18 Boyd Drive

Newburyport, Massachusetts

Traffic Impact & Access Study

Prepared For:

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EXECUTIVE SUMMARY

This Traffic Impact and Access Study (TIAS) was prepared to analyze the impact of the proposed residential redevelopment at 18 Boyd Drive in Newburyport, Massachusetts on surrounding traffic operations. The site, currently a golf course, is bordered by Boyd Drive in the east, wooded area in the north, I-95 in the west, and residences in the south. Land use surrounding the site is primarily residential. The proposed project will redevelop the existing golf course to accommodate a new residential development that will consist of either 38 single-family houses or 44 single-family houses. Site access for the 38-unit subdivision will be provided via two curb cuts on Boyd Drive. Site access for the proposed 44-unit subdivision will be provided via two curb cuts on Boyd Drive and an access road connecting the subdivision to Laurel Road A sight distance analysis was carried out at the proposed locations for the Boyd Drive curb cuts, the intersection of Boyd Drive and Ferry Road, and the intersection of Laurel Road and Ferry Road to ensure safe movements entering and exiting the site.

A safety analysis of the most recent four years of crash data was completed to point out possible existing safety issues within the study area that may need to be addressed as part of the traffic study. It was determined that none of the study intersections analyzed had crash rates above district or statewide averages. Capacity analyses of 2016 Existing, 2023 No-Build, and 2023 Build traffic conditions were carried out to assess the impact that the new development at 18 Boyd Drive will have on local traffic operations. The anticipated traffic impact due to this project is expected to be minimal and create no greater impact than the prior land use. Therefore, no mitigation is proposed.

Study Area

The following four intersections in Newburyport, Massachusetts were examined in this traffic study:

- Spofford Street and Ferry Road
- Ferry Road and Boyd Drive
- Ferry Road and Elmira Avenue
- Ferry Road/Pine Hill Road and Laurel Road

Due to the alignment of the intersection of Spofford Street and Ferry Road, the intersection was broken down into three separate intersections. Each of the study intersections is highlighted relative to the project site in Figure A7. See Section A for detailed descriptions of existing conditions.

Safety Analysis

A safety analysis was carried out on the study intersections based on 2011 to 2014 crash data from MassDOT. These are the most recent available years of data. Crash data was analyzed to determine trends in location, manner of collision, and weather in order to point out high crash locations and analyze possible causation if necessary. None of the intersections studied have crash rates above District 4 or statewide averages. Based on this analysis, there are no major safety issues with

existing conditions or intersection geometries that need to be addressed as part of this traffic study. Detailed safety analyses and crash data is contained in Section C. As part of the safety analysis, a sight distance analysis was carried out for the proposed entrance locations on Boyd Drive, the intersection of Ferry Road and Boyd Drive, and the intersection of Ferry Road and Laurel Road. Minimum recommended sight distance set forth by The American Association of State Highway and Transportation Officials (AASHTO) were compared to the field measured sight distances.

Capacity Analysis

For each intersection, capacity analyses were carried out under three scenarios: 2016 Existing Conditions, No-Build in year 2023, and Build in year 2023, all of which are explained later in this report.

MassDOT Transportation Impact Assessment (TIA) Guidelines require a 7-year planning horizon. The Existing Conditions Analysis is based on current traffic counts carried out in the study area, the results of which were adjusted and calibrated to reflect a typical day on the calendar. The 2023 No-Build scenario takes adjusted existing traffic volumes, applies a conservative regional growth rate, and adds any area specific traffic due to development. The 2023 Build scenario adds the predicted site specific traffic volumes to the 2023 No-Build scenario. Detailed breakdowns of each of these scenarios are included in Section B of this report.

Although the existing golf course at the project location (that will be removed) currently remains open for most of the year, vehicle trip credit for the golf course was not taken to remain conservative. Moreover, although motor vehicle trips drop dramatically during the non-summer months (the counts, which were taken in June, are 7% above the annual average), there were no seasonal adjustments made, also to remain conservative.

Level of Service (LOS) is a term used to qualitatively measure performance of traffic conditions of each intersection and is explained further in the body of this study. A comparison showing the results of the capacity analyses is shown below in Tables A1 and A2. Table A1 shows a comparison of all three scenarios based on a proposed 38-unit subdivision and Table A2 shows a comparison of all three scenarios based on a proposed 44-unit subdivision.

Table A1: Level-of-Service Summary – 38-Unit Subdivision

ID	East-West Road	North-South Road	Lane	Existing		No-Build*		Build	
				AM	PM	AM	PM	AM	PM
1	Ferry Road		WB R	A	B	A	B	A	B
			SE TL	A	A	A	A	A	A
			NW T	A	A	A	A	A	A
			Overall	--	--	--	--	--	--
2		Spofford Street	EB L	B	C	B	B*	B	B
			NB T	A	A	A	A	A	A
			SB TR	A	A	A	A	A	A
			Overall	--	--	--	--	--	--
3	Ferry Road	Spofford Street	EB T	A	A	A	A	A	A
			WB TR	A	B	A	B	A	B
			SB L	A	B	B	B	B	B
			Overall	--	--	--	--	--	--
4	Ferry Road	Boyd Drive	EB TR	A	A	A	A	A	A
			WB TL	A	A	A	A	A	A
			NB LR	B	B	B	B	B	B
			Overall	--	--	--	--	--	--
5	Ferry Road	Elmira Avenue	EB TL	A	A	A	A	A	A
			WB TR	A	A	A	A	A	A
			SB LR	B	B	B	B	B	B
			Overall	--	--	--	--	--	--

Table A2: Level-of-Service Summary – 44-Unit Subdivision

ID	East-West Road	North-South Road	Lane	Existing		No-Build*		Build	
				AM	PM	AM	PM	AM	PM
1	Ferry Road		WB R	A	B	A	B	A	B
			SE TL	A	A	A	A	A	A
			NW T	A	A	A	A	A	A
			Overall	--	--	--	--	--	--
2		Spofford Street	EB L	B	C	B	B*	B	B
			NB T	A	A	A	A	A	A
			SB TR	A	A	A	A	A	A
			Overall	--	--	--	--	--	--
3	Ferry Road	Spofford Street	EB T	A	A	A	A	A	A
			WB TR	A	B	A	B	A	B
			SB L	A	B	B	B	B	B
			Overall	--	--	--	--	--	--
4	Ferry Road	Boyd Drive	EB TR	A	A	A	A	A	A
			WB TL	A	A	A	A	A	A
			NB LR	B	B	B	B	B	B
			Overall	--	--	--	--	--	--
5	Ferry Road	Elmira Avenue	EB TL	A	A	A	A	A	A
			WB TR	A	A	A	A	A	A
			SB LR	B	B	B	B	B	B
			Overall	--	--	--	--	--	--
6	Ferry Road	Laurel Road	EB TR	A	A	A	A	A	A
			WB TL	A	A	A	A	A	A
			NB LR	A	A	A	A	A	A
			Overall	--	--	--	--	--	--

LEGEND

Declined from previous condition

**Any improvements to No-Build Conditions are due to the MassDOT requirement of using a 0.92 Peak Hour Factor for future conditions.*

As can be seen from Tables A1 and A2, the proposed redevelopment at 18 Boyd Drive will have no detrimental impact on surrounding traffic networks. Zero movements degrade in LOS going from the No-Build to Build scenarios. The direct impact of the project on traffic conditions is reflected in the lack of change between the No-Build and Build scenarios. It will be shown in this report that the proposed redevelopment will have no negative impact on the surrounding traffic network. Given the minimal expected impacts, there is no mitigation needed proposed to alleviate changes in traffic operations.

Conclusion

From a safety perspective, data shows that all study intersections have below average crash rates, and the four studied sight distance locations do not present any issues. A comparison of 2016 Existing, 2023 No-Build, and 2023 Build traffic conditions shows that there will be no detrimental impact due to the proposed development at 18 Boyd Drive. Therefore, no mitigation relating to traffic operations is proposed.

A. EXISTING CONDITIONS

A1. STUDY AREA

The study area is located in a primarily residential area in Newburyport. The site address is 18 Boyd Drive. The following four intersections were selected for analysis as part of this traffic impact study:

- Spofford Street and Ferry Road
- Ferry Road and Boyd Drive
- Ferry Road and Elmira Avenue
- Ferry Road/Pine Hill Road and Laurel Road

Figure A6 is a locus map, showing the study area relative to the larger transportation network.

A2. STUDY ROADWAYS

Ferry Road is classified as a local road and is under local jurisdiction. It runs northwest-southeast through the study area, and carries one lane in each direction. Ferry Road is approximately 0.9 miles in length, and runs from its northwestern limit at its intersection with Laurel Road, where it becomes Pine Hill Road, and to its southeastern limit at its intersection with Storey Road. Ferry Road has a 24 foot curb to curb width in the vicinity of the study area. There is a posted speed limit of 30 miles per hour on Ferry Road. There are sidewalks on the south side of Ferry Road west of the project site. Land use on Ferry Road is primarily residential. Figure A1 depicts a street view of Ferry Road.

Figure A1: Street View of Ferry Road Looking East

Elmira Avenue is classified as a local road and is under local jurisdiction. It runs southwest-northeast through the study area. It carries one travel lane in either direction, and parking is allowed on both sides of the street. Land use along Elmira Avenue is residential. Elmira Avenue is approximately 0.25 miles long. There are no sidewalks provided on Elmira Avenue, and there is no posted speed limit. Figure A2 depicts a street view of Elmira Avenue.

Figure A2: Street View of Elmira Avenue Looking North

Boyd Drive is classified as a local road and is under local jurisdiction. Boyd Drive runs northeast-southwest, and is a dead-end in the southwest direction and ends in the northeast at its intersection with Ferry Road. It carries one lane in each direction, and is approximately 1600 feet long. Land use is primarily residential. There is no posted speed limit along Boyd Drive. Figure A3 depicts a street view of Boyd Drive.

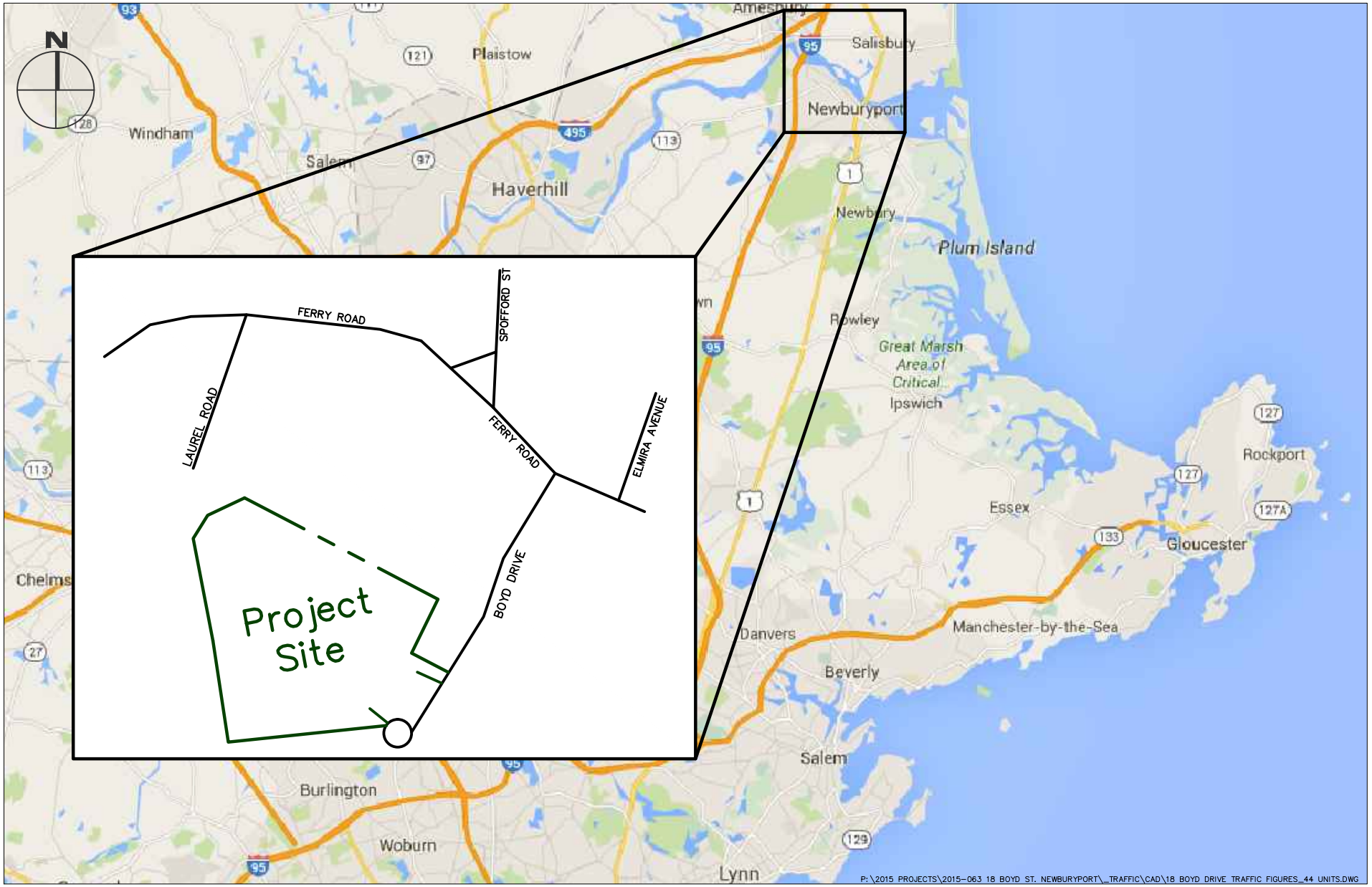
Figure A3: Street View of Boyd Drive Looking North

Spofford Street is classified as a local road and is under local jurisdiction. It runs approximately 0.5 miles in a north-south direction. Spofford Street runs from its intersection in the north with the Merrimack River crossing, where it becomes Main Street, and in the south with its intersection with Ferry Road. The speed limit on Spofford Street is 30 mph in the vicinity of the study area. There are no sidewalks present on Spofford Street in the vicinity of the project site. Figure A4 depicts a street view of Spofford Street.

Figure A4: Street View of Spofford Street Looking South

Laurel Road is classified as a local road and is under local jurisdiction. It runs for approximately 800 feet in a north-south direction. Laurel Road runs from its intersection with Ferry Road/Pine Hill Road in the north to a cul-de-sac in the south. There is no posted speed limit on Laurel Road, and there are no sidewalks present. Figure A5 depicts a street view of Laurel Road.

Figure A5: Street View of Laurel Road Looking South



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18 BOYD DRIVE NEWBURYPORT, MA

Locus Map

PROJECT NO.: 2015-063

DATE: AUGUST 2016

SCALE: N.T.S.

Figure A6

A3. STUDY INTERSECTIONS

There are four intersections in this study. All of the study intersections are unsignalized.

The intersection of **Spofford Street and Ferry Road** is an unsignalized intersection. Spofford Street runs north and south, and Ferry Road runs northwest and southeast. Ferry Road is stop controlled in the southeast direction, and moves free in the northeast direction. Spofford Street is stop-controlled in the southbound direction. There is a slip lane for southbound-right and southeast-left movements. There are no crosswalks present at this intersection.

The intersection of **Ferry Road and Boyd Drive** is a three-way, unsignalized intersection. Ferry Road runs east and west and Boyd Drive runs north and south. Each approach carries one travel lane in each direction. There are no crosswalks provided at this intersection. All movements at the intersection operate freely, under no control. There are no sidewalks provided at the intersection.

The intersection of **Ferry Road and Elmira Avenue** is a three-way, unsignalized intersection. Ferry Road runs north and south and Elmira Avenue runs north and south. Each approach carries one travel lane in each direction. There are no crosswalks provided at this intersection. All movements at the intersection operate freely, under no control. There are no sidewalks provided at the intersection.

The intersection of **Ferry Road/Pine Hill Road and Laurel Road** is a three-way, unsignalized intersection. Ferry Road/Pine Hill Road runs approximately east and west and Laurel Road runs north and south. Each approach carries one travel lane in each direction. There are no crosswalks provided at this intersection, and there are sidewalks provided on the south side of the intersection on either side of Laurel Road. All movements at the intersection operate freely, under no control.

See Figure A7 for a map showing study locations relative to the project site.

A4. MULTI-MODAL TRANSPORTATION

Merrimack Valley Regional Transit Authority (MVRTA) Bus Service

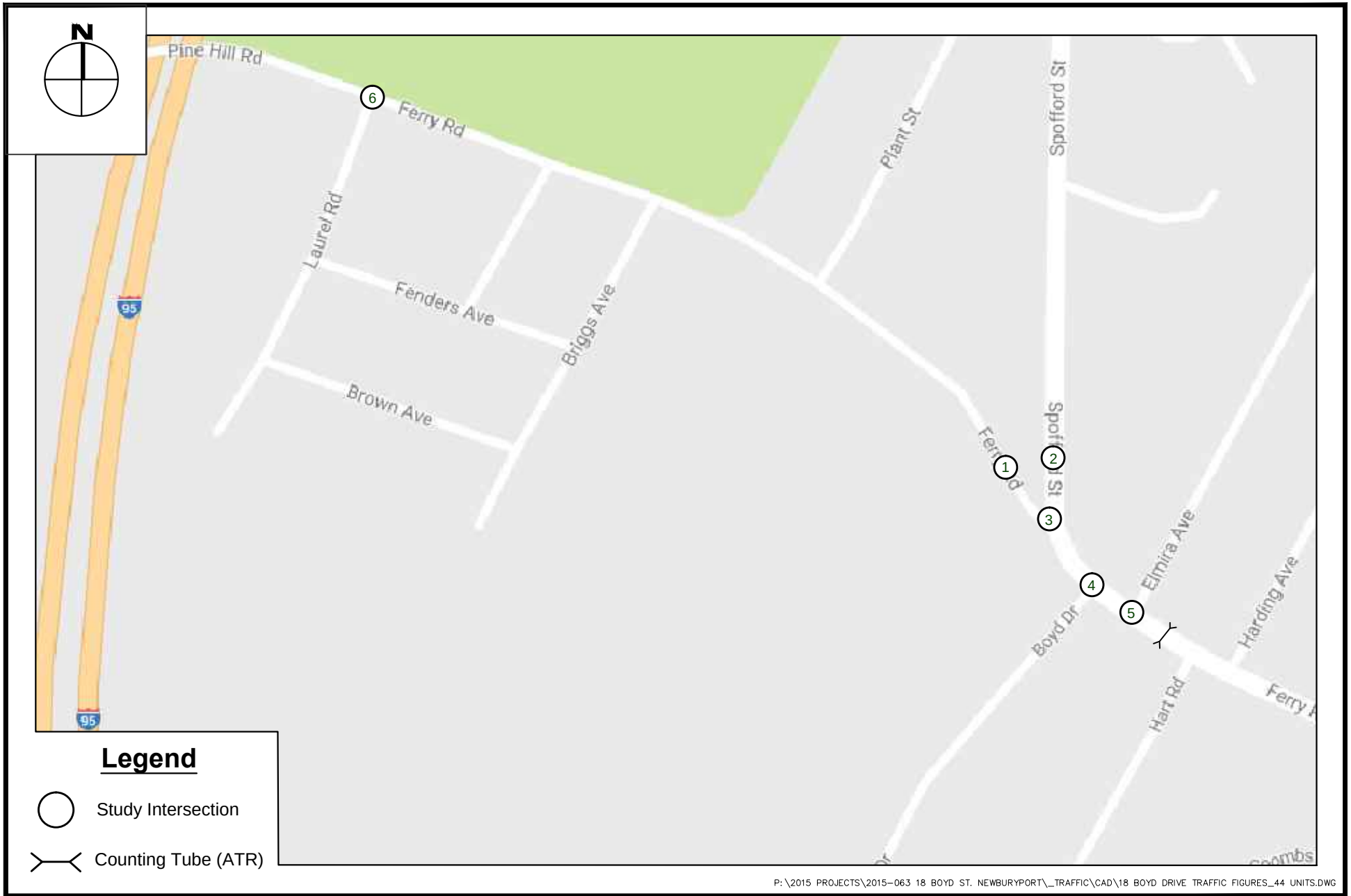
In the vicinity of the project site, MVRTA bus route 54 services the area. Route 54 provides service between the Costello Transportation Center and Salisbury Beach. It runs for a stretch along Storrey Road, with a stop at Port Plaza, approximately 0.7 miles from the project site. Additionally, there is a stop at the MBTA Commuter Rail Newburyport/Rockport line. The Commuter Rail connects cities and towns to the downtown area of Boston, as well as to other neighboring cities and towns. A detailed schedule is shown in Appendix C.

Park and Ride

A “Park and Ride” facility provides residents of a certain area an alternative means of transportation to get to local cities without having to drive, thus reducing the number of single-occupancy vehicle trips along the traffic network. There is a “Park and Ride” facility located 1.1 miles from the project site. However, upon completion of the project, as well as the completion of a multi-use path, the “Park and Ride” will be much more accessible via walking and bicycle, reducing the distance to approximately 0.6 miles from the project site. Buses depart from the “Park and Ride” facility to access Boston South Station, Logan Airport, Portsmouth, NH, and Dover, NH. A detailed schedule is shown in Appendix C.

Pedestrian and Bicycle Facilities

For pedestrians, there are sidewalks provided along the west side of Boyd Drive, as well as the south side of Ferry Road west of the project site. There is currently a multi-use path being constructed along the east side of I-95, which will connect the Park and Ride with locations north. This path, upon completion, will be connected via pathways to the residential project site at 18 Boyd Drive, providing an alternative way to travel to downtown Boston, potentially reducing the number of vehicle trips.



P:\2015 PROJECTS\2015-063 18 BOYD ST. NEWBURYPORT_TRAFFIC\CAD\18 BOYD DRIVE TRAFFIC FIGURES_44 UNITS.DWG

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18 BOYD DRIVE
NEWBURYPORT, MA

Study Intersections

PROJECT NO.: 2015-063

DATE: AUGUST 2016

SCALE: N.T.S.

Figure A7

B. TRAFFIC VOLUME

B1. EXISTING TRAFFIC COUNTS

Turning movement counts were collected in June 2016 and August 2016. In order to provide accurate analysis for separate peak periods during the day, DCI collected two peak hours' data for both AM (7am-9am) and PM (4pm-6pm) peak periods on a typical weekday. The June 2016 traffic counts collected were turning movements at the intersections of Spofford Street and Ferry Road, Ferry Road and Boyd Drive, and Ferry Road and Elmira Avenue. The August 2016 traffic counts were collected at the intersection of Ferry Road and Laurel Road.

In addition, to comply with MassDOT Transportation Impact Assessment (TIA) Guidelines, DCI also collected Automatic Traffic Recorder (ATR) counts through three consecutive days during a Tuesday to Thursday period in June 2016. The ATR collected traffic volume data, vehicular speed data, vehicle classification data, and the length of gaps in between vehicles. The counts are summarized in 15-minute, hourly, and daily intervals. ATR data was collected at the following location:

- Ferry Road east of Boyd Drive

The ATR data collected on Ferry Road are summarized in Table B1.

Table B1: ATR Data Summary

		Weekday AM Peak Hour			Weekday PM Peak Hour		
Location	ADT	Volume	K	Peak Direction	Volume	K	Peak Direction
Ferry Road East of Boyd Drive	7004	449	6%	52% EB	639	9%	59% WB

As indicated on Table B1, the average weekday daily traffic on Ferry Road is approximately 7,000 vehicles. The 85th percentile speed is defined as the speed at or below which 85% of the vehicles are travelling. Throughout an average weekday, the 85th percentile speed is 33 MPH and 32 MPH in the eastbound and westbound directions, respectively.

Complete traffic count data are provided in Appendix A.

B2. SEASONAL ADJUSTMENT

Roadway volumes vary throughout the year. According to *Traffic Impact Assessment (TIA) Guidelines* and *Traffic and Safety Engineering 25% Design Submission Guidelines*, both published by MassDOT, a seasonal factor may be applied to existing traffic volumes to compensate for this variation. Adjusting the collected data requires a comparison to annual trends. The factor should be based primarily upon a relevant MassDOT permanent count station.

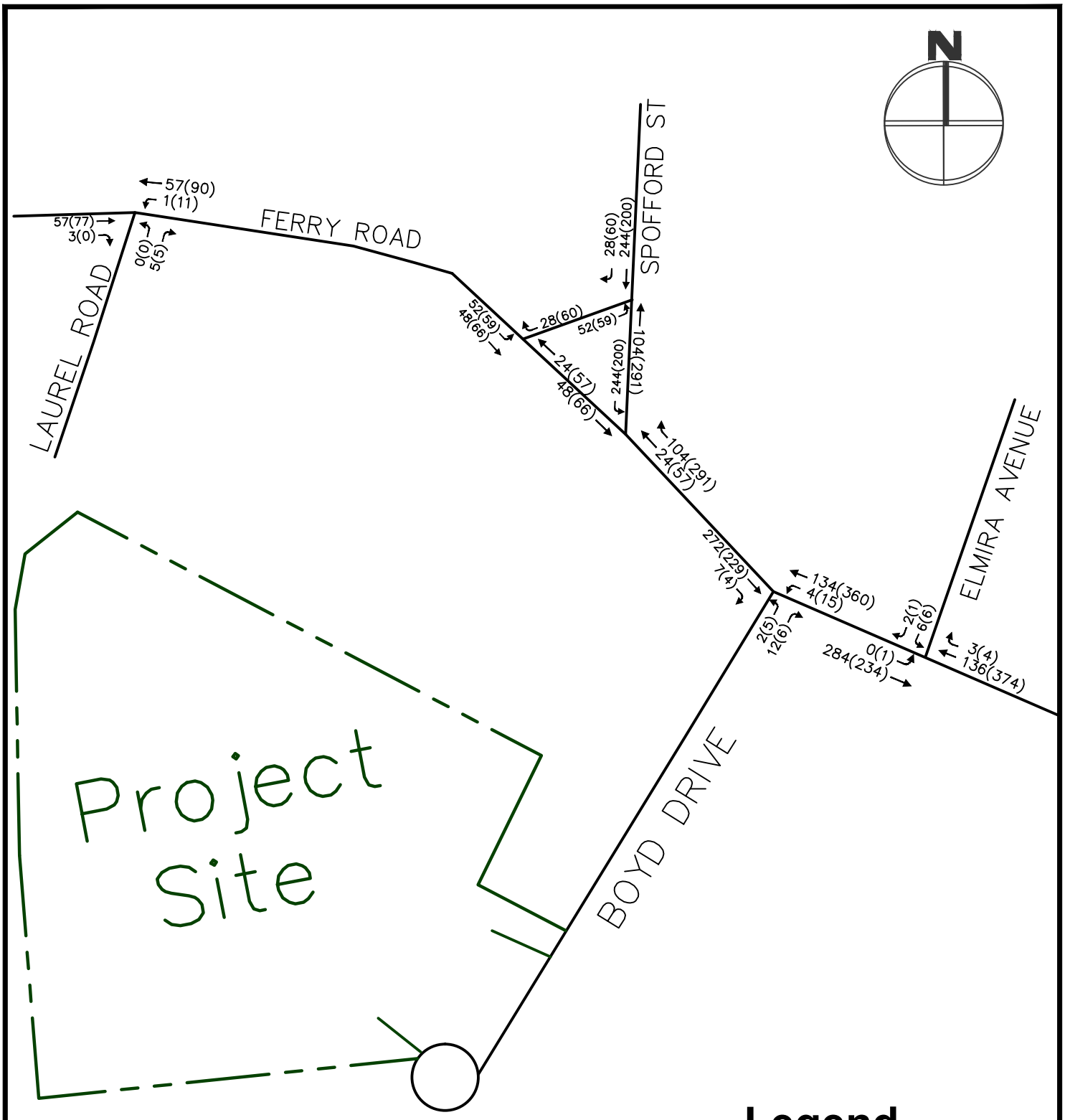
The closest permanent count station is located north of the project site. Data from Count Station #5258 on I-95 in West Newbury was utilized. Monthly data from years 2015-2016 were used to calculate the seasonal factor. Based on this information, it is shown that volumes in June are higher than average conditions by 7.46%. To be conservative, the existing volumes at all study intersections will remain unadjusted. The unadjusted existing traffic volumes for the AM and PM peak hours are shown in Figure B1. The MassDOT data examined for this seasonal adjustment is included in Appendix B.

B3. YEAR 2023 NO-BUILD CONDITIONS

Regional Growth Rate

Based on discussions with the Boston Region Metropolitan Planning Organization known as the Central Transportation Planning Staff (CTPS), and based on traffic volume data compiled by MassDOT from count stations, an annual traffic growth rate for Newburyport was chosen for analysis purposes. In order to provide an accurate and conservative analysis, a 0.74 percent compounded annual growth rate was used to account for general background traffic growth and development by others not yet identified. This number is based on the CTPS Long Range Transportation Plan published in 2011, and updated in 2013. The 0.74 percent growth rate was verified by the Director of Technical Services at MAPC in conjunction with the Travel Model Development and Transportation Systems Analysis divisions.

See Figure B2 for the year 2023 No-Build traffic volumes. These volumes include a conservative regional growth rate of 0.74% per year for Newburyport, MA.



Legend

XX(YY) AM(PM) Existing Volumes

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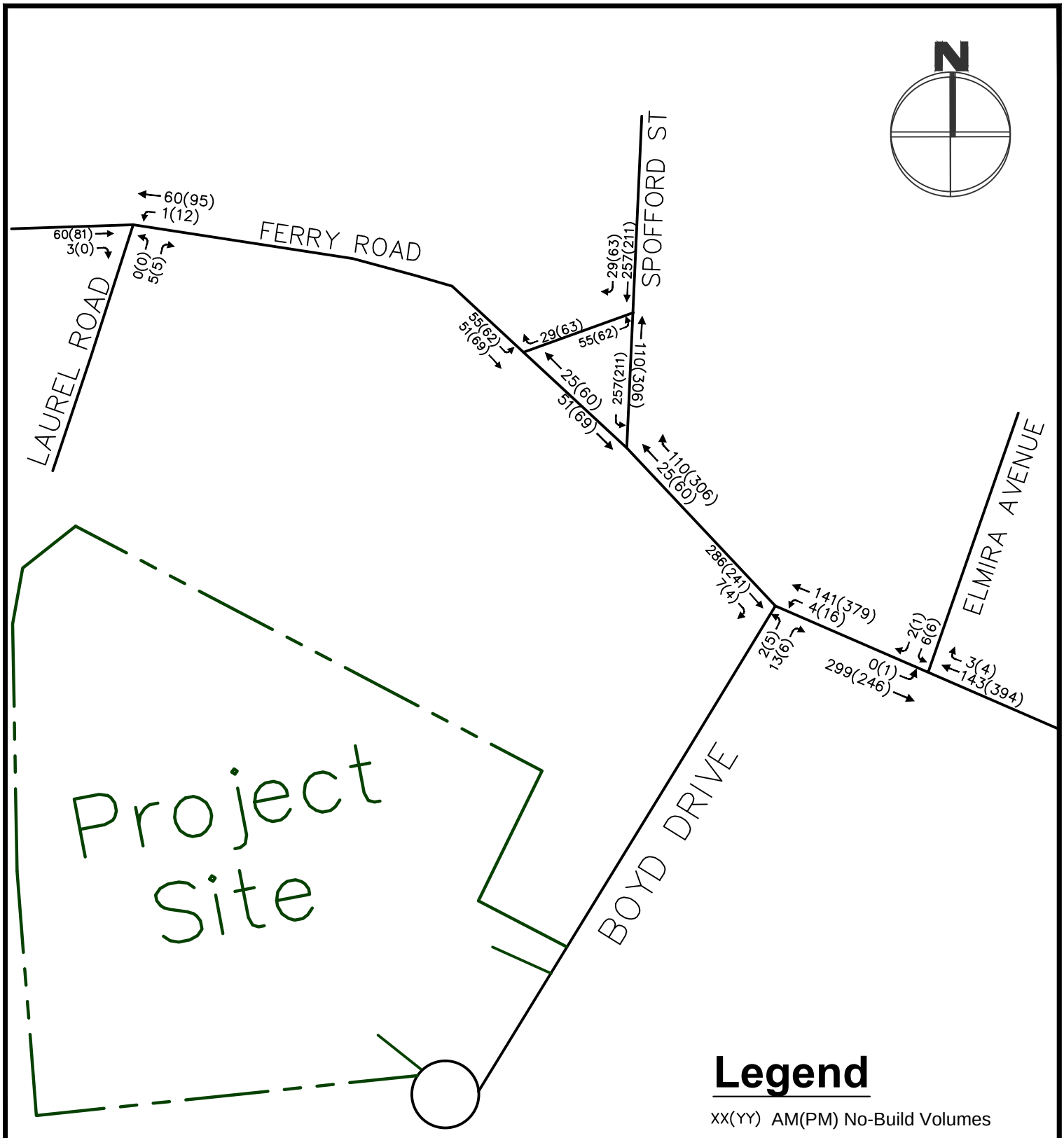
18 BOYD DRIVE
NEWBURYPORT, MA

DATE: AUG. 2016

DCI PRJECT: 2015-063

Figure B1
2016 Existing Traffic Volumes



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18 BOYD DRIVE
NEWBURYPORT, MA

Figure B2
2023 No-Build
Traffic Volumes

DATE: AUG. 2016

DCI PRJECT: 2015-063

B4. TRIP GENERATION

Site Generated Trips

The base trip generation rates used were taken from the Trip Generation Manual, 9th Edition published by ITE in 2012. For the purpose of this report, two separate scenarios were analyzed: one scenario that consists of a 38-unit subdivision and one scenario that consists of a 44-unit subdivision. Land Use Code (LUC) 210 - Single-Family Detached Housing was used for the proposed land use.

Additionally, although there is an existing, operational golf course on site, the trip generation numbers were not taken into account due to the fact that the golf course is not open all year round. The golf course is, however, open most of the year but in order to remain conservative, no credit was taken for existing trips. Table B2 below shows the trip generation numbers for the existing 9-hole golf course, but these numbers were omitted from future trip generation calculations.

Table B2: Preliminary Trip Generation Calculations – Golf Course

Land Use Code: 430					Golf Course
	AM	PM	Daily	Saturday Peak Hour	Sunday Peak Hour
Size (Number of Holes)	9	9	9	9	9
muliply by	2.06	2.92	35.74	4.59	4.43
Total Trips	**19**	**26**	**322**	**41**	**40**

Preliminary Trip Generation

Scenario 1 – 38-Unit Subdivision

For this scenario, a subdivision consisting of 38 single-family units was analyzed. Table B3 below shows the preliminary trip generation calculations for this scenario.

Table B3: Preliminary Trip Generation Calculations – 38-Unit Subdivision

Land Use Code: 210	Single-Family Detached Housing		
	AM	PM	Daily
Size (Dwelling Units - X)	38	38	38
Fitted Curve Equation	T = 0.70(X) + 9.74	Ln(T) = 0.90 * Ln(X) + 0.51	Ln(T) = 0.92 * Ln(X) + 2.72
Total Trips (T)	**36**	**44**	**432**
Entering%	25%	63%	50%
Exiting%	75%	37%	50%
Entering Trips	9	28	216
Exiting Trips	27	16	216

As shown on Table B3 on the previous page, a 38-unit subdivision is expected to create 36 trips during the AM peak hour, 44 trips during the PM peak hour, and 432 trips on a typical weekday. These trip rates are unadjusted, as they only account for motorized traffic trips. "Work From Home" trips were deducted from the base trips based on the mode split described in the "Mode Share" section of this report.

Scenario 2 – 44-Unit Subdivision

For this scenario, a subdivision consisting of 38 single-family units was analyzed. Table B4 below summarizes the preliminary trip generation calculations for this scenario.

Table B4: Preliminary Trip Generation Calculations – 44-Unit Subdivision

Land Use Code: 210	Single-Family Detached Housing		
	AM	PM	Daily
Size (Dwelling Units)	44	44	44
muliply by	T = 0.70(X) + 9.74	Ln(T) = 0.90 * Ln(X) + 0.51	Ln(T) = 0.92 * Ln(X) + 2.72
Total Trips	**41**	**51**	**494**
Entering%	25%	63%	50%
Exiting%	75%	37%	50%
Entering Trips	10	32	247
Exiting Trips	31	19	247

As shown in Table B4 above, a 44-unit subdivision is expected to generate 41 trips during the AM peak hour, 51 trips during the PM peak hour, and 494 trips during a typical weekday. These trip rates are unadjusted, as they only account for motorized traffic trips. "Work From Home" trips were deducted from the base trips based on the mode split described in the "Mode Share" section of this report.

Mode Share

ITE's Trip Generation methods are typically based on data from suburban developments with no nearby transit service and no appreciable share of people walking or bicycling to or from the site. Commuting characteristics were analyzed from the 2014 American Community Survey 5-Year Estimates. Census Data for Newburyport was analyzed and used to estimate mode splits for journeys to work in the project area. Table B5 displays estimated mode splits.

Table B5: Mode Split Data for Residents of Newburyport

MEANS OF TRANSPORTATION TO WORK	
Car, truck, or van	80.8%
Drove alone	77.1%
Carpooled:	3.7%
In 2-person carpool	2.8%
In 3-person carpool	0.7%
In 4 person carpool	0.2%
Public transportation (excluding taxicab)	6.8%
Bicycle	0.9%
Walked	5.1%
Other means	1.3%
Worked at home	5.0%

Based on the modal split data above, an Average Vehicle Occupancy (AVO) rate of 1.1 persons per vehicle was calculated. The AVO of 1.1 persons per vehicle was applied to the preliminary trip generation calculations to determine the total number of Person-Trips that are expected to be generated by the project. For the purpose of this study, a 95% vehicle usage percentage was used for the mode split, with the remaining 5% accounting for those who will work from home. The US Census Journey to Work data for the City of Newburyport is attached in Appendix C.

Trip Generation Summary

Based on engineering judgement, it was concluded that a high percentage of residents of the proposed development will commute via vehicle to their destinations. For the purpose of this study, a 95% vehicle use percentage was used for the mode split. The remaining 5% are assumed to work from home. By applying this mode split to the Trip Generation calculations, the amount of expected vehicle traffic associated with the 18 Boyd Drive project is reduced. The resulting adjusted vehicular traffic on the surrounding roadways was estimated and is summarized in Tables B6 and B7.

Table B6: Adjusted Trip Generation for a 38-Unit Subdivision

	AM	PM	Daily
Base Trips	36	44	432
Total Person-Trips	40	48	475
Total Vehicle Trips	34	42	410
Entering Vehicle-Trips	8	26	205
Exiting Vehicle-Trips	26	16	205
Total Work From Home Trips	2	2	24

As indicated in Table B6, the project is expected to generate 36 trips during weekday AM peak hour, 44 trips during weekday PM peak hour, and 432 trips daily. Generated vehicle trips are expected to be 34 during the AM peak hour, 42 during the PM peak hour, and 410 during a typical weekday.

Table B7: Adjusted Trip Generation for a 44-Unit Subdivision

	AM	PM	Daily
Base Trips	41	51	494
Total Person-Trips	45	56	543
Total Vehicle Trips	39	48	470
Entering Vehicle-Trips	10	30	235
Exiting Vehicle-Trips	29	18	235
Total Work From Home Trips	2	3	27

As indicated in Table B7, the project is expected to generate 41 trips during weekday AM peak hour, 51 trips during weekday PM peak hour, and 494 trips daily. Generated vehicle trips are expected to be 39 during the AM peak hour, 48 during the PM peak hour, and 470 during a typical weekday.

B5. TRIP DISTRIBUTION AND ASSIGNMENT

DCI estimated the trip distribution of project generated traffic from the site into the study area for the year 2023. The directional distribution of this project generated traffic is based on existing travel patterns, which were observed during the initial data collection in June 2016.

Moreover, DCI's experience shows that the standard practice is to employ the ITE Trip Generation Manual's trip distribution and assignment percentages for both inbound and outbound movements, acknowledging that the trip counts are estimates at this time. This technique accounts for nuances in estimating the future numbers. These nuances can include proximity to the transportation and roadway network intricacies. The trip distribution for this project is shown graphically in Figures B3 and B4. Figure B3 shows the trip distribution based on a proposed 38-unit subdivision and Figure B4 shows the trip distribution based on a proposed 44-unit subdivision. Site specific project trips were separated into two figures for each scenario: a 38-unit subdivision and a 44-unit

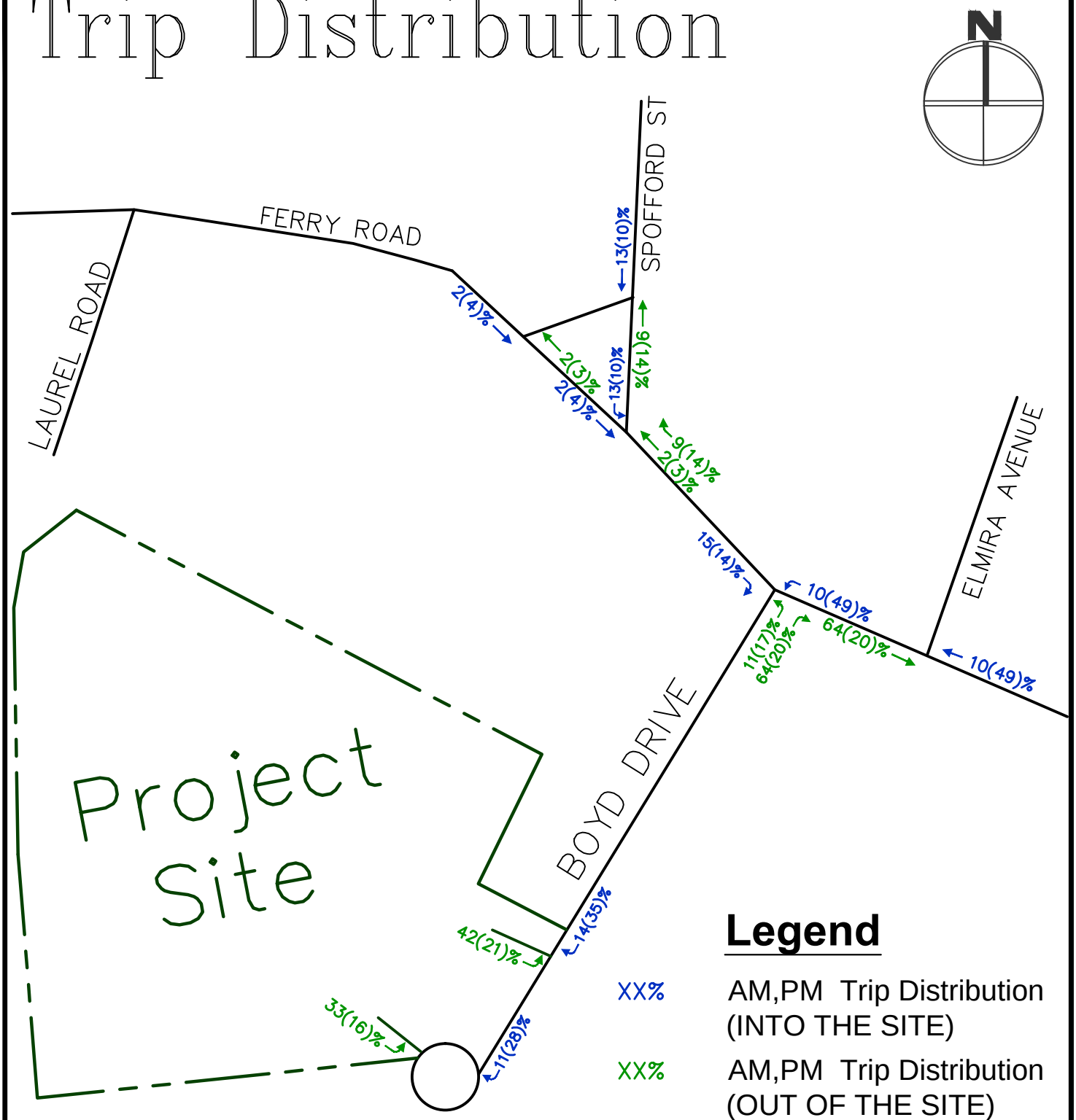
subdivision. Figure B5 shows the project trips for the 38-unit subdivision and Figure B6 shows the project trips for the 44-unit subdivision.

B6. YEAR 2023 BUILD CONDITIONS

In order to analyze future traffic conditions following the completion of the 18 Boyd Drive residential project in Newburyport, year 2023 Build Scenario traffic volumes were calculated. To develop year 2023 Build traffic volumes, the 2023 No-Build traffic volumes (Figure B2) were summed with the calculated site-generated trips for each scenario (Figures B5 and B6). The resulting volumes are shown in Figures B7 and B8. These volumes were used to carry out intersection capacity analysis for future Build conditions. To summarize, the year 2023 Build Volumes encompass the following elements and adjustments to the measured 2016 traffic counts:

- Conservative background growth due to regional influences at 0.74% per year
- Trip Generation for the proposed project site

Trip Distribution



Legend

XX% AM,PM Trip Distribution (INTO THE SITE)

XX% AM,PM Trip Distribution (OUT OF THE SITE)

Design Consultants, Inc.
Consulting Engineers and Surveyors

120 MIDDLESEX AVENUE
SOMERVILLE, MA 02145
617-776-3350

68 PLEASANT STREET
NEWBURYPORT, MA 01950
978-358-7173

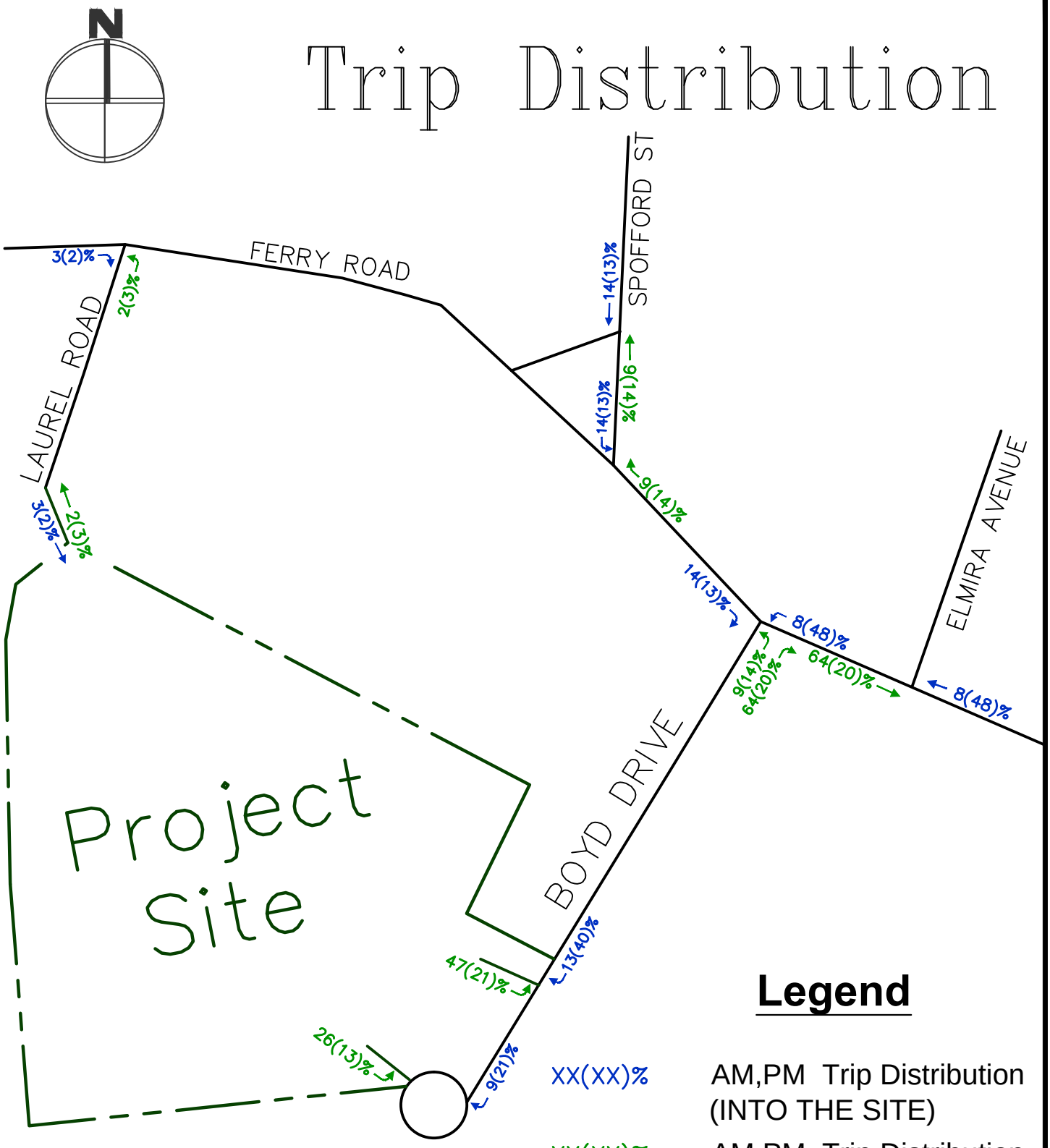
18 BOYD DRIVE
NEWBURYPORT, MA

Figure B3
Trip Distribution
38-Unit Subdivision

DATE: AUG. 2016

DCI PRJECT: 2015-063

Trip Distribution



Legend

XX(XX)%	AM,PM Trip Distribution (INTO THE SITE)
XX(XX)%	AM,PM Trip Distribution (OUT OF THE SITE)

Design Consultants, Inc.
Consulting Engineers and Surveyors

120 MIDDLESEX AVENUE
SOMERVILLE, MA 02145
617-776-3350

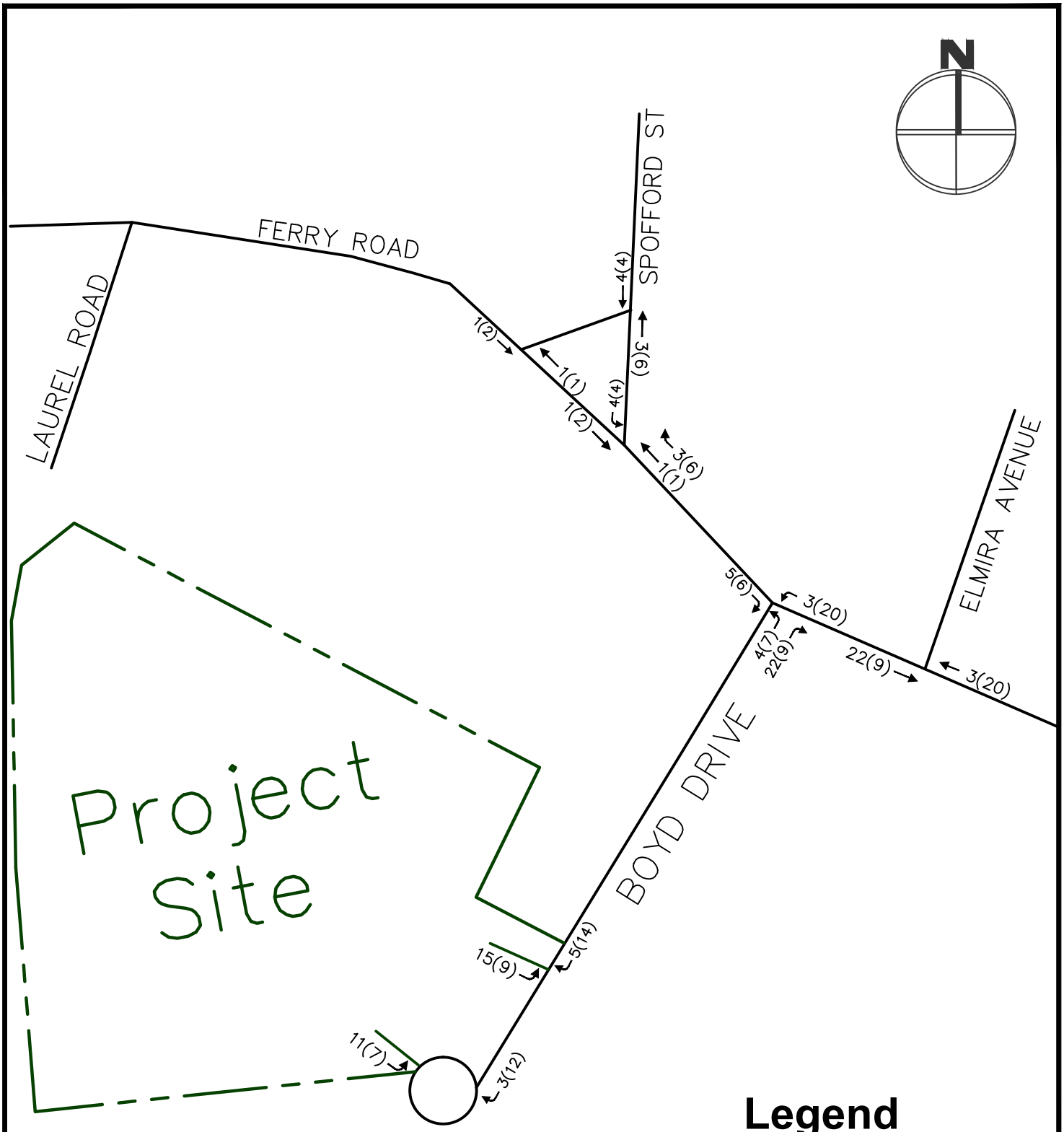
68 PLEASANT STREET
NEWBURYPORT, MA 01950
978-358-7173

18 BOYD DRIVE
NEWBURYPORT, MA

Figure B4
Trip Distribution
44-Unit Subdivision

DATE: AUG. 2016

DCI PRJECT: 2015-063



Legend

XX(YY) AM(PM) Project Trips

Design Consultants, Inc.
Consulting Engineers and Surveyors

120 MIDDLESEX AVENUE
SOMERVILLE, MA 02145
617-776-3350

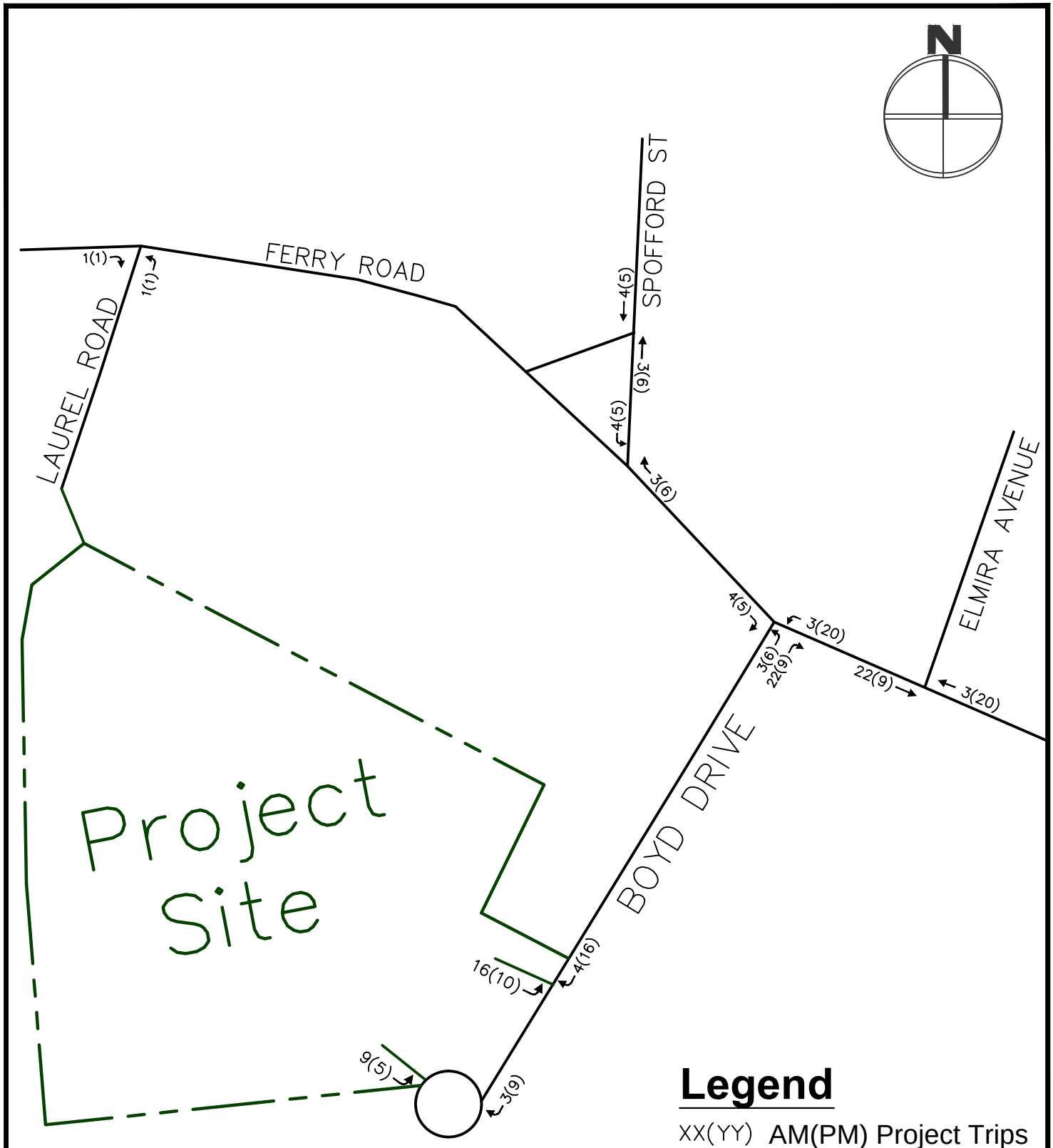
68 PLEASANT STREET
NEWBURYPORT, MA 01950
978-358-7173

18 BOYD DRIVE
NEWBURYPORT, MA

Figure B5
Project Trips -
38 Unit Subdivision

DATE: AUG. 2016

DCI PRJECT: 2015-063



Design Consultants, Inc.
Consulting Engineers and Surveyors

120 MIDDLESEX AVENUE
SOMERVILLE, MA 02145
617-776-3350

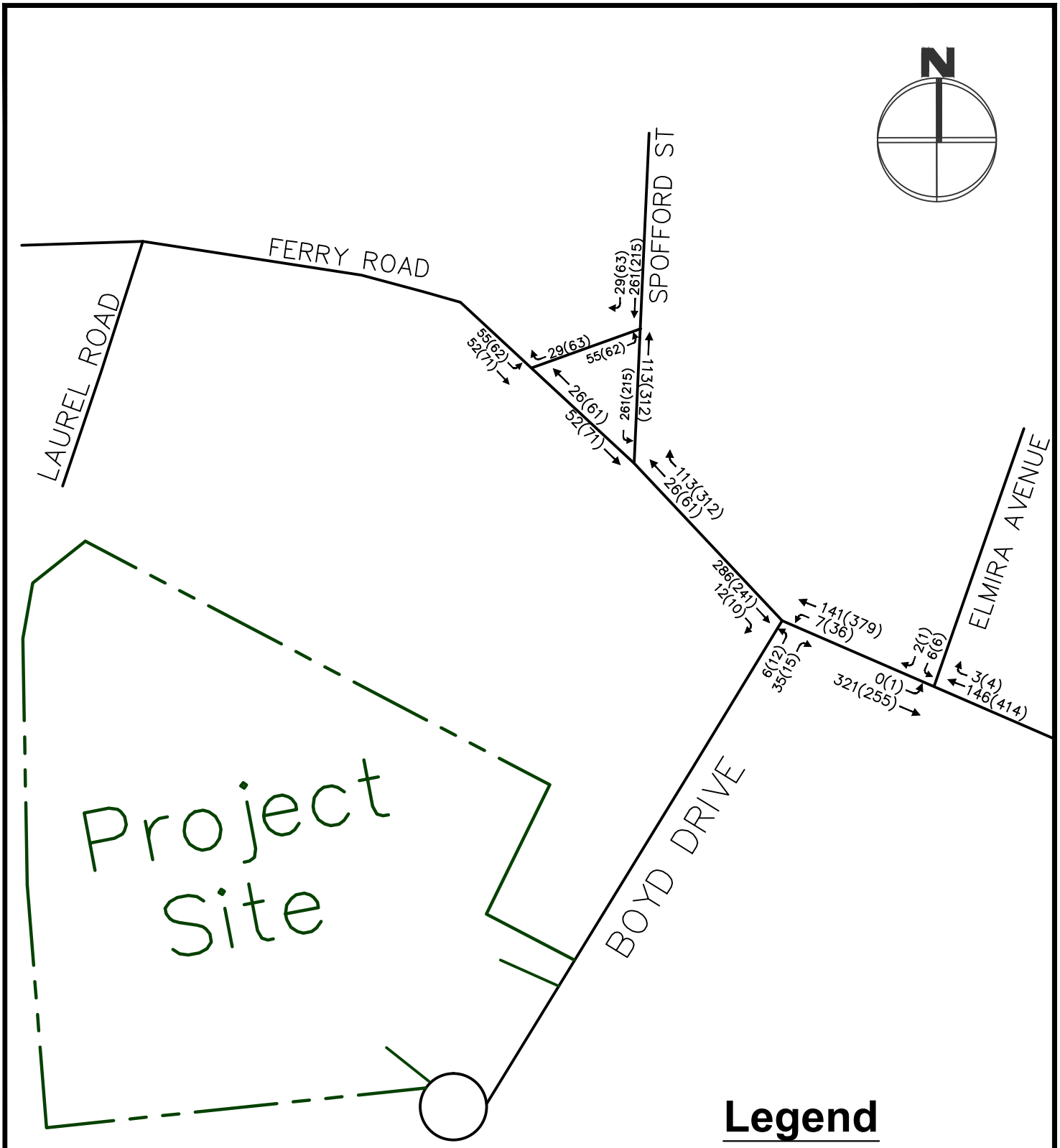
68 PLEASANT STREET
NEWBURYPORT, MA 01950
978-358-7173

18 BOYD DRIVE
NEWBURYPORT, MA

Figure B6
Project Trips -
44-Unit Subdivision

DATE: AUG 2016

DCI PRJECT: 2015-063



Legend

XX(YY) AM(PM) Build Volumes

Design Consultants, Inc.
Consulting Engineers and Surveyors

120 MIDDLESEX AVENUE
SOMERVILLE, MA 02145
617-776-3350

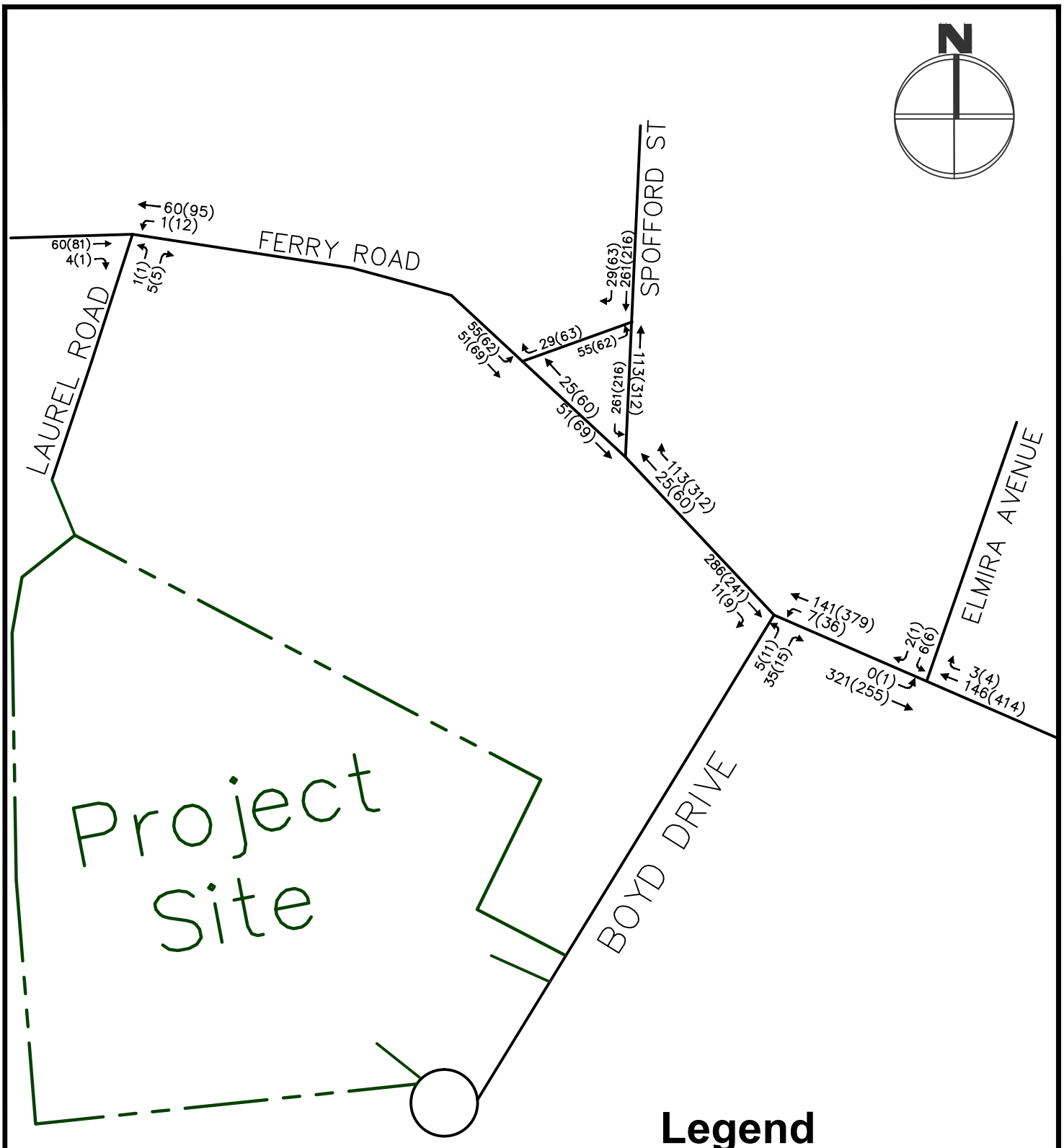
68 PLEASANT STREET
NEWBURYPORT, MA 01950
978-358-7173

18 BOYD DRIVE
NEWBURYPORT, MA

DATE: AUG. 2016

Figure B7
2023 Build Traffic Volumes - 38-Unit Subdivision

DCI PRJECT: 2015-063



Legend

XX(YY) AM(PM) Build Volumes

Design Consultants, Inc.
Consulting Engineers and Surveyors

120 MIDDLESEX AVENUE
SOMERVILLE, MA 02145
617-776-3350

68 PLEASANT STREET
NEWBURYPORT, MA 01950
978-358-7173

18 BOYD DRIVE
NEWBURYPORT, MA

DATE: AUG. 2016

Figure B8
2023 Build
Traffic Volumes
44-Unit Subdivision

DCI PRJECT: 2015-063

C. SAFETY ANALYSIS

C1. CRASH DATA AND ANALYSIS

Crash data from MassDOT for years 2011 through 2014 was reviewed within the jurisdiction of Newburyport. These are the most recent years of data available through the MassDOT crash database. The MassDOT crash records offered the following information:

- Crash Location (General or Specific) / Direction of vehicle(s)
- Date / Time
- Roadway surface conditions / Light conditions / Weather conditions
- Crash Severity / Manner of Collision

While it may be assumed that all relevant crash attributes should be reported and provided in recordkeeping, the fact of the matter is that a portion of the individual crash records have only partial information available - information may be missing for a variety of data fields in any given crash report. Among various reasons for this, missing crash information might be attributed to the type of police reports filled out and provided to MassDOT.

The locations of crashes in the area of the study intersections were general and approximated in a relatively large number of cases. This lack of specificity can hinder the engineer's ability to identify statistically significant trends and diagnose potential safety problems.

With that said, the synthesized data, in conjunction with engineering judgment, has yielded a summary of crashes that may be used to speculate on a variety of general crash patterns.

The results of the state crash analysis are shown in Tables C1 and C2. The crash rates compared to average District 4 and statewide crash rates are shown in Table C3. Detailed crash analysis worksheets for each intersection for years 2011 to 2014 are contained in Appendix D.

Table C1: MassDOT Intersection Crash Conditions

	Spofford Street and Ferry Road	*Ferry Road and Boyd Drive*	*Ferry Road and Elmira Avenue*	*Ferry Road/Pine Hill Road and Laurel Road*
Year				
2011	0	0	0	0
2012	0	0	0	0
2013	1	0	0	0
2014	0	0	0	0
Total	*1*	*0*	*0*	*0*
Crash Hour				
06:00AM to 10:00AM	1	0	0	0
10:00AM to 02:00PM	0	0	0	0
2:00PM to 06:00PM	0	0	0	0
06:00PM to 10:00PM	0	0	0	0
10:00PM to 02:00AM	0	0	0	0
02:00AM to 06:00AM	0	0	0	0
Total	*1*	*0*	*0*	*0*
Light Conditions				
Daylight	1	0	0	0
Dawn	0	0	0	0
Dusk	0	0	0	0
Dark - lighted roadway	0	0	0	0
Dark - roadway not lighted	0	0	0	0
Dark	0	0	0	0
Other, unknown	0	0	0	0
Total	*1*	*0*	*0*	*0*
Road Surface				
Dry	1	0	0	0
Wet	0	0	0	0
Snow	0	0	0	0
Ice	0	0	0	0
Sand, mud etc.	0	0	0	0
Water	0	0	0	0
Slush	0	0	0	0
Other, known	0	0	0	0
Total	*1*	*0*	*0*	*0*
Weather				
Clear	0	0	0	0
Cloudy	1	0	0	0
Rain	0	0	0	0
Snow	0	0	0	0
Sleet, hail, freezing rain	0	0	0	0
Fog, smog, smoke	0	0	0	0
Severe crosswinds	0	0	0	0
Blowing sand, snow	0	0	0	0
Other, unknown	0	0	0	0
Total	*1*	*0*	*0*	*0*

Table C2: MassDOT Intersection Crash Types

	Spofford Street and Ferry Road	*Ferry Road and Boyd Drive*	*Ferry Road and Elmira Avenue*	*Ferry Road/Pine Hill Road and Laurel Road*
Crash Severity				
Property Damage Only	1	0	0	0
Non-fatal Injury	0	0	0	0
Fatal Injury	0	0	0	0
Not Reported, Unknown	0	0	0	0
Total	*1*	*0*	*0*	*0*
Manner of Collision				
Sideswipe, Same Direction	0	0	0	0
Sideswipe, Opposite Direction	0	0	0	0
Angle	1	0	0	0
Rear-end	0	0	0	0
Head-on	0	0	0	0
Single Vehicle	0	0	0	0
Other, not reported	0	0	0	0
Total	*1*	*0*	*0*	*0*

Table C3: MassDOT Intersection Crash Rates

	Avg. Crashes per Year	*Avg. Crash Rate (Crashes per MEV)*	*MassDOT D4 Avg. Crash Rate (Crashes per MEV)*	*Statewide Avg. Crash Rate (Crashes per MEV)*
Spofford Street and Ferry Road	0.25	0.08	0.56	0.58
Ferry Road and Boyd Drive	0.00	0.00	0.56	0.58
Ferry Road and Elmira Avenue	0.00	0.00	0.56	0.58
Ferry Road/Pine Hill Rd and Laurel Road	0.00	0.00	0.56	0.58

Tables C1 through C3 are summarized below, and any notable trends or statistics from each intersection are pointed out.

The intersection of **Spofford Street and Ferry Road** had one reported crash over the four year study period. There were no fatal crashes, and the one crash resulted in property damage only. The one crash at this intersection resulted in an average of 0.25 crashes per year, and a crash rate of 0.08 crashes per million entering vehicles (MEV). This rate is below the District 4 and statewide averages for unsignalized intersections.

The intersection of **Ferry Road and Boyd Drive** had zero reported crashes over the four year study period according to MassDOT crash records. The intersection of Ferry Road and Boyd Drive had an average of 0.00 crashes per year, and a crash rate of 0.00 crashes per MEV. This rate is below the District 4 and statewide average for unsignalized intersections.

The intersection of **Ferry Road and Elmira Avenue** had zero reported crashes over the four year study period according to MassDOT crash records. The zero crashes at this intersection resulted in an average of 0.00 crashes per year, and a crash rate of 0.00 per million entering vehicles (MEV). This rate is below the District 4 and statewide averages for unsignalized intersections.

The intersection of **Ferry Road/Pine Hill Road and Laurel Road** had zero reported crashes over the four year study period according to MassDOT crash records. The zero crashes at this intersection resulted in an average of 0.00 crashes per year, and a crash rate of 0.00 per million entering vehicles (MEV). This rate is below the District 4 and statewide averages for unsignalized intersections.

Based on a review of the most recent available four years of data from MassDOT, it was determined that none of the four study intersections have crash rates above the District 4 or statewide averages. Given this fact and the low injury rate, there are not any salient existing safety deficiencies at the study intersections that need to be addressed as part of this study.

C2. SIGHT DISTANCE ANALYSIS

Intersection Sight Distance

The location of the proposed site entrances on Boyd Drive were evaluated for available intersection sight distance (ISD). The sight distance analysis was carried out to ensure sufficient sight distance for right-turn and left-turn maneuvers out of the site. The American Association of State Highway and Transportation Officials (AASHTO) required intersection sight distance requirements for various vehicle speeds are shown below in Tables C4 and C5.

Table C4: AASHTO Minimum Recommended ISD for Uncontrolled Intersections

Design Speed (mph)	Intersection Sight Distance for Crossover, Right-Turn & Left-Turn Maneuvers (ft)
15	70
20	90
25	115
30	140
35	165
40	195
45	220
50	245

Table C5: AASHTO Minimum Recommended SSD and ISD for Unsignalized Intersections

Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Left-Turn Manuevers (ft)	Intersection Sight Distance for Right-Turn/Cross Manuevers (ft)
15	80	170	145
20	115	225	195
25	155	280	240
30	200	335	290
35	250	390	335
40	305	445	385
45	360	500	430
50	425	555	480

There is no speed limit posted on Boyd Drive. Given that Boyd Drive is a local road, the speed limit is assumed to be 30 miles per hour. For a right-turn or left-turn out of the proposed site driveways, the required sight distance is 140 feet. Based on on-site measurements, the available sight distance for the proposed driveways is shown below in Table C6.

Table C6: Measured ISD at Proposed Site Driveways

	Intersection Sight Distance for Crossover, Right-Turn & Left-Turn Maneuvers (ft)	
	Boyd Drive Entrance - North	Boyd Drive Entrance - South
Required at 30mph	140	140
Measured	300	140

As shown in Table C6, both the proposed northern and southern site entrances along Boyd Drive meet the AASHTO recommended sight distances for the turning maneuvers. These measurements were taken 15 feet back from the edge of traveled way, which is the standard location for intersection sight distance measurements. Figures C1 and C2 show the sight distance from both driveway locations.

Figure C1: Sight Line from Proposed Site Driveway – South

Figure C2: Sight Line from Proposed Site Driveway – North

The 85th percentile speed on Ferry Road is 33 miles per hour in the eastbound direction and 32 miles per hour in the westbound direction. For the purpose of this study, a design speed of 35 miles per hour was used for SSD and ISD requirements. At both the intersection of Ferry Road at Boyd Drive and Ferry Road at Laurel Drive, the required SSD is 250 feet, the required distance for a left-turn maneuver is 390 feet, and the required distance for a right-turn maneuver is 335 feet. Based on on-site measurements, the available sight distances for each intersection is shown in Tables C7 and C8.

Table C7: Measured SSD and ISD at Ferry Road and Boyd Drive

	Stopping Sight Distance (ft)	Intersection Sight Distance for Left-Turn Maneuvers (ft)	Intersection Sight Distance for Right-Turn/Cross Maneuvers (ft)
Required at 35 mph	250	390	335
Measured	600	690	230

As shown in Table C7, the required stopping sight distance at the intersection of Ferry Road and Boyd Drive was measured to be 600 feet, 350 feet greater than the required 250 feet. The sight distance for the left-turn maneuver was measured to be 690 feet, greater than the required 390 feet. The sight distance for the right-turn/cross maneuver was measured to be 230 feet, 215 feet less than the required 335 feet. However, this distance is measured to the intersection of Ferry Road and Spofford Street, which has stop-controlled traffic in the eastbound and southbound direction. Since those vehicles will be traveling through an intersection, vehicles that are turning onto Ferry Road from Boyd Drive will be able to determine an appropriate gap to make the turning movement. Figures C3 and C4 show the sight lines at the intersection of Ferry Road at Boyd Drive.

Table C8: Measured SSD and ISD at Ferry Road and Laurel Road

	Stopping Sight Distance (ft)	Intersection Sight Distance for Left-Turn Maneuvers (ft)	Intersection Sight Distance for Right-Turn/Cross Maneuvers (ft)
Required at 35 mph	250	390	335
Measured	280	640	300

As shown in Table C8, the required stopping sight distance at the intersection of Ferry Road and Laurel Road was measure to be 280 feet, 30 feet greater than the required 250 feet. The sight distance for the left-turn maneuver was measured to be 640 feet, 250 greater than the required 390 feet. The sight distance for the right-turn/cross maneuver was measured to be 300 feet, 35 less than the required 335 feet. However, according to the AASHTO manual, "*If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions. However, in some cases, this may require a major-road vehicle to stop or slow to accommodate the maneuver by a minor-road vehicle. To enhance traffic operations the intersection sight distances that exceed stopping sight distances are desirable along the major road.*" Consequently, the ISD for both the left-turn and right-turn/cross maneuvers exceed the SSD along Ferry Road, which will allow a driver approaching the minor road to safely stop. Figures C5 and C6 show the sight lines at the intersection of Ferry Road at Laurel Road.

Figure C3: Sight Line from Boyd Drive looking East

Figure C4: Sight Line from Boyd Drive looking West

Figure C5: Sight Line from Laurel Road looking East

Figure C6: Sight Line from Laurel Road looking West

D. CAPACITY ANALYSIS

D1. TRAFFIC ANALYSIS CRITERIA

According to the TIA guidelines, both signalized intersection capacity analyses and stop- and yield-controlled intersection capacity analyses should be used for traffic impact studies. The Highway Capacity Manual (HCM) published by Transportation Research Board provides methodologies on how to calculate motor vehicle Level of Service (LOS), average delay, and volume-to-capacity ratios. Those terms are commonly used to measure performance levels for freeway sections, ramp junctions, weave sections, and intersections, both signalized and unsignalized.

Level of Service (LOS) is a term used to denote different operating conditions that occur under various traffic volume loads. It is a qualitative measure of the effect of a number of factors including geometrics, speed, travel delay, freedom to maneuver, and safety. The LOS is divided into a range of six letter grades, ranging from A to F, with A being the best and F the worst. LOS E and F are generally considered inadequate traffic operations in suburban and urban areas. The delay ranges differ slightly between unsignalized and signalized intersections due to driver expectations and behavior for each LOS. Table D1 summarizes the LOS criteria.

In this study, intersection performance measures were calculated in the form of volume to capacity (v/c) ratio, average intersection delay, 95th percentile queue lengths, level-of-service (LOS) of

overall intersection LOS and the LOS of each approach. *Synchro 8.0 was the software used to execute the intersection analysis. Synchro 8.0*, a software program from Trafficware, uses the methodologies and thresholds outlined within the HCM. This is the preferred and recommended software of MassDOT. Traffic volume represents the travel demand observed and capacity represents the amount of traffic the intersection can accommodate under prevailing conditions. A volume to capacity ratio that approaches or exceeds 1.0 indicates traffic congestion or poor operating conditions.

Three types of Synchro reports were created to analyze and compare intersection performance in this study:

- Main report – "Int: Lanes, Volumes, Timings",
- Queuing Analysis Report
- HCM Signalized/Unsignalized Report

In Synchro's main report, LOS is estimated not by HCM formulas but by Synchro's own formulas. For signalized intersections, LOS is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. The LOS for each movement is calculated by determining the length of gaps that are available in the conflicting traffic stream. For all future scenarios a peak hour factor of 0.92 was used, as per MassDOT guidelines.

In the HCM Unsignalized Report 95th percentile queue length is estimated.

In Synchro 8, HCM 2000 reports and HCM 2010 reports are both available. Both of them use HCM methodology to measure the performance of the intersection. See Table D1 below for intersection LOS thresholds.

Table D1: Intersection LOS Thresholds

LOS	Unsignalized Control Delay (sec/veh)
A	0-10
B	> 10-15
C	> 15-25
D	> 25-35
E	> 35-50
F	> 50

D2. EXISTING CONDITIONS INTERSECTION ANALYSIS

The study intersections were analyzed for existing traffic conditions during the weekday AM and weekday PM peak hours. Existing intersection lane configurations and traffic control were modelled exactly the same as the current traffic operations which were field observed. The results

of the existing conditions analysis are shown in Table D2. Detailed analysis worksheets are included in Appendix E.

Table D2: 2016 Existing Conditions LOS

ID	East-West Road	North-South Road	Lane	Existing							
				AM Peak Hour				PM Peak Hour			
				v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)	v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)
1	Ferry Road		WB R	0.05	9.8	A	4	0.11	10.8	B	10
			SE TL	0.15	9.6	A	13	0.18	10.0	A	16
			NW T	0.02	7.3	A	2	0.05	7.4	A	4
			Overall		--	--			--	--	
2		Spofford Street	EB L	0.13	11.9	B	11	0.17	15.5	C	15
			NB T	0.08	0.0	A	0	0.22	0.0	A	0
			SB TR	0.17	0.0	A	0	0.21	0.0	A	0
			Overall		--	--			--	--	
3	Ferry Road	Spofford Street	EB T	0.08	8.1	A		0.13	8.9	A	
			WB TR	0.21	8.2	A		0.56	12.4	B	
			SB L	0.34	9.9	A		0.44	12.0	B	
			Overall		--	--			--	--	
4	Ferry Road	Boyd Drive	EB TR	0.79	0.0	A	0	0.16	0.0	A	0
			WB TL	0.01	0.4	A	0	0.02	0.5	A	1
			NB LR	0.05	10.7	B	4	0.04	11.7	B	3
			Overall		--	--			--	--	
5	Ferry Road	Elmira Avenue	EB TL	0.00	0.0	A	0	0.00	0.2	A	0
			WB TR	0.10	0.0	A	0	0.26	0.0	A	0
			SB LR	0.02	10.9	B	1	0.03	13.1	B	2
			Overall		--	--			--	--	
6	Ferry Road	Laurel Road	EB TR	0.06	0.0	A	0	0.06	0.0	A	0
			WB TL	0.00	0.4	A	0	0.01	1.4	A	1
			NB LR	0.01	8.8	A	1	0.01	8.8	A	1
			Overall		--	--			--	--	

As shown in Table D2, all of the movements at the study intersections, as well as all of the intersections as a whole, currently operate under capacity and were found to have adequate levels of service.

As shown in the capacity analysis for the 2016 Existing Conditions, all of the study intersections and operate at acceptable levels. Any operational issues due specifically to the project will be illustrated by any changes going from the No-Build to Build Conditions.

D3. 2023 NO-BUILD CONDITIONS INTERSECTION ANALYSIS

The study intersections were analyzed for estimated traffic conditions for year 2023 No-Build Conditions, during the weekday AM and weekday PM peak hours. Existing lane configurations and traffic control were assumed for this analysis. These traffic conditions utilize the 2023 No-

Build volumes discussed in Section B3 and shown in Figure B3. The results of the 2023 No-Build analysis are shown in Table D3. Detailed analysis worksheets are included in Appendix E.

Table D3: 2023 No-Build Conditions LOS

ID	East-West Road	North-South Road	Lane	No-Build							
				AM Peak Hour				PM Peak Hour			
				v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)	v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)
1	Ferry Road		WB R	0.04	9.7	A	3	0.10	10.6	B	8
			SE TL	0.12	9.4	A	11	0.16	9.9	A	14
			NW T	0.02	7.3	A	1	0.04	7.4	A	3
			Overall		--	--			--	--	
2		Spofford Street	EB L	0.10	11.7	B	8	0.14	14.0	B*	13
			NB T	0.07	0.0	A	0	0.20	0.0	A	0
			SB TR	0.18	0.0	A	0	0.18	0.0	A	0
			Overall		--	--			--	--	
3	Ferry Road	Spofford Street	EB T	0.08	8.1	A		0.11	8.6	A	
			WB TR	0.19	8.2	A		0.49	10.9	B	
			SB L	0.37	10.1	B		0.35	10.7	B	
			Overall		--	--			--	--	
4	Ferry Road	Boyd Drive	EB TR	0.19	0.0	A	0	0.16	0.0	A	0
			WB TL	0.00	0.2	A	0	0.01	0.4	A	1
			NB LR	0.02	10.4	B	2	0.02	11.9	B	2
			Overall		--	--			--	--	
5	Ferry Road	Elmira Avenue	EB TL	0.00	0.0	A	0	0.00	0.0	A	0
			WB TR	0.09	0.0	A	0	0.25	0.0	A	0
			SB LR	0.01	11.0	B	1	0.02	13.5	B	1
			Overall		--	--			--	--	
6	Ferry Road	Laurel Road	EB TR	0.04	0.0	A	0	0.05	0.0	A	0
			WB TL	0.00	0.1	A	0	0.01	0.9	A	1
			NB LR	0.01	8.6	A	0	0.01	8.7	A	0
			Overall		--	--			--	--	

**Any improvements to No-Build Conditions are due to the MassDOT requirement of using a 0.92 Peak Hour Factor for future conditions.*

Although there was no decrease in Level of Service, there was a decrease in delay for many of the movements. This drop in delay is due to the standard practice of using 0.92 for a peak hour factor for all future conditions. Since Synchro models are based on peak 15-minute flows, a higher peak hour factor relates to a decrease in delay for the peak hours. The expected impact due specifically to the proposed development at 18 Boyd Drive is reflected in the changes from the 2023 No-Build scenario to the 2023 Build Scenario.

D4. 2023 BUILD CONDITIONS INTERSECTION ANALYSIS

The study intersections were analyzed for estimated traffic conditions for year 2023 Build Conditions, during the weekday AM and weekday PM peak hours. Existing lane configurations and traffic control were assumed for this analysis. These traffic conditions utilize the 2023 Build volumes discussed in Section B4 and shown in Figures B7 and B8. The results of the 2023 Build

analysis for a 38-unit subdivision are shown in Table D4. The results of the 2023 Build analysis for a 44-unit subdivision are shown in Table D5. Detailed analysis worksheets are included in Appendix E.

Table D4: 2023 Build Conditions LOS – 38-Unit Subdivision

ID	East-West Road	North-South Road	Lane	Build							
				AM Peak Hour				PM Peak Hour			
				v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)	v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)
1	Ferry Road		WB R	0.04	9.7	A	3	0.10	10.6	B	8
			SE TL	0.12	9.4	A	11	0.16	9.9	A	15
			NW T	0.02	7.3	A	1	0.04	7.4	A	3
			Overall		--	--			--	--	
2		Spofford Street	EB L	0.10	11.8	B	8	0.15	14.2	B	13
			NB T	0.07	0.0	A	0	0.20	0.0	A	0
			SB TR	0.19	0.0	A	0	0.18	0.0	A	0
			Overall		--	--			--	--	
3	Ferry Road	Spofford Street	EB T	0.08	8.2	A		0.12	8.6	A	
			WB TR	0.19	8.2	A		0.50	11.1	B	
			SB L	0.38	10.2	B		0.36	10.9	B	
			Overall		--	--			--	--	
4	Ferry Road	Boyd Drive	EB TR	0.19	0.0	A	0	0.16	0.0	A	0
			WB TL	0.01	0.4	A	0	0.03	1.0	A	2
			NB LR	0.07	10.7	B	5	0.06	12.4	B	5
			Overall		--	--			--	--	
5	Ferry Road	Elmira Avenue	EB TL	0.00	0.0	A	0	0.00	0.0	A	0
			WB TR	0.10	0.0	A	0	0.27	0.0	A	0
			SB LR	0.01	11.2	B	1	0.02	13.9	B	1
			Overall		--	--			--	--	

As shown in Table D4, there are only minor increases in delay moving from the 2023 No-Build to 2023 Build conditions. During both the AM and PM peak hours, increases in delay are minimal. Although some movements have a minimal increase in delay, zero movements decrease in level of service going into the Build conditions.

Table D5: 2023 Build Conditions LOS – 44-Unit Subdivision

ID	East-West Road	North-South Road	Lane	Build							
				AM Peak Hour				PM Peak Hour			
				v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)	v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)
1	Ferry Road		WB R	0.04	9.7	A	3	0.10	10.6	B	8
			SE TL	0.12	9.4	A	11	0.16	9.9	A	14
			NW T	0.02	7.3	A	1	0.04	7.4	A	3
			Overall		--	--			--	--	
2		Spofford Street	EB L	0.10	11.8	B	8	0.15	14.2	B	13
			NB T	0.07	0.0	A	0	0.20	0.0	A	0
			SB TR	0.19	0.0	A	0	0.18	0.0	A	0
			Overall		--	--			--	--	
3	Ferry Road	Spofford Street	EB T	0.08	8.2	A		0.11	8.6	A	
			WB TR	0.19	8.2	A		0.50	11.1	B	
			SB L	0.38	10.2	B		0.36	10.9	B	
			Overall		--	--			--	--	
4	Ferry Road	Boyd Drive	EB TR	0.19	0.0	A	0	0.16	0.0	A	0
			WB TL	0.01	0.4	A	0	0.03	1.0	A	2
			NB LR	0.06	10.6	B	5	0.05	12.3	B	4
			Overall		--	--			--	--	
5	Ferry Road	Elmira Avenue	EB TL	0.00	0.0	A	0	0.00	0.0	A	0
			WB TR	0.10	0.0	A	0	0.27	0.0	A	0
			SB LR	0.01	11.2	B	1	0.02	13.9	B	1
			Overall		--	--			--	--	
6	Ferry Road	Laurel Road	EB TR	0.04	0.0	A	0	0.05	0.0	A	0
			WB TL	0.00	0.1	A	0	0.01	0.9	A	1
			NB LR	0.01	8.7	A	1	0.01	8.9	A	1
			Overall		--	--			--	--	

As shown in Table D5, there are only minor increases in delay moving from the 2023 No-Build to 2023 Build conditions. During both the AM and PM peak hours, increases in delay are minimal. Although some movements have a minimal increase in delay, zero movements decrease in level of service going into the Build conditions.

Based on the trip generation calculations and operational analyses carried out, both a 38-unit subdivision and 44-unit subdivision show only minor increase in delay as compared to the No-Build scenario. Consequently, there will be no detrimental impact on the surrounding traffic network due to the redevelopment of 18 Boyd Drive.

E. CONCLUSIONS

This Traffic Impact Study was created to analyze the expected impact on the surrounding traffic network by the proposed redevelopment of the site at 18 Boyd Drive in Newburyport, Massachusetts. There is an existing golf course on site, which will be redeveloped to be a residential complex with either 38 single-family dwelling units or 44 single-family dwelling units. The 38-unit subdivision will be accessed via curb cuts on Boyd Drive. The 44-unit subdivision would be accessed via curb cuts on Boyd Drive as well as an access road connecting to Laurel Road.

In terms of safety, it was determined that there are no existing issues that need to be addressed as part of this study. The most recently available four years of crash data from MassDOT, 2011 to 2014, were reviewed for all four study intersections. None of the intersections were found to have a crash rate above the District 4 or statewide average. Additionally, the locations of the proposed site driveways, the intersection of Ferry Road and Boyd Drive, and the intersection of Ferry Road and Laurel Road were analyzed for safe intersection sight distance. It was determined that all locations provide sufficient sight distance based on AASHTO standards.

Capacity analyses were carried out for the four study intersections, Spofford Street and Ferry Road, Ferry Road and Boyd Drive, Ferry Road and Elmira Avenue, and Ferry Road and Laurel Road for 2016 Existing, 2023 No-Build, and 2023 Build conditions. The proposed 38-unit redevelopment is expected to generate 34 vehicle trips during the AM peak hour, and 42 vehicle trips during the PM peak hour, and 410 trips during a typical weekday. The proposed 44-unit redevelopment is expected to generate 39 vehicle trips during the AM peak hour, 48 trips during the PM peak hour, and 470 trips on a typical weekday.

Although the existing golf course at the project location (that will be removed) currently remains open for most of the year, vehicle trip credit for the golf course was not taken to remain conservative. Moreover, although motor vehicle trips drop dramatically during the non-summer months (the counts, which were taken in June, are 7% above the annual average), there were no seasonal adjustments made, also to remain conservative.

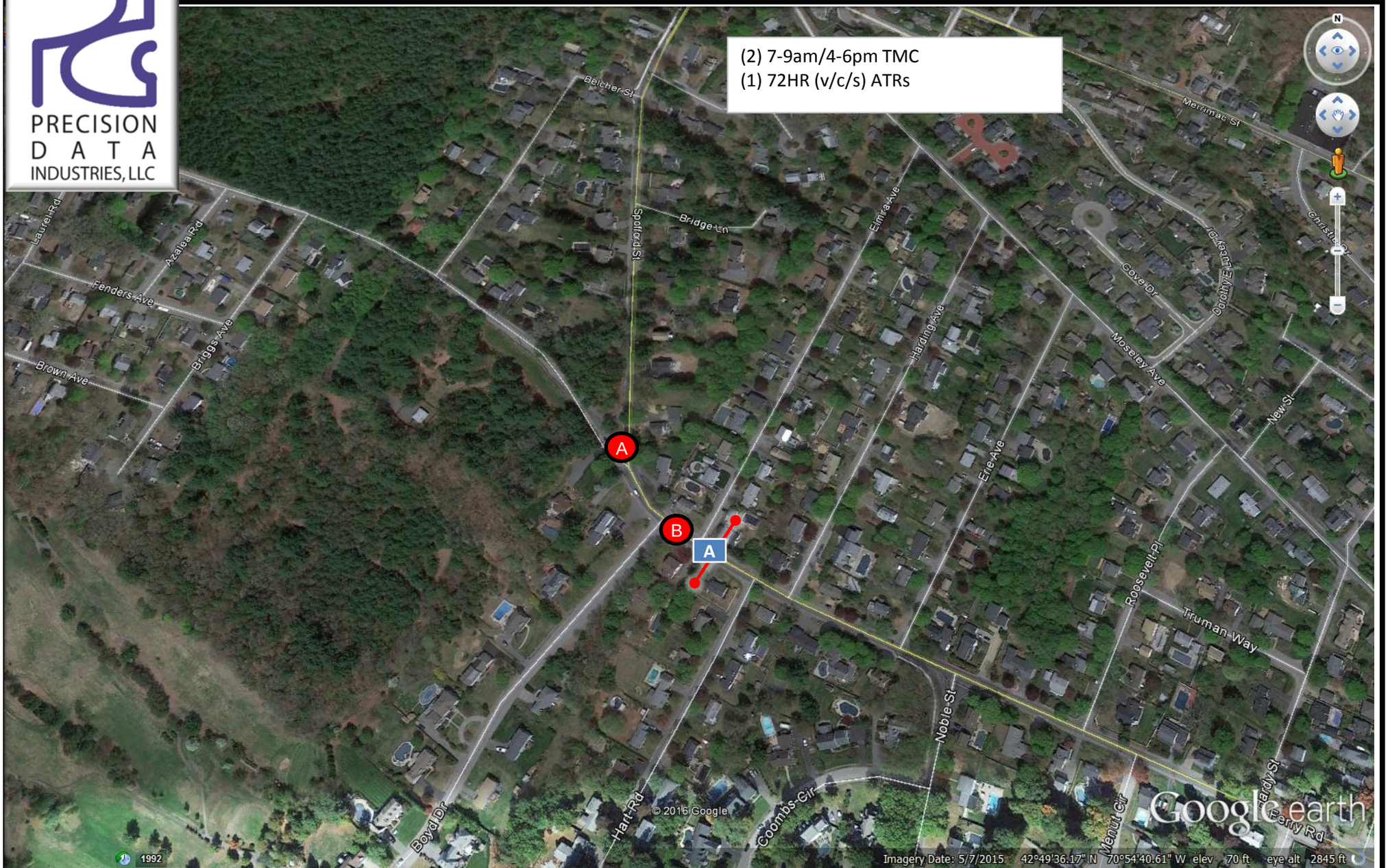
The capacity analyses show that no movements degrade in LOS going from the No-Build to Build scenarios. The impact of the project on traffic conditions is reflected in the lack of change between the No-Build and Build scenarios. Based on the trip generation and capacity analyses carried out, the proposed redevelopment of the site at 18 Boyd Drive will have no detrimental impact on surrounding traffic networks.

As mentioned, this study determined that there are no existing safety issues and the project is expected to have minimal traffic impact. Based on the safety analyses and capacity analyses carried out for this study, the proposed redevelopment of 18 Boyd Drive will not have an adverse impact on the surrounding traffic network in Newburyport, Massachusetts.

APPENDIX A – TRAFFIC COUNTS

PRECISION DATA INDUSTRIES, LLC

Location Map: 165138 Newburyport, MA



Client:	Engineer:	Site Code:	Date:	PDI Job #	City, State:
Design Consultants	S. Siragusa	2015-063	Tues 6/7 thru Thurs 6/9/2016	165138	Newburyport, MA

Ferry Road
just west of Hart Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

165138 A Volume
Site Code: 2015-063

Start	EB				WB				Combined				06/07/16
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Tue
12:00	3		67		7		54		10		121		
12:15	2		60		7		60		9		120		
12:30	5		59		7		56		12		115		
12:45	0	10	56	242	3	24	50	220	3	34	106	462	
01:00	1		51		2		61		3		112		
01:15	2		50		2		60		4		110		
01:30	0		60		3		57		3		117		
01:45	1	4	65	226	1	8	45	223	2	12	110	449	
02:00	0		53		1		64		1		117		
02:15	1		64		5		81		6		145		
02:30	0		69		1		82		1		151		
02:45	0	1	65	251	0	7	52	279	0	8	117	530	
03:00	1		64		0		94		1		158		
03:15	1		68		1		86		2		154		
03:30	2		80		0		103		2		183		
03:45	1	5	54	266	1	2	108	391	2	7	162	657	
04:00	0		62		1		74		1		136		
04:15	2		66		1		110		3		176		
04:30	2		58		0		92		2		150		
04:45	11	15	59	245	0	2	81	357	11	17	140	602	
05:00	7		52		4		106		11		158		
05:15	17		59		4		87		21		146		
05:30	16		73		5		76		21		149		
05:45	18	58	55	239	10	23	78	347	28	81	133	586	
06:00	25		61		7		62		32		123		
06:15	28		50		16		62		44		112		
06:30	47		40		12		54		59		94		
06:45	51	151	47	198	19	54	48	226	70	205	95	424	
07:00	47		24		20		59		67		83		
07:15	53		26		30		40		83		66		
07:30	70		39		23		39		93		78		
07:45	77	247	27	116	35	108	38	176	112	355	65	292	
08:00	75		23		29		39		104		62		
08:15	74		29		36		25		110		54		
08:30	61		30		43		24		104		54		
08:45	69	279	15	97	28	136	31	119	97	415	46	216	
09:00	53		17		35		25		88		42		
09:15	54		12		44		34		98		46		
09:30	59		12		39		11		98		23		
09:45	50	216	11	52	43	161	9	79	93	377	20	131	
10:00	48		8		33		20		81		28		
10:15	44		13		36		21		80		34		
10:30	58		6		55		8		113		14		
10:45	59	209	6	33	58	182	3	52	117	391	9	85	
11:00	38		6		57		13		95		19		
11:15	60		5		62		7		122		12		
11:30	47		5		50		6		97		11		
11:45	71	216	3	19	48	217	5	31	119	433	8	50	
Total	1411		1984		924		2500		2335		4484		
Percent	60.4%		44.2%		39.6%		55.8%						
Day Total		3395				3424				6819			
Peak	07:30	-	02:45	-	10:30	-	03:30	-	10:30	-	03:00	-	- -
Vol.	296	-	277	-	232	-	395	-	447	-	657	-	- -
P.H.F.	0.961		0.866		0.935		0.898		0.916		0.898		

Ferry Road
just west of Hart Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

165138 A Volume
Site Code: 2015-063

Start	EB				WB				Combined				06/08/16
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	1		57		4		68		5		125		
12:15	2		64		7		57		9		121		
12:30	0		55		4		75		4		130		
12:45	1	4	56	232	3	18	50	250	4	22	106	482	
01:00	4		70		3		70		7		140		
01:15	0		53		5		56		5		109		
01:30	0		60		0		54		0		114		
01:45	0	4	68	251	3	11	64	244	3	15	132	495	
02:00	0		71		0		62		0		133		
02:15	3		62		2		67		5		129		
02:30	2		58		1		58		3		116		
02:45	1	6	80	271	0	3	71	258	1	9	151	529	
03:00	1		66		0		87		1		153		
03:15	1		55		3		81		4		136		
03:30	2		69		0		108		2		177		
03:45	2	6	62	252	0	3	83	359	2	9	145	611	
04:00	0		58		1		96		1		154		
04:15	3		63		0		72		3		135		
04:30	1		54		0		81		1		135		
04:45	9	13	66	241	3	4	81	330	12	17	147	571	
05:00	16		49		3		102		19		151		
05:15	13		44		2		79		15		123		
05:30	17		56		6		80		23		136		
05:45	13	59	62	211	9	20	61	322	22	79	123	533	
06:00	28		57		8		72		36		129		
06:15	26		47		15		69		41		116		
06:30	38		50		18		49		56		99		
06:45	49	141	42	196	23	64	48	238	72	205	90	434	
07:00	54		38		26		37		80		75		
07:15	59		31		33		42		92		73		
07:30	74		27		27		39		101		66		
07:45	74	261	36	132	31	117	40	158	105	378	76	290	
08:00	66		25		34		48		100		73		
08:15	49		26		39		39		88		65		
08:30	57		30		37		40		94		70		
08:45	66	238	29	110	37	147	34	161	103	385	63	271	
09:00	60		25		38		33		98		58		
09:15	51		13		45		29		96		42		
09:30	51		17		41		13		92		30		
09:45	53	215	21	76	38	162	14	89	91	377	35	165	
10:00	68		9		34		13		102		22		
10:15	47		8		50		18		97		26		
10:30	48		10		44		14		92		24		
10:45	60	223	12	39	49	177	8	53	109	400	20	92	
11:00	72		8		43		14		115		22		
11:15	43		4		54		9		97		13		
11:30	51		6		53		4		104		10		
11:45	56	222	2	20	50	200	3	30	106	422	5	50	
Total	1392		2031		926		2492		2318		4523		
Percent	60.1%		44.9%		39.9%		55.1%						
Day Total		3423				3418				6841			
Peak	07:15	-	02:00	-	11:00	-	03:15	-	10:45	-	02:45	-	- -
Vol.	273	-	271	-	200	-	368	-	425	-	617	-	- -
P.H.F.	0.922		0.847		0.926		0.852		0.924		0.871		

Ferry Road
just west of Hart Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

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165138 A Volume
Site Code: 2015-063

Start	EB				WB				Combined				06/09/16
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	4		61		4		57		8		118		
12:15	3		55		5		78		8		133		
12:30	2		66		2		74		4		140		
12:45	2	11	64	246	0	11	47	256	2	22	111	502	
01:00	4		50		7		68		11		118		
01:15	4		53		2		67		6		120		
01:30	1		68		2		74		3		142		
01:45	0	9	60	231	1	12	60	269	1	21	120	500	
02:00	0		67		0		57		0		124		
02:15	1		58		0		73		1		131		
02:30	1		56		2		70		3		126		
02:45	0	2	66	247	0	2	61	261	0	4	127	508	
03:00	5		58		3		104		8		162		
03:15	0		68		2		84		2		152		
03:30	2		63		1		97		3		160		
03:45	2	9	68	257	1	7	104	389	3	16	172	646	
04:00	1		69		0		91		1		160		
04:15	3		65		1		91		4		156		
04:30	2		65		0		96		2		161		
04:45	6	12	60	259	2	3	85	363	8	15	145	622	
05:00	15		63		4		108		19		171		
05:15	11		58		2		106		13		164		
05:30	20		56		4		80		24		136		
05:45	14	60	47	224	9	19	122	416	23	79	169	640	
06:00	23		56		10		173		33		229		
06:15	31		54		22		76		53		130		
06:30	41		55		12		47		53		102		
06:45	59	154	46	211	23	67	55	351	82	221	101	562	
07:00	54		36		33		55		87		91		
07:15	62		30		31		43		93		73		
07:30	68		32		33		52		101		84		
07:45	84	268	27	125	31	128	40	190	115	396	67	315	
08:00	68		31		31		37		99		68		
08:15	71		23		39		31		110		54		
08:30	64		28		31		35		95		63		
08:45	75	278	22	104	33	134	31	134	108	412	53	238	
09:00	56		19		51		20		107		39		
09:15	65		17		50		23		115		40		
09:30	72		14		41		21		113		35		
09:45	67	260	15	65	49	191	15	79	116	451	30	144	
10:00	55		19		43		17		98		36		
10:15	49		9		37		16		86		25		
10:30	39		11		66		6		105		17		
10:45	56	199	5	44	46	192	11	50	102	391	16	94	
11:00	58		7		48		14		106		21		
11:15	66		6		57		6		123		12		
11:30	72		6		67		6		139		12		
11:45	73	269	10	29	50	222	8	34	123	491	18	63	
Total	1531		2042		988		2792		2519		4834		
Percent	60.8%		42.2%		39.2%		57.8%						
Day Total		3573				3780				7353			
Peak	07:30	-	03:15	-	11:00	-	05:15	-	11:00	-	05:15	-	- -
Vol.	291	-	268	-	222	-	481	-	491	-	698	-	- -
P.H.F.	0.866		0.971		0.828		0.695		0.883		0.762		

PRECISION
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165138 A Class
Site Code: 2015-063

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/07/1														
6	0	7	3	0	0	0	0	0	0	0	0	0	0	10
01:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
04:00	0	13	2	0	0	0	0	0	0	0	0	0	0	15
05:00	0	45	10	0	3	0	0	0	0	0	0	0	0	58
06:00	0	109	32	1	8	1	0	0	0	0	0	0	0	151
07:00	0	192	43	2	9	0	0	1	0	0	0	0	0	247
08:00	2	213	56	0	7	0	0	1	0	0	0	0	0	279
09:00	3	162	42	1	7	1	0	0	0	0	0	0	0	216
10:00	3	158	40	0	7	1	0	0	0	0	0	0	0	209
11:00	2	168	34	0	10	2	0	0	0	0	0	0	0	216
12 PM	5	177	46	1	12	1	0	0	0	0	0	0	0	242
13:00	2	175	41	0	7	1	0	0	0	0	0	0	0	226
14:00	4	184	51	1	10	1	0	0	0	0	0	0	0	251
15:00	3	212	45	1	2	3	0	0	0	0	0	0	0	266
16:00	5	194	39	0	6	1	0	0	0	0	0	0	0	245
17:00	4	193	36	0	5	1	0	0	0	0	0	0	0	239
18:00	2	159	32	0	3	2	0	0	0	0	0	0	0	198
19:00	1	95	20	0	0	0	0	0	0	0	0	0	0	116
20:00	3	77	12	0	5	0	0	0	0	0	0	0	0	97
21:00	0	41	11	0	0	0	0	0	0	0	0	0	0	52
22:00	0	29	4	0	0	0	0	0	0	0	0	0	0	33
23:00	0	16	2	0	1	0	0	0	0	0	0	0	0	19
Total	39	2626	604	7	102	15	0	2	0	0	0	0	0	3395
Percent	1.1%	77.3%	17.8%	0.2%	3.0%	0.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	08:00	08:00	07:00	11:00	11:00		07:00						08:00
Vol.	3	213	56	2	10	2		1						279
PM Peak	12:00	15:00	14:00	12:00	12:00	15:00								15:00
Vol.	5	212	51	1	12	3								266

PRECISION
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Site Code: 2015-063

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/08/1														
6	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
04:00	0	9	3	0	1	0	0	0	0	0	0	0	0	13
05:00	0	48	10	0	1	0	0	0	0	0	0	0	0	59
06:00	0	105	30	1	5	0	0	0	0	0	0	0	0	141
07:00	2	205	38	4	12	0	0	0	0	0	0	0	0	261
08:00	5	180	42	0	10	0	0	0	1	0	0	0	0	238
09:00	3	164	38	2	8	0	0	0	0	0	0	0	0	215
10:00	2	181	32	0	7	0	0	1	0	0	0	0	0	223
11:00	2	169	37	0	13	1	0	0	0	0	0	0	0	222
12 PM	3	189	36	0	4	0	0	0	0	0	0	0	0	232
13:00	2	193	45	2	5	4	0	0	0	0	0	0	0	251
14:00	4	200	53	0	12	2	0	0	0	0	0	0	0	271
15:00	3	187	44	2	12	3	0	0	1	0	0	0	0	252
16:00	3	191	34	0	11	2	0	0	0	0	0	0	0	241
17:00	3	169	34	0	1	3	0	0	1	0	0	0	0	211
18:00	1	153	33	0	6	3	0	0	0	0	0	0	0	196
19:00	2	106	22	0	2	0	0	0	0	0	0	0	0	132
20:00	0	93	13	0	2	2	0	0	0	0	0	0	0	110
21:00	0	65	8	0	3	0	0	0	0	0	0	0	0	76
22:00	0	29	9	0	1	0	0	0	0	0	0	0	0	39
23:00	0	16	4	0	0	0	0	0	0	0	0	0	0	20
Total	35	2669	568	11	116	20	0	1	3	0	0	0	0	3423
Percent	1.0%	78.0%	16.6%	0.3%	3.4%	0.6%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	08:00	07:00	11:00	11:00		10:00	08:00					07:00
Vol.	5	205	42	4	13	1		1	1					261
PM Peak	14:00	14:00	14:00	13:00	14:00	13:00			15:00					14:00
Vol.	4	200	53	2	12	4			1					271

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Ferry Road
just west of Hart Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

165138 A Class
Site Code: 2015-063

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/09/1														
6	0	9	2	0	0	0	0	0	0	0	0	0	0	11
01:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
02:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
03:00	0	5	2	0	2	0	0	0	0	0	0	0	0	9
04:00	0	9	2	1	0	0	0	0	0	0	0	0	0	12
05:00	0	44	14	0	2	0	0	0	0	0	0	0	0	60
06:00	0	109	37	1	7	0	0	0	0	0	0	0	0	154
07:00	3	205	45	2	12	1	0	0	0	0	0	0	0	268
08:00	6	208	54	0	9	0	0	1	0	0	0	0	0	278
09:00	2	200	41	1	13	1	0	1	1	0	0	0	0	260
10:00	2	146	37	0	12	2	0	0	0	0	0	0	0	199
11:00	2	204	57	0	5	0	0	1	0	0	0	0	0	269
12 PM	3	188	45	1	7	2	0	0	0	0	0	0	0	246
13:00	0	185	33	0	9	3	0	1	0	0	0	0	0	231
14:00	6	187	43	1	7	3	0	0	0	0	0	0	0	247
15:00	4	205	37	1	7	2	0	0	1	0	0	0	0	257
16:00	5	204	42	0	7	1	0	0	0	0	0	0	0	259
17:00	1	187	31	0	3	2	0	0	0	0	0	0	0	224
18:00	3	179	23	0	3	3	0	0	0	0	0	0	0	211
19:00	1	93	24	0	7	0	0	0	0	0	0	0	0	125
20:00	1	88	13	0	1	1	0	0	0	0	0	0	0	104
21:00	1	56	6	0	2	0	0	0	0	0	0	0	0	65
22:00	0	34	9	0	1	0	0	0	0	0	0	0	0	44
23:00	0	24	3	0	2	0	0	0	0	0	0	0	0	29
Total	40	2777	603	8	118	21	0	4	2	0	0	0	0	3573
Percent	1.1%	77.7%	16.9%	0.2%	3.3%	0.6%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	11:00	07:00	09:00	10:00		08:00	09:00					08:00
Vol.	6	208	57	2	13	2		1	1					278
PM Peak	14:00	15:00	12:00	12:00	13:00	13:00		13:00	15:00					16:00
Vol.	6	205	45	1	9	3		1	1					259

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Ferry Road
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165138 A Class
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WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/07/1														
6	1	19	1	0	2	0	0	1	0	0	0	0	0	24
01:00	0	5	3	0	0	0	0	0	0	0	0	0	0	8
02:00	0	3	3	0	1	0	0	0	0	0	0	0	0	7
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	18	5	0	0	0	0	0	0	0	0	0	0	23
06:00	0	40	13	0	1	0	0	0	0	0	0	0	0	54
07:00	0	70	32	3	2	1	0	0	0	0	0	0	0	108
08:00	3	105	24	0	3	1	0	0	0	0	0	0	0	136
09:00	1	130	26	0	4	0	0	0	0	0	0	0	0	161
10:00	1	151	24	0	4	2	0	0	0	0	0	0	0	182
11:00	2	185	25	1	2	2	0	0	0	0	0	0	0	217
12 PM	3	180	35	0	1	1	0	0	0	0	0	0	0	220
13:00	4	182	31	0	6	0	0	0	0	0	0	0	0	223
14:00	2	230	43	1	3	0	0	0	0	0	0	0	0	279
15:00	4	321	55	3	5	2	0	1	0	0	0	0	0	391
16:00	4	309	41	2	1	0	0	0	0	0	0	0	0	357
17:00	3	309	35	0	0	0	0	0	0	0	0	0	0	347
18:00	3	197	25	0	1	0	0	0	0	0	0	0	0	226
19:00	2	152	21	0	1	0	0	0	0	0	0	0	0	176
20:00	1	97	20	0	1	0	0	0	0	0	0	0	0	119
21:00	0	67	10	0	2	0	0	0	0	0	0	0	0	79
22:00	0	44	7	1	0	0	0	0	0	0	0	0	0	52
23:00	0	23	7	0	0	1	0	0	0	0	0	0	0	31
Total	34	2840	487	11	40	10	0	2	0	0	0	0	0	3424
Percent	1.0%	82.9%	14.2%	0.3%	1.2%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	07:00	07:00	09:00	10:00		00:00						11:00
Vol.	3	185	32	3	4	2		1						217
PM Peak	13:00	15:00	15:00	15:00	13:00	15:00		15:00						15:00
Vol.	4	321	55	3	6	2		1						391

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Ferry Road
just west of Hart Road
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Client: Design Consultants/ S. Siragusa

165138 A Class
Site Code: 2015-063

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/08/1														
6	0	16	2	0	0	0	0	0	0	0	0	0	0	18
01:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
05:00	1	14	4	0	1	0	0	0	0	0	0	0	0	20
06:00	0	49	13	0	2	0	0	0	0	0	0	0	0	64
07:00	4	83	26	4	0	0	0	0	0	0	0	0	0	117
08:00	2	113	25	0	4	1	0	2	0	0	0	0	0	147
09:00	2	129	26	0	5	0	0	0	0	0	0	0	0	162
10:00	1	148	23	1	3	1	0	0	0	0	0	0	0	177
11:00	1	165	32	0	2	0	0	0	0	0	0	0	0	200
12 PM	3	198	40	0	7	0	0	1	1	0	0	0	0	250
13:00	5	189	42	0	7	0	0	1	0	0	0	0	0	244
14:00	3	206	42	1	4	0	0	1	1	0	0	0	0	258
15:00	4	288	57	2	5	2	0	1	0	0	0	0	0	359
16:00	2	274	41	2	9	1	0	0	1	0	0	0	0	330
17:00	5	274	40	0	2	1	0	0	0	0	0	0	0	322
18:00	3	199	35	0	1	0	0	0	0	0	0	0	0	238
19:00	1	137	20	0	0	0	0	0	0	0	0	0	0	158
20:00	3	139	18	0	1	0	0	0	0	0	0	0	0	161
21:00	1	79	8	0	1	0	0	0	0	0	0	0	0	89
22:00	0	48	5	0	0	0	0	0	0	0	0	0	0	53
23:00	1	23	6	0	0	0	0	0	0	0	0	0	0	30
Total	42	2791	506	10	54	6	0	6	3	0	0	0	0	3418
Percent	1.2%	81.7%	14.8%	0.3%	1.6%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	11:00	07:00	09:00	08:00		08:00						11:00
Vol.	4	165	32	4	5	1		2						200
PM Peak	13:00	15:00	15:00	15:00	16:00	15:00		12:00	12:00					15:00
Vol.	5	288	57	2	9	2		1	1					359

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WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/09/1														
6	0	10	1	0	0	0	0	0	0	0	0	0	0	11
01:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
04:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
05:00	1	16	2	0	0	0	0	0	0	0	0	0	0	19
06:00	1	52	12	0	2	0	0	0	0	0	0	0	0	67
07:00	2	100	19	3	3	1	0	0	0	0	0	0	0	128
08:00	1	112	15	1	4	1	0	0	0	0	0	0	0	134
09:00	3	156	27	0	3	2	0	0	0	0	0	0	0	191
10:00	5	150	31	1	4	0	0	1	0	0	0	0	0	192
11:00	2	184	31	0	5	0	0	0	0	0	0	0	0	222
12 PM	3	204	43	1	5	0	0	0	0	0	0	0	0	256
13:00	3	221	36	0	8	0	0	1	0	0	0	0	0	269
14:00	4	218	33	1	3	0	0	1	1	0	0	0	0	261
15:00	5	324	55	1	2	0	0	2	0	0	0	0	0	389
16:00	2	317	42	0	2	0	0	0	0	0	0	0	0	363
17:00	6	350	54	0	6	0	0	0	0	0	0	0	0	416
18:00	2	301	44	0	4	0	0	0	0	0	0	0	0	351
19:00	4	168	17	0	1	0	0	0	0	0	0	0	0	190
20:00	3	116	13	0	2	0	0	0	0	0	0	0	0	134
21:00	0	74	5	0	0	0	0	0	0	0	0	0	0	79
22:00	0	46	3	0	1	0	0	0	0	0	0	0	0	50
23:00	1	28	3	0	2	0	0	0	0	0	0	0	0	34
Total	48	3169	488	8	57	4	0	5	1	0	0	0	0	3780
Percent	1.3%	83.8%	12.9%	0.2%	1.5%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	10:00	07:00	11:00	09:00		10:00						11:00
Vol.	5	184	31	3	5	2		1						222
PM Peak	17:00	17:00	15:00	12:00	13:00			15:00	14:00					17:00
Vol.	6	350	55	1	8			2	1					416

PRECISION
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165138 A Speed
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EB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/07/ 16	0	1	1	3	2	3	0	0	0	0	0	0	0	10	36	29
01:00	0	0	1	2	1	0	0	0	0	0	0	0	0	4	31	27
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1	33	32
03:00	0	0	2	1	2	0	0	0	0	0	0	0	0	5	32	27
04:00	0	0	1	2	7	5	0	0	0	0	0	0	0	15	36	32
05:00	1	2	2	14	25	12	2	0	0	0	0	0	0	58	36	31
06:00	1	**4**	14	48	72	12	0	0	0	0	0	0	0	151	33	29
07:00	**2**	4	17	78	119	22	**4**	**1**	0	0	0	0	0	247	33	30
08:00	0	0	11	**91**	**141**	**34**	2	0	0	0	0	0	0	**279**	33	31
09:00	2	2	11	68	113	20	0	0	0	0	0	0	0	216	33	30
10:00	2	3	**19**	79	88	17	1	0	0	0	0	0	0	209	33	29
11:00	0	0	12	86	89	28	1	0	0	0	0	0	0	216	33	30
12 PM	3	3	11	72	132	19	2	0	0	0	0	0	0	242	33	30
13:00	2	**4**	8	81	109	22	0	0	0	0	0	0	0	226	33	30
14:00	0	4	**23**	92	104	24	**3**	**1**	0	0	0	0	0	251	33	30
15:00	**5**	3	15	**96**	122	23	2	0	0	0	0	0	0	**266**	33	30
16:00	5	1	6	83	117	**33**	0	0	0	0	0	0	0	245	33	30
17:00	3	3	7	63	**134**	28	1	0	0	0	0	0	0	239	33	31
18:00	2	0	10	80	91	13	2	0	0	0	0	0	0	198	33	30
19:00	0	1	5	49	51	9	1	0	0	0	0	0	0	116	33	30
20:00	0	0	14	37	40	4	2	0	0	0	0	0	0	97	32	29
21:00	0	1	3	23	20	5	0	0	0	0	0	0	0	52	33	29
22:00	1	1	0	18	11	2	0	0	0	0	0	0	0	33	32	28
23:00	0	0	2	8	6	3	0	0	0	0	0	0	0	19	34	30
Total	29	37	195	1174	1597	338	23	2	0	0	0	0	0	3395		
%	0.9%	1.1%	5.7%	34.6%	47.0%	10.0%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	06:00	10:00	08:00	08:00	08:00	07:00	07:00						08:00		
Vol.	2	4	19	91	141	34	4	1						279		
PM Peak	15:00	13:00	14:00	15:00	17:00	16:00	14:00	14:00						15:00		
Vol.	5	4	23	96	134	33	3	1						266		

Stats

15th Percentile :	25 MPH
50th Percentile :	29 MPH
85th Percentile :	33 MPH
95th Percentile :	36 MPH
Mean Speed(Average) :	30 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	2771
Percent in Pace :	81.6%
Number of Vehicles > 30 MPH :	1641
Percent of Vehicles > 30 MPH :	48.3%

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EB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/08/ 16	0	0	0	1	1	1	1	0	0	0	0	0	0	4	41	34
01:00	0	0	0	2	0	1	1	0	0	0	0	0	0	4	41	33
02:00	0	1	0	1	2	2	0	0	0	0	0	0	0	6	36	30
03:00	0	0	1	2	3	0	0	0	0	0	0	0	0	6	32	29
04:00	0	0	1	6	4	2	0	0	0	0	0	0	0	13	34	30
05:00	0	0	4	13	26	14	2	0	0	0	0	0	0	59	36	32
06:00	**2**	1	5	31	74	28	0	0	0	0	0	0	0	141	35	31
07:00	0	4	**17**	62	**136**	39	3	0	0	0	0	0	0	**261**	34	31
08:00	2	0	9	59	124	**43**	1	0	0	0	0	0	0	238	34	31
09:00	0	3	13	72	98	29	0	0	0	0	0	0	0	215	33	30
10:00	0	4	13	75	112	19	0	0	0	0	0	0	0	223	33	30
11:00	2	**6**	10	**79**	106	14	**4**	0	0	0	**1**	0	0	222	33	30
12 PM	0	**3**	13	80	117	18	1	0	0	0	0	0	0	232	33	30
13:00	2	0	**22**	**103**	100	23	1	0	0	0	0	0	0	251	33	29
14:00	3	0	13	101	124	**28**	**2**	0	0	0	0	0	0	**271**	33	30
15:00	**4**	3	20	84	117	23	1	0	0	0	0	0	0	252	33	29
16:00	3	1	5	77	**129**	26	0	0	0	0	0	0	0	241	33	30
17:00	2	1	8	54	119	25	2	0	0	0	0	0	0	211	33	31
18:00	4	0	12	61	93	26	0	0	0	0	0	0	0	196	33	30
19:00	0	1	7	39	69	15	1	0	0	0	0	0	0	132	33	31
20:00	0	0	11	47	42	10	0	0	0	0	0	0	0	110	33	29
21:00	0	0	5	33	35	3	0	0	0	0	0	0	0	76	32	29
22:00	0	0	6	16	13	3	1	0	0	0	0	0	0	39	33	29
23:00	1	0	1	4	10	4	0	0	0	0	0	0	0	20	35	30
Total	25	28	196	1102	1654	396	21	0	0	0	1	0	0	3423		
%	0.7%	0.8%	5.7%	32.2%	48.3%	11.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	06:00	11:00	07:00	11:00	07:00	08:00	11:00				11:00			07:00		
Vol.	2	6	17	79	136	43	4				1			261		
PM Peak	15:00	12:00	13:00	13:00	16:00	14:00	14:00							14:00		
Vol.	4	3	22	103	129	28	2							271		

Stats

15th Percentile :	25 MPH
50th Percentile :	30 MPH
85th Percentile :	33 MPH
95th Percentile :	37 MPH
Mean Speed(Average) :	30 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	2756
Percent in Pace :	80.5%
Number of Vehicles > 30 MPH :	1741
Percent of Vehicles > 30 MPH :	50.9%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Ferry Road
just west of Hart Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

165138 A Speed
Site Code: 2015-063

EB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/09/ 16	0	0	0	8	3	0	0	0	0	0	0	0	0	11	31	28
01:00	0	0	0	3	4	2	0	0	0	0	0	0	0	9	35	31
02:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2	27	25
03:00	0	0	0	4	2	3	0	0	0	0	0	0	0	9	36	31
04:00	0	0	0	7	5	0	0	0	0	0	0	0	0	12	32	29
05:00	0	0	4	21	23	10	**2**	0	0	0	0	0	0	60	35	31
06:00	0	1	13	42	76	22	0	0	0	0	0	0	0	154	33	30
07:00	1	0	7	96	134	28	1	0	0	0	0	0	**1**	268	33	30
08:00	**5**	1	11	**98**	138	22	1	**2**	0	0	0	0	0	**278**	33	30
09:00	2	**4**	**18**	73	**140**	23	0	0	0	0	0	0	0	260	33	30
10:00	1	1	4	60	102	**31**	0	0	0	0	0	0	0	199	34	31
11:00	2	2	10	92	137	26	0	0	0	0	0	0	0	269	33	30
12 PM	3	2	16	86	113	25	1	0	0	0	0	0	0	246	33	30
13:00	3	**6**	11	81	108	22	0	0	0	0	0	0	0	231	33	30
14:00	1	1	**21**	88	110	22	**4**	0	0	0	0	0	0	247	33	30
15:00	**6**	3	14	**102**	109	23	0	0	0	0	0	0	0	257	33	29
16:00	4	3	18	73	**129**	**32**	0	0	0	0	0	0	0	**259**	33	30
17:00	3	2	10	69	113	22	3	**2**	0	0	0	0	0	224	33	30
18:00	3	2	8	78	102	17	0	1	0	0	0	0	0	211	33	30
19:00	1	1	4	46	55	17	1	0	0	0	0	0	0	125	33	30
20:00	3	1	10	42	38	10	0	0	0	0	0	0	0	104	33	29
21:00	0	2	4	22	28	7	1	1	0	0	0	0	0	65	33	30
22:00	2	0	3	16	19	4	0	0	0	0	0	0	0	44	33	29
23:00	1	3	3	6	13	3	0	0	0	0	0	0	0	29	33	28
Total	41	35	190	1214	1701	371	14	6	0	0	0	0	1	3573		
%	1.1%	1.0%	5.3%	34.0%	47.6%	10.4%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	09:00	09:00	08:00	09:00	10:00	05:00	08:00					07:00	08:00		
Vol.	5	4	18	98	140	31	2	2					1	278		
PM Peak	15:00	13:00	14:00	15:00	16:00	16:00	14:00	17:00						16:00		
Vol.	6	6	21	102	129	32	4	2						259		

Stats

15th Percentile :	25 MPH
50th Percentile :	29 MPH
85th Percentile :	33 MPH
95th Percentile :	36 MPH
Mean Speed(Average) :	30 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	2915
Percent in Pace :	81.6%
Number of Vehicles > 30 MPH :	1753
Percent of Vehicles > 30 MPH :	49.1%

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Ferry Road
just west of Hart Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

165138 A Speed
Site Code: 2015-063

WB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/07/ 16	0	0	3	13	6	1	1	0	0	0	0	0	0	24	32	29
01:00	0	0	1	3	3	1	0	0	0	0	0	0	0	8	33	29
02:00	0	1	1	0	4	0	1	0	0	0	0	0	0	7	33	30
03:00	0	0	0	2	0	0	0	0	0	0	0	0	0	2	28	27
04:00	0	0	1	0	1	0	0	0	0	0	0	0	0	2	32	27
05:00	1	2	2	9	9	0	0	0	0	0	0	0	0	23	32	27
06:00	2	2	6	26	15	3	0	0	0	0	0	0	0	54	32	27
07:00	2	1	10	57	37	1	0	0	0	0	0	0	0	108	31	28
08:00	1	**3**	9	71	47	5	0	0	0	0	0	0	0	136	32	28
09:00	3	2	20	81	47	7	1	0	0	0	0	0	0	161	32	28
10:00	0	0	14	88	**68**	**10**	**2**	0	0	0	0	0	0	182	32	29
11:00	**4**	1	**26**	**112**	67	6	1	0	0	0	0	0	0	**217**	32	28
12 PM	0	1	15	119	79	6	0	0	0	0	0	0	0	220	32	29
13:00	2	7	26	97	85	6	0	0	0	0	0	0	0	223	32	28
14:00	2	5	25	127	107	12	1	0	0	0	0	0	0	279	32	29
15:00	5	**9**	**40**	**188**	134	15	0	0	0	0	0	0	0	**391**	32	28
16:00	**6**	3	22	135	174	15	**2**	0	0	0	0	0	0	357	32	29
17:00	1	3	14	107	**193**	**28**	1	0	0	0	0	0	0	347	33	30
18:00	3	3	17	111	84	8	0	0	0	0	0	0	0	226	32	28
19:00	1	0	22	85	67	1	0	0	0	0	0	0	0	176	32	28
20:00	0	4	13	65	30	6	1	0	0	0	0	0	0	119	32	28
21:00	0	1	11	40	24	3	0	0	0	0	0	0	0	79	32	28
22:00	1	0	4	28	19	0	0	0	0	0	0	0	0	52	31	28
23:00	0	1	5	18	6	1	0	0	0	0	0	0	0	31	30	27
Total	34	49	307	1582	1306	135	11	0	0	0	0	0	0	3424		
%	1.0%	1.4%	9.0%	46.2%	38.1%	3.9%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	08:00	11:00	11:00	10:00	10:00	10:00							11:00		
Vol.	4	3	26	112	68	10	2							217		
PM Peak	16:00	15:00	15:00	15:00	17:00	17:00	16:00							15:00		
Vol.	6	9	40	188	193	28	2							391		

Stats

15th Percentile :	24 MPH
50th Percentile :	28 MPH
85th Percentile :	32 MPH
95th Percentile :	33 MPH
Mean Speed(Average) :	29 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	2888
Percent in Pace :	84.3%
Number of Vehicles > 30 MPH :	1191
Percent of Vehicles > 30 MPH :	34.8%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Ferry Road
just west of Hart Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

165138 A Speed
Site Code: 2015-063

WB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/08/ 16	0	0	1	9	8	0	0	0	0	0	0	0	0	18	32	29
01:00	0	1	2	5	3	0	0	0	0	0	0	0	0	11	31	27
02:00	0	0	0	3	0	0	0	0	0	0	0	0	0	3	28	27
03:00	0	0	0	1	2	0	0	0	0	0	0	0	0	3	32	30
04:00	0	0	0	1	3	0	0	0	0	0	0	0	0	4	33	31
05:00	0	2	0	8	10	0	0	0	0	0	0	0	0	20	32	28
06:00	2	1	1	29	28	3	0	0	0	0	0	0	0	64	32	29
07:00	**4**	**6**	7	47	47	6	0	0	0	0	0	0	0	117	32	28
08:00	1	2	5	59	63	**17**	0	0	0	0	0	0	0	147	33	30
09:00	3	1	12	56	**79**	10	**1**	0	0	0	0	0	0	162	33	29
10:00	3	3	**16**	89	59	6	1	0	0	0	0	0	0	177	32	28
11:00	1	2	11	**100**	77	9	0	0	0	0	0	0	0	**200**	32	29
12 PM	1	5	31	118	81	14	0	0	0	0	0	0	0	250	32	28
13:00	3	6	32	109	87	7	0	0	0	0	0	0	0	244	32	28
14:00	**5**	1	18	125	97	12	0	0	0	0	0	0	0	258	32	29
15:00	3	**8**	**39**	**176**	118	15	0	0	0	0	0	0	0	**359**	32	28
16:00	1	3	26	155	135	10	0	0	0	0	0	0	0	330	32	29
17:00	4	1	18	136	**138**	**24**	**1**	0	0	0	0	0	0	322	33	29
18:00	5	2	18	108	88	16	0	0	0	0	0	0	**1**	238	32	29
19:00	2	2	12	61	69	11	1	0	0	0	0	0	0	158	33	29
20:00	3	2	15	81	50	10	0	0	0	0	0	0	0	161	32	28
21:00	1	0	11	44	31	2	0	0	0	0	0	0	0	89	32	28
22:00	1	0	5	23	23	1	0	0	0	0	0	0	0	53	32	29
23:00	0	1	6	12	9	2	0	0	0	0	0	0	0	30	32	28
Total	43	49	286	1555	1305	175	4	0	0	0	0	0	1	3418		
%	1.3%	1.4%	8.4%	45.5%	38.2%	5.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	07:00	10:00	11:00	09:00	08:00	09:00							11:00		
Vol.	4	6	16	100	79	17	1							200		
PM Peak	14:00	15:00	15:00	15:00	17:00	17:00	17:00						18:00	15:00		
Vol.	5	8	39	176	138	24	1						1	359		

Stats

15th Percentile :	24 MPH
50th Percentile :	28 MPH
85th Percentile :	32 MPH
95th Percentile :	34 MPH
Mean Speed(Average) :	29 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	2860
Percent in Pace :	83.7%
Number of Vehicles > 30 MPH :	1224
Percent of Vehicles > 30 MPH :	35.8%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Ferry Road
just west of Hart Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

165138 A Speed
Site Code: 2015-063

WB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/09/ 16	1	0	2	4	4	0	0	0	0	0	0	0	0	11	31	26
01:00	0	1	0	3	7	1	0	0	0	0	0	0	0	12	33	30
02:00	0	0	0	1	1	0	0	0	0	0	0	0	0	2	32	30
03:00	0	0	1	5	1	0	0	0	0	0	0	0	0	7	28	27
04:00	0	0	0	3	0	0	0	0	0	0	0	0	0	3	28	27
05:00	1	2	3	5	8	0	0	0	0	0	0	0	0	19	32	26
06:00	1	1	8	32	20	5	0	0	0	0	0	0	0	67	32	28
07:00	1	2	13	57	50	5	0	0	0	0	0	0	0	128	32	29
08:00	1	0	20	65	41	6	**1**	0	0	0	0	0	0	134	32	28
09:00	**7**	**3**	**26**	82	66	7	0	0	0	0	0	0	0	191	32	28
10:00	3	2	7	**90**	80	10	0	0	0	0	0	0	0	192	32	29
11:00	2	1	24	89	**94**	**12**	0	0	0	0	0	0	0	**222**	32	29
12 PM	1	2	28	130	88	7	0	0	0	0	0	0	0	256	32	28
13:00	3	5	36	125	90	8	**2**	0	0	0	0	0	0	269	32	28
14:00	3	4	**37**	120	86	11	0	0	0	0	0	0	0	261	32	28
15:00	**4**	**10**	37	182	143	12	1	0	0	0	0	0	0	389	32	28
16:00	3	6	37	165	133	18	1	0	0	0	0	0	0	363	32	29
17:00	3	1	26	**186**	**181**	17	2	0	0	0	0	0	0	**416**	32	29
18:00	1	1	31	163	134	**19**	2	0	0	0	0	0	0	351	32	29
19:00	1	1	13	83	76	16	0	0	0	0	0	0	0	190	33	29
20:00	1	2	17	62	43	8	1	0	0	0	0	0	0	134	32	28
21:00	1	0	3	39	32	4	0	0	0	0	0	0	0	79	32	29
22:00	2	2	7	25	12	1	1	0	0	0	0	0	0	50	31	27
23:00	0	1	3	19	10	1	0	0	0	0	0	0	0	34	31	28
Total	40	47	379	1735	1400	168	11	0	0	0	0	0	0	3780		
%	1.1%	1.2%	10.0%	45.9%	37.0%	4.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	09:00	09:00	10:00	11:00	11:00	08:00							11:00		
Vol.	7	3	26	90	94	12	1							222		
PM Peak	15:00	15:00	14:00	17:00	17:00	18:00	13:00							17:00		
Vol.	4	10	37	186	181	19	2							416		

Stats

15th Percentile :	24 MPH
50th Percentile :	28 MPH
85th Percentile :	32 MPH
95th Percentile :	33 MPH
Mean Speed(Average) :	29 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	3135
Percent in Pace :	82.9%
Number of Vehicles > 30 MPH :	1299
Percent of Vehicles > 30 MPH :	34.4%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Spoffard Street/ Driveway
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 A
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Spoffard Street From North				Ferry Road From East				Driveway From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	4	0	28	0	15	4	0	0	0	0	0	0	0	18	5	0	74
07:15 AM	3	0	44	0	22	4	0	0	0	0	0	0	0	3	32	0	108
07:30 AM	4	0	55	0	20	8	0	0	0	0	0	0	0	12	14	0	113
07:45 AM	9	0	63	0	31	3	0	0	1	0	0	0	0	12	19	0	138
Total	20	0	190	0	88	19	0	0	1	0	0	0	0	45	70	0	433
08:00 AM	6	0	62	0	20	8	0	0	0	0	0	0	0	14	9	0	119
08:15 AM	9	0	64	0	33	5	0	0	1	0	0	0	0	10	10	0	132
08:30 AM	7	0	47	0	34	6	0	0	0	0	0	0	0	5	6	0	105
08:45 AM	10	0	56	0	19	5	0	0	0	0	0	0	0	11	10	0	111
Total	32	0	229	0	106	24	0	0	1	0	0	0	0	40	35	0	467
Grand Total	52	0	419	0	194	43	0	0	2	0	0	0	0	85	105	0	900
Apprch %	11	0	89	0	81.9	18.1	0	0	100	0	0	0	0	44.7	55.3	0	
Total %	5.8	0	46.6	0	21.6	4.8	0	0	0.2	0	0	0	0	9.4	11.7	0	
Cars	47	0	410	0	186	39	0	0	2	0	0	0	0	84	103	0	871
% Cars	90.4	0	97.9	0	95.9	90.7	0	0	100	0	0	0	0	98.8	98.1	0	96.8
Heavy Vehicles	5	0	9	0	8	4	0	0	0	0	0	0	0	1	2	0	29
% Heavy Vehicles	9.6	0	2.1	0	4.1	9.3	0	0	0	0	0	0	0	1.2	1.9	0	3.2

	Spoffard Street From North					Ferry Road From East					Driveway From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. 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	4	0	55	0	59	20	**8**	0	0	28	0	0	0	0	0	0	12	14	0	26	113
07:45 AM	**9**	0	63	0	72	31	3	0	0	34	**1**	0	0	0	**1**	0	12	**19**	0	**31**	**138**
08:00 AM	6	0	62	0	68	20	8	0	0	28	0	0	0	0	0	0	**14**	9	0	23	119
08:15 AM	9	0	**64**	0	**73**	**33**	5	0	0	**38**	1	0	0	0	1	0	10	10	0	20	132
Total Volume	28	0	244	0	272	104	24	0	0	128	2	0	0	0	2	0	48	52	0	100	502
% App. Total	10.3	0	89.7	0		81.2	18.8	0	0		100	0	0	0		0	48	52	0		
PHF	.778	.000	.953	.000	.932	.788	.750	.000	.000	.842	.500	.000	.000	.000	.500	.000	.857	.684	.000	.806	.909
Cars	25	0	239	0	264	99	22	0	0	121	2	0	0	0	2	0	48	51	0	99	486
% Cars	89.3	0	98.0	0	97.1	95.2	91.7	0	0	94.5	100	0	0	0	100	0	100	98.1	0	99.0	96.8
Heavy Vehicles	3	0	5	0	8	5	2	0	0	7	0	0	0	0	0	0	0	1	0	1	16
% Heavy Vehicles	10.7	0	2.0	0	2.9	4.8	8.3	0	0	5.5	0	0	0	0	0	0	0	1.9	0	1.0	3.2

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Spoffard Street/ Driveway
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 A
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

Groups Printed- Cars

	Spoffard Street From North				Ferry Road From East				Driveway From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	4	0	27	0	14	4	0	0	0	0	0	0	0	17	5	0	71
07:15 AM	3	0	44	0	20	4	0	0	0	0	0	0	0	3	32	0	106
07:30 AM	4	0	53	0	17	7	0	0	0	0	0	0	0	12	14	0	107
07:45 AM	8	0	63	0	30	2	0	0	1	0	0	0	0	12	19	0	135
Total	19	0	187	0	81	17	0	0	1	0	0	0	0	44	70	0	419
08:00 AM	5	0	61	0	19	8	0	0	0	0	0	0	0	14	8	0	115
08:15 AM	8	0	62	0	33	5	0	0	1	0	0	0	0	10	10	0	129
08:30 AM	7	0	46	0	34	5	0	0	0	0	0	0	0	5	6	0	103
08:45 AM	8	0	54	0	19	4	0	0	0	0	0	0	0	11	9	0	105
Total	28	0	223	0	105	22	0	0	1	0	0	0	0	40	33	0	452
Grand Total	47	0	410	0	186	39	0	0	2	0	0	0	0	84	103	0	871
Apprch %	10.3	0	89.7	0	82.7	17.3	0	0	100	0	0	0	0	44.9	55.1	0	
Total %	5.4	0	47.1	0	21.4	4.5	0	0	0.2	0	0	0	0	9.6	11.8	0	

	Spoffard Street From North					Ferry Road From East					Driveway From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. 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	4	0	53	0	57	17	7	0	0	24	0	0	0	0	0	0	12	14	0	26	107
07:45 AM	**8**	0	**63**	0	**71**	30	2	0	0	32	**1**	0	0	0	**1**	0	12	**19**	0	**31**	**135**
08:00 AM	5	0	61	0	66	19	**8**	0	0	27	0	0	0	0	0	0	**14**	8	0	22	115
08:15 AM	8	0	62	0	70	**33**	5	0	0	**38**	1	0	0	0	1	0	10	10	0	20	129
Total Volume	25	0	239	0	264	99	22	0	0	121	2	0	0	0	2	0	48	51	0	99	486
% App. Total	9.5	0	90.5	0		81.8	18.2	0	0		100	0	0	0		0	48.5	51.5	0		
PHF	.781	.000	.948	.000	.930	.750	.688	.000	.000	.796	.500	.000	.000	.000	.500	.000	.857	.671	.000	.798	.900

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
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N/S: Spoffard Street/ Driveway
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 A
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

Groups Printed- Heavy Vehicles

	Spoffard Street From North				Ferry Road From East				Driveway From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	3
07:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	2	0	3	1	0	0	0	0	0	0	0	0	0	0	6
07:45 AM	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3
Total	1	0	3	0	7	2	0	0	0	0	0	0	0	1	0	0	14
08:00 AM	1	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	4
08:15 AM	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:30 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
08:45 AM	2	0	2	0	0	1	0	0	0	0	0	0	0	0	1	0	6
Total	4	0	6	0	1	2	0	0	0	0	0	0	0	0	2	0	15
Grand Total	5	0	9	0	8	4	0	0	0	0	0	0	0	1	2	0	29
Apprch %	35.7	0	64.3	0	66.7	33.3	0	0	0	0	0	0	0	33.3	66.7	0	
Total %	17.2	0	31	0	27.6	13.8	0	0	0	0	0	0	0	3.4	6.9	0	

	Spoffard Street From North					Ferry Road From East					Driveway From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. 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	0	**2**	0	2	**3**	**1**	0	0	**4**	0	0	0	0	0	0	0	0	0	0	**6**
07:45 AM	**1**	0	0	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3
08:00 AM	1	0	1	0	2	1	0	0	0	1	0	0	0	0	0	0	0	**1**	0	**1**	4
08:15 AM	1	0	2	0	**3**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	3	0	5	0	8	5	2	0	0	7	0	0	0	0	0	0	0	1	0	1	16
% App. Total	37.5	0	62.5	0		71.4	28.6	0	0		0	0	0	0		0	0	100	0		
PHF	.750	.000	.625	.000	.667	.417	.500	.000	.000	.438	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.667

PRECISION
D A T A
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N/S: Spoffard Street/ Driveway
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 A
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

Groups Printed- Peds and Bicycles

	Spoffard Street From North					Ferry Road From East					Driveway From South					Ferry Road From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
07:00 AM	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
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
07:45 AM	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	1	0	0	1
08:00 AM	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	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Grand Total	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	4
Apprch %	0	0	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	25	0	0	50	0	0	0	0	0	0	0	0	0	0	25	0	0	

	Spoffard Street From North						Ferry Road From East						Driveway From South						Ferry Road From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	1
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
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
08:15 AM	0	0	0	0	0	0	0	**2**	0	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Total Volume	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
% App. Total	0	0	0	0	0		0	100	0	0	0		0	0	0	0	0		0	0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.375

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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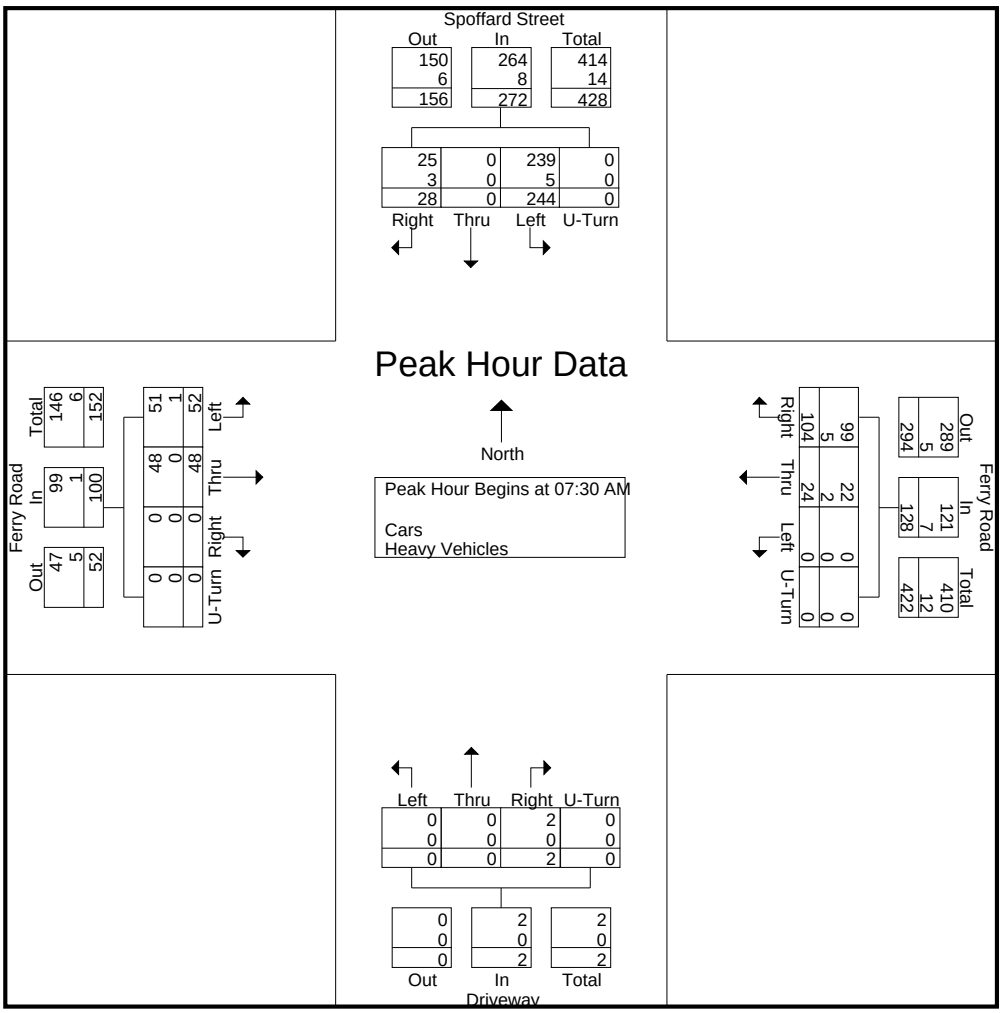
Email: datarequests@pdillc.com

N/S: Spoffard Street/ Driveway
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 A
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

	Spoffard Street From North					Ferry Road From East					Driveway From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. 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	4	0	55	0	59	20	**8**	0	0	28	0	0	0	0	0	0	12	14	0	26	113
07:45 AM	**9**	0	63	0	72	31	3	0	0	34	**1**	0	0	0	**1**	0	12	**19**	0	**31**	**138**
08:00 AM	6	0	62	0	68	20	8	0	0	28	0	0	0	0	0	0	**14**	9	0	23	119
08:15 AM	9	0	**64**	0	**73**	**33**	5	0	0	**38**	1	0	0	0	1	0	10	10	0	20	132
Total Volume	28	0	244	0	272	104	24	0	0	128	2	0	0	0	2	0	48	52	0	100	502
% App. Total	10.3	0	89.7	0		81.2	18.8	0	0		100	0	0	0		0	48	52	0		
PHF	.778	.000	.953	.000	.932	.788	.750	.000	.000	.842	.500	.000	.000	.000	.500	.000	.857	.684	.000	.806	.909
Cars	25	0	239	0	264	99	22	0	0	121	2	0	0	0	2	0	48	51	0	99	486
% Cars	89.3	0	98.0	0	97.1	95.2	91.7	0	0	94.5	100	0	0	0	100	0	100	98.1	0	99.0	96.8
Heavy Vehicles	3	0	5	0	8	5	2	0	0	7	0	0	0	0	0	0	0	1	0	1	16
% Heavy Vehicles	10.7	0	2.0	0	2.9	4.8	8.3	0	0	5.5	0	0	0	0	0	0	0	1.9	0	1.0	3.2



PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Spoffard Street/ Driveway
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 AA
Site Code : 2015-063
Start Date : 6/7/2016

Groups Printed- Cars - Heavy Vehicles

	Spoffard Street From North				Ferry Road From East				Driveway From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	13	0	40	0	62	16	0	0	0	0	0	0	0	13	9	0	153
04:15 PM	7	0	56	0	86	18	0	0	0	0	0	0	0	10	14	0	191
04:30 PM	13	0	48	0	73	14	0	0	0	0	0	0	0	11	14	0	173
04:45 PM	20	0	39	0	69	9	0	0	0	0	0	0	0	21	13	0	171
Total	53	0	183	0	290	57	0	0	0	0	0	0	0	55	50	0	688
05:00 PM	10	0	42	0	92	16	1	0	0	0	0	0	0	10	13	0	184
05:15 PM	14	0	50	0	69	14	0	0	0	0	0	0	0	17	18	0	182
05:30 PM	16	0	69	0	61	18	0	0	0	0	0	0	0	18	15	0	197
05:45 PM	15	0	42	0	57	9	0	0	0	0	0	0	0	16	10	0	149
Total	55	0	203	0	279	57	1	0	0	0	0	0	0	61	56	0	712
Grand Total	108	0	386	0	569	114	1	0	0	0	0	0	0	116	106	0	1400
Apprch %	21.9	0	78.1	0	83.2	16.7	0.1	0	0	0	0	0	0	52.3	47.7	0	
Total %	7.7	0	27.6	0	40.6	8.1	0.1	0	0	0	0	0	0	8.3	7.6	0	
Cars	108	0	385	0	567	114	1	0	0	0	0	0	0	115	105	0	1395
% Cars	100	0	99.7	0	99.6	100	100	0	0	0	0	0	0	99.1	99.1	0	99.6
Heavy Vehicles	0	0	1	0	2	0	0	0	0	0	0	0	0	1	1	0	5
% Heavy Vehicles	0	0	0.3	0	0.4	0	0	0	0	0	0	0	0	0.9	0.9	0	0.4

	Spoffard Street From North					Ferry Road From East					Driveway From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**20**	0	39	0	59	69	9	0	0	78	0	0	0	0	0	0	**21**	13	0	34	171
05:00 PM	10	0	42	0	52	**92**	16	**1**	0	**109**	0	0	0	0	0	0	10	13	0	23	184
05:15 PM	14	0	50	0	64	69	14	0	0	83	0	0	0	0	0	0	17	**18**	0	**35**	182
05:30 PM	16	0	**69**	0	**85**	61	**18**	0	0	79	0	0	0	0	0	0	18	15	0	33	**197**
Total Volume	60	0	200	0	260	291	57	1	0	349	0	0	0	0	0	0	66	59	0	125	734
% App. Total	23.1	0	76.9	0		83.4	16.3	0.3	0		0	0	0	0		0	52.8	47.2	0		
PHF	.750	.000	.725	.000	.765	.791	.792	.250	.000	.800	.000	.000	.000	.000	.000	.000	.786	.819	.000	.893	.931
Cars	60	0	199	0	259	291	57	1	0	349	0	0	0	0	0	0	66	58	0	124	732
% Cars	100	0	99.5	0	99.6	100	100	100	0	100	0	0	0	0	0	0	100	98.3	0	99.2	99.7
Heavy Vehicles	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
% Heavy Vehicles	0	0	0.5	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	1.7	0	0.8	0.3

PRECISION
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File Name : 165138 AA
Site Code : 2015-063
Start Date : 6/7/2016

Groups Printed- Cars

	Spoffard Street From North				Ferry Road From East				Driveway From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	13	0	40	0	61	16	0	0	0	0	0	0	0	12	9	0	151
04:15 PM	7	0	56	0	85	18	0	0	0	0	0	0	0	10	14	0	190
04:30 PM	13	0	48	0	73	14	0	0	0	0	0	0	0	11	14	0	173
04:45 PM	20	0	39	0	69	9	0	0	0	0	0	0	0	21	13	0	171
Total	53	0	183	0	288	57	0	0	0	0	0	0	0	54	50	0	685
05:00 PM	10	0	41	0	92	16	1	0	0	0	0	0	0	10	13	0	183
05:15 PM	14	0	50	0	69	14	0	0	0	0	0	0	0	17	17	0	181
05:30 PM	16	0	69	0	61	18	0	0	0	0	0	0	0	18	15	0	197
05:45 PM	15	0	42	0	57	9	0	0	0	0	0	0	0	16	10	0	149
Total	55	0	202	0	279	57	1	0	0	0	0	0	0	61	55	0	710
Grand Total	108	0	385	0	567	114	1	0	0	0	0	0	0	115	105	0	1395
Apprch %	21.9	0	78.1	0	83.1	16.7	0.1	0	0	0	0	0	0	52.3	47.7	0	
Total %	7.7	0	27.6	0	40.6	8.2	0.1	0	0	0	0	0	0	8.2	7.5	0	

	Spoffard Street From North					Ferry Road From East					Driveway From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**20**	0	39	0	59	69	9	0	0	78	0	0	0	0	0	0	**21**	13	0	**34**	171
05:00 PM	10	0	41	0	51	**92**	16	**1**	0	**109**	0	0	0	0	0	0	10	13	0	23	183
05:15 PM	14	0	50	0	64	69	14	0	0	83	0	0	0	0	0	0	17	**17**	0	34	181
05:30 PM	16	0	**69**	0	**85**	61	**18**	0	0	79	0	0	0	0	0	0	18	15	0	33	**197**
Total Volume	60	0	199	0	259	291	57	1	0	349	0	0	0	0	0	0	66	58	0	124	732
% App. Total	23.2	0	76.8	0		83.4	16.3	0.3	0		0	0	0	0		0	53.2	46.8	0		
PHF	.750	.000	.721	.000	.762	.791	.792	.250	.000	.800	.000	.000	.000	.000	.000	.000	.786	.853	.000	.912	.929

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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N/S: Spoffard Street/ Driveway
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 AA
Site Code : 2015-063
Start Date : 6/7/2016

Groups Printed- Heavy Vehicles

	Spoffard Street From North				Ferry Road From East				Driveway From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
04:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	3
05:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Grand Total	0	0	1	0	2	0	0	0	0	0	0	0	0	1	1	0	5
Apprch %	0	0	100	0	100	0	0	0	0	0	0	0	0	50	50	0	
Total %	0	0	20	0	40	0	0	0	0	0	0	0	0	20	20	0	

	Spoffard Street From North					Ferry Road From East					Driveway From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	**1**	0	0	0	**1**	0	0	0	0	0	0	**1**	0	0	**1**	**2**
04:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	3
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.375

PRECISION
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INDUSTRIES, LLC
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N/S: Spoffard Street/ Driveway
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 AA
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

Groups Printed- Peds and Bicycles

	Spoffard Street From North					Ferry Road From East					Driveway From South					Ferry Road From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	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	1	0	0	0	0	0	0	0	0	0	2	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	4
Total	0	0	0	1	0	0	0	0	0	0	0	0	0	3	1	0	3	1	0	0	9
Grand Total	0	0	0	1	0	0	1	0	0	0	0	0	0	3	1	0	5	1	0	0	12
Apprch %	0	0	0	100	0	0	100	0	0	0	0	0	0	75	25	0	83.3	16.7	0	0	
Total %	0	0	0	8.3	0	0	8.3	0	0	0	0	0	0	25	8.3	0	41.7	8.3	0	0	

	Spoffard Street From North						Ferry Road From East						Driveway From South						Ferry Road From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 05:00 PM																									
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	1	0	1	0	**1**	0	0	0	1	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	**2**	0	1	**1**	0	0	**2**	**4**
Total Volume	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	3	1	4	0	3	1	0	0	4	9
% App. Total	0	0	0	100	0		0	0	0	0	0		0	0	0	75	25		0	75	25	0	0		
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750	.250	.500	.000	.750	.250	.000	.000	.500	.563

PRECISION DATA INDUSTRIES, LLC
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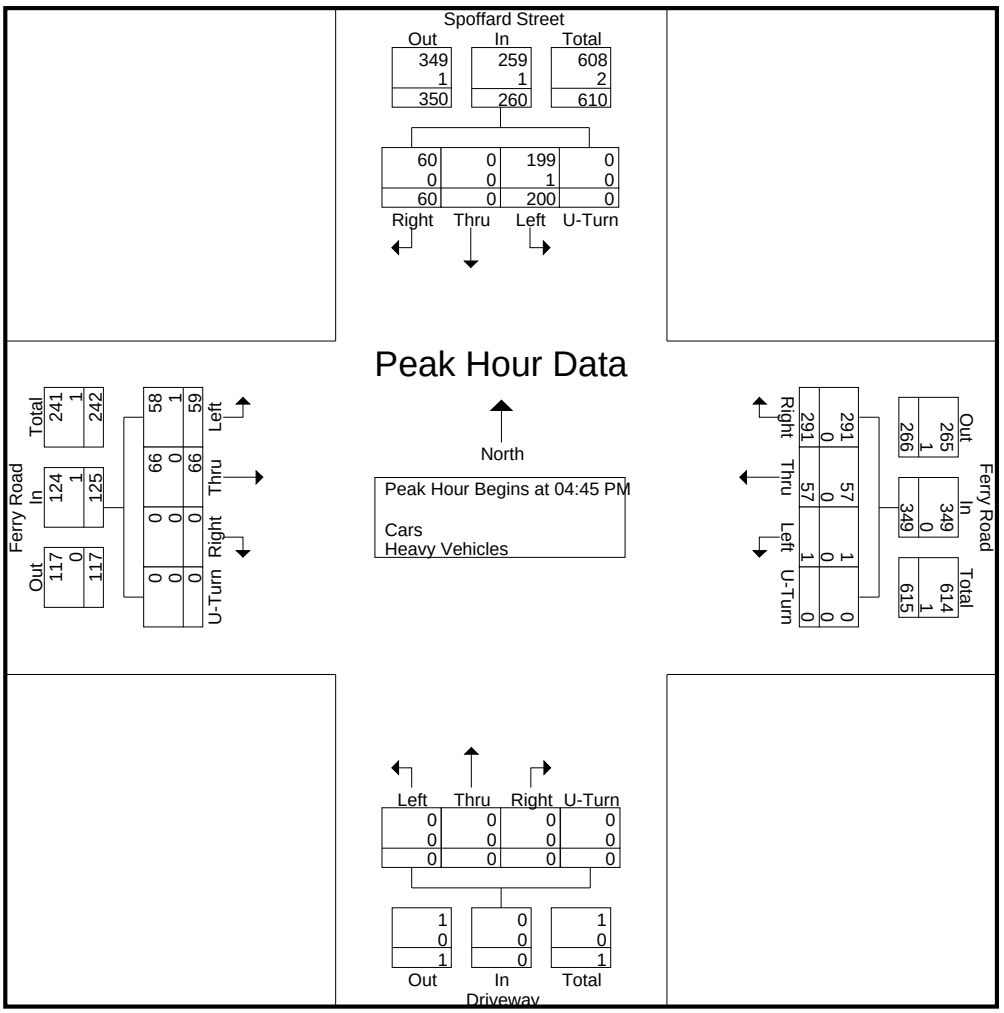
N/S: Spoffard Street/ Driveway
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 AA
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

	Spoffard Street From North					Ferry Road From East					Driveway From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**20**	0	39	0	59	69	9	0	0	78	0	0	0	0	0	0	**21**	13	0	34	171
05:00 PM	10	0	42	0	52	**92**	16	**1**	0	**109**	0	0	0	0	0	0	10	13	0	23	184
05:15 PM	14	0	50	0	64	69	14	0	0	83	0	0	0	0	0	0	17	**18**	0	**35**	182
05:30 PM	16	0	**69**	0	**85**	61	**18**	0	0	79	0	0	0	0	0	0	18	15	0	33	**197**
Total Volume	60	0	200	0	260	291	57	1	0	349	0	0	0	0	0	0	66	59	0	125	734
% App. Total	23.1	0	76.9	0		83.4	16.3	0.3	0		0	0	0	0		0	52.8	47.2	0		
PHF	.750	.000	.725	.000	.765	.791	.792	.250	.000	.800	.000	.000	.000	.000	.000	.000	.786	.819	.000	.893	.931
Cars	60	0	199	0	259	291	57	1	0	349	0	0	0	0	0	0	66	58	0	124	732
% Cars	100	0	99.5	0	99.6	100	100	100	0	100	0	0	0	0	0	0	100	98.3	0	99.2	99.7
Heavy Vehicles	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
% Heavy Vehicles	0	0	0.5	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	1.7	0	0.8	0.3



PRECISION
D A T A
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N/S: Elmira Avenue/ Boyd Drive
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 B
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Elmira Avenue From North				Ferry Road From East				Boyd Drive From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	1	0	1	0	1	18	1	0	2	0	0	0	0	46	0	0	70
07:15 AM	0	0	1	0	1	26	0	0	1	0	0	0	0	45	0	0	74
07:30 AM	1	0	0	0	0	25	1	0	3	0	2	0	3	67	0	0	102
07:45 AM	0	0	1	0	0	32	2	0	3	0	2	0	0	76	0	0	116
Total	2	0	3	0	2	101	4	0	9	0	4	0	3	234	0	0	362
08:00 AM	1	0	1	0	0	28	0	0	1	0	0	0	4	71	0	0	106
08:15 AM	0	0	2	0	0	36	1	0	2	0	0	0	0	75	0	0	116
08:30 AM	1	0	2	0	3	40	1	0	6	0	0	0	3	50	0	0	106
08:45 AM	0	0	2	0	1	25	2	0	2	0	0	0	2	66	0	0	100
Total	2	0	7	0	4	129	4	0	11	0	0	0	9	262	0	0	428
Grand Total	4	0	10	0	6	230	8	0	20	0	4	0	12	496	0	0	790
Apprch %	28.6	0	71.4	0	2.5	94.3	3.3	0	83.3	0	16.7	0	2.4	97.6	0	0	
Total %	0.5	0	1.3	0	0.8	29.1	1	0	2.5	0	0.5	0	1.5	62.8	0	0	
Cars	3	0	10	0	6	219	8	0	19	0	4	0	11	488	0	0	768
% Cars	75	0	100	0	100	95.2	100	0	95	0	100	0	91.7	98.4	0	0	97.2
Heavy Vehicles	1	0	0	0	0	11	0	0	1	0	0	0	1	8	0	0	22
% Heavy Vehicles	25	0	0	0	0	4.8	0	0	5	0	0	0	8.3	1.6	0	0	2.8

	Elmira Avenue From North					Ferry Road From East					Boyd Drive From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. 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	0	0	1	0	1	0	32	**2**	0	34	3	0	**2**	0	5	0	**76**	0	0	**76**	**116**
08:00 AM	**1**	0	1	0	2	0	28	0	0	28	1	0	0	0	1	**4**	71	0	0	75	106
08:15 AM	0	0	**2**	0	2	0	36	1	0	37	2	0	0	0	2	0	75	0	0	75	116
08:30 AM	1	0	2	0	**3**	**3**	**40**	1	0	**44**	**6**	0	0	0	**6**	3	50	0	0	53	106
Total Volume	2	0	6	0	8	3	136	4	0	143	12	0	2	0	14	7	272	0	0	279	444
% App. Total	25	0	75	0		2.1	95.1	2.8	0		85.7	0	14.3	0		2.5	97.5	0	0		
PHF	.500	.000	.750	.000	.667	.250	.850	.500	.000	.813	.500	.000	.250	.000	.583	.438	.895	.000	.000	.918	.957
Cars	2	0	6	0	8	3	132	4	0	139	11	0	2	0	13	7	268	0	0	275	435
% Cars	100	0	100	0	100	100	97.1	100	0	97.2	91.7	0	100	0	92.9	100	98.5	0	0	98.6	98.0
Heavy Vehicles	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	0	4	0	0	4	9
% Heavy Vehicles	0	0	0	0	0	0	2.9	0	0	2.8	8.3	0	0	0	7.1	0	1.5	0	0	1.4	2.0

PRECISION
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N/S: Elmira Avenue/ Boyd Drive
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 B
Site Code : 2015-063
Start Date : 6/7/2016

Groups Printed- Cars

	Elmira Avenue From North				Ferry Road From East				Boyd Drive From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	1	0	1	17	1	0	2	0	0	0	0	45	0	0	67
07:15 AM	0	0	1	0	1	25	0	0	1	0	0	0	0	45	0	0	73
07:30 AM	1	0	0	0	0	21	1	0	3	0	2	0	2	66	0	0	96
07:45 AM	0	0	1	0	0	30	2	0	2	0	2	0	0	76	0	0	113
Total	1	0	3	0	2	93	4	0	8	0	4	0	2	232	0	0	349
08:00 AM	1	0	1	0	0	27	0	0	1	0	0	0	4	70	0	0	104
08:15 AM	0	0	2	0	0	36	1	0	2	0	0	0	0	73	0	0	114
08:30 AM	1	0	2	0	3	39	1	0	6	0	0	0	3	49	0	0	104
08:45 AM	0	0	2	0	1	24	2	0	2	0	0	0	2	64	0	0	97
Total	2	0	7	0	4	126	4	0	11	0	0	0	9	256	0	0	419
Grand Total	3	0	10	0	6	219	8	0	19	0	4	0	11	488	0	0	768
Apprch %	23.1	0	76.9	0	2.6	94	3.4	0	82.6	0	17.4	0	2.2	97.8	0	0	
Total %	0.4	0	1.3	0	0.8	28.5	1	0	2.5	0	0.5	0	1.4	63.5	0	0	

	Elmira Avenue From North					Ferry Road From East					Boyd Drive From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. 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	0	0	1	0	1	0	30	**2**	0	32	2	0	**2**	0	4	0	**76**	0	0	**76**	113
08:00 AM	**1**	0	1	0	2	0	27	0	0	27	1	0	0	0	1	**4**	70	0	0	74	104
08:15 AM	0	0	**2**	0	2	0	36	1	0	37	2	0	0	0	2	0	73	0	0	73	**114**
08:30 AM	1	0	2	0	**3**	**3**	**39**	1	0	**43**	**6**	0	0	0	**6**	3	49	0	0	52	104
Total Volume	2	0	6	0	8	3	132	4	0	139	11	0	2	0	13	7	268	0	0	275	435
% App. Total	25	0	75	0		2.2	95	2.9	0		84.6	0	15.4	0		2.5	97.5	0	0		
PHF	.500	.000	.750	.000	.667	.250	.846	.500	.000	.808	.458	.000	.250	.000	.542	.438	.882	.000	.000	.905	.954

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File Name : 165138 B
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Page No : 1

Groups Printed- Heavy Vehicles

	Elmira Avenue From North				Ferry Road From East				Boyd Drive From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	3
07:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	4	0	0	0	0	0	0	1	1	0	0	6
07:45 AM	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	3
Total	1	0	0	0	0	8	0	0	1	0	0	0	1	2	0	0	13
08:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
08:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
08:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
Total	0	0	0	0	0	3	0	0	0	0	0	0	0	6	0	0	9
Grand Total	1	0	0	0	0	11	0	0	1	0	0	0	1	8	0	0	22
Apprch %	100	0	0	0	0	100	0	0	100	0	0	0	11.1	88.9	0	0	
Total %	4.5	0	0	0	0	50	0	0	4.5	0	0	0	4.5	36.4	0	0	

	Elmira Avenue From North					Ferry Road From East					Boyd Drive From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	**1**	0	0	0	**1**	0	1	0	0	1	0	0	0	0	0	0	**1**	0	0	1	3
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	**4**	0	0	**4**	0	0	0	0	0	**1**	1	0	0	**2**	**6**
07:45 AM	0	0	0	0	0	0	2	0	0	2	**1**	0	0	0	**1**	0	0	0	0	0	3
Total Volume	1	0	0	0	1	0	8	0	0	8	1	0	0	0	1	1	2	0	0	3	13
% App. Total	100	0	0	0		0	100	0	0		100	0	0	0		33.3	66.7	0	0		
PHF	.250	.000	.000	.000	.250	.000	.500	.000	.000	.500	.250	.000	.000	.000	.250	.250	.500	.000	.000	.375	.542

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
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N/S: Elmira Avenue/ Boyd Drive
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 B
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

Groups Printed- Peds and Bicycles

	Elmira Avenue From North					Ferry Road From East					Boyd Drive From South					Ferry Road From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
07:00 AM	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
07:30 AM	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	1	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	3
08:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	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	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	0	0	0	0	1	2	0	0	0	0	1	6
Grand Total	0	0	0	0	0	0	2	0	0	0	1	0	0	1	2	0	0	0	0	1	7
Apprch %	0	0	0	0	0	0	100	0	0	0	25	0	0	25	50	0	0	0	0	100	
Total %	0	0	0	0	0	0	28.6	0	0	0	14.3	0	0	14.3	28.6	0	0	0	0	14.3	

	Elmira Avenue From North						Ferry Road From East						Boyd Drive From South						Ferry Road From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. 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	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	**1**	0	0	0	0	1	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**	0	0	0	0	**1**	**1**	**3**
08:15 AM	0	0	0	0	0	0	0	**2**	0	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	1	1	3	0	0	0	0	1	1	6
% App. Total	0	0	0	0	0		0	100	0	0	0		33.3	0	0	33.3	33.3		0	0	0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.250	.000	.000	.250	.250	.375	.000	.000	.000	.000	.250	.250	.500

PRECISION
D A T A
INDUSTRIES, LLC
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File Name : 165138 B
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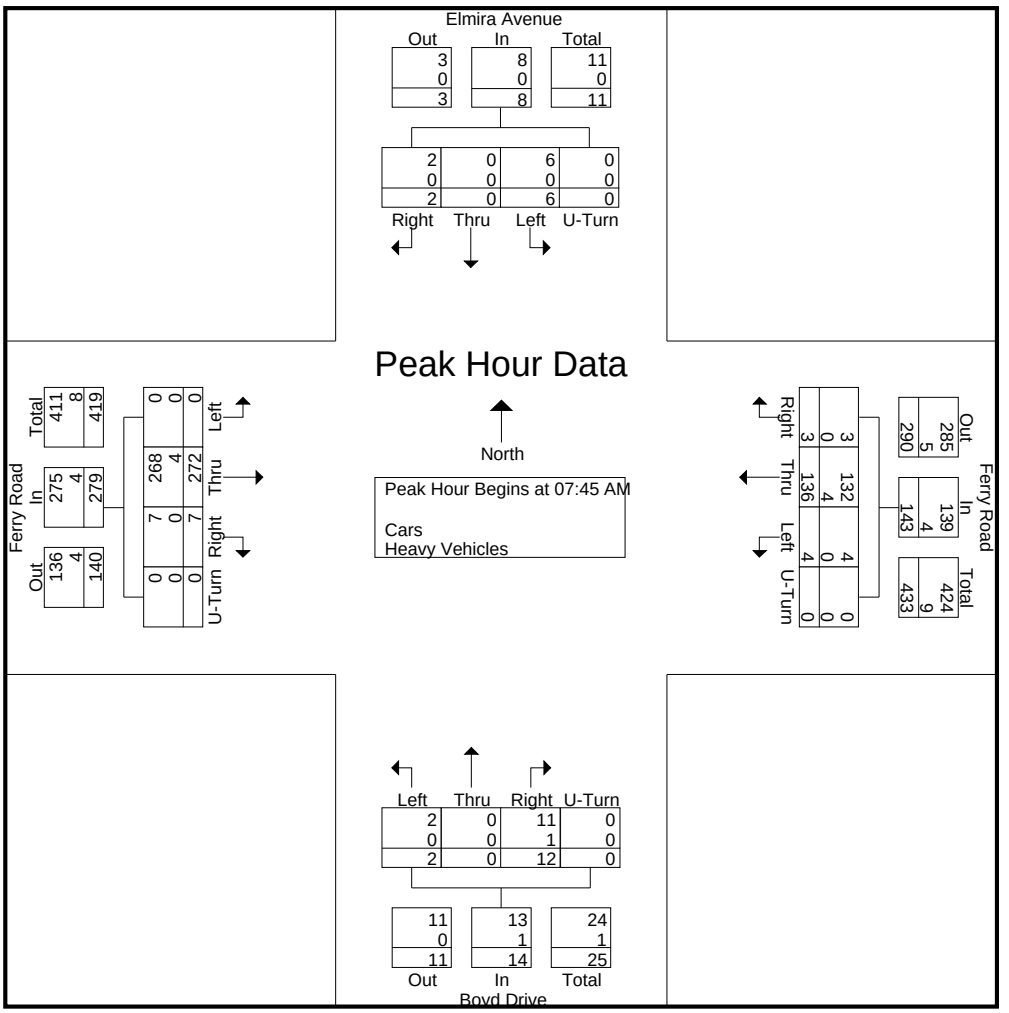
	Elmira Avenue From North					Ferry Road From East					Boyd Drive From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	1	0	1	0	32	**2**	0	34	3	0	**2**	0	5	0	**76**	0	0	**76**	**116**
08:00 AM	**1**	0	1	0	2	0	28	0	0	28	1	0	0	0	1	**4**	71	0	0	75	106
08:15 AM	0	0	**2**	0	2	0	36	1	0	37	2	0	0	0	2	0	75	0	0	75	116
08:30 AM	1	0	2	0	**3**	**3**	**40**	1	0	**44**	**6**	0	0	0	**6**	3	50	0	0	53	106
Total Volume	2	0	6	0	8	3	136	4	0	143	12	0	2	0	14	7	272	0	0	279	444
% App. Total	25	0	75	0		2.1	95.1	2.8	0		85.7	0	14.3	0		2.5	97.5	0	0		
PHF	.500	.000	.750	.000	.667	.250	.850	.500	.000	.813	.500	.000	.250	.000	.583	.438	.895	.000	.000	.918	.957
Cars	2	0	6	0	8	3	132	4	0	139	11	0	2	0	13	7	268	0	0	275	435
% Cars	100	0	100	0	100	100	97.1	100	0	97.2	91.7	0	100	0	92.9	100	98.5	0	0	98.6	98.0
Heavy Vehicles	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	0	4	0	0	4	9
% Heavy Vehicles	0	0	0	0	0	0	2.9	0	0	2.8	8.3	0	0	0	7.1	0	1.5	0	0	1.4	2.0



PRECISION
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N/S: Elmira Avenue/ Boyd Drive
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 BB
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Elmira Avenue From North				Ferry Road From East				Boyd Drive From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	1	0	1	80	4	0	5	0	0	0	1	53	0	0	145
04:15 PM	0	0	1	0	4	103	5	0	1	0	2	0	3	65	0	0	184
04:30 PM	1	0	1	0	0	86	3	0	1	0	2	0	0	57	1	0	152
04:45 PM	0	0	2	0	0	78	4	0	3	0	0	0	0	58	0	0	145
Total	1	0	5	0	5	347	16	0	10	0	4	0	4	233	1	0	626
05:00 PM	0	0	2	0	0	107	3	0	1	0	1	0	1	49	0	0	164
05:15 PM	0	0	2	0	1	83	4	0	3	0	0	0	3	59	0	0	155
05:30 PM	0	0	1	0	1	78	5	0	2	0	1	0	3	70	1	0	162
05:45 PM	0	0	0	0	3	66	3	0	1	0	1	0	2	57	0	0	133
Total	0	0	5	0	5	334	15	0	7	0	3	0	9	235	1	0	614
Grand Total	1	0	10	0	10	681	31	0	17	0	7	0	13	468	2	0	1240
Apprch %	9.1	0	90.9	0	1.4	94.3	4.3	0	70.8	0	29.2	0	2.7	96.9	0.4	0	
Total %	0.1	0	0.8	0	0.8	54.9	2.5	0	1.4	0	0.6	0	1	37.7	0.2	0	
Cars	1	0	10	0	10	680	31	0	17	0	7	0	13	466	2	0	1237
% Cars	100	0	100	0	100	99.9	100	0	100	0	100	0	100	99.6	100	0	99.8
Heavy Vehicles	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
% Heavy Vehicles	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0.4	0	0	0.2

	Elmira Avenue From North					Ferry Road From East					Boyd Drive From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	1	0	1	**4**	103	**5**	0	**112**	1	0	**2**	0	**3**	**3**	**65**	0	0	**68**	**184**
04:30 PM	**1**	0	1	0	**2**	0	86	3	0	89	1	0	2	0	3	0	57	**1**	0	58	152
04:45 PM	0	0	**2**	0	2	0	78	4	0	82	**3**	0	0	0	3	0	58	0	0	58	145
05:00 PM	0	0	2	0	2	0	**107**	3	0	110	1	0	1	0	2	1	49	0	0	50	164
Total Volume	1	0	6	0	7	4	374	15	0	393	6	0	5	0	11	4	229	1	0	234	645
% App. Total	14.3	0	85.7	0		1	95.2	3.8	0		54.5	0	45.5	0		1.7	97.9	0.4	0		
PHF	.250	.000	.750	.000	.875	.250	.874	.750	.000	.877	.500	.000	.625	.000	.917	.333	.881	.250	.000	.860	.876
Cars	1	0	6	0	7	4	374	15	0	393	6	0	5	0	11	4	228	1	0	233	644
% Cars	100	0	100	0	100	100	100	100	0	100	100	0	100	0	100	100	99.6	100	0	99.6	99.8
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0.4	0.2

PRECISION
D A T A
INDUSTRIES, LLC
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N/S: Elmira Avenue/ Boyd Drive
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 BB
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

Groups Printed- Cars

	Elmira Avenue From North				Ferry Road From East				Boyd Drive From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	1	0	1	79	4	0	5	0	0	0	1	52	0	0	143
04:15 PM	0	0	1	0	4	103	5	0	1	0	2	0	3	65	0	0	184
04:30 PM	1	0	1	0	0	86	3	0	1	0	2	0	0	57	1	0	152
04:45 PM	0	0	2	0	0	78	4	0	3	0	0	0	0	58	0	0	145
Total	1	0	5	0	5	346	16	0	10	0	4	0	4	232	1	0	624
05:00 PM	0	0	2	0	0	107	3	0	1	0	1	0	1	48	0	0	163
05:15 PM	0	0	2	0	1	83	4	0	3	0	0	0	3	59	0	0	155
05:30 PM	0	0	1	0	1	78	5	0	2	0	1	0	3	70	1	0	162
05:45 PM	0	0	0	0	3	66	3	0	1	0	1	0	2	57	0	0	133
Total	0	0	5	0	5	334	15	0	7	0	3	0	9	234	1	0	613
Grand Total	1	0	10	0	10	680	31	0	17	0	7	0	13	466	2	0	1237
Apprch %	9.1	0	90.9	0	1.4	94.3	4.3	0	70.8	0	29.2	0	2.7	96.9	0.4	0	
Total %	0.1	0	0.8	0	0.8	55	2.5	0	1.4	0	0.6	0	1.1	37.7	0.2	0	

	Elmira Avenue From North					Ferry Road From East					Boyd Drive From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	1	0	1	**4**	103	**5**	0	**112**	1	0	**2**	0	**3**	**3**	**65**	0	0	**68**	**184**
04:30 PM	**1**	0	1	0	**2**	0	86	3	0	89	1	0	2	0	3	0	57	**1**	0	58	152
04:45 PM	0	0	**2**	0	2	0	78	4	0	82	**3**	0	0	0	3	0	58	0	0	58	145
05:00 PM	0	0	2	0	2	0	**107**	3	0	110	1	0	1	0	2	1	48	0	0	49	163
Total Volume	1	0	6	0	7	4	374	15	0	393	6	0	5	0	11	4	228	1	0	233	644
% App. Total	14.3	0	85.7	0		1	95.2	3.8	0		54.5	0	45.5	0		1.7	97.9	0.4	0		
PHF	.250	.000	.750	.000	.875	.250	.874	.750	.000	.877	.500	.000	.625	.000	.917	.333	.877	.250	.000	.857	.875

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File Name : 165138 BB
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Page No : 1

Groups Printed- Heavy Vehicles

	Elmira Avenue From North				Ferry Road From East				Boyd Drive From South				Ferry Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	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	1	0	0	1
Grand Total	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
Apprch %	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	33.3	0	0	0	0	0	0	0	66.7	0	0	

	Elmira Avenue From North					Ferry Road From East					Boyd Drive From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	**1**	0	0	**1**	**2**
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250

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Groups Printed- Peds and Bicycles

	Elmira Avenue From North					Ferry Road From East					Boyd Drive From South					Ferry Road From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	0	0	1	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	1	0	0	5
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	6	3	0	2	1	0	0	12
Grand Total	0	0	0	0	0	0	1	0	0	0	0	0	0	7	4	1	3	1	0	1	18
Apprch %	0	0	0	0	0	0	100	0	0	0	0	0	0	63.6	36.4	16.7	50	16.7	0	16.7	
Total %	0	0	0	0	0	0	5.6	0	0	0	0	0	0	38.9	22.2	5.6	16.7	5.6	0	5.6	

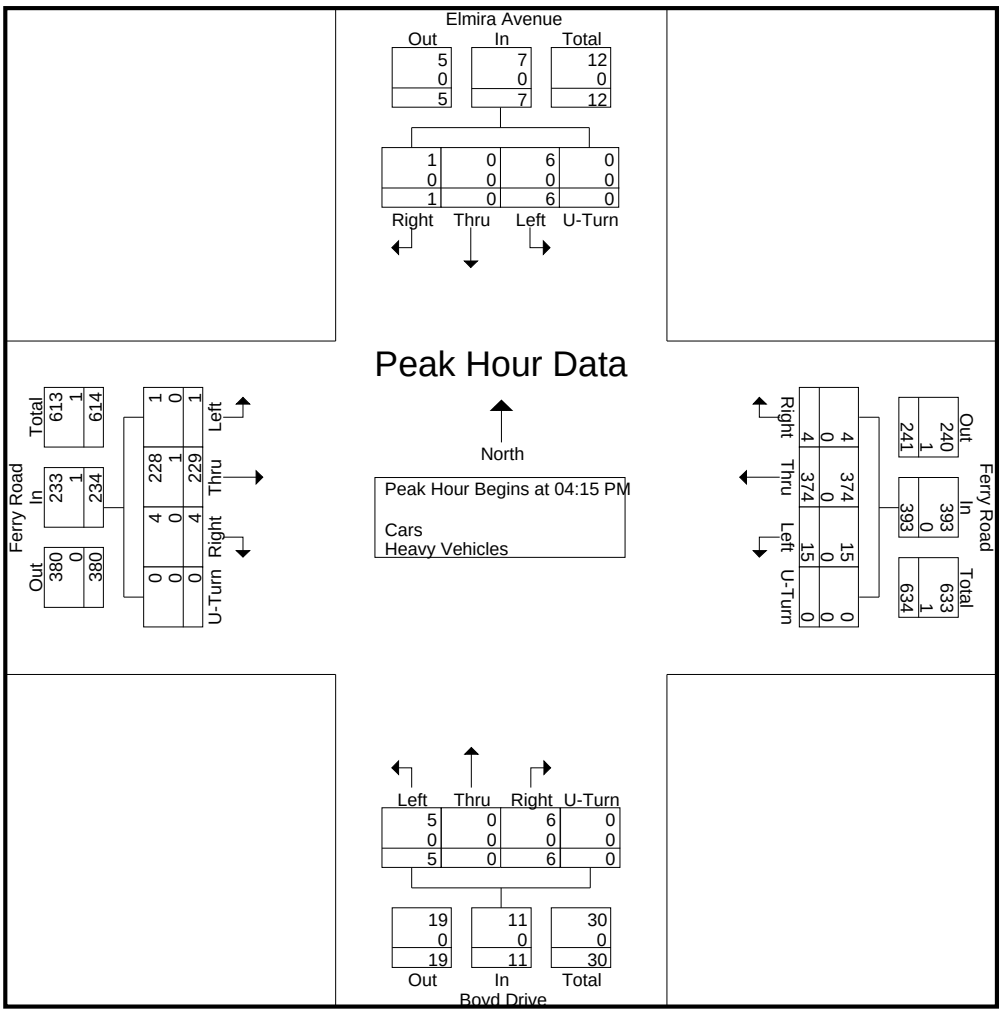
	Elmira Avenue From North						Ferry Road From East						Boyd Drive From South						Ferry Road From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 05:00 PM																									
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**	0	**4**	0	0	0	0	0	0	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	**2**	4	0	0	**1**	0	0	**1**	**5**
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	1	2
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	3	9	0	2	1	0	0	3	12
% App. Total	0	0	0	0	0		0	0	0	0	0		0	0	0	66.7	33.3		0	66.7	33.3	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.375	.375	.563	.000	.500	.250	.000	.000	.750	.600

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Elmira Avenue/ Boyd Drive
E/W: Ferry Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

File Name : 165138 BB
Site Code : 2015-063
Start Date : 6/7/2016
Page No : 1

	Elmira Avenue From North					Ferry Road From East					Boyd Drive From South					Ferry Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	1	0	1	**4**	103	**5**	0	**112**	1	0	**2**	0	**3**	**3**	**65**	0	0	**68**	**184**
04:30 PM	**1**	0	1	0	**2**	0	86	3	0	89	1	0	2	0	3	0	57	**1**	0	58	152
04:45 PM	0	0	**2**	0	2	0	78	4	0	82	**3**	0	0	0	3	0	58	0	0	58	145
05:00 PM	0	0	2	0	2	0	**107**	3	0	110	1	0	1	0	2	1	49	0	0	50	164
Total Volume	1	0	6	0	7	4	374	15	0	393	6	0	5	0	11	4	229	1	0	234	645
% App. Total	14.3	0	85.7	0		1	95.2	3.8	0		54.5	0	45.5	0		1.7	97.9	0.4	0		
PHF	.250	.000	.750	.000	.875	.250	.874	.750	.000	.877	.500	.000	.625	.000	.917	.333	.881	.250	.000	.860	.876
Cars	1	0	6	0	7	4	374	15	0	393	6	0	5	0	11	4	228	1	0	233	644
% Cars	100	0	100	0	100	100	100	100	0	100	100	0	100	0	100	100	99.6	100	0	99.6	99.8
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0.4	0.2



PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Invoice

Date	Invoice #
8/26/2016	165250

Bill To

Design Consultants, Inc
120 Middlesex Avenue # 20
Somerville, MA 02145

Engineer	Client Job #	Terms	Job Location
S. Siragusa	2015-063	2% 15 Net 60	Newburyport, MA

Description	Hours/Quantity	Rate	Amount
(1) 7-9am/4-6pm TMC Thurs 8/25/16	4	60.00	240.00
Rush Turnaround per hour	4	5.00	20.00
Time and Travel	1	91.00	91.00

"Traffic Counts with Precision" Thank you for your business

Total $351.00

Balance Due $351.00

PRECISION DATA INDUSTRIES, LLC
Office: 508.875.0100 Fax: 508.875.0118
Email: datarequests@pdillc.com

Traffic Counts with Precision

Client:	Engineer:	Site Code:	Date:	PDI Job Number:	City, State:
Design Consultants	S. Siragusa	2015-063	Thursday 8/25/16	165250	Newburyport, MA

N/S: Driveway/ Laurel Road
E/W: Ferry Road/ Pine Hill Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

File Name : 165250 A
Site Code : 2015-063
Start Date : 8/25/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Driveway From North				Ferry Road From East				Laurel Road From South				Pine Hill Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	0	0	0	9	0	0	0	0	2	0	0	9	0	0	20
07:15 AM	0	0	0	0	0	9	2	0	0	0	0	0	0	14	0	0	25
07:30 AM	0	0	0	0	2	12	0	0	0	0	1	0	0	15	0	0	30
07:45 AM	0	0	0	0	0	13	0	0	1	0	0	0	0	13	0	0	27
Total	0	0	0	0	2	43	2	0	1	0	3	0	0	51	0	0	102
08:00 AM	0	0	1	0	0	9	0	0	1	0	0	0	0	13	0	0	24
08:15 AM	0	0	0	0	0	15	0	0	0	0	0	0	1	7	0	0	23
08:30 AM	0	0	0	0	0	17	0	0	2	0	0	0	0	13	0	0	32
08:45 AM	0	0	0	0	0	16	1	0	2	0	0	0	2	24	0	0	45
Total	0	0	1	0	0	57	1	0	5	0	0	0	3	57	0	0	124
Grand Total	0	0	1	0	2	100	3	0	6	0	3	0	3	108	0	0	226
Apprch %	0	0	100	0	1.9	95.2	2.9	0	66.7	0	33.3	0	2.7	97.3	0	0	
Total %	0	0	0.4	0	0.9	44.2	1.3	0	2.7	0	1.3	0	1.3	47.8	0	0	
Cars	0	0	0	0	1	98	3	0	6	0	3	0	3	107	0	0	221
% Cars	0	0	0	0	50	98	100	0	100	0	100	0	100	99.1	0	0	97.8
Heavy Vehicles	0	0	1	0	1	2	0	0	0	0	0	0	0	1	0	0	5
% Heavy Vehicles	0	0	100	0	50	2	0	0	0	0	0	0	0	0.9	0	0	2.2

	Driveway From North					Ferry Road From East					Laurel Road From South					Pine Hill Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. 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	0	0	1	0	1	0	9	0	0	9	1	0	0	0	1	0	13	0	0	13	24
08:15 AM	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	1	7	0	0	8	23
08:30 AM	0	0	0	0	0	0	17	0	0	17	2	0	0	0	2	0	13	0	0	13	32
08:45 AM	0	0	0	0	0	0	16	1	0	17	2	0	0	0	2	2	24	0	0	26	45
Total Volume	0	0	1	0	1	0	57	1	0	58	5	0	0	0	5	3	57	0	0	60	124
% App. Total	0	0	100	0		0	98.3	1.7	0		100	0	0	0		5	95	0	0		
PHF	.000	.000	.250	.000	.250	.000	.838	.250	.000	.853	.625	.000	.000	.000	.625	.375	.594	.000	.000	.577	.689
Cars	0	0	0	0	0	0	57	1	0	58	5	0	0	0	5	3	56	0	0	59	122
% Cars	0	0	0	0	0	0	100	100	0	100	100	0	0	0	100	100	98.2	0	0	98.3	98.4
Heavy Vehicles	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
% Heavy Vehicles	0	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	1.8	0	0	1.7	1.6

N/S: Driveway/ Laurel Road
E/W: Ferry Road/ Pine Hill Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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File Name : 165250 A
Site Code : 2015-063
Start Date : 8/25/2016
Page No : 1

Groups Printed- Cars

	Driveway From North				Ferry Road From East				Laurel Road From South				Pine Hill Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	0	0	0	8	0	0	0	0	2	0	0	9	0	0	19
07:15 AM	0	0	0	0	0	9	2	0	0	0	0	0	0	14	0	0	25
07:30 AM	0	0	0	0	1	12	0	0	0	0	1	0	0	15	0	0	29
07:45 AM	0	0	0	0	0	12	0	0	1	0	0	0	0	13	0	0	26
Total	0	0	0	0	1	41	2	0	1	0	3	0	0	51	0	0	99
08:00 AM	0	0	0	0	0	9	0	0	1	0	0	0	0	12	0	0	22
08:15 AM	0	0	0	0	0	15	0	0	0	0	0	0	1	7	0	0	23
08:30 AM	0	0	0	0	0	17	0	0	2	0	0	0	0	13	0	0	32
08:45 AM	0	0	0	0	0	16	1	0	2	0	0	0	2	24	0	0	45
Total	0	0	0	0	0	57	1	0	5	0	0	0	3	56	0	0	122
Grand Total	0	0	0	0	1	98	3	0	6	0	3	0	3	107	0	0	221
Apprch %	0	0	0	0	1	96.1	2.9	0	66.7	0	33.3	0	2.7	97.3	0	0	
Total %	0	0	0	0	0.5	44.3	1.4	0	2.7	0	1.4	0	1.4	48.4	0	0	

	Driveway From North					Ferry Road From East					Laurel Road From South					Pine Hill Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. 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	0	0	0	0	0	0	9	0	0	9	1	0	0	0	1	0	12	0	0	12	22
08:15 AM	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	1	7	0	0	8	23
08:30 AM	0	0	0	0	0	0	17	0	0	17	2	0	0	0	2	0	13	0	0	13	32
08:45 AM	0	0	0	0	0	0	16	1	0	17	2	0	0	0	2	2	24	0	0	26	45
Total Volume	0	0	0	0	0	0	57	1	0	58	5	0	0	0	5	3	56	0	0	59	122
% App. Total	0	0	0	0		0	98.3	1.7	0		100	0	0	0		5.1	94.9	0	0		
PHF	.000	.000	.000	.000	.000	.000	.838	.250	.000	.853	.625	.000	.000	.000	.625	.375	.583	.000	.000	.567	.678

N/S: Driveway/ Laurel Road
E/W: Ferry Road/ Pine Hill Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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File Name : 165250 A
Site Code : 2015-063
Start Date : 8/25/2016
Page No : 1

Groups Printed- Heavy Vehicles

	Driveway From North				Ferry Road From East				Laurel Road From South				Pine Hill Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3
08:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
08:15 AM	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
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
Grand Total	0	0	1	0	1	2	0	0	0	0	0	0	0	1	0	0	5
Apprch %	0	0	100	0	33.3	66.7	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	20	0	20	40	0	0	0	0	0	0	0	20	0	0	

	Driveway From North					Ferry Road From East					Laurel Road From South					Pine Hill Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. 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	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	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total Volume	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	4
% App. Total	0	0	100	0		50	50	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.250	.000	.250	.250	.250	.000	.000	.500	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.500

N/S: Driveway/ Laurel Road
E/W: Ferry Road/ Pine Hill Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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File Name : 165250 A
Site Code : 2015-063
Start Date : 8/25/2016
Page No : 1

Groups Printed- Peds and Bikes

	Driveway From North					Ferry Road From East					Laurel Road From South					Pine Hill Road From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
07:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3
Total	0	0	0	2	0	0	4	0	0	0	0	0	0	0	1	0	2	0	0	0	9
08:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	3
08:45 AM	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	1	0	1	0	0	0	0	0	0	1	1	0	1	0	1	0	6
Grand Total	0	0	0	2	1	0	5	0	0	0	0	0	0	1	2	0	3	0	1	0	15
Apprch %	0	0	0	66.7	33.3	0	100	0	0	0	0	0	0	33.3	66.7	0	75	0	25	0	
Total %	0	0	0	13.3	6.7	0	33.3	0	0	0	0	0	0	6.7	13.3	0	20	0	6.7	0	

	Driveway From North						Ferry Road From East						Laurel Road From South						Pine Hill Road From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:00 AM																									
07:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	1	1	0	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
07:45 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
Total Volume	0	0	0	2	0	2	0	4	0	0	0	4	0	0	0	0	1	1	0	2	0	0	0	2	9
% App. Total	0	0	0	100	0		0	100	0	0	0		0	0	0	0	100		0	100	0	0	0		
PHF	.000	.000	.000	.250	.000	.250	.000	.500	.000	.000	.000	.500	.000	.000	.000	.000	.250	.250	.000	.500	.000	.000	.000	.500	.750

N/S: Driveway/ Laurel Road
E/W: Ferry Road/ Pine Hill Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

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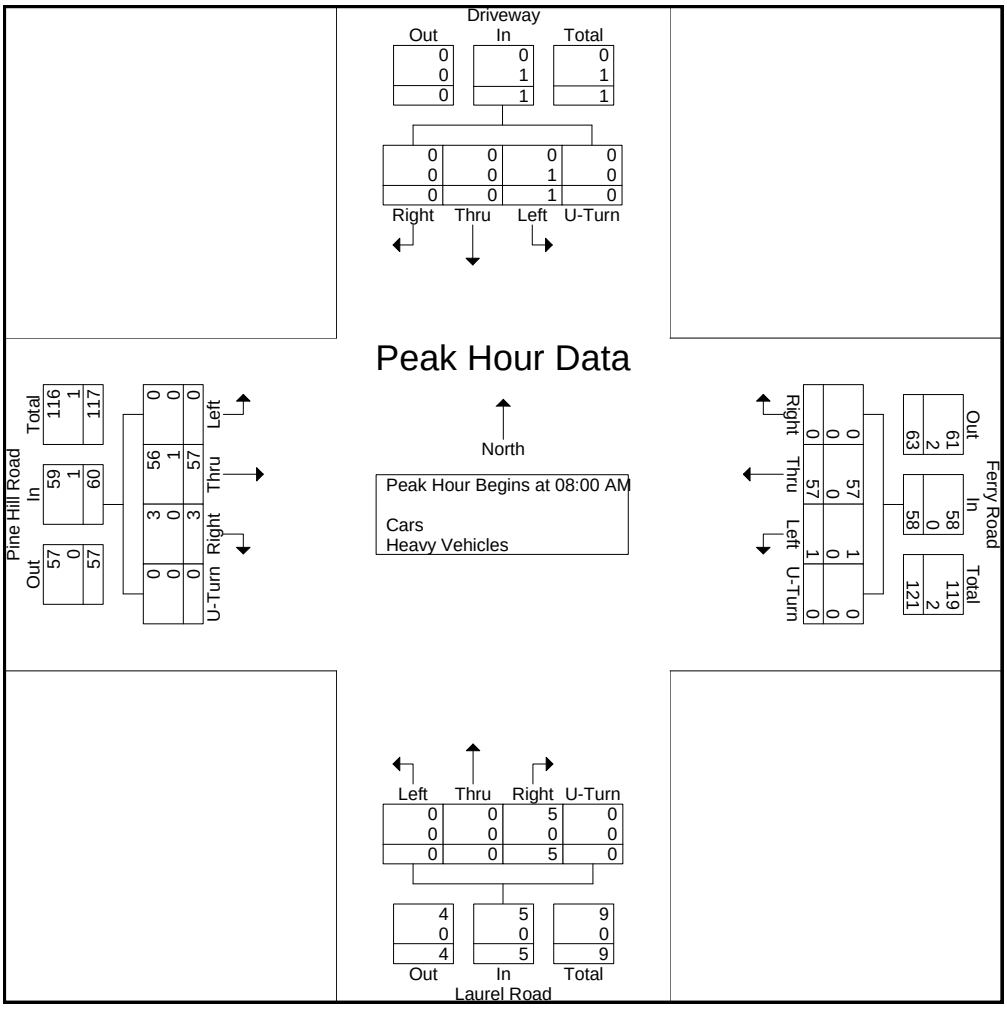
	Driveway From North					Ferry Road From East					Laurel Road From South					Pine Hill Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	1	0	1	0	9	0	0	9	1	0	0	0	1	0	13	0	0	13	24
08:15 AM	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	1	7	0	0	8	23
08:30 AM	0	0	0	0	0	0	17	0	0	17	2	0	0	0	2	0	13	0	0	13	32
08:45 AM	0	0	0	0	0	0	16	1	0	17	2	0	0	0	2	2	24	0	0	26	45
Total Volume	0	0	1	0	1	0	57	1	0	58	5	0	0	0	5	3	57	0	0	60	124
% App. Total	0	0	100	0		0	98.3	1.7	0		100	0	0	0		5	95	0	0		
PHF	.000	.000	.250	.000	.250	.000	.838	.250	.000	.853	.625	.000	.000	.000	.625	.375	.594	.000	.000	.577	.689
Cars	0	0	0	0	0	0	57	1	0	58	5	0	0	0	5	3	56	0	0	59	122
% Cars	0	0	0	0	0	0	100	100	0	100	100	0	0	0	100	100	98.2	0	0	98.3	98.4
Heavy Vehicles	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
% Heavy Vehicles	0	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	1.8	0	0	1.7	1.6



N/S: Driveway/ Laurel Road
E/W: Ferry Road/ Pine Hill Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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File Name : 165250 AA
Site Code : 2015-063
Start Date : 8/25/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Driveway From North				Ferry Road From East				Laurel Road From South				Pine Hill Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	0	31	6	0	1	0	1	0	0	18	0	0	57
04:15 PM	0	0	0	0	0	25	1	0	0	0	0	0	1	11	0	0	38
04:30 PM	0	0	0	0	0	24	2	0	1	0	0	0	0	18	0	0	45
04:45 PM	0	0	0	0	0	18	5	0	1	0	0	0	0	15	0	0	39
Total	0	0	0	0	0	98	14	0	3	0	1	0	1	62	0	0	179
05:00 PM	0	0	0	0	0	24	2	0	1	0	0	0	0	25	0	0	52
05:15 PM	0	0	0	0	0	24	2	0	2	0	0	0	0	19	0	0	47
05:30 PM	0	0	0	0	0	25	1	0	2	0	0	0	0	12	0	0	40
05:45 PM	0	0	0	0	0	17	3	0	4	0	0	0	1	16	0	0	41
Total	0	0	0	0	0	90	8	0	9	0	0	0	1	72	0	0	180
Grand Total	0	0	0	0	0	188	22	0	12	0	1	0	2	134	0	0	359
Apprch %	0	0	0	0	0	89.5	10.5	0	92.3	0	7.7	0	1.5	98.5	0	0	
Total %	0	0	0	0	0	52.4	6.1	0	3.3	0	0.3	0	0.6	37.3	0	0	
Cars	0	0	0	0	0	188	22	0	12	0	1	0	1	134	0	0	358
% Cars	0	0	0	0	0	100	100	0	100	0	100	0	50	100	0	0	99.7
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0.3

	Driveway From North					Ferry Road From East					Laurel Road From South					Pine Hill Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	24	2	0	26	1	0	0	0	1	0	18	0	0	18	45
04:45 PM	0	0	0	0	0	0	18	5	0	23	1	0	0	0	1	0	15	0	0	15	39
05:00 PM	0	0	0	0	0	0	24	2	0	26	1	0	0	0	1	0	25	0	0	25	52
05:15 PM	0	0	0	0	0	0	24	2	0	26	2	0	0	0	2	0	19	0	0	19	47
Total Volume	0	0	0	0	0	0	90	11	0	101	5	0	0	0	5	0	77	0	0	77	183
% App. Total	0	0	0	0		0	89.1	10.9	0		100	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.938	.550	.000	.971	.625	.000	.000	.000	.625	.000	.770	.000	.000	.770	.880
Cars	0	0	0	0	0	0	90	11	0	101	5	0	0	0	5	0	77	0	0	77	183
% Cars	0	0	0	0	0	0	100	100	0	100	100	0	0	0	100	0	100	0	0	100	100
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

N/S: Driveway/ Laurel Road
E/W: Ferry Road/ Pine Hill Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

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Page No : 1

Groups Printed- Cars

	Driveway From North				Ferry Road From East				Laurel Road From South				Pine Hill Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	0	31	6	0	1	0	1	0	0	18	0	0	57
04:15 PM	0	0	0	0	0	25	1	0	0	0	0	0	1	11	0	0	38
04:30 PM	0	0	0	0	0	24	2	0	1	0	0	0	0	18	0	0	45
04:45 PM	0	0	0	0	0	18	5	0	1	0	0	0	0	15	0	0	39
Total	0	0	0	0	0	98	14	0	3	0	1	0	1	62	0	0	179
05:00 PM	0	0	0	0	0	24	2	0	1	0	0	0	0	25	0	0	52
05:15 PM	0	0	0	0	0	24	2	0	2	0	0	0	0	19	0	0	47
05:30 PM	0	0	0	0	0	25	1	0	2	0	0	0	0	12	0	0	40
05:45 PM	0	0	0	0	0	17	3	0	4	0	0	0	0	16	0	0	40
Total	0	0	0	0	0	90	8	0	9	0	0	0	0	72	0	0	179
Grand Total	0	0	0	0	0	188	22	0	12	0	1	0	1	134	0	0	358
Apprch %	0	0	0	0	0	89.5	10.5	0	92.3	0	7.7	0	0.7	99.3	0	0	
Total %	0	0	0	0	0	52.5	6.1	0	3.4	0	0.3	0	0.3	37.4	0	0	

	Driveway From North					Ferry Road From East					Laurel Road From South					Pine Hill Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	24	2	0	26	1	0	0	0	1	0	18	0	0	18	45
04:45 PM	0	0	0	0	0	0	18	5	0	23	1	0	0	0	1	0	15	0	0	15	39
05:00 PM	0	0	0	0	0	0	24	2	0	26	1	0	0	0	1	0	25	0	0	25	52
05:15 PM	0	0	0	0	0	0	24	2	0	26	2	0	0	0	2	0	19	0	0	19	47
Total Volume	0	0	0	0	0	0	90	11	0	101	5	0	0	0	5	0	77	0	0	77	183
% App. Total	0	0	0	0		0	89.1	10.9	0		100	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.938	.550	.000	.971	.625	.000	.000	.000	.625	.000	.770	.000	.000	.770	.880

N/S: Driveway/ Laurel Road
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Start Date : 8/25/2016
Page No : 1

Groups Printed- Heavy Vehicles

	Driveway From North				Ferry Road From East				Laurel Road From South				Pine Hill Road From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	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
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	

	Driveway From North					Ferry Road From East					Laurel Road From South					Pine Hill Road From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.250

N/S: Driveway/ Laurel Road
E/W: Ferry Road/ Pine Hill Road
City, State: Newburyport, MA
Client: Design Consultants/ S. Siragusa

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File Name : 165250 AA
Site Code : 2015-063
Start Date : 8/25/2016
Page No : 1

Groups Printed- Peds and Bikes

	Driveway From North					Ferry Road From East					Laurel Road From South					Pine Hill Road From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0	0	2	0	0	0	6
05:00 PM	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	1	1	0	0	0	0	0	6
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	7	0	0	0	0	0	0	1	3	0	0	0	0	0	12
Grand Total	0	0	0	0	1	0	7	1	0	0	0	0	0	4	3	0	2	0	0	0	18
Apprch %	0	0	0	0	100	0	87.5	12.5	0	0	0	0	0	57.1	42.9	0	100	0	0	0	
Total %	0	0	0	0	5.6	0	38.9	5.6	0	0	0	0	0	22.2	16.7	0	11.1	0	0	0	

	Driveway From North						Ferry Road From East						Laurel Road From South						Pine Hill Road From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:45 PM																									
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	3
05:00 PM	0	0	0	0	1	1	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	1	1	2	0	0	0	0	0	0	6
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
Total Volume	0	0	0	0	1	1	0	6	0	0	0	6	0	0	0	4	3	7	0	0	0	0	0	0	14
% App. Total	0	0	0	0	100		0	100	0	0	0		0	0	0	57.1	42.9		0	0	0	0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.375	.000	.000	.000	.375	.000	.000	.000	.333	.375	.583	.000	.000	.000	.000	.000	.000	.583

N/S: Driveway/ Laurel Road
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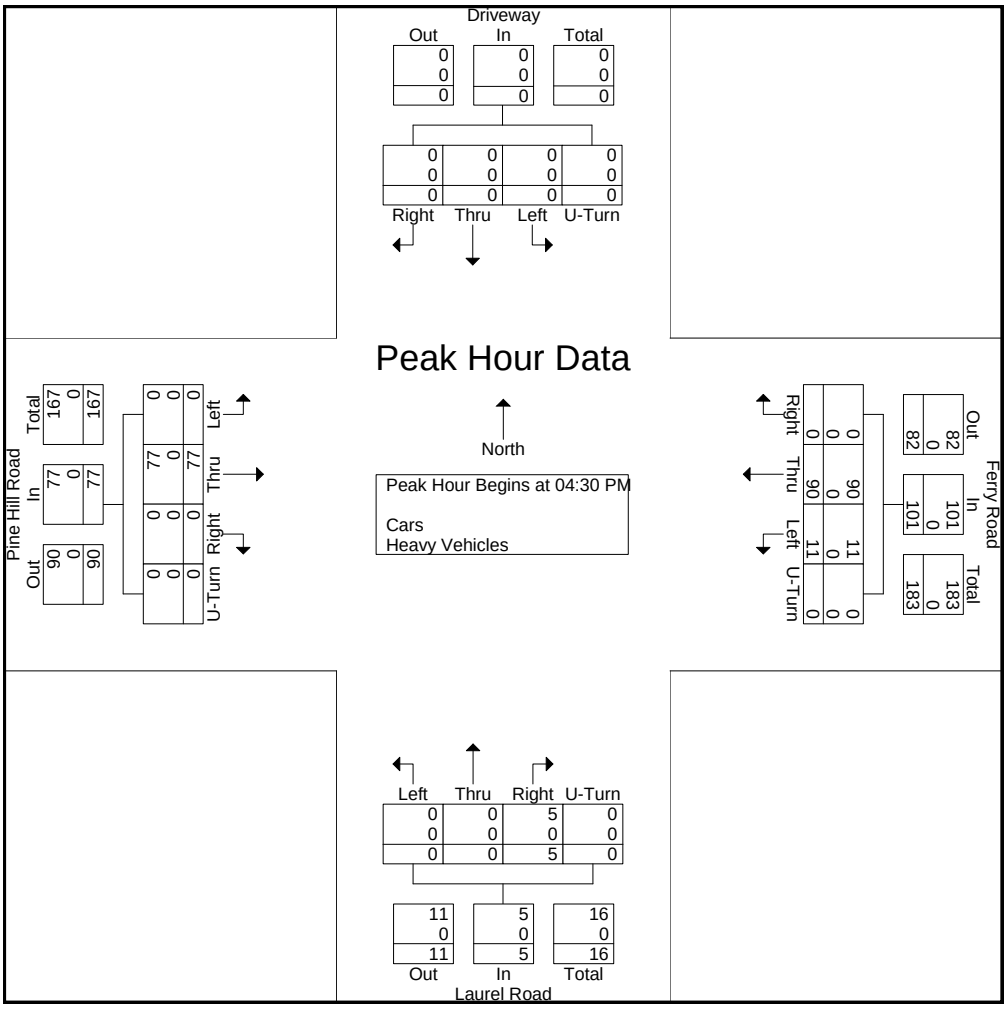
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	24	2	0	26	1	0	0	0	1	0	18	0	0	18	45
04:45 PM	0	0	0	0	0	0	18	5	0	23	1	0	0	0	1	0	15	0	0	15	39
05:00 PM	0	0	0	0	0	0	24	2	0	26	1	0	0	0	1	0	25	0	0	25	52
05:15 PM	0	0	0	0	0	0	24	2	0	26	2	0	0	0	2	0	19	0	0	19	47
Total Volume	0	0	0	0	0	0	90	11	0	101	5	0	0	0	5	0	77	0	0	77	183
% App. Total	0	0	0	0		0	89.1	10.9	0		100	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.938	.550	.000	.971	.625	.000	.000	.000	.625	.000	.770	.000	.000	.770	.880
Cars	0	0	0	0	0	0	90	11	0	101	5	0	0	0	5	0	77	0	0	77	183
% Cars	0	0	0	0	0	0	100	100	0	100	100	0	0	0	100	0	100	0	0	100	100
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



APPENDIX B – HISTORICAL DATA

Count Station 5258 I-95 West Newbury

Year 2015-2016

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
56820	58518	58222	61914	68786	72242	81093	81471	75387	68554	62407	61277

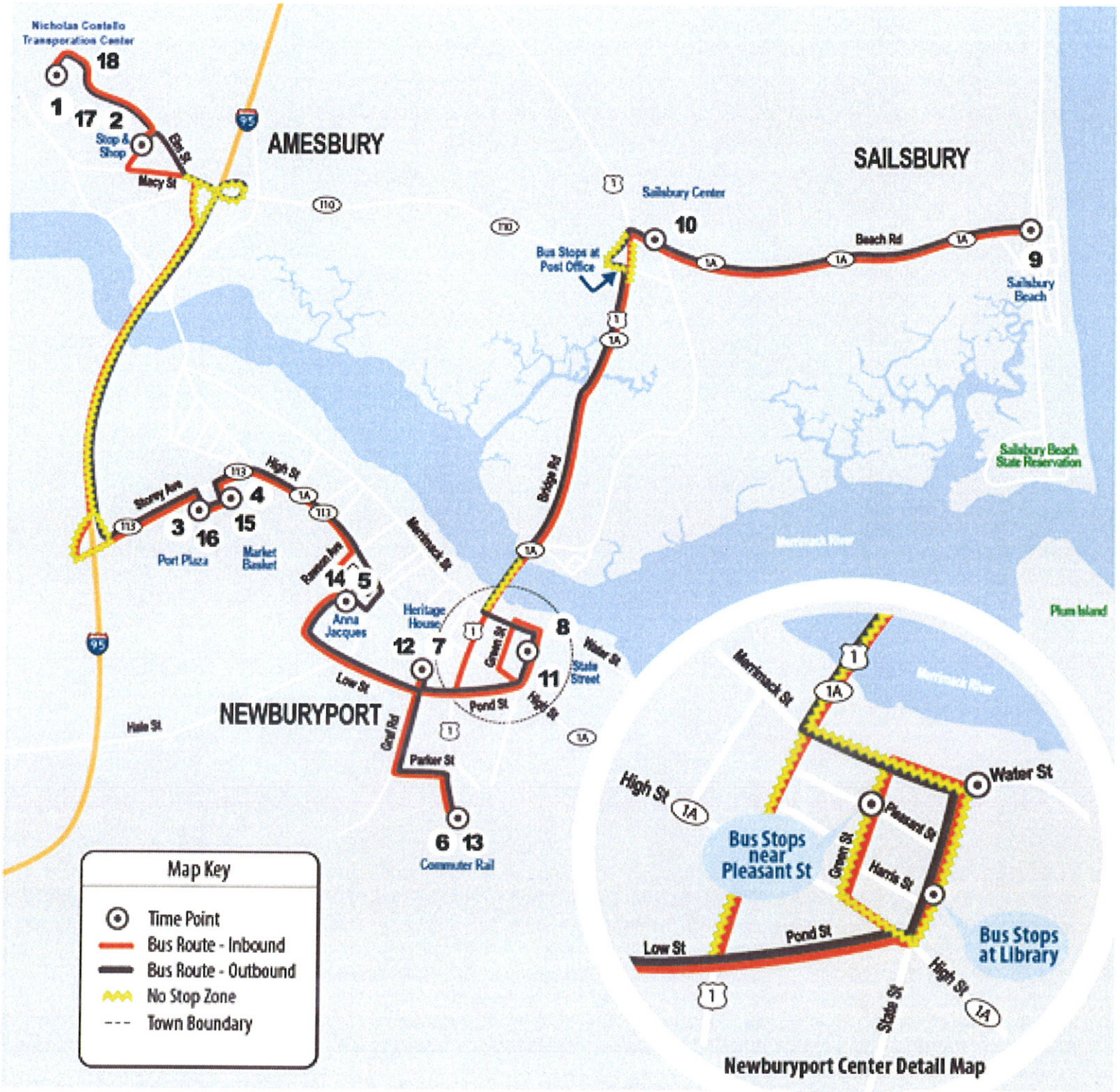
Monthly Avg. 67224

June Avg.	72242		
Total Avg.	67224	1.0746	-0.0746
			(- 7.46%)

Aug Avg.	81471		
Total Avg.	67224	1.2119	-0.2119
			(- 21.2%)

APPENDIX C – MULTI-MODAL TRANSPORTATION

MVRTA


Nicholas Costello Transportation Center
18
1
17
2
Stop & Shop
Elm St
Macy St
AMESBURY
SAILSBURY
Salisbury Center
10
Bus Stops at Post Office
Beach Rd
9
Salisbury Beach
Salisbury Beach State Reservation
Merrimack River
Plum Island
Bridge Rd
Merrimack St
High St
Storey Ave
3
16
Port Plaza
4
15
Market Basket
Dummer Ave
14
5
Anna Jacques
Heritage House
12
7
Green St
8
11
State Street
Water St
Low St
Pond St
NEWBURYPORT
Hale St
Graf Rd
Parker St
6
13
Commuter Rail
Map Key
Time Point
Bus Route - Inbound
Bus Route - Outbound
No Stop Zone
Town Boundary
Water St
Pleasant St
Harris St
Bus Stops near Pleasant St
Bus Stops at Library
State St
Newburyport Center Detail Map

Route # 54: Amesbury-Newburyport-Salisbury

Printable Map PDF (0.89MB)

Effective July 23, 2012

View Inbound/Outbound Map

OUTBOUND SCHEDULE

	1	2	3	4	5	6	7	8	9
	Bus Starts at Costello Transportation Center	**Bus Leaves** from Stop & Shop	**Bus Leaves** from Port Plaza	**Bus Leaves** from Market Basket	**Bus Leaves** from Anna Jacques	**Bus Leaves** from Commuter Rail	**Bus Leaves** from Heritage House	**Bus Leaves** from State Street	**Bus Ends** at Salisbury Beach
WEEKDAYS									
AM	6:23	-	6:28	6:35	-	6:40	6:43	6:53	7:08
	7:23	7:26	-	-	-	7:35	7:38	7:48	8:03
	8:48	8:51	8:59	9:04	9:11	9:17	9:20	9:30	9:45
	9:58	10:01	10:09	10:14	10:21	10:27	10:30	10:40	10:55
PM	11:08	11:11	11:19	11:24	11:31	11:37	11:40	11:50	12:05
	12:18	12:21	12:29	12:34	12:41	12:47	12:50	1:00	1:15
	1:28	1:31	1:39	1:44	1:51	1:57	2:00	2:10	2:25
	2:38	2:41	2:49	2:54	3:01	3:07	3:10	3:20	3:35
	3:48	3:51	3:59	4:04	4:11	4:17	4:20	4:30	4:45
	4:58	5:01	5:09	5:14	5:21	5:27	5:30	5:40	5:55
	6:08	6:11	6:19	6:24	6:31	6:37	6:40	6:50	7:05
SATURDAY									
AM	8:48	8:51	8:59	9:04	9:11	9:17	9:20	9:30	9:45
	9:58	10:01	10:09	10:14	10:21	10:27	10:30	10:40	10:55
PM	11:08	11:11	11:19	11:24	11:31	11:37	11:40	11:50	12:05
	12:18	12:21	12:29	12:34	12:41	12:47	12:50	1:00	1:15
	1:28	1:31	1:39	1:44	1:51	1:57	2:00	2:10	2:25
	2:38	2:41	2:49	2:54	3:01	3:07	3:10	3:20	3:35
	3:48	3:51	3:59	4:04	4:11	4:17	4:20	4:30	4:45
	4:58	5:01	5:09	5:14	5:21	5:27	5:30	5:40	5:55
	6:08	6:11	6:19	6:24	6:31	6:37	6:40	6:50	7:05

INBOUND SCHEDULE

	9	10	11	12	13	14	15	16	17	18	
	Bus Starts at Salisbury Beach	**Bus Leaves** from Salisbury Center	**Bus Leaves** from State Street	**Bus Leaves** from Heritage House	**Bus Leaves** from Commuter Rail	**Bus Leaves** from Anna Jaques	**Bus Leaves** from Market Basket	**Bus Leaves** from Port Plaza	**Bus Leaves** at Stop and Shop	**Bus Ends** at Costello Transportation Center	**Bus Continues** on as Route:
WEEKDAYS											
AM	-	-	5:00	-	5:05	-	5:12	5:16	5:21	5:32	51
	6:24	6:30	6:40	6:50	6:53	6:59	7:06	7:15	7:20	7:22	51
	7:28	7:34	7:44	7:54	7:57	8:03	8:10	8:19	8:24	8:26	51
	8:23	8:29	8:39	8:49	8:52	8:58	9:05	9:14	9:19	9:21	51
	9:54	10:00	10:10	10:20	10:23	10:29	10:36	10:45	10:50	10:52	51
PM	11:04	11:10	11:20	11:30	11:33	11:39	11:46	11:55	12:00	12:02	51
	12:14	12:20	12:30	12:40	12:43	12:49	12:56	1:05	1:10	1:12	51
	1:24	1:30	1:40	1:50	1:53	1:59	2:06	2:15	2:20	2:22	51
	2:34	2:40	2:50	3:00	3:03	3:09	3:16	3:25	3:30	3:32	51
	3:44	3:50	4:00	4:10	4:13	4:19	4:26	4:35	4:40	4:42	51
	4:54	5:00	5:10	5:20	5:23	5:29	5:36	5:45	5:50	5:52	51
	6:04	6:10	6:20	6:30	6:33	6:39	6:46	6:55	7:00	7:02	51
SATURDAY											

AM	7:34	7:40	7:50	8:00	8:03	8:09	8:16	8:25	8:30	8:32	51
	8:44	8:50	9:00	9:10	9:13	9:19	9:26	9:35	9:40	9:42	51
	9:54	10:00	10:10	10:20	10:23	10:29	10:36	10:45	10:50	10:52	51
PM	11:04	11:10	11:20	11:30	11:33	11:39	11:46	11:55	12:00	12:02	51
	12:14	12:20	12:30	12:40	12:43	12:49	12:56	1:05	1:10	1:12	51
	1:24	1:30	1:40	1:50	1:53	1:59	2:06	2:15	2:20	2:22	51
	2:34	2:40	2:50	3:00	3:03	3:09	3:16	3:25	3:30	3:32	51
	3:44	3:50	4:00	4:10	4:13	4:19	4:26	4:35	4:40	4:42	51
	4:54	5:00	5:10	5:20	5:23	5:29	5:36	5:45	5:50	5:52	51
	6:04	6:10	6:20	6:30	6:33	6:39	6:46	6:55	7:00	7:02	51

APPENDIX D – TRIP GENERATION

Proposed Land Use

Land Use Code: 210	Single-Family Detached Housing		
	AM	PM	Daily
Size (Dwelling Units - X)	38	38	38
Fitted Curve Equation	T = 0.70(X) + 9.74	Ln(T) = 0.90 * Ln(X) + 0.51	Ln(T) = 0.92 * Ln(X) + 2.72
Total Trips (T)	**36**	**44**	**432**
Entering%	25%	63%	50%
Exiting%	75%	37%	50%
Entering Trips	9	28	216
Exiting Trips	27	16	216

ProposedLand Use

Land Use Code: 210	Single-Family Detached Housing		
	AM	PM	Daily
Size (Dwelling Units)	44	44	44
Fitted Curve Equation	T = 0.70(X) + 9.74	Ln(T) = 0.90 * Ln(X) + 0.51	Ln(T) = 0.92 * Ln(X) + 2.72
Total Trips	**41**	**51**	**494**
Entering%	25%	63%	50%
Exiting%	75%	37%	50%
Entering Trips	10	32	247
Exiting Trips	31	19	247

MEANS OF TRANSPORTATION TO WORK	
Car, truck, or van	80.8%
Drove alone	77.1%
Carpooled:	3.7%
In 2-person carpool	2.8%
In 3-person carpool	0.7%
In 4 person carpool	0.2%
Public transportation (excluding taxicab)	6.8%
Bicycle	0.9%
Walked	5.1%
Other means	1.3%
Worked at home	5.0%

# Occupants	AVO Weight	
Drove Alone	0.771	1
Carpool (2)	0.028	2
Carpool (3)	0.007	3
Carpool (4)	0.002	4
AVO	**1.1**	

APPENDIX D – SAFETY ANALYSIS

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Newburyport COUNT DATE : Aug-16

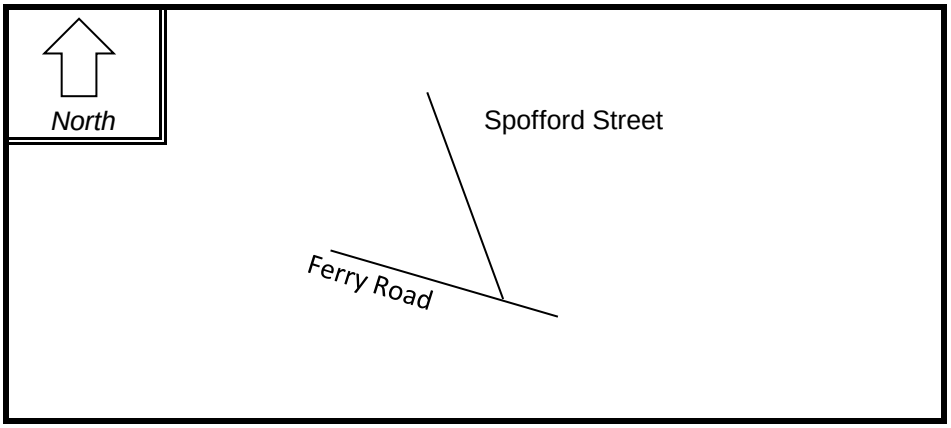
DISTRICT : 4 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Ferry Road

MINOR STREET(S) : Spofford Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	SB	WB			
PEAK HOURLY VOLUMES (PM) :	125	260	348			**733**

" K " FACTOR : **0.090** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **8,144**

TOTAL # OF CRASHES : 1 # OF YEARS : 4 AVERAGE # OF CRASHES PER YEAR (**A**) : **0.25**

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

Comments :

Project Title & Date: 18 Boyd Drive

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Newburyport COUNT DATE : Aug-16

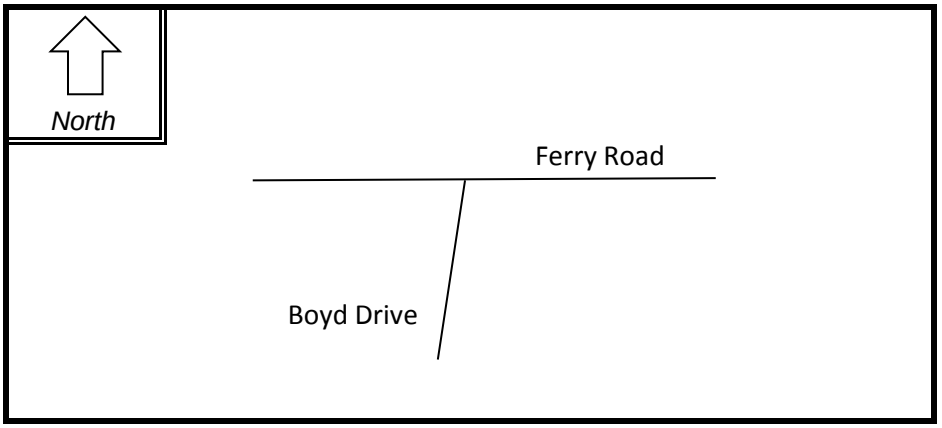
DISTRICT : 4 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Ferry Road

MINOR STREET(S) : Boyd Drive

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	NB	WB			
PEAK HOURLY VOLUMES (PM) :	233	11	375			**619**

" K " FACTOR : **0.090** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **6,878**

TOTAL # OF CRASHES : 0 # OF YEARS : 4 AVERAGE # OF CRASHES PER YEAR (**A**) : **0.00**

CRASH RATE CALCULATION : **0.00** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date: 18 Boyd Drive

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Newburyport COUNT DATE : Aug-16

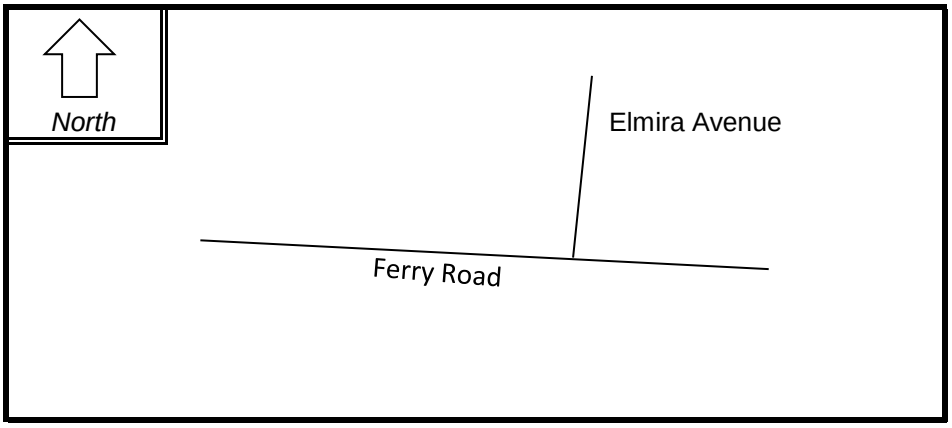
DISTRICT : 4 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Ferry Road

MINOR STREET(S) : Elmira Avenue

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	SB	WB			
PEAK HOURLY VOLUMES (PM) :	235	7	378			**620**

" K " FACTOR : **0.090** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **6,889**

TOTAL # OF CRASHES : 0 # OF YEARS : 4 AVERAGE # OF CRASHES PER YEAR (**A**) : **0.00**

CRASH RATE CALCULATION : **0.00** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date: 18 Boyd Drive

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Newburyport COUNT DATE : Aug-16

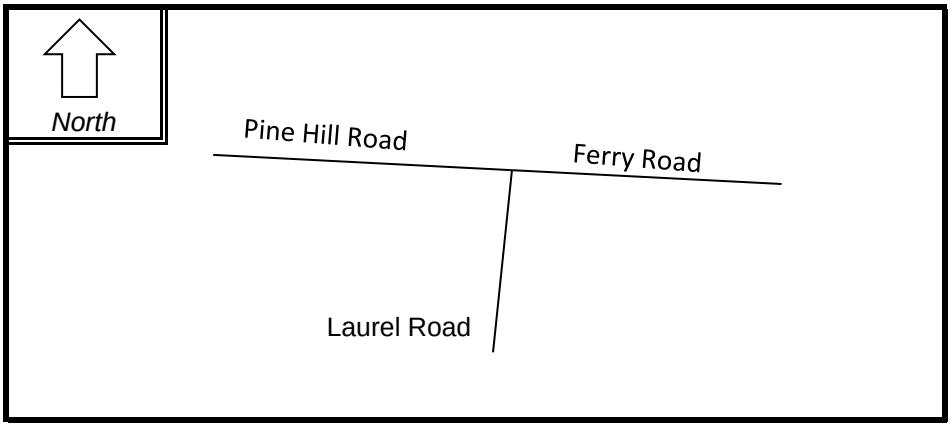
DISTRICT : 4 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Ferry Road/Pine Hill Road

MINOR STREET(S) : Laurel Road

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	NB	WB			
PEAK HOURLY VOLUMES (PM) :	77	5	101			183

" K " FACTOR : **0.090** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **2,033**

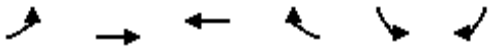
TOTAL # OF CRASHES : 0 # OF YEARS : 4 AVERAGE # OF CRASHES PER YEAR (**A**) : **0.00**

CRASH RATE CALCULATION : **0.00** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

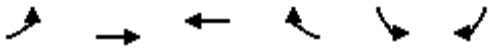
Project Title & Date: 18 Boyd Drive

APPENDIX E – CAPACITY ANALYSIS



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	48	24	104	244	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.891			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1603	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1603	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		114	157		92	
Travel Time (s)		2.6	3.6		2.1	
Peak Hour Factor	0.92	0.86	0.75	0.79	0.95	0.92
Heavy Vehicles (%)	0%	0%	8%	5%	2%	0%
Adj. Flow (vph)	0	56	32	132	257	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	56	164	0	257	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Yield		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Stop	
Volume (vph)	0	48	24	104	244	0
Peak Hour Factor	0.92	0.86	0.75	0.79	0.95	0.92
Hourly flow rate (vph)	0	56	32	132	257	0

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	56	164	257
Volume Left (vph)	0	0	257
Volume Right (vph)	0	132	0
Hadj (s)	0.00	-0.39	0.23
Departure Headway (s)	4.7	4.2	4.6
Degree Utilization, x	0.07	0.19	0.33
Capacity (veh/h)	704	797	747
Control Delay (s)	8.1	8.2	9.9
Approach Delay (s)	8.1	8.2	9.9
Approach LOS	A	A	A

Intersection Summary			
Delay	9.1		
HCM Level of Service	A		
Intersection Capacity Utilization	27.9%	ICU Level of Service	A
Analysis Period (min)	15		

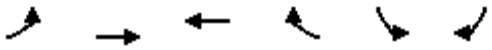
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	272	7	4	134	2	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993				0.899	
Flt Protected				0.998	0.988	
Satd. Flow (prot)	1885	0	0	1844	1592	0
Flt Permitted				0.998	0.988	
Satd. Flow (perm)	1885	0	0	1844	1592	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	157			109	358	
Travel Time (s)	3.6			2.5	8.1	
Peak Hour Factor	0.90	0.44	0.50	0.85	0.25	0.50
Heavy Vehicles (%)	0%	2%	0%	3%	0%	8%
Adj. Flow (vph)	302	16	8	158	8	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	318	0	0	166	32	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	272	7	4	134	2	12
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.44	0.50	0.85	0.25	0.50
Hourly flow rate (vph)	302	16	8	158	8	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			318		484	310
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			318		484	310
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			99		99	97
cM capacity (veh/h)			1253		542	716

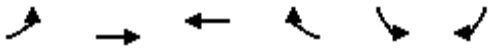
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	318	166	32
Volume Left	0	8	8
Volume Right	16	0	24
cSH	1700	1253	663
Volume to Capacity	0.19	0.01	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.4	10.7
Lane LOS		A	B
Approach Delay (s)	0.0	0.4	10.7
Approach LOS			B

Intersection Summary			
Average Delay		0.8	
Intersection Capacity Utilization		24.7%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	284	136	3	6	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.991		0.955	
Flt Protected					0.968	
Satd. Flow (prot)	0	1863	1832	0	1756	0
Flt Permitted					0.968	
Satd. Flow (perm)	0	1863	1832	0	1756	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		110	853		331	
Travel Time (s)		2.5	19.4		7.5	
Peak Hour Factor	0.25	0.90	0.85	0.25	0.75	0.50
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	0	316	160	12	8	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	316	172	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	284	136	3	6	2
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.25	0.90	0.85	0.25	0.75	0.50
Hourly flow rate (vph)	0	316	160	12	8	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	172				482	166
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	172				482	166
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1417				547	884

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	316	172	12
Volume Left	0	0	8
Volume Right	0	12	4
cSH	1417	1700	627
Volume to Capacity	0.00	0.10	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	10.9
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.9
Approach LOS			B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	24.9%	ICU Level of Service	A
Analysis Period (min)	15		

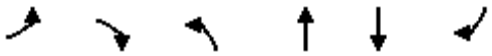
Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (vph)	0	28	52	48	24	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected				0.972		
Satd. Flow (prot)	0	1481	0	1826	1759	0
Flt Permitted				0.972		
Satd. Flow (perm)	0	1481	0	1826	1759	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			227	114	
Travel Time (s)	2.0			5.2	2.6	
Peak Hour Factor	0.92	0.78	0.68	0.86	0.75	0.92
Heavy Vehicles (%)	0%	11%	2%	0%	8%	0%
Adj. Flow (vph)	0	36	76	56	32	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	36	0	132	32	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Yield	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 15.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	0	28	52	48	24	0
Sign Control	Stop			Yield	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.78	0.68	0.86	0.75	0.92
Hourly flow rate (vph)	0	36	76	56	32	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	158	64	64	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	158	64	64	0	0	
tC, single (s)	7.1	6.6	6.5	6.2	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.1	4.0	3.3	2.3	
p0 queue free %	100	95	91	95	98	
cM capacity (veh/h)	704	793	810	1091	1585	

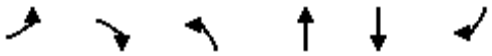
Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	36	132	32
Volume Left	0	0	32
Volume Right	0	56	0
cSH	793	909	1585
Volume to Capacity	0.05	0.15	0.02
Queue Length 95th (ft)	4	13	2
Control Delay (s)	9.8	9.6	7.3
Lane LOS	A	A	A
Approach Delay (s)	9.8	9.6	7.3
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.3		
Intersection Capacity Utilization	15.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	52	0	0	104	244	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.983	
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1810	1811	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1810	1811	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			92	471	
Travel Time (s)	2.0			2.1	10.7	
Peak Hour Factor	0.68	0.25	0.25	0.79	0.95	0.78
Heavy Vehicles (%)	2%	0%	0%	5%	2%	11%
Adj. Flow (vph)	76	0	0	132	257	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	0	132	293	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	52	0	0	104	244	28
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.68	0.25	0.25	0.79	0.95	0.78
Hourly flow rate (vph)	76	0	0	132	257	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	406	275	293			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	406	275	293			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	100	100			
cM capacity (veh/h)	601	769	1280			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	132	293
Volume Left	76	0	0
Volume Right	0	0	36
cSH	601	1700	1700
Volume to Capacity	0.13	0.08	0.17
Queue Length 95th (ft)	11	0	0
Control Delay (s)	11.9	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.9	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	24.5%	ICU Level of Service	A
Analysis Period (min)	15		

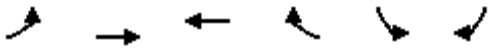
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	57	3	1	57	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.990				0.865	
Flt Protected				0.997		
Satd. Flow (prot)	1847	0	0	1894	1644	0
Flt Permitted				0.997		
Satd. Flow (perm)	1847	0	0	1894	1644	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	252			849	307	
Travel Time (s)	5.7			19.3	7.0	
Peak Hour Factor	0.59	0.38	0.25	0.84	0.92	0.63
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%
Adj. Flow (vph)	97	8	4	68	0	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	0	0	72	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	57	3	1	57	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.59	0.38	0.25	0.84	0.92	0.63
Hourly flow rate (vph)	97	8	4	68	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			105		176	101
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			105		176	101
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1500		816	960

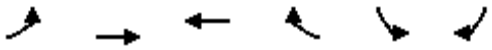
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	105	72	8
Volume Left	0	4	0
Volume Right	8	0	8
cSH	1700	1500	960
Volume to Capacity	0.06	0.00	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.4	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	0.4	8.8
Approach LOS			A

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		13.8%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	66	57	291	200	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.887			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1598	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1598	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		114	157		92	
Travel Time (s)		2.6	3.6		2.1	
Peak Hour Factor	0.92	0.79	0.79	0.79	0.73	0.92
Heavy Vehicles (%)	0%	0%	8%	5%	2%	0%
Adj. Flow (vph)	0	84	72	368	274	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	84	440	0	274	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Yield		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Stop	
Volume (vph)	0	66	57	291	200	0
Peak Hour Factor	0.92	0.79	0.79	0.79	0.73	0.92
Hourly flow rate (vph)	0	84	72	368	274	0

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	84	441	274
Volume Left (vph)	0	0	274
Volume Right (vph)	0	368	0
Hadj (s)	0.00	-0.41	0.23
Departure Headway (s)	5.2	4.4	5.3
Degree Utilization, x	0.12	0.54	0.41
Capacity (veh/h)	632	784	624
Control Delay (s)	8.9	12.4	12.0
Approach Delay (s)	8.9	12.4	12.0
Approach LOS	A	B	B

Intersection Summary			
Delay	11.9		
HCM Level of Service	B		
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

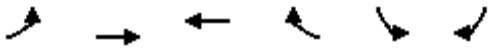
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	229	4	15	360	5	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994				0.919	
Flt Protected				0.998	0.980	
Satd. Flow (prot)	1887	0	0	1843	1633	0
Flt Permitted				0.998	0.980	
Satd. Flow (perm)	1887	0	0	1843	1633	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	157			109	358	
Travel Time (s)	3.6			2.5	8.1	
Peak Hour Factor	0.88	0.33	0.75	0.88	0.63	0.50
Heavy Vehicles (%)	0%	2%	0%	3%	0%	8%
Adj. Flow (vph)	260	12	20	409	8	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	272	0	0	429	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.1%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	229	4	15	360	5	6
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.33	0.75	0.88	0.63	0.50
Hourly flow rate (vph)	260	12	20	409	8	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			272		715	266
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			272		715	266
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			98		98	98
cM capacity (veh/h)			1303		394	758

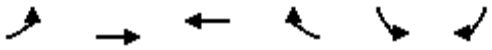
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	272	429	20
Volume Left	0	20	8
Volume Right	12	0	12
cSH	1700	1303	554
Volume to Capacity	0.16	0.02	0.04
Queue Length 95th (ft)	0	1	3
Control Delay (s)	0.0	0.5	11.7
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	11.7
Approach LOS			B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	1	234	374	4	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.995		0.955	
Flt Protected		0.999			0.968	
Satd. Flow (prot)	0	1861	1837	0	1756	0
Flt Permitted		0.999			0.968	
Satd. Flow (perm)	0	1861	1837	0	1756	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		110	853		331	
Travel Time (s)		2.5	19.4		7.5	
Peak Hour Factor	0.25	0.88	0.88	0.25	0.75	0.25
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	4	266	425	16	8	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	270	441	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	234	374	4	6	1
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.25	0.88	0.88	0.25	0.75	0.25
Hourly flow rate (vph)	4	266	425	16	8	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	441				707	433
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	441				707	433
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	99
cM capacity (veh/h)	1130				403	627

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	270	441	12
Volume Left	4	0	8
Volume Right	0	16	4
cSH	1130	1700	458
Volume to Capacity	0.00	0.26	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.2	0.0	13.1
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	13.1
Approach LOS			B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	29.9%	ICU Level of Service	A
Analysis Period (min)	15		

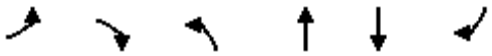
Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (vph)	0	60	59	66	57	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected				0.977		
Satd. Flow (prot)	0	1481	0	1839	1759	0
Flt Permitted				0.977		
Satd. Flow (perm)	0	1481	0	1839	1759	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			227	114	
Travel Time (s)	2.0			5.2	2.6	
Peak Hour Factor	0.92	0.75	0.82	0.79	0.79	0.92
Heavy Vehicles (%)	0%	11%	2%	0%	8%	0%
Adj. Flow (vph)	0	80	72	84	72	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	80	0	156	72	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Yield	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	0	60	59	66	57	0
Sign Control	Stop			Yield	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.75	0.82	0.79	0.79	0.92
Hourly flow rate (vph)	0	80	72	84	72	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	264	144	144	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	264	144	144	0	0	
tC, single (s)	7.1	6.6	6.5	6.2	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.1	4.0	3.3	2.3	
p0 queue free %	100	89	90	92	95	
cM capacity (veh/h)	570	697	713	1091	1585	

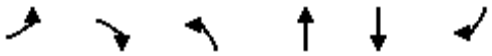
Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	80	155	72
Volume Left	0	0	72
Volume Right	0	84	0
cSH	697	876	1585
Volume to Capacity	0.11	0.18	0.05
Queue Length 95th (ft)	10	16	4
Control Delay (s)	10.8	10.0	7.4
Lane LOS	B	A	A
Approach Delay (s)	10.8	10.0	7.4
Approach LOS	B	A	

Intersection Summary			
Average Delay	9.6		
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	59	0	0	291	200	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.969	
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1810	1770	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1810	1770	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			92	471	
Travel Time (s)	2.0			2.1	10.7	
Peak Hour Factor	0.82	0.25	0.25	0.79	0.73	0.75
Heavy Vehicles (%)	2%	0%	0%	5%	2%	11%
Adj. Flow (vph)	72	0	0	368	274	80
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	0	0	368	354	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	59	0	0	291	200	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.25	0.25	0.79	0.73	0.75
Hourly flow rate (vph)	72	0	0	368	274	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	682	314	354			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	682	314	354			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	83	100	100			
cM capacity (veh/h)	415	731	1216			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	72	368	354
Volume Left	72	0	0
Volume Right	0	0	80
cSH	415	1700	1700
Volume to Capacity	0.17	0.22	0.21
Queue Length 95th (ft)	15	0	0
Control Delay (s)	15.5	0.0	0.0
Lane LOS	C		
Approach Delay (s)	15.5	0.0	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	25.3%	ICU Level of Service	A
Analysis Period (min)	15		

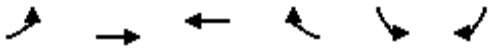
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	77	0	11	90	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.991		
Satd. Flow (prot)	1900	0	0	1883	1644	0
Flt Permitted				0.991		
Satd. Flow (perm)	1900	0	0	1883	1644	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	252			849	307	
Travel Time (s)	5.7			19.3	7.0	
Peak Hour Factor	0.77	0.92	0.55	0.94	0.92	0.63
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%
Adj. Flow (vph)	100	0	20	96	0	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	100	0	0	116	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	77	0	11	90	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.92	0.55	0.94	0.92	0.63
Hourly flow rate (vph)	100	0	20	96	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			100		236	100
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			100		236	100
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1505		742	961

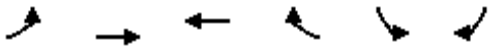
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	100	116	8
Volume Left	0	20	0
Volume Right	0	0	8
cSH	1700	1505	961
Volume to Capacity	0.06	0.01	0.01
Queue Length 95th (ft)	0	1	1
Control Delay (s)	0.0	1.4	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	1.4	8.8
Approach LOS			A

Intersection Summary			
Average Delay		1.0	
Intersection Capacity Utilization		22.0%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	51	25	110	257	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.890			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1602	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1602	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		114	157		92	
Travel Time (s)		2.6	3.6		2.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	5%	2%	0%
Adj. Flow (vph)	0	55	27	120	279	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	55	147	0	279	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Yield		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Stop	
Volume (vph)	0	51	25	110	257	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	55	27	120	279	0

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	55	147	279
Volume Left (vph)	0	0	279
Volume Right (vph)	0	120	0
Hadj (s)	0.00	-0.39	0.23
Departure Headway (s)	4.8	4.3	4.6
Degree Utilization, x	0.07	0.17	0.36
Capacity (veh/h)	698	785	755
Control Delay (s)	8.1	8.2	10.1
Approach Delay (s)	8.1	8.2	10.1
Approach LOS	A	A	B

Intersection Summary			
Delay	9.3		
HCM Level of Service	A		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		

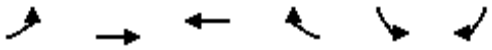
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	286	7	4	141	2	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.882	
Flt Protected				0.999	0.994	
Satd. Flow (prot)	1893	0	0	1844	1557	0
Flt Permitted				0.999	0.994	
Satd. Flow (perm)	1893	0	0	1844	1557	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	157			109	358	
Travel Time (s)	3.6			2.5	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	3%	0%	8%
Adj. Flow (vph)	311	8	4	153	2	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	319	0	0	157	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	286	7	4	141	2	13
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	311	8	4	153	2	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			318		477	315
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			318		477	315
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			100		100	98
cM capacity (veh/h)			1253		549	712

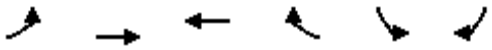
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	318	158	16
Volume Left	0	4	2
Volume Right	8	0	14
cSH	1700	1253	685
Volume to Capacity	0.19	0.00	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.2	10.4
Lane LOS		A	B
Approach Delay (s)	0.0	0.2	10.4
Approach LOS			B

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		25.5%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	299	143	3	6	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997		0.970	
Flt Protected					0.963	
Satd. Flow (prot)	0	1863	1840	0	1775	0
Flt Permitted					0.963	
Satd. Flow (perm)	0	1863	1840	0	1775	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		110	853		331	
Travel Time (s)		2.5	19.4		7.5	
Peak Hour Factor	0.25	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	0	325	155	3	7	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	325	158	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	299	143	3	6	2
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.25	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	325	155	3	7	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	159				482	157
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	159				482	157
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1433				547	894

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	325	159	9
Volume Left	0	0	7
Volume Right	0	3	2
cSH	1433	1700	606
Volume to Capacity	0.00	0.09	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	11.0
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.0
Approach LOS			B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	25.7%	ICU Level of Service	A
Analysis Period (min)	15		

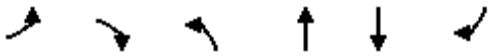
Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (vph)	0	29	55	51	25	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected				0.975		
Satd. Flow (prot)	0	1481	0	1833	1759	0
Flt Permitted				0.975		
Satd. Flow (perm)	0	1481	0	1833	1759	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			227	114	
Travel Time (s)	2.0			5.2	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	2%	0%	8%	0%
Adj. Flow (vph)	0	32	60	55	27	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	32	0	115	27	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Yield	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 15.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	0	29	55	51	25	0
Sign Control	Stop			Yield	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	32	60	55	27	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	140	54	54	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	140	54	54	0	0	
tC, single (s)	7.1	6.6	6.5	6.2	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.1	4.0	3.3	2.3	
p0 queue free %	100	96	93	95	98	
cM capacity (veh/h)	739	806	823	1091	1585	

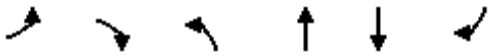
Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	32	115	27
Volume Left	0	0	27
Volume Right	0	55	0
cSH	806	933	1585
Volume to Capacity	0.04	0.12	0.02
Queue Length 95th (ft)	3	11	1
Control Delay (s)	9.7	9.4	7.3
Lane LOS	A	A	A
Approach Delay (s)	9.7	9.4	7.3
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	15.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	55	0	0	110	257	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.986	
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1810	1820	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1810	1820	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			92	471	
Travel Time (s)	2.0			2.1	10.7	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	5%	2%	11%
Adj. Flow (vph)	60	0	0	120	279	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	0	120	311	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	55	0	0	110	257	29
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Hourly flow rate (vph)	60	0	0	120	279	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	415	295	311			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	415	295	311			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	100	100			
cM capacity (veh/h)	594	749	1261			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	60	120	311
Volume Left	60	0	0
Volume Right	0	0	32
cSH	594	1700	1700
Volume to Capacity	0.10	0.07	0.18
Queue Length 95th (ft)	8	0	0
Control Delay (s)	11.7	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.7	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	25.3%	ICU Level of Service	A
Analysis Period (min)	15		

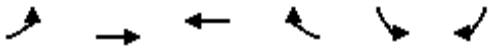
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	60	3	1	60	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994				0.865	
Flt Protected				0.999		
Satd. Flow (prot)	1853	0	0	1898	1644	0
Flt Permitted				0.999		
Satd. Flow (perm)	1853	0	0	1898	1644	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	252			849	307	
Travel Time (s)	5.7			19.3	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	0%	2%	0%
Adj. Flow (vph)	65	3	1	65	0	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	66	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 14.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	60	3	1	60	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	3	1	65	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			68		134	67
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			68		134	67
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1545		859	1002

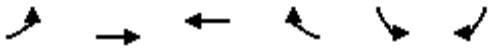
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	68	66	5
Volume Left	0	1	0
Volume Right	3	0	5
cSH	1700	1545	1002
Volume to Capacity	0.04	0.00	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.1	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	0.1	8.6
Approach LOS			A

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		14.0%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	69	60	306	211	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.887			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1598	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1598	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		114	157		92	
Travel Time (s)		2.6	3.6		2.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	5%	2%	0%
Adj. Flow (vph)	0	75	65	333	229	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	75	398	0	229	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Yield		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Stop	
Volume (vph)	0	69	60	306	211	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	75	65	333	229	0

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	75	398	229
Volume Left (vph)	0	0	229
Volume Right (vph)	0	333	0
Hadj (s)	0.00	-0.41	0.23
Departure Headway (s)	5.0	4.2	5.2
Degree Utilization, x	0.10	0.47	0.33
Capacity (veh/h)	665	813	650
Control Delay (s)	8.6	10.9	10.7
Approach Delay (s)	8.6	10.9	10.7
Approach LOS	A	B	B

Intersection Summary			
Delay	10.6		
HCM Level of Service	B		
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

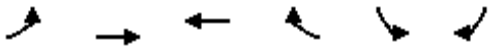
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	241	4	16	379	5	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998				0.921	
Flt Protected				0.998	0.980	
Satd. Flow (prot)	1896	0	0	1843	1638	0
Flt Permitted				0.998	0.980	
Satd. Flow (perm)	1896	0	0	1843	1638	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	157			109	358	
Travel Time (s)	3.6			2.5	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	3%	0%	8%
Adj. Flow (vph)	262	4	17	412	5	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	266	0	0	429	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	241	4	16	379	5	6
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	262	4	17	412	5	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			266		711	264
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			266		711	264
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			99		99	99
cM capacity (veh/h)			1309		397	760

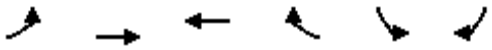
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	266	429	12
Volume Left	0	17	5
Volume Right	4	0	7
cSH	1700	1309	537
Volume to Capacity	0.16	0.01	0.02
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.4	11.9
Lane LOS		A	B
Approach Delay (s)	0.0	0.4	11.9
Approach LOS			B

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		42.9%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	1	246	394	4	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.983	
Flt Protected					0.958	
Satd. Flow (prot)	0	1863	1843	0	1789	0
Flt Permitted					0.958	
Satd. Flow (perm)	0	1863	1843	0	1789	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		110	853		331	
Travel Time (s)		2.5	19.4		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	1	267	428	4	7	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	268	432	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	246	394	4	6	1
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	267	428	4	7	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	433				700	430
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	433				700	430
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	1138				408	629

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	268	433	8
Volume Left	1	0	7
Volume Right	0	4	1
cSH	1138	1700	430
Volume to Capacity	0.00	0.25	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	13.5
Lane LOS	A		B
Approach Delay (s)	0.0	0.0	13.5
Approach LOS			B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

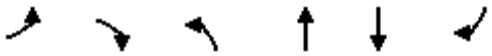
Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (vph)	0	63	62	69	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected				0.977		
Satd. Flow (prot)	0	1481	0	1839	1759	0
Flt Permitted				0.977		
Satd. Flow (perm)	0	1481	0	1839	1759	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			227	114	
Travel Time (s)	2.0			5.2	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	2%	0%	8%	0%
Adj. Flow (vph)	0	68	67	75	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	68	0	142	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Yield	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.1%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	0	63	62	69	60	0
Sign Control	Stop			Yield	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	68	67	75	65	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	239	130	130	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	239	130	130	0	0	
tC, single (s)	7.1	6.6	6.5	6.2	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.1	4.0	3.3	2.3	
p0 queue free %	100	90	91	93	96	
cM capacity (veh/h)	603	713	729	1091	1585	

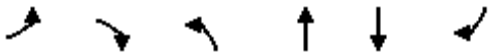
Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	68	142	65
Volume Left	0	0	65
Volume Right	0	75	0
cSH	713	883	1585
Volume to Capacity	0.10	0.16	0.04
Queue Length 95th (ft)	8	14	3
Control Delay (s)	10.6	9.9	7.4
Lane LOS	B	A	A
Approach Delay (s)	10.6	9.9	7.4
Approach LOS	B	A	

Intersection Summary			
Average Delay	9.4		
Intersection Capacity Utilization	17.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	62	0	0	306	211	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.969	
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1810	1769	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1810	1769	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			92	471	
Travel Time (s)	2.0			2.1	10.7	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	5%	2%	11%
Adj. Flow (vph)	67	0	0	333	229	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	0	0	333	297	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	62	0	0	306	211	63
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Hourly flow rate (vph)	67	0	0	333	229	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	596	264	298			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	596	264	298			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	100	100			
cM capacity (veh/h)	466	780	1275			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	67	333	298
Volume Left	67	0	0
Volume Right	0	0	68
cSH	466	1700	1700
Volume to Capacity	0.14	0.20	0.18
Queue Length 95th (ft)	13	0	0
Control Delay (s)	14.0	0.0	0.0
Lane LOS	B		
Approach Delay (s)	14.0	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	26.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	81	0	12	95	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.994		
Satd. Flow (prot)	1900	0	0	1889	1644	0
Flt Permitted				0.994		
Satd. Flow (perm)	1900	0	0	1889	1644	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	252			849	307	
Travel Time (s)	5.7			19.3	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Adj. Flow (vph)	88	0	13	103	0	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	0	0	116	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	81	0	12	95	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	88	0	13	103	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			88		217	88
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			88		217	88
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1520		764	976

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	88	116	5
Volume Left	0	13	0
Volume Right	0	0	5
cSH	1700	1520	976
Volume to Capacity	0.05	0.01	0.01
Queue Length 95th (ft)	0	1	0
Control Delay (s)	0.0	0.9	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	0.9	8.7
Approach LOS			A

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		22.3%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	52	26	113	261	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.890			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1602	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1602	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		114	157		92	
Travel Time (s)		2.6	3.6		2.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	5%	2%	0%
Adj. Flow (vph)	0	57	28	123	284	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	57	151	0	284	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Yield		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	52	26	113	261	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	0	52	139	0	261	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.88	0.85	0.95	0.85
Saturated Flow (vph)	0	1900	1668	0	1805	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.0	3.3	10.0	0.0		0.0
Adj Reference Time (s)	0.0	8.0	14.0	0.0		0.0
Permitted Option						
Adj Saturation A (vph)	0	1900	1668		120	
Reference Time A (s)	0.0	3.3	10.0		260.3	
Adj Saturation B (vph	NA	NA	1668		NA	
Reference Time B (s)	NA	NA	10.0		NA	
Reference Time (s)		3.3	10.0			
Adj Reference Time (s)		8.0	14.0			
Split Option						
Ref Time Combined (s)	0.0	3.3	10.0		17.4	
Ref Time Seperate (s)	0.0	3.3	1.9		17.4	
Reference Time (s)	3.3	3.3	10.0		17.4	
Adj Reference Time (s)	8.0	8.0	14.0		21.4	

Summary	EB WB	SB	Combined
Protected Option (s)	14.0	NA	
Permitted Option (s)	14.0	Err	
Split Option (s)	22.0	21.4	
Minimum (s)	14.0	21.4	35.3

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	29.5%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Stop	
Volume (vph)	0	52	26	113	261	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	57	28	123	284	0

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	57	151	284
Volume Left (vph)	0	0	284
Volume Right (vph)	0	123	0
Hadj (s)	0.00	-0.39	0.23
Departure Headway (s)	4.8	4.3	4.6
Degree Utilization, x	0.08	0.18	0.36
Capacity (veh/h)	694	782	753
Control Delay (s)	8.2	8.2	10.2
Approach Delay (s)	8.2	8.2	10.2
Approach LOS	A	A	B

Intersection Summary			
Delay	9.4		
Level of Service	A		
Intersection Capacity Utilization	29.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	286	12	7	141	6	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995				0.886	
Flt Protected				0.998	0.992	
Satd. Flow (prot)	1889	0	0	1844	1564	0
Flt Permitted				0.998	0.992	
Satd. Flow (perm)	1889	0	0	1844	1564	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	157			109	358	
Travel Time (s)	3.6			2.5	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	3%	0%	8%
Adj. Flow (vph)	311	13	8	153	7	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	324	0	0	161	45	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	286	12	7	141	6	35
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	298	0	0	148	41	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.99	0.85	0.95	1.00	0.87	0.85
Saturated Flow (vph)	1889	0	0	1896	1645	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	No			No	No	
Reference Time (s)		0.0				0.0
Adj Reference Time (s)		0.0				0.0
Permitted Option						
Adj Saturation A (vph)	1889		0	1128	110	
Reference Time A (s)	18.9		0.0	15.7	44.9	
Adj Saturation B (vph	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	18.9			15.7		
Adj Reference Time (s)	22.9			19.7		
Split Option						
Ref Time Combined (s)	18.9		0.0	9.4	3.0	
Ref Time Seperate (s)	18.2		0.5	8.9	0.4	
Reference Time (s)	18.9		9.4	9.4	3.0	
Adj Reference Time (s)	22.9		13.4	13.4	8.0	

Summary	EB WB	NB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	22.9	Err	
Split Option (s)	36.3	8.0	
Minimum (s)	22.9	8.0	30.9

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	25.8%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	286	12	7	141	6	35
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	311	13	8	153	7	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			324		486	317
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			324		486	317
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			99		99	95
cM capacity (veh/h)			1247		541	709

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	324	161	45
Volume Left	0	8	7
Volume Right	13	0	38
cSH	1700	1247	678
Volume to Capacity	0.19	0.01	0.07
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.4	10.7
Lane LOS		A	B
Approach Delay (s)	0.0	0.4	10.7
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	25.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	321	146	3	6	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997		0.970	
Flt Protected					0.963	
Satd. Flow (prot)	0	1863	1840	0	1775	0
Flt Permitted					0.963	
Satd. Flow (perm)	0	1863	1840	0	1775	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		110	853		331	
Travel Time (s)		2.5	19.4		7.5	
Peak Hour Factor	0.25	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	0	349	159	3	7	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	349	162	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	321	146	3	6	2
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	0	321	149	0	8	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.93	0.85
Saturated Flow (vph)	0	1900	1894	0	1760	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		No	No		No	
Reference Time (s)				0.0		0.0
Adj Reference Time (s)				0.0		0.0
Permitted Option						
Adj Saturation A (vph)	0	1900	1894		117	
Reference Time A (s)	0.0	20.3	9.4		8.2	
Adj Saturation B (vph	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		20.3	9.4			
Adj Reference Time (s)		24.3	13.4			
Split Option						
Ref Time Combined (s)	0.0	20.3	9.4		0.5	
Ref Time Seperate (s)	0.0	20.3	9.2		0.4	
Reference Time (s)	20.3	20.3	9.4		0.5	
Adj Reference Time (s)	24.3	24.3	13.4		8.0	

Summary	EB WB	SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	24.3	Err	
Split Option (s)	37.7	8.0	
Minimum (s)	24.3	8.0	32.3

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	26.9%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	321	146	3	6	2
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.25	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	349	159	3	7	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	162				509	160
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162				509	160
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1429				527	890

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	349	162	9
Volume Left	0	0	7
Volume Right	0	3	2
cSH	1429	1700	587
Volume to Capacity	0.00	0.10	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	11.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.2
Approach LOS			B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		26.9%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (vph)	0	29	55	52	26	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected				0.975		
Satd. Flow (prot)	0	1481	0	1834	1759	0
Flt Permitted				0.975		
Satd. Flow (perm)	0	1481	0	1834	1759	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			227	114	
Travel Time (s)	2.0			5.2	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	2%	0%	8%	0%
Adj. Flow (vph)	0	32	60	57	28	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	32	0	117	28	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Yield	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 15.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (vph)	0	29	55	52	26	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	0	29	0	107	26	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.85	0.95	0.97	1.00	0.85
Saturated Flow (vph)	0	1615	0	1851	1900	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	No			No	No	
Reference Time (s)		2.2				0.0
Adj Reference Time (s)		8.0				0.0
Permitted Option						
Adj Saturation A (vph)	0		0	207	1900	
Reference Time A (s)	0.0		0.0	62.1	1.6	
Adj Saturation B (vph	NA		0	0	1900	
Reference Time B (s)	NA		11.7	14.9	1.6	
Reference Time (s)				14.9	1.6	
Adj Reference Time (s)				18.9	8.0	
Split Option						
Ref Time Combined (s)	0.0		0.0	6.9	1.6	
Ref Time Seperate (s)	0.0		3.7	3.3	1.6	
Reference Time (s)	0.0		6.9	6.9	1.6	
Adj Reference Time (s)	0.0		10.9	10.9	8.0	

Summary	WB	NW SE	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	Err	18.9	
Split Option (s)	0.0	18.9	
Minimum (s)	0.0	18.9	18.9

Right Turns	WBR
Adj Reference Time (s)	8.0
Cross Thru Ref Time (s)	8.0
Oncoming Left Ref Time (s)	0.0
Combined (s)	16.0

Intersection Summary			
Intersection Capacity Utilization	15.8%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	0	29	55	52	26	0
Sign Control	Stop			Yield	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	32	60	57	28	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	143	57	57	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	143	57	57	0	0	
tC, single (s)	7.1	6.6	6.5	6.2	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.1	4.0	3.3	2.3	
p0 queue free %	100	96	93	95	98	
cM capacity (veh/h)	734	803	820	1091	1585	

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	32	116	28
Volume Left	0	0	28
Volume Right	0	57	0
cSH	803	932	1585
Volume to Capacity	0.04	0.12	0.02
Queue Length 95th (ft)	3	11	1
Control Delay (s)	9.7	9.4	7.3
Lane LOS	A	A	A
Approach Delay (s)	9.7	9.4	7.3
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	15.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	55	0	0	113	261	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.986	
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1810	1820	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1810	1820	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			92	471	
Travel Time (s)	2.0			2.1	10.7	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	5%	2%	11%
Adj. Flow (vph)	60	0	0	123	284	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	0	123	316	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	55	0	0	113	261	29
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	55	0	0	113	290	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.85	0.95	1.00	0.98	0.85
Saturated Flow (vph)	1805	0	0	1900	1872	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	No			Yes	Yes	
Reference Time (s)		0.0	0.0	7.1	18.6	0.0
Adj Reference Time (s)		0.0	0.0	11.1	22.6	0.0
Permitted Option						
Adj Saturation A (vph)	120		0	1900	1872	
Reference Time A (s)	54.8		0.0	7.1	18.6	
Adj Saturation B (vph	NA		NA	NA	1872	
Reference Time B (s)	NA		NA	NA	18.6	
Reference Time (s)				7.1	18.6	
Adj Reference Time (s)				11.1	22.6	
Split Option						
Ref Time Combined (s)	3.7		0.0	7.1	18.6	
Ref Time Seperate (s)	3.7		0.0	7.1	16.7	
Reference Time (s)	3.7		7.1	7.1	18.6	
Adj Reference Time (s)	8.0		11.1	11.1	22.6	

Summary	EB	NB SB	Combined
Protected Option (s)	NA	22.6	
Permitted Option (s)	Err	22.6	
Split Option (s)	8.0	33.7	
Minimum (s)	8.0	22.6	30.6

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	25.5%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	55	0	0	113	261	29
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Hourly flow rate (vph)	60	0	0	123	284	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	422	299	315			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	422	299	315			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	100	100			
cM capacity (veh/h)	588	745	1256			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	60	123	315
Volume Left	60	0	0
Volume Right	0	0	32
cSH	588	1700	1700
Volume to Capacity	0.10	0.07	0.19
Queue Length 95th (ft)	8	0	0
Control Delay (s)	11.8	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.8	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	25.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	61	3	1	61	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994				0.865	
Flt Protected				0.999		
Satd. Flow (prot)	1853	0	0	1898	1644	0
Flt Permitted				0.999		
Satd. Flow (perm)	1853	0	0	1898	1644	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	252			849	307	
Travel Time (s)	5.7			19.3	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	0%	2%	0%
Adj. Flow (vph)	66	3	1	66	0	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	0	0	67	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 14.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	61	3	1	61	0	5
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	64	0	0	62	5	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.99	0.85	0.95	1.00	0.85	0.85
Saturated Flow (vph)	1887	0	0	1898	1615	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	No			No	No	
Reference Time (s)		0.0				0.0
Adj Reference Time (s)		0.0				0.0
Permitted Option						
Adj Saturation A (vph)	1887		0	1546	108	
Reference Time A (s)	4.1		0.0	4.8	5.6	
Adj Saturation B (vph	1887		0	0	NA	
Reference Time B (s)	4.1		8.1	11.9	NA	
Reference Time (s)	4.1			4.8		
Adj Reference Time (s)	8.1			8.8		
Split Option						
Ref Time Combined (s)	4.1		0.0	3.9	0.4	
Ref Time Seperate (s)	3.9		0.1	3.9	0.0	
Reference Time (s)	4.1		3.9	3.9	0.4	
Adj Reference Time (s)	8.1		8.0	8.0	8.0	

Summary	EB WB	NB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	8.8	Err	
Split Option (s)	16.1	8.0	
Minimum (s)	8.8	8.0	16.8

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	14.0%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	61	3	1	61	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	3	1	66	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			70		136	68
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			70		136	68
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1544		856	1001

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	70	67	5
Volume Left	0	1	0
Volume Right	3	0	5
cSH	1700	1544	1001
Volume to Capacity	0.04	0.00	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.1	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	0.1	8.6
Approach LOS			A

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	14.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	51	25	113	261	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.889			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1600	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1600	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		114	157		92	
Travel Time (s)		2.6	3.6		2.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	5%	2%	0%
Adj. Flow (vph)	0	55	27	123	284	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	55	150	0	284	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Yield		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Stop	
Volume (vph)	0	51	25	113	261	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	55	27	123	284	0

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	55	150	284
Volume Left (vph)	0	0	284
Volume Right (vph)	0	123	0
Hadj (s)	0.00	-0.40	0.23
Departure Headway (s)	4.8	4.3	4.6
Degree Utilization, x	0.07	0.18	0.36
Capacity (veh/h)	695	783	754
Control Delay (s)	8.2	8.2	10.2
Approach Delay (s)	8.2	8.2	10.2
Approach LOS	A	A	B

Intersection Summary			
Delay	9.4		
Level of Service	A		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	286	11	7	141	5	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995				0.881	
Flt Protected				0.998	0.994	
Satd. Flow (prot)	1889	0	0	1844	1554	0
Flt Permitted				0.998	0.994	
Satd. Flow (perm)	1889	0	0	1844	1554	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	157			109	358	
Travel Time (s)	3.6			2.5	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	3%	0%	8%
Adj. Flow (vph)	311	12	8	153	5	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	323	0	0	161	43	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	286	11	7	141	5	35
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	311	12	8	153	5	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			323		485	317
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			323		485	317
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			99		99	95
cM capacity (veh/h)			1248		541	710

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	323	161	43
Volume Left	0	8	5
Volume Right	12	0	38
cSH	1700	1248	683
Volume to Capacity	0.19	0.01	0.06
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.4	10.6
Lane LOS		A	B
Approach Delay (s)	0.0	0.4	10.6
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	25.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	321	146	3	6	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997		0.970	
Flt Protected					0.963	
Satd. Flow (prot)	0	1863	1840	0	1775	0
Flt Permitted					0.963	
Satd. Flow (perm)	0	1863	1840	0	1775	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		110	853		331	
Travel Time (s)		2.5	19.4		7.5	
Peak Hour Factor	0.25	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	0	349	159	3	7	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	349	162	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	321	146	3	6	2
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.25	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	349	159	3	7	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	162				509	160
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162				509	160
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1429				527	890

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	349	162	9
Volume Left	0	0	7
Volume Right	0	3	2
cSH	1429	1700	587
Volume to Capacity	0.00	0.10	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	11.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.2
Approach LOS			B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		26.9%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (vph)	0	29	55	51	25	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected				0.975		
Satd. Flow (prot)	0	1481	0	1833	1759	0
Flt Permitted				0.975		
Satd. Flow (perm)	0	1481	0	1833	1759	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			227	114	
Travel Time (s)	2.0			5.2	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	2%	0%	8%	0%
Adj. Flow (vph)	0	32	60	55	27	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	32	0	115	27	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Yield	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	15.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	0	29	55	51	25	0
Sign Control	Stop			Yield	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	32	60	55	27	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	140	54	54	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	140	54	54	0	0	
tC, single (s)	7.1	6.6	6.5	6.2	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.1	4.0	3.3	2.3	
p0 queue free %	100	96	93	95	98	
cM capacity (veh/h)	739	806	823	1091	1585	

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	32	115	27
Volume Left	0	0	27
Volume Right	0	55	0
cSH	806	933	1585
Volume to Capacity	0.04	0.12	0.02
Queue Length 95th (ft)	3	11	1
Control Delay (s)	9.7	9.4	7.3
Lane LOS	A	A	A
Approach Delay (s)	9.7	9.4	7.3
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	15.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	55	0	0	113	261	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.986	
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1810	1820	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1810	1820	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			92	471	
Travel Time (s)	2.0			2.1	10.7	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	5%	2%	11%
Adj. Flow (vph)	60	0	0	123	284	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	0	123	316	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	55	0	0	113	261	29
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Hourly flow rate (vph)	60	0	0	123	284	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	422	299	315			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	422	299	315			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	100	100			
cM capacity (veh/h)	588	745	1256			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	60	123	315
Volume Left	60	0	0
Volume Right	0	0	32
cSH	588	1700	1700
Volume to Capacity	0.10	0.07	0.19
Queue Length 95th (ft)	8	0	0
Control Delay (s)	11.8	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.8	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	25.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	60	4	1	60	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992				0.887	
Flt Protected				0.999	0.992	
Satd. Flow (prot)	1850	0	0	1898	1666	0
Flt Permitted				0.999	0.992	
Satd. Flow (perm)	1850	0	0	1898	1666	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	252			849	307	
Travel Time (s)	5.7			19.3	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	0%	2%	0%
Adj. Flow (vph)	65	4	1	65	1	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	0	0	66	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 14.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	60	4	1	60	1	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	4	1	65	1	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			70		135	67
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			70		135	67
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1544		858	1002

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	70	66	7
Volume Left	0	1	1
Volume Right	4	0	5
cSH	1700	1544	975
Volume to Capacity	0.04	0.00	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.1	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	0.1	8.7
Approach LOS			A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	14.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	71	61	312	215	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.887			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1598	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1598	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		114	157		92	
Travel Time (s)		2.6	3.6		2.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	5%	2%	0%
Adj. Flow (vph)	0	77	66	339	234	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	77	405	0	234	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Yield		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Stop	
Volume (vph)	0	71	61	312	215	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	77	66	339	234	0

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	77	405	234
Volume Left (vph)	0	0	234
Volume Right (vph)	0	339	0
Hadj (s)	0.00	-0.41	0.23
Departure Headway (s)	5.0	4.2	5.2
Degree Utilization, x	0.11	0.48	0.34
Capacity (veh/h)	661	810	646
Control Delay (s)	8.6	11.1	10.9
Approach Delay (s)	8.6	11.1	10.9
Approach LOS	A	B	B

Intersection Summary			
Delay	10.8		
Level of Service	B		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	241	10	36	379	12	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995				0.926	
Flt Protected				0.996	0.978	
Satd. Flow (prot)	1889	0	0	1842	1648	0
Flt Permitted				0.996	0.978	
Satd. Flow (perm)	1889	0	0	1842	1648	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	157			109	358	
Travel Time (s)	3.6			2.5	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	3%	0%	8%
Adj. Flow (vph)	262	11	39	412	13	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	273	0	0	451	29	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.6%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	241	10	36	379	12	15
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	262	11	39	412	13	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			273		758	267
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			273		758	267
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			97		96	98
cM capacity (veh/h)			1302		367	757

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	273	451	29
Volume Left	0	39	13
Volume Right	11	0	16
cSH	1700	1302	514
Volume to Capacity	0.16	0.03	0.06
Queue Length 95th (ft)	0	2	5
Control Delay (s)	0.0	1.0	12.4
Lane LOS		A	B
Approach Delay (s)	0.0	1.0	12.4
Approach LOS			B

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	1	255	414	4	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.983	
Flt Protected					0.958	
Satd. Flow (prot)	0	1863	1843	0	1789	0
Flt Permitted					0.958	
Satd. Flow (perm)	0	1863	1843	0	1789	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		110	853		331	
Travel Time (s)		2.5	19.4		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	1	277	450	4	7	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	278	454	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	255	414	4	6	1
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	277	450	4	7	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	454				732	452
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	454				732	452
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	1117				391	612

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	278	454	8
Volume Left	1	0	7
Volume Right	0	4	1
cSH	1117	1700	412
Volume to Capacity	0.00	0.27	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	13.9
Lane LOS	A		B
Approach Delay (s)	0.0	0.0	13.9
Approach LOS			B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (vph)	0	63	62	71	61	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected				0.977		
Satd. Flow (prot)	0	1481	0	1839	1759	0
Flt Permitted				0.977		
Satd. Flow (perm)	0	1481	0	1839	1759	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			227	114	
Travel Time (s)	2.0			5.2	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	2%	0%	8%	0%
Adj. Flow (vph)	0	68	67	77	66	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	68	0	144	66	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Yield	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	0	63	62	71	61	0
Sign Control	Stop			Yield	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	68	67	77	66	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	243	133	133	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	243	133	133	0	0	
tC, single (s)	7.1	6.6	6.5	6.2	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.1	4.0	3.3	2.3	
p0 queue free %	100	90	91	93	96	
cM capacity (veh/h)	598	711	726	1091	1585	

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	68	145	66
Volume Left	0	0	66
Volume Right	0	77	0
cSH	711	884	1585
Volume to Capacity	0.10	0.16	0.04
Queue Length 95th (ft)	8	15	3
Control Delay (s)	10.6	9.9	7.4
Lane LOS	B	A	A
Approach Delay (s)	10.6	9.9	7.4
Approach LOS	B	A	

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	17.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	62	0	0	312	215	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.970	
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1810	1772	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1810	1772	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			92	471	
Travel Time (s)	2.0			2.1	10.7	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	5%	2%	11%
Adj. Flow (vph)	67	0	0	339	234	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	0	0	339	302	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	62	0	0	312	215	63
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Hourly flow rate (vph)	67	0	0	339	234	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	607	268	302			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	607	268	302			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	100	100			
cM capacity (veh/h)	460	776	1270			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	67	339	302
Volume Left	67	0	0
Volume Right	0	0	68
cSH	460	1700	1700
Volume to Capacity	0.15	0.20	0.18
Queue Length 95th (ft)	13	0	0
Control Delay (s)	14.2	0.0	0.0
Lane LOS	B		
Approach Delay (s)	14.2	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	26.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	83	0	12	96	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.994		
Satd. Flow (prot)	1900	0	0	1889	1644	0
Flt Permitted				0.994		
Satd. Flow (perm)	1900	0	0	1889	1644	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	252			849	307	
Travel Time (s)	5.7			19.3	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Adj. Flow (vph)	90	0	13	104	0	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	90	0	0	117	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	83	0	12	96	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	90	0	13	104	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			90		221	90
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			90		221	90
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1518		761	973

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	90	117	5
Volume Left	0	13	0
Volume Right	0	0	5
cSH	1700	1518	973
Volume to Capacity	0.05	0.01	0.01
Queue Length 95th (ft)	0	1	0
Control Delay (s)	0.0	0.9	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	0.9	8.7
Approach LOS			A

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		22.4%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	69	60	312	216	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.887			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1598	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1598	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		114	157		92	
Travel Time (s)		2.6	3.6		2.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	5%	2%	0%
Adj. Flow (vph)	0	75	65	339	235	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	75	404	0	235	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Yield		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Stop	
Volume (vph)	0	69	60	312	216	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	75	65	339	235	0

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	75	404	235
Volume Left (vph)	0	0	235
Volume Right (vph)	0	339	0
Hadj (s)	0.00	-0.41	0.23
Departure Headway (s)	5.0	4.2	5.2
Degree Utilization, x	0.10	0.48	0.34
Capacity (veh/h)	661	810	648
Control Delay (s)	8.6	11.1	10.9
Approach Delay (s)	8.6	11.1	10.9
Approach LOS	A	B	B

Intersection Summary			
Delay	10.7		
Level of Service	B		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	241	9	36	379	11	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995				0.923	
Flt Protected				0.996	0.979	
Satd. Flow (prot)	1889	0	0	1842	1642	0
Flt Permitted				0.996	0.979	
Satd. Flow (perm)	1889	0	0	1842	1642	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	157			109	358	
Travel Time (s)	3.6			2.5	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	3%	0%	8%
Adj. Flow (vph)	262	10	39	412	12	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	272	0	0	451	28	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	241	9	36	379	11	15
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	262	10	39	412	12	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			272		757	267
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			272		757	267
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			97		97	98
cM capacity (veh/h)			1303		367	758

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	272	451	28
Volume Left	0	39	12
Volume Right	10	0	16
cSH	1700	1303	522
Volume to Capacity	0.16	0.03	0.05
Queue Length 95th (ft)	0	2	4
Control Delay (s)	0.0	1.0	12.3
Lane LOS		A	B
Approach Delay (s)	0.0	1.0	12.3
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	1	255	414	4	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.983	
Flt Protected					0.958	
Satd. Flow (prot)	0	1863	1843	0	1789	0
Flt Permitted					0.958	
Satd. Flow (perm)	0	1863	1843	0	1789	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		110	853		331	
Travel Time (s)		2.5	19.4		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Adj. Flow (vph)	1	277	450	4	7	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	278	454	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	255	414	4	6	1
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	277	450	4	7	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	454				732	452
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	454				732	452
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	1117				391	612

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	278	454	8
Volume Left	1	0	7
Volume Right	0	4	1
cSH	1117	1700	412
Volume to Capacity	0.00	0.27	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	13.9
Lane LOS	A		B
Approach Delay (s)	0.0	0.0	13.9
Approach LOS			B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (vph)	0	63	62	69	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected				0.977		
Satd. Flow (prot)	0	1481	0	1839	1759	0
Flt Permitted				0.977		
Satd. Flow (perm)	0	1481	0	1839	1759	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			227	114	
Travel Time (s)	2.0			5.2	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	2%	0%	8%	0%
Adj. Flow (vph)	0	68	67	75	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	68	0	142	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Yield	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.1%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	0	63	62	69	60	0
Sign Control	Stop			Yield	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	68	67	75	65	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	239	130	130	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	239	130	130	0	0	
tC, single (s)	7.1	6.6	6.5	6.2	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.1	4.0	3.3	2.3	
p0 queue free %	100	90	91	93	96	
cM capacity (veh/h)	603	713	729	1091	1585	

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	68	142	65
Volume Left	0	0	65
Volume Right	0	75	0
cSH	713	883	1585
Volume to Capacity	0.10	0.16	0.04
Queue Length 95th (ft)	8	14	3
Control Delay (s)	10.6	9.9	7.4
Lane LOS	B	A	A
Approach Delay (s)	10.6	9.9	7.4
Approach LOS	B	A	

Intersection Summary			
Average Delay	9.4		
Intersection Capacity Utilization	17.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	62	0	0	312	216	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.970	
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1810	1772	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1810	1772	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	89			92	471	
Travel Time (s)	2.0			2.1	10.7	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	5%	2%	11%
Adj. Flow (vph)	67	0	0	339	235	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	0	0	339	303	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	62	0	0	312	216	63
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.25	0.25	0.92	0.92	0.92
Hourly flow rate (vph)	67	0	0	339	235	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	608	269	303			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	608	269	303			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	100	100			
cM capacity (veh/h)	459	775	1269			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	67	339	303
Volume Left	67	0	0
Volume Right	0	0	68
cSH	459	1700	1700
Volume to Capacity	0.15	0.20	0.18
Queue Length 95th (ft)	13	0	0
Control Delay (s)	14.2	0.0	0.0
Lane LOS	B		
Approach Delay (s)	14.2	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	26.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	81	1	12	95	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998				0.887	
Flt Protected				0.994	0.992	
Satd. Flow (prot)	1896	0	0	1889	1666	0
Flt Permitted				0.994	0.992	
Satd. Flow (perm)	1896	0	0	1889	1666	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	252			849	307	
Travel Time (s)	5.7			19.3	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Adj. Flow (vph)	88	1	13	103	1	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	0	116	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	81	1	12	95	1	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	88	1	13	103	1	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			89		218	89
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			89		218	89
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1519		764	975

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	89	116	7
Volume Left	0	13	1
Volume Right	1	0	5
cSH	1700	1519	932
Volume to Capacity	0.05	0.01	0.01
Queue Length 95th (ft)	0	1	1
Control Delay (s)	0.0	0.9	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	0.9	8.9
Approach LOS			A

Intersection Summary			
Average Delay		0.8	
Intersection Capacity Utilization		22.3%	ICU Level of Service A
Analysis Period (min)		15	