*	1	0	2	*	4	0	5	0
06:00		2	*			2	*				
06:15		3	*			0	*				
06:30		4	*			8	*				
06:45		6	*	15	0	8	*	18	0	33	0
07:00		4	*			8	*				
07:15		5	*			16	*				
07:30		16	*			28	*				
07:45		28	*	53	0	38	*	90	0	143	0
08:00		47	*			49	*				
08:15		22	*			26	*				
08:30		17	*			23	*				
08:45		11	*	97	0	15	*	113	0	210	0
09:00		15	*			8	*				
09:15		9	*			12	*				
09:30		16	*			10	*				
09:45		11	*	51	0	14	*	44	0	95	0
10:00		13	*			11	*				
10:15		12	*			11	*				
10:30		9	*			4	*				
10:45		16	*	50	0	9	*	35	0	85	0
11:00		14	*			14	*				
11:15		23	*			18	*				
11:30		9	*			12	*				
11:45		26	*	72	0	15	*	59	0	131	0
<b>Total</b>		<b>343</b>	<b>94</b>			<b>365</b>	<b>68</b>			<b>708</b>	<b>162</b>
<b>Percent</b>		<b>78.5%</b>	<b>21.5%</b>			<b>84.3%</b>	<b>15.7%</b>			<b>81.4%</b>	<b>18.6%</b>
<b>Grand Total</b>		<b>1015</b>	<b>1545</b>			<b>1127</b>	<b>1160</b>			<b>2142</b>	<b>2705</b>
<b>Percent</b>		<b>39.6%</b>	<b>60.4%</b>			<b>49.3%</b>	<b>50.7%</b>			<b>44.2%</b>	<b>55.8%</b>

ADT                      ADT 1,971                      AADT 1,971

# Vanasse & Associates

35 New England Business Center Dr, Suite 140  
Andover, MA 01810

Vanasse & Associates  
Location: Flagg Drive  
Location: In Front of Fuller Middle School  
City: Framingham, MA

Site Code: 00770401

Westbound		1	16	21	26	31	36	41	46	51	56	61	66	71	76	76	85th	95th	
Start	Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Percent	Percent	
11/01/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	07:00	13	16	13	14	6	2	0	0	0	0	0	0	0	0	64	29	34	
	08:00	5	15	18	26	18	2	2	0	0	0	0	0	0	0	86	32	34	
	09:00	2	6	6	15	19	6	0	0	0	0	0	0	0	0	54	34	37	
	10:00	0	2	12	17	15	8	0	0	1	0	0	0	0	0	55	35	38	
	11:00	2	2	5	29	18	9	1	0	0	0	0	0	0	0	66	35	38	
	12 PM	2	5	5	26	19	7	1	1	0	0	0	0	0	0	66	34	39	
	13:00	1	4	9	25	26	4	0	0	0	0	0	0	0	0	69	33	35	
	14:00	15	26	32	22	12	5	0	0	0	0	0	0	0	0	112	30	34	
	15:00	4	10	19	28	24	3	1	0	0	0	0	0	0	0	89	33	34	
	16:00	5	7	9	26	18	9	0	0	0	0	0	0	0	0	74	34	37	
	17:00	5	9	14	22	20	3	1	0	0	0	0	0	0	0	74	33	35	
	18:00	5	17	17	31	13	2	2	0	0	0	0	0	0	0	87	31	34	
	19:00	2	1	7	10	7	1	1	0	0	0	0	0	0	0	29	33	37	
	20:00	1	1	5	14	9	2	0	0	0	0	0	0	0	0	32	33	36	
	21:00	2	1	2	11	8	2	0	0	0	0	0	0	0	0	26	33	36	
	22:00	0	0	2	1	2	0	0	0	0	0	0	0	0	0	5	33	34	
	23:00	0	0	3	2	1	0	0	0	0	0	0	0	0	0	6	30	33	
	<b>Total</b>	64	122	178	319	235	65	9	1	1	0	0	0	0	0	994			
	<b>Percent</b>	6.4%	12.3%	17.9%	32.1%	23.6%	6.5%	0.9%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%				
	<b>AM Peak</b>	07:00	07:00	08:00	11:00	09:00	11:00	08:00	10:00	10:00						08:00			
	<b>Vol.</b>	13	16	18	29	19	9	2	1	1						86			
	<b>PM Peak</b>	14:00	14:00	14:00	18:00	13:00	16:00	18:00	12:00	12:00						14:00			
	<b>Vol.</b>	15	26	32	31	26	9	2	1	1						112			

# Vanasse & Associates

35 New England Business Center Dr, Suite 140  
Andover, MA 01810

Vanasse & Associates  
Location: Flagg Drive  
Location: In Front of Fuller Middle School  
City: Framingham, MA

Site Code: 00770401

Westbound		1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th	95th
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85		Percent	Percent
11/02/17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	29	29
02:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	44	44
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	0	0	0	0	0	0	0	0	0	0	0	1	29	29
06:00	1	2	0	4	4	1	0	0	0	0	0	0	0	0	0	12	33	36
07:00	17	22	17	14	7	0	0	0	0	0	0	0	0	0	0	77	28	32
08:00	6	15	22	15	12	2	1	0	0	0	0	0	0	0	0	73	31	34
09:00	0	4	7	16	17	4	1	0	0	0	0	0	0	0	0	49	34	38
10:00	3	2	9	16	15	5	0	0	0	0	0	0	0	0	0	50	34	37
11:00	16	26	20	13	6	2	0	0	0	0	0	0	0	0	0	83	28	33
12 PM	2	10	26	38	22	6	1	0	0	0	0	0	0	0	0	105	33	36
13:00	1	3	14	48	31	8	1	0	0	0	0	0	0	0	0	106	33	37
14:00	1	1	8	31	18	7	3	0	0	0	0	0	0	0	0	69	34	39
15:00	0	4	18	35	33	5	5	1	1	0	0	0	0	0	0	96	33	36
16:00	0	1	7	21	29	10	0	1	1	0	0	0	0	0	0	69	35	38
17:00	2	4	11	29	26	5	3	0	0	0	0	0	0	0	0	80	34	38
18:00	11	9	30	31	7	3	0	0	0	0	0	0	0	0	0	91	29	33
19:00	4	1	9	14	2	3	1	0	0	0	0	0	0	0	0	34	32	38
20:00	4	19	32	21	7	2	0	0	0	0	0	0	0	0	0	85	29	33
21:00	1	1	6	17	7	2	0	0	0	0	0	0	0	0	0	34	32	35
22:00	0	0	0	6	1	1	0	0	0	0	0	0	0	0	0	8	33	37
23:00	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	5	31	33
Total	69	124	238	373	245	66	12	2	2	0	0	0	0	0	0	1129		
Percent	6.1%	11.0%	21.1%	33.0%	21.7%	5.8%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	11:00	08:00	09:00	09:00	10:00	02:00									11:00		
Vol.	17	26	22	16	17	5	1									83		
PM Peak	18:00	20:00	20:00	13:00	15:00	16:00	14:00	15:00								13:00		
Vol.	11	19	32	48	33	10	3	1								106		







**Vanasse & Associates**  
 35 New England Business Center Dr, Suite 140  
 Andover, MA 01810

Site Code: 00770401

Vanasse & Associates  
 Location: Flagg Drive  
 Location: In Front of Fuller Middle School  
 City: Frammingham, MA

Start Time	16	21	26	31	36	41	46	51	56	61	66	71	76	85th Percent	95th Percent
11/02/17	15	20	25	30	35	40	45	50	55	60	65	70	75	85th Percent	95th Percent
01:00	0	0	0	0	0	0	1	0	0	0	0	0	0	1	44
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1	34
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1	39
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*
05:00	0	0	0	0	0	0	1	0	0	0	0	0	0	1	44
06:00	1	0	0	2	3	1	1	1	0	0	0	0	0	8	47
07:00	8	13	25	29	15	6	2	0	0	0	0	0	0	13	35
08:00	4	13	25	26	31	11	1	0	0	0	0	0	0	98	37
09:00	2	4	2	26	26	14	1	1	0	0	0	0	0	111	34
10:00	5	1	4	9	18	8	2	0	0	0	0	0	0	76	36
11:00	5	9	9	17	8	3	0	0	0	0	0	0	0	47	36
12 PM	2	0	15	27	42	15	9	0	1	0	0	0	0	51	32
13:00	2	2	4	10	10	5	2	0	0	0	0	0	0	111	37
14:00	0	0	1	7	23	13	1	0	0	0	0	0	0	35	36
15:00	1	0	2	18	19	14	2	0	0	0	0	0	0	46	38
16:00	1	3	0	17	25	14	2	0	0	0	0	0	0	56	37
17:00	0	0	0	19	32	18	4	1	0	0	0	0	0	62	37
18:00	2	10	17	30	23	11	1	0	0	0	0	0	0	76	38
19:00	2	3	3	13	8	1	0	0	0	0	0	0	0	94	34
20:00	6	9	14	15	9	0	0	0	0	0	0	0	0	30	32
21:00	0	5	3	10	8	1	0	0	0	0	0	0	0	53	30
22:00	0	0	0	4	4	2	1	0	0	0	0	0	0	27	33
23:00	0	0	1	0	1	2	0	0	0	0	0	0	0	11	38
Total	41	72	127	286	309	141	32	4	1	0	0	0	0	1013	4
Percent	4.0%	7.1%	12.5%	28.2%	30.5%	13.9%	3.2%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%		
AMI Peak	07:00	07:00	07:00	07:00	08:00	09:00	07:00	05:00						08:00	
Vol.	8	13	25	29	31	14	2	1						111	
PM Peak	20:00	18:00	18:00	18:00	12:00	17:00	12:00	14:00	12:00	12:00				12:00	
Vol.	6	10	17	30	42	18	9	1	1					111	

**Vanasse & Associates**  
 35 New England Business Center Dr., Suite 140  
 Andover, MA 01810

Vanasse & Associates  
 Location: Flagg Drive  
 Location: In Front of Fuller Middle School  
 City: Framingham, MA

Site Code: 00770401

Eastbound		15	16	21	25	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
Start Time	11/03/17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
	01:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	39	39
	02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	34	34
	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	0	0	1	2	1	0	0	0	0	0	0	0	4	42	44
	06:00	0	0	0	0	10	4	4	0	0	0	0	0	0	0	0	18	36	38
	07:00	4	9	31	24	29	15	5	1	1	0	0	0	0	0	0	90	32	37
	08:00	8	15	11	29	10	36	8	6	0	0	0	0	0	0	0	113	34	40
	09:00	2	3	1	10	16	10	2	2	0	0	0	0	0	0	0	44	37	39
	10:00	1	0	5	9	15	5	0	0	0	0	0	0	0	0	0	35	34	38
	11:00	2	2	4	18	10	10	4	4	1	0	0	0	0	0	0	59	38	42
	12 PM	0	1	4	9	16	11	2	2	0	0	0	0	0	0	0	43	37	39
	13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	17	30	56	109	122	56	16	2	0	0	0	0	0	0	0	0	408		
Percent	4.2%	7.4%	13.7%	26.7%	29.9%	13.7%	3.9%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	08:00	08:00	09:00	08:00	07:00									08:00		
Vol.	8	15	31	29	36	10	6	1									113		
PM Peak		12:00	12:00	12:00	12:00	12:00	12:00	12:00									12:00		
Vol.		1	4	9	16	11	2										43		
Grand Total	117	157	291	618	680	316	75	6	1	0	0	0	0	0	0	0	2262		
Percent	5.2%	6.9%	12.9%	27.3%	30.1%	14.0%	3.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

Statistics		10 MPH Pace Speed	26-35 MPH
Number in Pace	1298		
Percent in Pace	57.4%		
Number of Vehicles > 55 MPH	1		
Percent of Vehicles > 55 MPH	0.0%		
Mean Speed(Average)	29 MPH		

PEDESTRIAN COUNTS

---

# VAI Calculations

Job: Fuller Middle School

Job Number: 7704

Location: East Crosswalk

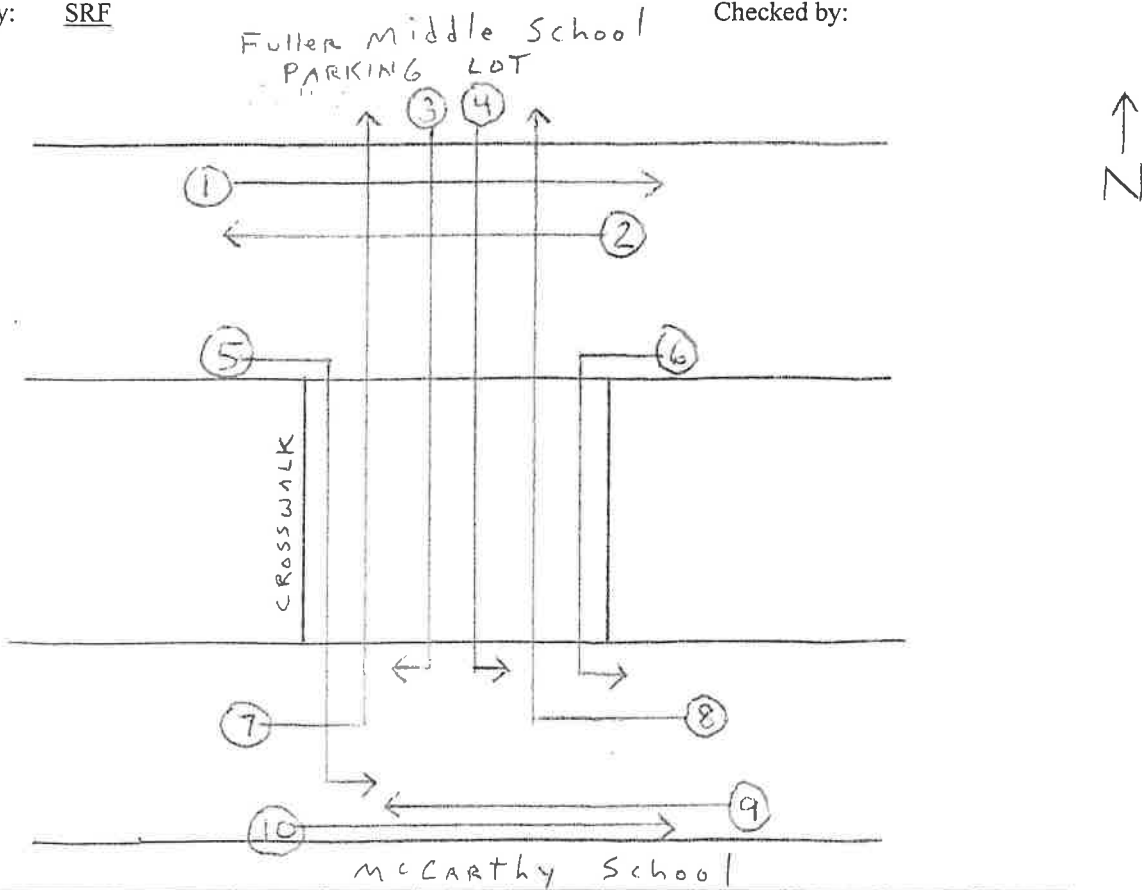
Date: 11/1/17

Title: Pedestrian Count

Sheet: 1 of 1

Calculated by: SRF

Checked by:



Start Time	1	2	3	4	5	6	7	8	9	10	Total	Hourly Total
1:30PM	0	0	0	0	0	0	0	0	0	1	1	
1:45	0	0	0	0	0	0	0	0	2	0	2	
2:00	1	0	12	0	0	0	32	0	0	0	45	
2:15	0	0	5	3	0	0	3	7	0	0	18	66
2:30	12	1	0	0	4	0	0	0	3	3	23	88
2:45	1	1	0	0	2	0	0	2	0	1	7	93
3:00	3	0	0	0	0	0	0	0	5	1	9	57
3:15	0	0	0	0	0	0	0	2	0	0	2	41
Total	17	2	17	3	6	0	35	11	10	6	107	
Pk Hr Total	14	2	17	3	6	0	35	9	3	4	93	

# VAI Calculations

Job: Fuller Middle School

Job Number: 7704

Location: East Crosswalk

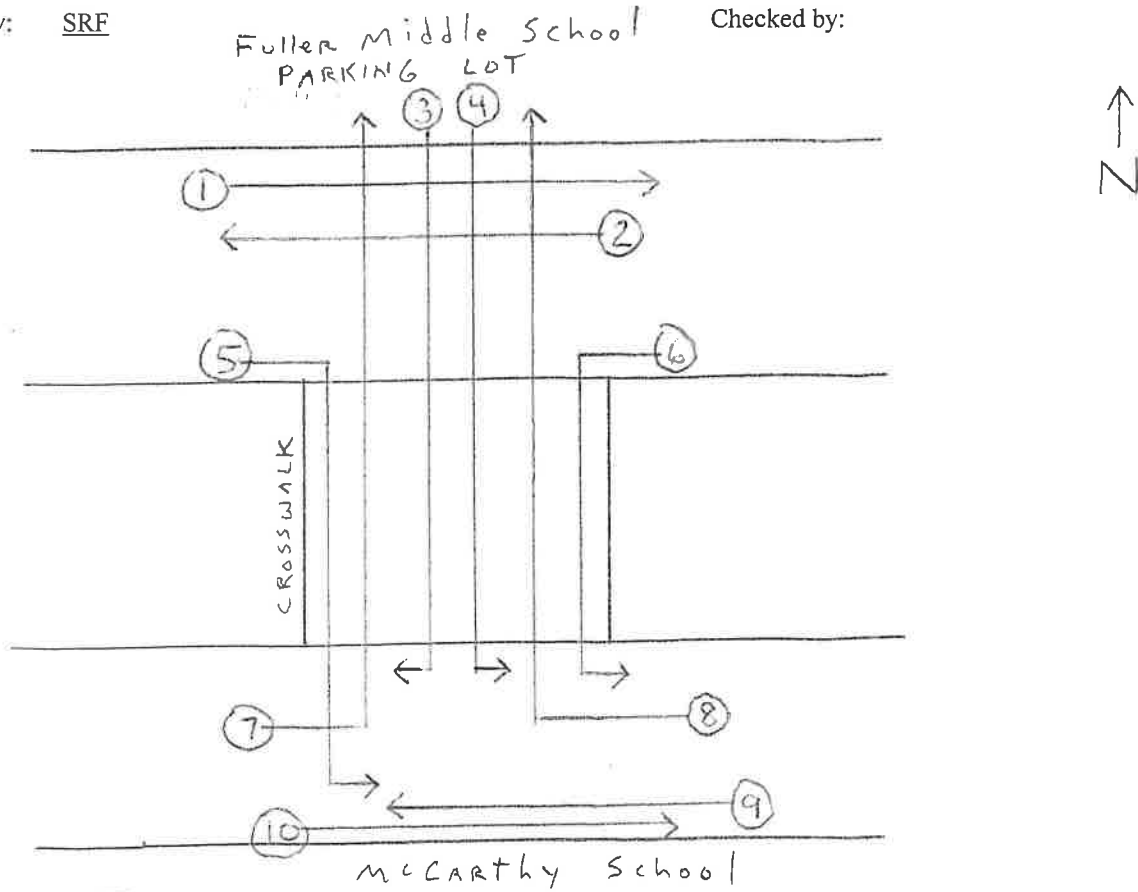
Date: 11/1/17

Title: Pedestrian Count

Sheet: 1 of 1

Calculated by: SRF

Checked by:



Start Time	1	2	3	4	5	6	7	8	9	10	Total	Hourly Total
7:00AM	0	5	0	0	0	0	0	0	1	0	6	
7:15	0	4	0	0	0	0	0	0	0	0	4	
7:30	0	5	3	6	0	1	0	1	1	0	17	
7:45	0	0	0	14	0	0	0	0	0	0	14	41
8:00	0	1	0	0	0	0	0	0	0	1	2	37
8:15	0	0	0	0	0	0	0	0	0	0	0	33
8:30	2	0	0	0	0	0	0	0	0	0	2	18
8:45	0	0	0	0	0	0	0	0	0	0	0	4
Total	2	15	3	20	0	1	0	1	2	1	45	
Pk Hr Total	0	14	3	20	0	1	0	1	2	0	41	

**Accurate Counts**  
978-664-2565

N/S Street : West Crosswalk  
E/W Street: Flagg Drive Sidewalks  
City/State : Framingham, MA  
Weather : Clear

File Name : 770400X4  
Site Code : 770400X4  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Crosswalk

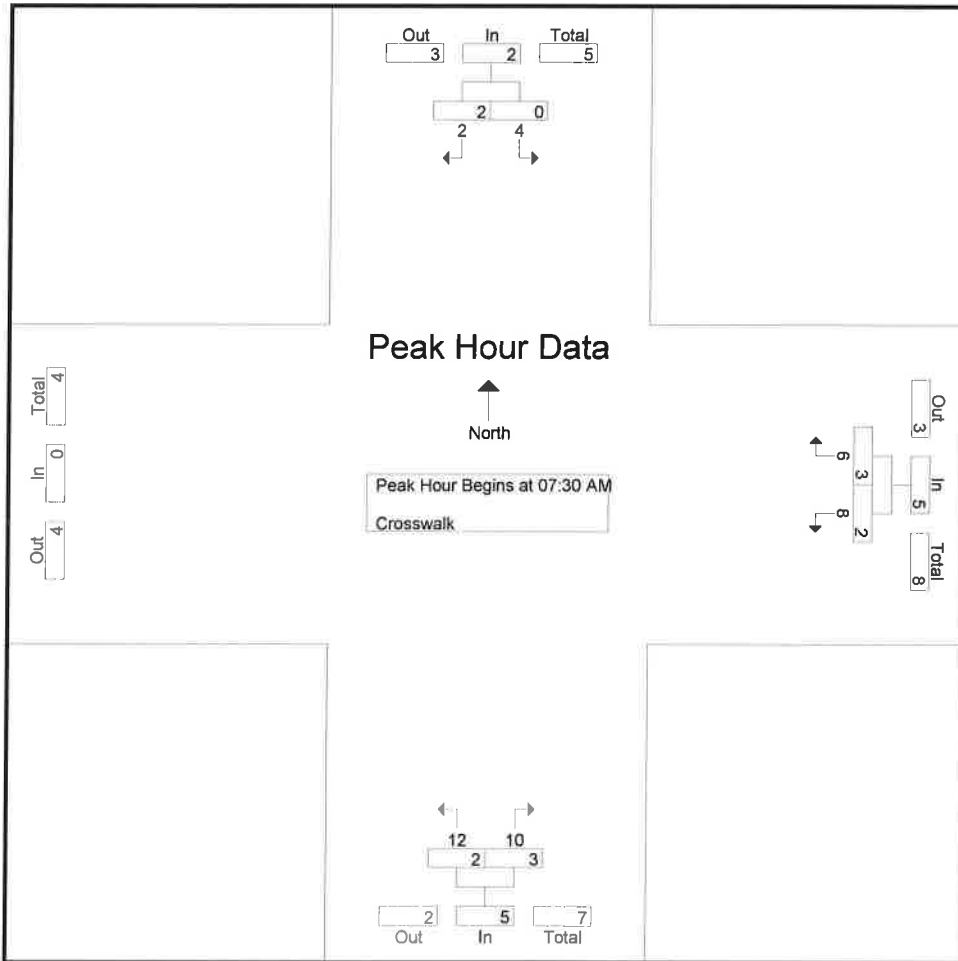
Start Time	From North		From East		From South		Int. Total
	4	2	8	6	12	10	
07:00 AM	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0
07:30 AM	0	2	0	0	1	0	3
07:45 AM	0	0	2	1	0	1	4
<b>Total</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>7</b>
08:00 AM	0	0	0	2	1	0	3
08:15 AM	0	0	0	0	0	2	2
08:30 AM	0	0	0	0	0	0	0
08:45 AM	0	0	0	2	0	0	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>7</b>
<b>Grand Total</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>14</b>
Apprch %	0	100	28.6	71.4	40	60	
Total %	0	14.3	14.3	35.7	14.3	21.4	

**Accurate Counts**  
978-664-2565

N/S Street : West Crosswalk  
E/W Street: Flagg Drive Sidewalks  
City/State : Framingham, MA  
Weather : Clear

File Name : 770400X4  
Site Code : 770400X4  
Start Date : 10/31/2017  
Page No : 2

	From North			From East			From South			From West	
Start Time	4	2	App. Total	8	6	App. Total	12	10	App. Total	App. Total	Int. Total
<b>Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1</b>											
<b>Peak Hour for Entire Intersection Begins at 07:30 AM</b>											
07:30 AM	0	2	2	0	0	0	1	0	1	0	3
07:45 AM	0	0	0	2	1	3	0	1	1	0	4
08:00 AM	0	0	0	0	2	2	1	0	1	0	3
08:15 AM	0	0	0	0	0	0	0	2	2	0	2
<b>Total Volume</b>	0	2	2	2	3	5	2	3	5	0	12
<b>% App. Total</b>	0	100		40	60		40	60			
<b>PHF</b>	.000	.250	.250	.250	.375	.417	.500	.375	.625	.000	.750





**Accurate Counts**  
978-664-2565

N/S Street : West Crosswalk  
E/W Street: Flagg Drive Sidewalks  
City/State : Framingham, MA  
Weather : Clear

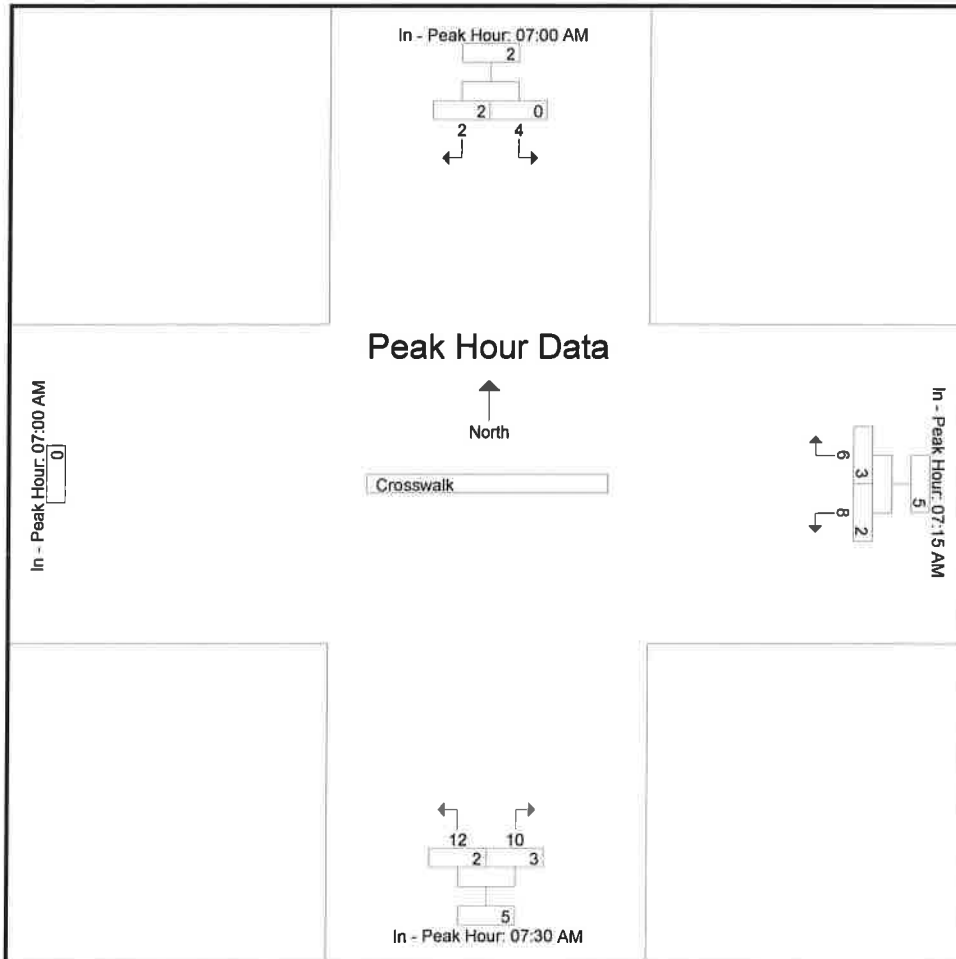
File Name : 770400X4  
Site Code : 770400X4  
Start Date : 10/31/2017  
Page No : 3

Start Time	From North		App. Total	From East		App. Total	From South		App. Total	From West	App. Total	Int. Total
	4	2		8	6		12	10				

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:15 AM			07:30 AM			07:00 AM	
+0 mins.	0	0	0	0	0	0	1	0	1	0	
+15 mins.	0	0	0	0	0	0	0	1	1	0	
+30 mins.	0	2	2	2	1	3	1	0	1	0	
+45 mins.	0	0	0	0	2	2	0	2	2	0	
Total Volume	0	2	2	2	3	5	2	3	5	0	
% App. Total	0	100		40	60		40	60			
PHF	.000	.250	.250	.250	.375	.417	.500	.375	.625	.000	



**Accurate Counts**  
978-664-2565

N/S Street : West Crosswalk  
E/W Street: Flagg Drive Sidewalks  
City/State : Framingham, MA  
Weather : Clear

File Name : 770400X4  
Site Code : 770400X4  
Start Date : 10/31/2017  
Page No : 1

Groups Printed- Crosswalk

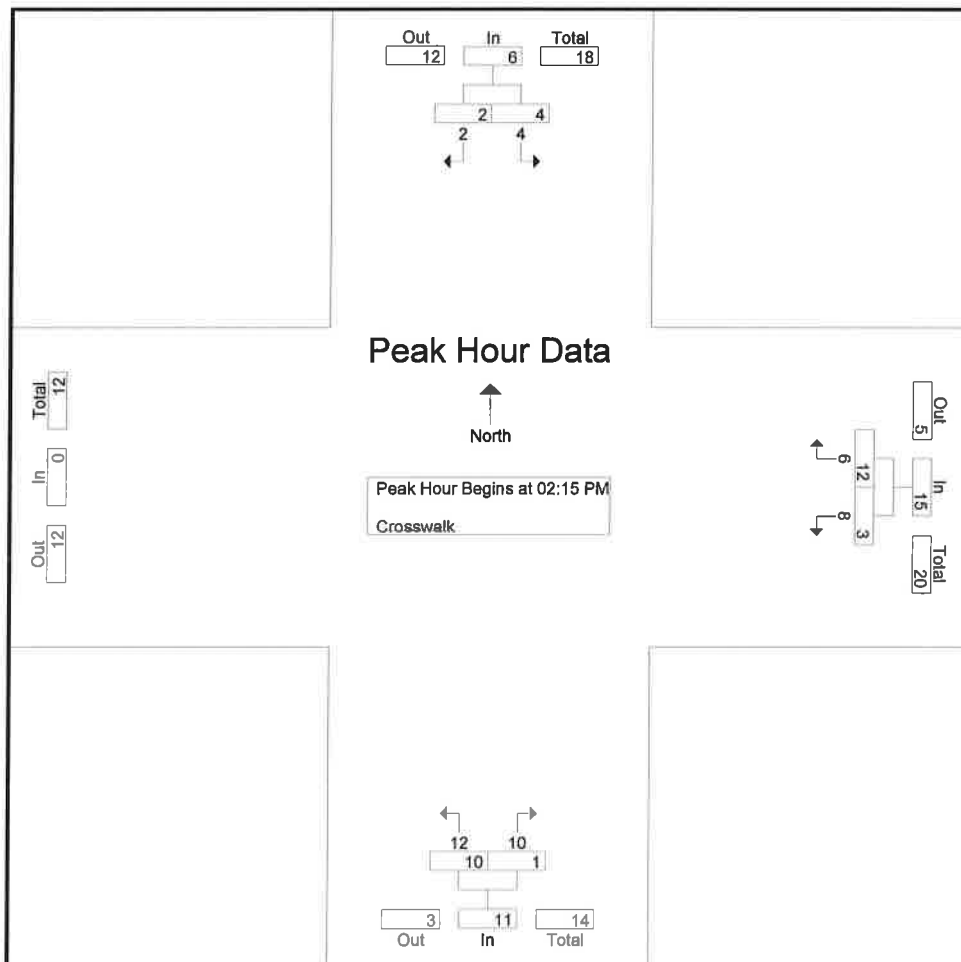
Start Time	From North		From East		From South		Int. Total
	4	2	8	6	12	10	
01:30 PM	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
02:00 PM	0	0	0	0	0	0	0
02:15 PM	0	0	0	6	3	0	9
02:30 PM	3	1	3	3	5	0	15
02:45 PM	1	1	0	0	0	1	3
<b>Total</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>9</b>	<b>8</b>	<b>1</b>	<b>27</b>
03:00 PM	0	0	0	3	2	0	5
03:15 PM	0	1	0	0	0	1	2
<b>Grand Total</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>12</b>	<b>10</b>	<b>2</b>	<b>34</b>
Apprch %	57.1	42.9	20	80	83.3	16.7	
Total %	11.8	8.8	8.8	35.3	29.4	5.9	

**Accurate Counts**  
978-664-2565

N/S Street : West Crosswalk  
E/W Street: Flagg Drive Sidewalks  
City/State : Framingham, MA  
Weather : Clear

File Name : 770400X4  
Site Code : 770400X4  
Start Date : 10/31/2017  
Page No : 2

Start Time	From North			From East			From South			From West	Int. Total
	4	2	App. Total	8	6	App. Total	12	10	App. Total	App. Total	
Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 02:15 PM											
02:15 PM	0	0	0	0	6	6	3	0	3	0	9
02:30 PM	3	1	4	3	3	6	5	0	5	0	15
02:45 PM	1	1	2	0	0	0	0	1	1	0	3
03:00 PM	0	0	0	0	3	3	2	0	2	0	5
Total Volume	4	2	6	3	12	15	10	1	11	0	32
% App. Total	66.7	33.3		20	80		90.9	9.1			
PHF	.333	.500	.375	.250	.500	.625	.500	.250	.550	.000	.533



**Accurate Counts**  
978-664-2565

N/S Street : West Crosswalk  
E/W Street: Flagg Drive Sidewalks  
City/State : Framingham, MA  
Weather : Clear

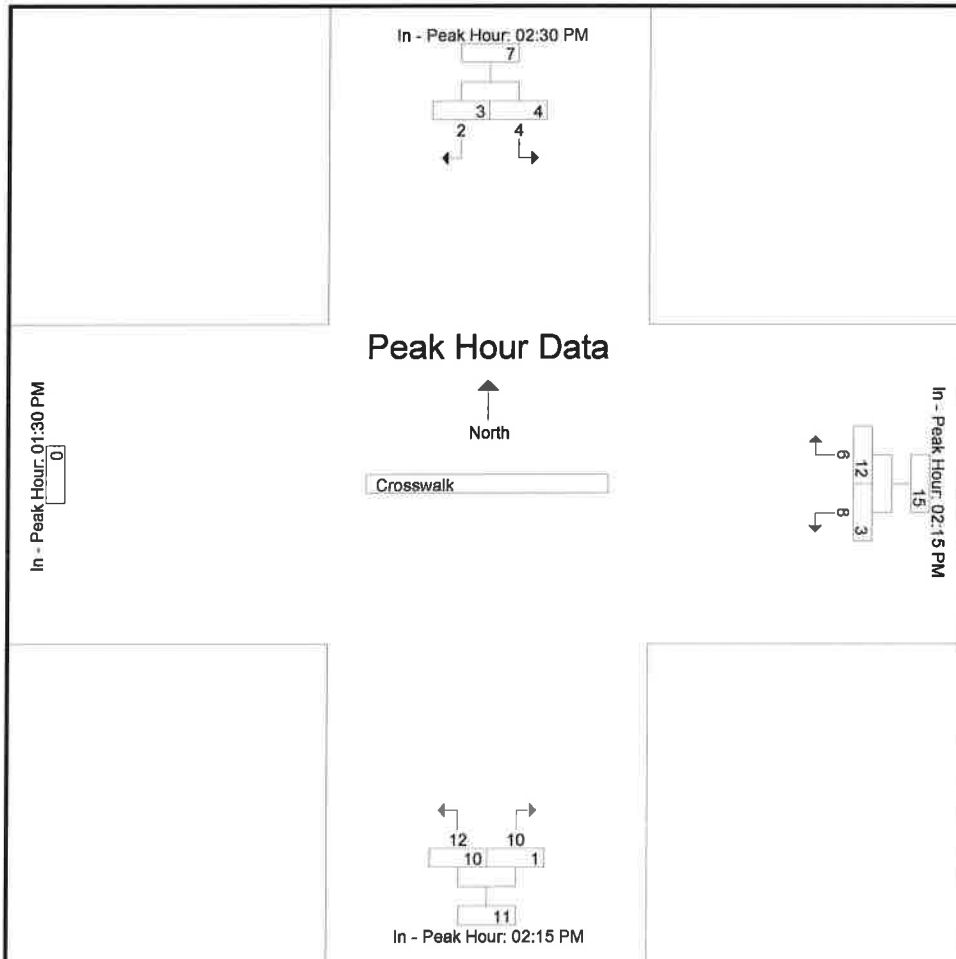
File Name : 770400X4  
Site Code : 770400X4  
Start Date : 10/31/2017  
Page No : 3

Start Time	From North		App. Total	From East		App. Total	From South		App. Total	From West	Int. Total
	4	2		8	6		12	10		App. Total	

Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:30 PM			02:15 PM			02:15 PM			01:30 PM
+0 mins.	3	1	4	0	6	6	3	0	3	0
+15 mins.	1	1	2	3	3	6	5	0	5	0
+30 mins.	0	0	0	0	0	0	0	1	1	0
+45 mins.	0	1	1	0	3	3	2	0	2	0
Total Volume	4	3	7	3	12	15	10	1	11	0
% App. Total	57.1	42.9		20	80		90.9	9.1		
PHF	.333	.750	.438	.250	.500	.625	.500	.250	.550	.000



## CAPACITY ANALYSIS

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Warren Road at Oaks Road

Oaks Road at Flagg Street

Flagg Street at Community Engagement Drive

Flagg Street at Visitor Parking Lot

Flagg Street at Fuller School Drive A and McCarthy School Parking Lot

Flagg Street at Fuller School Drive B and McCarthy School Parking Lot

Flagg Street at Fuller School Drive C

Flagg Street at McCarthy School North Drive and MassBay Community College

Flagg Street at McCarthy School South Drive

Flagg Street at Normandy Road

Flagg Street at Warren Road

Warren Road at Oaks Road

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HCM 2010 TWSC  
5: Warren Road & Oaks Road

11/9/2017

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	128	339	278	48	56	96
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	85	85	81	81	69	69
Heavy Vehicles, %	0	4	3	2	7	8
Mvmt Flow	151	399	343	59	81	139

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	402	0	1073
Stage 1	-	-	373
Stage 2	-	-	700
Critical Hdwy	4.1	-	6.47
Critical Hdwy Stg 1	-	-	5.47
Critical Hdwy Stg 2	-	-	5.47
Follow-up Hdwy	2.2	-	3.563
Pot Cap-1 Maneuver	1168	-	238
Stage 1	-	-	686
Stage 2	-	-	483
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1168	-	198
Mov Cap-2 Maneuver	-	-	198
Stage 1	-	-	686
Stage 2	-	-	403

Approach	EB	WB	SB
HCM Control Delay, s	2.3		30.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1168	-	-	-	355
HCM Lane V/C Ratio	0.129	-	-	-	0.621
HCM Control Delay (s)	8.5	0	-	-	30.4
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	4

HCM 2010 TWSC  
5: Warren Road & Oaks Road

11/9/2017

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	63	217	404	31	73	111
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	96	96	94	94	87	87
Heavy Vehicles, %	0	1	0	0	12	6
Mvmt Flow	66	226	430	33	84	128

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	463	0	803
Stage 1	-	-	446
Stage 2	-	-	357
Critical Hdwy	4.1	-	6.52
Critical Hdwy Stg 1	-	-	5.52
Critical Hdwy Stg 2	-	-	5.52
Follow-up Hdwy	2.2	-	3.608
Pot Cap-1 Maneuver	1109	-	339
Stage 1	-	-	624
Stage 2	-	-	687
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1109	-	316
Mov Cap-2 Maneuver	-	-	316
Stage 1	-	-	624
Stage 2	-	-	640

Approach	EB	WB	SB
HCM Control Delay, s	1.9		20.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1109	-	-	-	444
HCM Lane V/C Ratio	0.059	-	-	-	0.476
HCM Control Delay (s)	8.4	0	-	-	20.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	3



Oaks Road at Flagg Street

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HCM 2010 AWSC  
3: Oaks Road & Flagg Street

11/9/2017

Intersection												
Intersection Delay, s/veh	9.4											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	3	10	5	0	60	12	34	0	6	102	69
Peak Hour Factor	0.92	0.56	0.56	0.56	0.92	0.56	0.56	0.56	0.92	0.71	0.71	0.71
Heavy Vehicles, %	2	0	10	0	2	13	17	3	2	0	0	3
Mvmt Flow	0	5	18	9	0	107	21	61	0	8	144	97
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.2	9.8	9.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	17%	57%	53%
Vol Thru, %	58%	56%	11%	46%
Vol Right, %	39%	28%	32%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	18	106	127
LT Vol	102	10	12	59
Through Vol	69	5	34	1
RT Vol	6	3	60	67
Lane Flow Rate	249	32	189	144
Geometry Grp	1	1	1	1
Degree of Util (X)	0.305	0.044	0.262	0.194
Departure Headway (Hd)	4.411	4.927	4.978	4.843
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	813	722	719	739
Service Time	2.453	2.992	3.029	2.891
HCM Lane V/C Ratio	0.306	0.044	0.263	0.195
HCM Control Delay	9.4	8.2	9.8	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.3	0.1	1	0.7

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	67	59	1
Peak Hour Factor	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	0	3	0
Mvmt Flow	0	76	67	1
Number of Lanes	0	0	1	0

Approach

SB

Opposing Approach

NB

Opposing Lanes

1

Conflicting Approach Left

WB

Conflicting Lanes Left

1

Conflicting Approach Right

EB

Conflicting Lanes Right

1

HCM Control Delay

9.1

HCM LOS

A

Lane

HCM 2010 AWSC  
3: Oaks Road & Flagg Street

11/9/2017

Intersection												
Intersection Delay, s/veh	8.8											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	3	12	6	0	66	11	55	0	2	72	28
Peak Hour Factor	0.92	0.75	0.75	0.75	0.92	0.77	0.77	0.77	0.92	0.80	0.80	0.80
Heavy Vehicles, %	2	0	8	0	2	28	0	4	2	0	0	0
Mvmt Flow	0	4	16	8	0	86	14	71	0	2	90	35
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.8	9.4	8.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	14%	50%	39%
Vol Thru, %	71%	57%	8%	59%
Vol Right, %	27%	29%	42%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	102	21	132	130
LT Vol	72	12	11	77
Through Vol	28	6	55	2
RT Vol	2	3	66	51
Lane Flow Rate	128	28	171	146
Geometry Grp	1	1	1	1
Degree of Util (X)	0.156	0.036	0.233	0.187
Departure Headway (Hd)	4.411	4.606	4.886	4.614
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	813	776	735	779
Service Time	2.439	2.643	2.917	2.641
HCM Lane V/C Ratio	0.157	0.036	0.233	0.187
HCM Control Delay	8.3	7.8	9.4	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.1	0.9	0.7

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	51	77	2
Peak Hour Factor	0.92	0.89	0.89	0.89
Heavy Vehicles, %	2	0	3	0
Mvmt Flow	0	57	87	2
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.7
HCM LOS	A

Lane

Flagg Street at Community Engagement Drive

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HCM 2010 TWSC  
6: Flagg Street & Fuller School A

11/9/2017

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	15	131	99	7	5	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	61	61	61	61	60	60
Heavy Vehicles, %	0	2	10	0	0	0
Mvmt Flow	25	215	162	11	8	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	174	0	432
Stage 1	-	-	168
Stage 2	-	-	264
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	1415	-	584
Stage 1	-	-	867
Stage 2	-	-	785
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1415	-	572
Mov Cap-2 Maneuver	-	-	572
Stage 1	-	-	867
Stage 2	-	-	769

Approach	EB	WB	SB
HCM Control Delay, s	0.8		10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1415	-	-	-	719
HCM Lane V/C Ratio	0.017	-	-	-	0.028
HCM Control Delay (s)	7.6	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 2010 TWSC  
6: Flagg Street & Fuller School A

11/9/2017

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	9	82	118	5	0	14
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	80	80	90	90	58	58
Heavy Vehicles, %	0	0	15	0	0	0
Mvmt Flow	11	102	131	6	0	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	137	0	259
Stage 1	-	-	134
Stage 2	-	-	125
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	1459	-	734
Stage 1	-	-	897
Stage 2	-	-	906
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1459	-	728
Mov Cap-2 Maneuver	-	-	728
Stage 1	-	-	897
Stage 2	-	-	899

Approach	EB	WB	SB
HCM Control Delay, s	0.7	-	9
HCM LOS	-	-	A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1459	-	-	-	920
HCM Lane V/C Ratio	0.008	-	-	-	0.026
HCM Control Delay (s)	7.5	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0



Flagg Street at Visitor Parking Lot

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HCM 2010 TWSC  
 27: Flagg Street & Visitor Parking

11/9/2017

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	21	138	82	29	23	24
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	68	68	80	80	78	78
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	31	203	102	36	29	31

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	139	0	386
Stage 1	-	-	121
Stage 2	-	-	265
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	1457	-	621
Stage 1	-	-	909
Stage 2	-	-	784
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1457	-	606
Mov Cap-2 Maneuver	-	-	606
Stage 1	-	-	909
Stage 2	-	-	765

Approach	EB	WB	SB
HCM Control Delay, s	1		10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1457	-	-	-	606	936
HCM Lane V/C Ratio	0.021	-	-	-	0.049	0.033
HCM Control Delay (s)	7.5	0	-	-	11.2	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	5	77	109	15	15	14
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	69	69	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	88	158	22	21	19

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	180	0	268
Stage 1	-	-	169
Stage 2	-	-	99
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	1408	-	726
Stage 1	-	-	866
Stage 2	-	-	930
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1408	-	723
Mov Cap-2 Maneuver	-	-	723
Stage 1	-	-	866
Stage 2	-	-	926

Approach	EB	WB	SB
HCM Control Delay, s	0.5	-	9.7
HCM LOS	-	-	A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1408	-	-	-	723	880
HCM Lane V/C Ratio	0.004	-	-	-	0.028	0.022
HCM Control Delay (s)	7.6	0	-	-	10.1	9.2
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Flagg Street at Fuller School Drive A and McCarthy School Parking Lot

HCM 2010 TWSC  
 8: McCarthy Parking Lot/Fuller School B & Flagg Street

11/9/2017

Intersection									
Int Delay, s/veh	4								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	81	57	167	101	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	69	69	69	92	92	92
Heavy Vehicles, %	0	2	0	3	7	0	0	0	0
Mvmt Flow	0	94	66	242	146	0	0	0	0

Major/Minor	Major1			Major2		
Conflicting Flow All	146	0	0	160	0	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	4.13	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	2.227	-	-
Pot Cap-1 Maneuver	1448	-	-	1413	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1448	-	-	1413	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB
HCM Control Delay, s		
HCM LOS		

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1448	-	-	1413	-	-	283	906
HCM Lane V/C Ratio	-	-	-	0.171	-	-	0.353	0.027
HCM Control Delay (s)	0	-	-	8.1	0	-	24.5	9.1
HCM Lane LOS	A	-	-	A	A	-	C	A
HCM 95th %tile Q(veh)	0	-	-	1	-	-	2	0

**Intersection**

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	33	8	10
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	50
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	41	41	41
Heavy Vehicles, %	22	0	0
Mvmt Flow	80	20	24

Major/Minor	Minor2		
Conflicting Flow All	757	790	146
Stage 1	630	630	-
Stage 2	127	160	-
Critical Hdwy	6.62	6.5	6.2
Critical Hdwy Stg 1	5.62	5.5	-
Critical Hdwy Stg 2	5.62	5.5	-
Follow-up Hdwy	3.698	4	3.3
Pot Cap-1 Maneuver	348	325	906
Stage 1	495	478	-
Stage 2	852	769	-
Platoon blocked, %			
Mov Cap-1 Maneuver	283	0	906
Mov Cap-2 Maneuver	283	0	-
Stage 1	403	0	-
Stage 2	852	0	-

Approach	SB
HCM Control Delay, s	21.5
HCM LOS	C

**Minor Lane/Major Mvmt**

HCM 2010 TWSC  
 8: McCarthy Parking Lot/Fuller School B & Flagg Street

11/9/2017

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	72	20	41	116	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	74	74	74	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	100	28	55	157	0	0	0	0

Major/Minor	Major1	Major2
Conflicting Flow All	157	128
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	4.1	4.1
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	2.2	2.2
Pot Cap-1 Maneuver	1435	1470
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	1435	1470
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach	EB	WB
HCM Control Delay, s		
HCM LOS		

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1435	-	-	1470	-	-	598	894
HCM Lane V/C Ratio	-	-	-	0.038	-	-	0.217	0.019
HCM Control Delay (s)	0	-	-	7.5	0	-	12.7	9.1
HCM Lane LOS	A	-	-	A	A	-	B	A
HCM 95th %tile Q(veh)	0	-	-	0	-	-	1	0

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	60	1	8
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	50
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	47	47	47
Heavy Vehicles, %	0	0	0
Mvmt Flow	128	2	17

Major/Minor	Minor2		
Conflicting Flow All	382	396	157
Stage 1	268	268	-
Stage 2	114	128	-
Critical Hdwy	6.4	6.5	6.2
Critical Hdwy Stg 1	5.4	5.5	-
Critical Hdwy Stg 2	5.4	5.5	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	624	544	894
Stage 1	782	691	-
Stage 2	916	794	-
Platoon blocked, %			
Mov Cap-1 Maneuver	598	0	894
Mov Cap-2 Maneuver	598	0	-
Stage 1	750	0	-
Stage 2	916	0	-

Approach	SB
HCM Control Delay, s	12.3
HCM LOS	B

Minor Lane/Major Mvmt



Flagg Street at Fuller School Drive B and McCarthy School Parking Lot

HCM 2010 TWSC  
 11: McCarthy Parking Lot/Fuller School C & Flagg Street

11/9/2017

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	22	92	0	0	249	92	19	5	89
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	69	69	69	40	40	40
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0
Mvmt Flow	26	107	0	0	361	133	48	12	222

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	494	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1080	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1080	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s			10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	464	953	1080	-	-	1497	-	-
HCM Lane V/C Ratio	0.129	0.233	0.024	-	-	-	-	-
HCM Control Delay (s)	13.9	9.9	8.4	0	-	0	-	-
HCM Lane LOS	B	A	A	A	-	A	-	-
HCM 95th %tile Q(veh)	0	1	0	-	-	0	-	-

**Intersection**

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	0	0	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	0	0	0
Mvmt Flow	0	0	0

**Major/Minor**

Conflicting Flow All

Stage 1

Stage 2

Critical Hdwy

Critical Hdwy Stg 1

Critical Hdwy Stg 2

Follow-up Hdwy

Pot Cap-1 Maneuver

Stage 1

Stage 2

Platoon blocked, %

Mov Cap-1 Maneuver

Mov Cap-2 Maneuver

Stage 1

Stage 2

**Approach**

HCM Control Delay, s

HCM LOS

**Minor Lane/Major Mvmt**

Intersection									
Int Delay, s/veh	2.7								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	16	115	0	0	156	53	15	6	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	74	74	74	49	49	49
Heavy Vehicles, %	0	0	0	0	0	4	0	0	0
Mvmt Flow	22	160	0	0	211	72	31	12	122

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	282	0	0	160	0	0	451	486	160
Stage 1	-	-	-	-	-	-	204	204	-
Stage 2	-	-	-	-	-	-	247	282	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1292	-	-	1432	-	-	570	484	890
Stage 1	-	-	-	-	-	-	835	737	-
Stage 2	-	-	-	-	-	-	799	681	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1292	-	-	1432	-	-	559	0	890
Mov Cap-2 Maneuver	-	-	-	-	-	-	559	0	-
Stage 1	-	-	-	-	-	-	819	0	-
Stage 2	-	-	-	-	-	-	799	0	-

Approach	EB	WB	NB
HCM Control Delay, s			10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	559	890	1292	-	-	1432	-	-
HCM Lane V/C Ratio	0.077	0.138	0.017	-	-	-	-	-
HCM Control Delay (s)	12	9.7	7.8	0	-	0	-	-
HCM Lane LOS	B	A	A	A	-	A	-	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-	-

**Intersection**

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	0	0	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	55	55	55
Heavy Vehicles, %	0	0	0
Mvmt Flow	0	0	0

**Major/Minor**

Conflicting Flow All

Stage 1

Stage 2

Critical Hdwy

Critical Hdwy Stg 1

Critical Hdwy Stg 2

Follow-up Hdwy

Pot Cap-1 Maneuver

Stage 1

Stage 2

Platoon blocked, %

Mov Cap-1 Maneuver

Mov Cap-2 Maneuver

Stage 1

Stage 2

**Approach**

HCM Control Delay, s

HCM LOS

**Minor Lane/Major Mvmt**

Flagg Street at Fuller School Drive C

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HCM 2010 TWSC  
 14: Flagg Street & Fuller School D

11/9/2017

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	7	176	337	24	2	4
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	86	86	69	69	50	50
Heavy Vehicles, %	0	2	7	0	0	0
Mvmt Flow	8	205	488	35	4	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	523	0	727
Stage 1	-	-	506
Stage 2	-	-	221
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	1054	-	394
Stage 1	-	-	610
Stage 2	-	-	821
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1054	-	390
Mov Cap-2 Maneuver	-	-	390
Stage 1	-	-	610
Stage 2	-	-	814

Approach	EB	WB	SB
HCM Control Delay, s	0.3		12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1054	-	-	-	494
HCM Lane V/C Ratio	0.008	-	-	-	0.024
HCM Control Delay (s)	8.4	0	-	-	12.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

**Intersection**

Int Delay, s/veh 1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	183	203	12	32	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	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	50	50	56	56	63	63
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	366	362	21	51	10

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	384	0	743
Stage 1	-	-	373
Stage 2	-	-	370
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	1186	-	386
Stage 1	-	-	701
Stage 2	-	-	703
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1186	-	385
Mov Cap-2 Maneuver	-	-	385
Stage 1	-	-	701
Stage 2	-	-	702

Approach	EB	WB	SB
HCM Control Delay, s	0		15.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1186	-	-	-	413
HCM Lane V/C Ratio	0.002	-	-	-	0.146
HCM Control Delay (s)	8	0	-	-	15.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1



Flagg Street at McCarthy School North Drive and MassBay Community College

**Intersection**

Int Delay, s/veh 2.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER
Vol, veh/h	0	177	1	8	346	0	4	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	55	55	55	63	63	63	44	44	44
Heavy Vehicles, %	0	5	0	75	7	0	0	0	11
Mvmt Flow	0	322	2	13	549	0	9	0	107

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	549	0	0	324	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	4.1	-	-	4.85	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	2.875	-
Pot Cap-1 Maneuver	1031	-	-	918	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1031	-	-	918	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	SE	NW	NE
HCM Control Delay, s			11.8
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1	SWLn2
Capacity (veh/h)	246	698	918	-	-	1031	-	-	219	539
HCM Lane V/C Ratio	0.037	0.153	0.014	-	-	-	-	-	0.104	0.046
HCM Control Delay (s)	20.2	11.1	9	0	-	0	-	-	23.3	12
HCM Lane LOS	C	B	A	A	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0	1	0	-	-	0	-	-	0	0

**Intersection**

Int Delay, s/veh

Movement	SWL	SWT	SWR
Vol, veh/h	10	0	11
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	0
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	44	44	44
Heavy Vehicles, %	0	0	0
Mvmt Flow	23	0	25

Major/Minor	Minor2		
Conflicting Flow All	898	899	549
Stage 1	575	575	-
Stage 2	323	324	-
Critical Hdwy	7.1	6.5	6.2
Critical Hdwy Stg 1	6.1	5.5	-
Critical Hdwy Stg 2	6.1	5.5	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	262	281	539
Stage 1	507	506	-
Stage 2	693	653	-
Platoon blocked, %			
Mov Cap-1 Maneuver	219	275	539
Mov Cap-2 Maneuver	219	275	-
Stage 1	507	496	-
Stage 2	587	653	-

Approach	SW
HCM Control Delay, s	17.4
HCM LOS	C

**Minor Lane/Major Mvmt**

Intersection	
Int Delay, s/veh	1.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER
Vol, veh/h	0	213	2	7	206	0	3	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	74	74	74	36	36	36
Heavy Vehicles, %	0	0	0	0	1	0	0	0	10
Mvmt Flow	0	333	3	9	278	0	8	0	28

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	278	0	0	336	0	0	631	631	334
Stage 1	-	-	-	-	-	-	334	334	-
Stage 2	-	-	-	-	-	-	297	297	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.39
Pot Cap-1 Maneuver	1296	-	-	1235	-	-	396	401	690
Stage 1	-	-	-	-	-	-	684	647	-
Stage 2	-	-	-	-	-	-	716	671	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1296	-	-	1235	-	-	389	397	690
Mov Cap-2 Maneuver	-	-	-	-	-	-	389	397	-
Stage 1	-	-	-	-	-	-	684	647	-
Stage 2	-	-	-	-	-	-	702	665	-

Approach	SE	NW	NE
HCM Control Delay, s			11.3
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1	SWLn2
Capacity (veh/h)	389	690	1235	-	-	1296	-	-	377	766
HCM Lane V/C Ratio	0.021	0.04	0.008	-	-	-	-	-	0.042	0.01
HCM Control Delay (s)	14.5	10.4	7.9	0	-	0	-	-	15	9.7
HCM Lane LOS	B	B	A	A	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-	-	0	0

**Intersection**

Int Delay, s/veh

Movement	SWL	SWT	SWR
Vol, veh/h	12	0	6
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	0
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	75	75	75
Heavy Vehicles, %	0	0	0
Mvmt Flow	16	0	8

Major/Minor	Minor2		
Conflicting Flow All	631	633	278
Stage 1	297	297	-
Stage 2	334	336	-
Critical Hdwy	7.1	6.5	6.2
Critical Hdwy Stg 1	6.1	5.5	-
Critical Hdwy Stg 2	6.1	5.5	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	396	400	766
Stage 1	716	671	-
Stage 2	684	645	-
Platoon blocked, %			
Mov Cap-1 Maneuver	377	396	766
Mov Cap-2 Maneuver	377	396	-
Stage 1	716	665	-
Stage 2	656	645	-

Approach	SW
HCM Control Delay, s	13.2
HCM LOS	B

**Minor Lane/Major Mvmt**

Flagg Street at McCarthy School South Drive

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HCM 2010 TWSC  
 21: Flagg Street & McCarthy School South Drive

11/9/2017

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	9	0	355	234	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	28	28	80	80	61	61
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	0	32	0	444	384	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	828	384	384
Stage 1	384	-	-
Stage 2	444	-	-
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	344	668	1186
Stage 1	693	-	-
Stage 2	651	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	344	668	1186
Mov Cap-2 Maneuver	344	-	-
Stage 1	693	-	-
Stage 2	651	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7		
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1186	-	668	-	-
HCM Lane V/C Ratio	-	-	0.048	-	-
HCM Control Delay (s)	0	-	10.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %file Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	9	0	213	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	28	28	79	79	67	67
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	32	0	270	351	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	621	351	0
Stage 1	351	-	-
Stage 2	270	-	-
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	454	697	1219
Stage 1	717	-	-
Stage 2	780	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	454	697	1219
Mov Cap-2 Maneuver	454	-	-
Stage 1	717	-	-
Stage 2	780	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4		
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1219	-	697	-	-
HCM Lane V/C Ratio	-	-	0.046	-	-
HCM Control Delay (s)	0	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Flagg Street at Normandy Road

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HCM 2010 TWSC  
 23: Flagg Street & Normandy Road

11/9/2017

Intersection	
Int Delay, s/veh	26

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	125	136	219	259	132	111
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	84	84	80	80	61	61
Heavy Vehicles, %	2	0	1	0	0	0
Mvmt Flow	149	162	274	324	216	182

Major/Minor	Minor1	Minor2	Major1	Major2	Major2	Major2
Conflicting Flow All	1051	436	0	0	598	0
Stage 1	436	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Critical Hdwy	6.42	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	251	625	-	-	989	-
Stage 1	652	-	-	-	-	-
Stage 2	539	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	190	625	-	-	989	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	652	-	-	-	-	-
Stage 2	408	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	102.6		5.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	298	989	-
HCM Lane V/C Ratio	-	-	1.043	0.219	-
HCM Control Delay (s)	-	-	102.6	9.7	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	12	1	-

HCM 2010 TWSC  
23: Flagg Street & Normandy Road

11/9/2017

**Intersection**

Int Delay, s/veh 45

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	221	105	109	141	134	110
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	78	78	79	79	67	67
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	283	135	138	178	200	164

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	791	227	0	0	316	0
Stage 1	227	-	-	-	-	-
Stage 2	564	-	-	-	-	-
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	361	817	-	-	1256	-
Stage 1	815	-	-	-	-	-
Stage 2	573	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	298	817	-	-	1256	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	815	-	-	-	-	-
Stage 2	473	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	114.4	-	4.6
HCM LOS	F	-	-

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	375	1256	-
HCM Lane V/C Ratio	-	-	1.115	0.159	-
HCM Control Delay (s)	-	-	114.4	8.4	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	15	1	-

Warren Road at Flagg Street

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Intersection	
Int Delay, s/veh	15

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	246	159	166	182	73	157
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	84	84	75	75	81	81
Heavy Vehicles, %	5	4	1	7	6	5
Mvmt Flow	293	189	221	243	90	194

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	464	0	1118
Stage 1	-	-	343
Stage 2	-	-	775
Critical Hdwy	4.15	-	6.46
Critical Hdwy Stg 1	-	-	5.46
Critical Hdwy Stg 2	-	-	5.46
Follow-up Hdwy	2.245	-	3.554
Pot Cap-1 Maneuver	1082	-	225
Stage 1	-	-	710
Stage 2	-	-	447
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1082	-	157
Mov Cap-2 Maneuver	-	-	157
Stage 1	-	-	710
Stage 2	-	-	312

Approach	EB	WB	SB
HCM Control Delay, s	5.8		55.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1082	-	-	-	333
HCM Lane V/C Ratio	0.271	-	-	-	0.853
HCM Control Delay (s)	9.6	0	-	-	55.1
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	1	-	-	-	8

HCM 2010 TWSC  
16: Warren Road & Flagg Street

11/9/2017

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	140	149	143	46	62	292
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	85	85	95	95	89	89
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	165	175	151	48	70	328

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	199	0	680
Stage 1	-	-	175
Stage 2	-	-	505
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	1385	-	420
Stage 1	-	-	860
Stage 2	-	-	610
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1385	-	365
Mov Cap-2 Maneuver	-	-	365
Stage 1	-	-	860
Stage 2	-	-	529

Approach	EB	WB	SB
HCM Control Delay, s	3.9	-	16.6
HCM LOS	-	-	C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1385	-	-	-	702
HCM Lane V/C Ratio	0.119	-	-	-	0.567
HCM Control Delay (s)	8	0	-	-	16.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	4