Nock Middle School & Molin Upper Elementary School

Newburyport, Massachusetts

Safe Routes to School Infrastructure Program

Massachusetts Department of Transportation (MassDOT)
Office of Transportation Planning

massDOT
Massachusetts Department of Transportation

Preliminary Assessment

September 6,2016

1 Introduction

Massachusetts Safe Routes to School (SRTS) is a federally funded initiative of the Massachusetts Department of Transportation (MassDOT). SRTS encourages public elementary and middle school students to walk and bicycle to school safely through education and outreach as well as infrastructure improvements such as sidewalks, pedestrian crossings, traffic calming, signals, signage, and bike lanes.

A Safe Routes to School (SRTS) Infrastructure Assessment was conducted for the Rupert A. Nock Middle School (Nock Middle School) and Molin Upper Elementary Schools in Newburyport. An assessment includes gathering information on the selected school through reviewing the school's assessment request, mapping student residency, conducting a preliminary meeting with school staff, municipal officials, and community members, observing school arrival and dismissal patterns, reviewing collision history, and collecting additional traffic counts or other information necessary to assess the needs of the school. This information is compiled to draw conclusions about the existing barriers to walking / biking to school, identify missing or deficient infrastructure, and develop recommendations for infrastructure improvements in the vicinity of the school. The purpose of this assessment is to identify potential improvements that would make walking and bicycling safer and more attractive modes for children traveling to and from school, and to identify the most applicable improvements that could be implemented as part of the Massachusetts SRTS Infrastructure Program.

2 The SRTS Program Overview

The SRTS Program is a Federal-aided program implemented in Massachusetts in 2006. It was created by Section 1404 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), signed into Public Law (P.L. 109-59) on August 10, 2005.

According to the Federal legislation that created SRTS, the program's purpose is:

(1) To enable and encourage children, including those with disabilities, to walk and bicycle to school;

(2) To make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age; and

(3) To facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools.

The Moving Ahead for Progress in the 21st Century Act (MAP-21), which was signed into law on July 6, 2012, consolidated a number of previous Federal funding programs. As a result of the new law, the SRTS program and the Transportation Enhancements (TE) program were incorporated into the Transportation Alternatives (TA) program. The TA program provides Federal-Aid Highway funds to state Departments of Transportation (DOTs) for projects that were previously eligible under either SRTS or TE. These funds are available for a range of different uses, which include the former SRTS categories of

infrastructure projects, as well as education and encouragement programs that benefit elementary and middle school children in grades K-8.

The Massachusetts SRTS program is administered through the Massachusetts Department of Transportation (MassDOT), and is composed of two parts: an education / encouragement component and an infrastructure improvement component. The Massachusetts Safe Routes to School program (MA SRTS) delivers the in-school education and encouragement program for MassDOT. MA SRTS also works with communities and schools to leverage support in identifying needs for improved walking and biking infrastructure.

Where applicable, MassDOT then evaluates walking and bicycling access conditions at the school; identifies potential infrastructure projects that would improve pedestrian and bicycle access; and develops designs for a selected set of high priority pedestrian and bicycle access improvements.

2.1 Policy Support for SRTS

The goal of the SRTS program is to increase children's physical activity, improve air quality, ease traffic congestion, and foster the continued growth of safe and sustainable communities. The program is strongly supported by key MassDOT policies, including:

- *The GreenDOT Policy*, MassDOT's comprehensive sustainability initiative that is designed to integrate environmental responsibility into all MassDOT functions. GreenDOT is driven by three primary goals: reduce greenhouse gas emissions; promote the healthy transportation options of walking, bicycling, and public transit; and support smart growth development.
    - *The Mode Shift Goal within GreenDOT* was announced by MassDOT in October 2012. The Mode Shift Goal is an initiative to triple the share of travel by bicycling, transit and walking in Massachusetts by 2030. In collaboration with regional transportation partners, community leaders, advocates and customers, MassDOT will reconsider what is possible for the Commonwealth's transportation system and imagine healthier, greener and cleaner mobility.
    - *Healthy Transportation Policy (HTP) Directive within GreenDOT* was issued by MassDOT in September 2013. The Healthy Transportation Policy formalizes MassDOT's commitment to the implementation and maintenance of transportation networks that serve all mode choices.
- *Complete Streets*, the comprehensive multi-modal design philosophy in MassDOT's *Project Development and Design Guide*. Complete Streets calls for safe and appropriate accommodation of all roadway users, and an approach to roadway design giving critical early consideration not only to motor vehicles, but also pedestrians, bicyclists, and public transit riders.

2.2 Project Selection Criteria

Federal funding legislation provides funding for SRTS projects and programs through its Transportation Alternatives (TA) funding program, which requires that TA funding is used most efficiently. Therefore, MassDOT carefully reviews the merits and potential of

each infrastructure investment project to ensure that TA funding supports the most deserving projects. Potential projects are evaluated based on an analysis of feasibility, safety and mobility benefits, number of students expected to benefit, property and other impacts, and overall project costs.

2.3 The School Selection Program

Since the program's start in 2006, MassDOT has visited more than 70 schools across the Commonwealth, prepared more than 45 assessments, and initiated designs for nearly 30 schools. To date, 21 infrastructure projects have been built.

The minimum requirements for being eligible for an infrastructure assessment at the time that the Nock Middle and Molin Upper Elementary Schools applied were as follows:

- A school must have participated for at least one year in the SRTS education and encouragement program, and
- The school must complete an assessment request that includes:
  - A letter of support from the municipality's chief executive that names a municipal liaison for project coordination,
  - Commitment of the municipality to fulfill their responsibilities under a SRTS infrastructure project.
- As part of the municipal endorsement of the project, the municipality will be responsible for acquiring the necessary Right of Way (ROW). This includes securing both temporary and permanent easements, in addition to potential roadway acceptances, and/or any other ROW requirements. Since this project is receiving both state and federal aid, it must comply with both M.G.L., Chapt. 79, and Title III of the Real Property Acts of 1970, as amended. Property owners are entitled to an appraisal, review appraisal and just compensation. Often times municipalities will appeal to property owners for a donation, which is acceptable, but property owners are not required to provide a donation. With this said, the municipality is responsible for all costs associated with Right of Way Acquisition, including legal fees, appraisals, award of damages, preparation of recordable documents and registry fees (the design team will provide all necessary plans, including recordable plans). The project will not be able to be advertised for construction until the Right of Way is secured and the Right of Way Bureau issues a Right of Way certificate. The municipality will be assigned a Community Compliance Officer in the Right of Way Bureau to assist them through the process but it is the municipality's responsibility to acquire the ROW and the Compliance Officer's responsibility to make sure it meets both state and federal regulations/requirements for certification.

An infrastructure assessment aims to provide a description of the travel characteristics of a school's student population, issues related to pedestrian and bicycle access to the school, and results of field observations. It identifies factors limiting walking and biking to school, and makes recommendations for measures to increase the number of students walking and biking or improve safety for those students already walking and biking.

Student residency information is collected and mapped relative to the location of the school. Additionally, existing pedestrian and bicycle infrastructure is mapped to help

identify critical gaps in infrastructure as well as provide a visual assessment of the number of students that would benefit from implementing improvements. MassDOT also completes observations of school arrival and dismissal patterns, described in Section 3.4, to identify the need for improvements and potential safety benefits. Existing infrastructure is evaluated for compliance with Americans with Disabilities Act (ADA), Architectural Access Board (AAB), Manual on Uniform Traffic Control Devices (MUTCD) , and MassDOT Engineering Directive, E-14-006 (12/19/14) standards to inform the range of mobility improvements. Impacts on right-of-way, grading, drainage, wetlands, and other environmental resources are also evaluated to assess the feasibility of constructing potential Safe Routes to School funded projects in an expedited manner.

3 Nock Middle School & Molin Upper Elementary School

The Nock Middle School and Molin Upper Elementary School is a combined elementary and middle school (students ranging from fourth to eighth grade) with a total number of students 896, approximately 10 percent of whom live within walking distance of the school. The school is located at 70 Low Street and is set in the northeast corner of the City of Newburyport and south of the densely populated area between High Street (Route 113) and Merrimack Street / Water Street. As such, the majority of the school's population resides to the north and east of the school. The area surrounding the school consists of residential and commercial uses. The school is located in close proximity to High Street (Route 113) which is a major arterial roadway carrying over 8,000 vehicles per day. The school is adjacent to Low Street which is a minor arterial roadway carrying over 11,700 vehicles per day. The heavy traffic volumes and wide roadway width cause High Street (Route 113) and Low Street to form barriers to walking and biking to school and separate the school from approximately 94 percent of its potential walking population. Figure 1 shows the school's relationship to the network of arterial roadways within a 1-mile radius of the school.

There are no permanent count stations located along High Street (Route 113) in the vicinity of the Nock Middle School and Molin Upper Elementary School. In order to help gain a better understanding of traffic flow, MassDOT conducted Automatic Traffic Recorder (ATR) counts along High Street (Route 113) between Summit Place and Kent Street on Tuesday, June 7, 2016 to Thursday, June 9, 2016 for a complete 72-hour period. These counts revealed an average daily traffic volume of 17,666 trips per day. Of these trips, averages of 2.7% are bicycles and 1.1% are heavy vehicles. The average 85th percentile speed along High Street (Route 113) is 33 miles per hour (MPH) in the northbound direction and 36 MPH in the southbound direction. A detailed summary of the ATR data, partitioned into one-hour intervals, is provided within Attachment A.

In order to establish existing traffic-volume conditions and provide data to satisfy the MUTCD Pedestrian Hybrid Signal Warrant Analysis, manual Turning Movement Counts (TMCs) were conducted at the following intersections from 6:00 AM to 6:00 PM on Thursday, June 9, 2016, while school was in regular session:

- High Street (Route 113) / Carter Street;
- High Street (Route 113) / Johnson Street; and
- High Street (Route 113) / Kent Street;

A detailed summary of the turning movement counts, partitioned into 15-minute intervals, is provided within Attachment A.

The Rupert A. Nock Middle and the Molin Upper Elementary Schools joined the Massachusetts SRTS program in January 2008. The Rupert A. Nock Middle and the Molin Upper Elementary Schools both participate in Massachusetts and International Walk to School Days. The Molin School participates in walking/biking programs for 4th and 5th graders which are held annually. The Nock Middle School participates in science trips for 7th graders to one of 18 locations where students either walk or bike. The Rupert A. Nock Middle and the Molin Upper Elementary Schools also have designated Walking

School Bus pick-up spots at the following locations:

- Wildwood Drive and Coltin Drive
- Kent Street and Washington Street
- Fox Run Drive and Hale Street
- Eppa Way and Pond Street

An assessment request was submitted to MassDOT by the Nock Middle and Molin Upper Elementary Schools in March 2014 and subsequently was selected as part of the ninth round of assessments to receive an infrastructure evaluation. The school's assessment request presented a significant need for improvements at multiple locations residing within close proximity to the school, as well as indicated a strong potential for increasing walking and biking due to the number of students residing within walking distance to the school. See Section 3.1 below for the Assessment Request and overview of preliminary safety concerns.

This assessment specifically focuses on the streets within close proximity to the school grounds, such as High Street (Route 113) from Toppans Lane to Buck Street, because this arterial street had been identified to have the greatest concentration of school-related walking and bicycling trips.

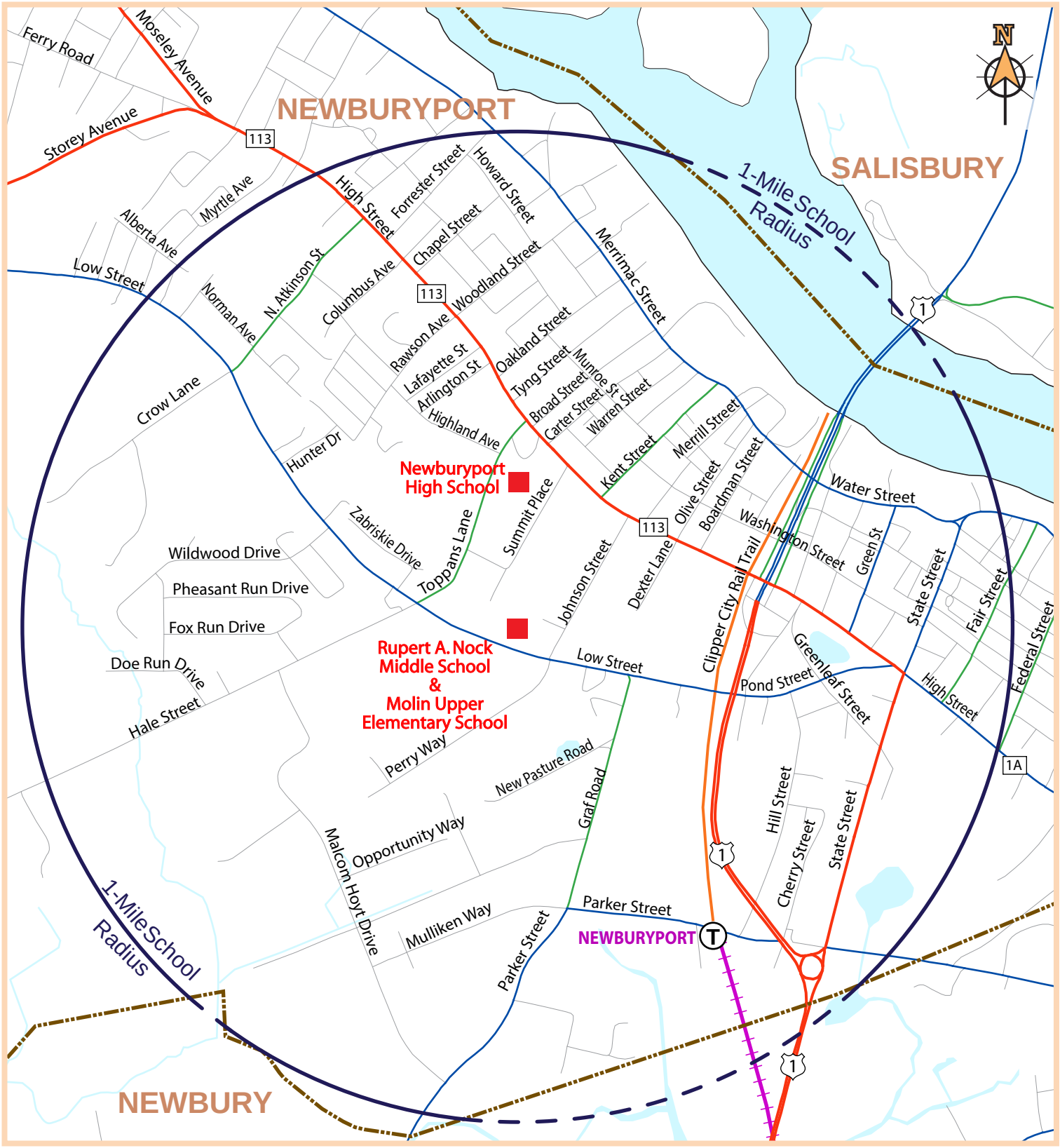


Figure 1: 1-Mile Street Network & Surrounding Schools

3.1 Rupert A. Nock Middle School & Molin Upper Elementary School SRTS School Assessment Request

The assessment request received in 2014 focused on the issues of missing/poor condition sidewalk sections, the lack of safe pedestrian crossing opportunities, hazardous intersection locations. Additional concerns include heavy traffic volume of over 8,000 vehicles per day and high vehicle travel speeds along on High Street (Route 113). Approximately 96 percent of the school's student population resides within a 1-mile radius of the school with an unknown percentage of students currently walking or biking to school. Additional concerns include the number of parents dropping off and picking up at the school causing congestion and operational problems that were described in the assessment request.

Completed SRTS School Assessment Request Form Submitted by the Rupert A. Nock Middle School & Molin Upper Elementary School, Newburyport

School Information		**Municipality Information**	
School Name	Rupert A. Nock Middle School	Municipality Name	City of Newburyport
Street Address	70 Low Street Newburyport, MA 01950	Mailing Address	60 Pleasant Street Newburyport, MA 01950
Contact Name	Beth Raucci	Contact Name	Steve Bergholm, Director of Facilities
Tel. No.	978-465-4447	Tel. No.	978-465-4440
Email	braucci@newburyport.k12.ma.us	Email	sbergholm@newburyport.k12.ma.us
Start Time	7:30 AM		
Dismissal Time	2:00 PM		
School Name	Molin Upper Elementary School	Municipality Name	City of Newburyport
Street Address	70 Low Street Newburyport, MA 01950	Mailing Address	60 Pleasant Street Newburyport, MA 01950
Contact Name	Tara Rossi	Contact Name	Steve Bergholm, Director of Facilities
Tel. No.	978-463-8212	Tel. No.	978-465-4440
Email	trossi@newburyport.k12.ma.us	Email	sbergholm@newburyport.k12.ma.us
Start Time	8:10 AM		
Dismissal Time	2:40 PM		

Completed SRTS School Assessment Request Form (Continued)

School Population Information (2014 Enrollment)										
Grade	K	1	2	3	4	5	6	7	8	Sum
Number of Students	n/a	n/a	n/a	n/a	181	161	192	184	178	896
Actual number residing within 1 mile of school	n/a	n/a	n/a	n/a	-	-	-	-	-	Approx. 5-20%
Estimated number who currently walk/bicycle	n/a	n/a	n/a	n/a	-	-	-	-	-	Approx. 5-10%

SRTS Program Activities (please check all that apply)			
✓	International Walk to School Day or Massachusetts Walk to School Day		Parent Survey
	Team with local Police		Pedestrian or Bike Safety Education
	Weekly or Monthly Walk to School Day		Other Walk to School or In-School Activities (explain)
	Classroom tallies of Walkers/Bikers		
✓	Walking School Bus or Bike Train		

Are students bused within 1 mile of the school? Explain if yes.

Yes, families of students who live within 2 miles of school have an option of buying a bus pass.

Is there currently a fee for bus transportation? Explain if yes.

Yes, for families of students who live within 2 miles of school, the fee is $275 per child (max $450 per family).

Is your school district considering budget cuts with respect to school transportation? Explain if yes.

N/A

Submitted by (if different from above)			
Name	Juliet Walker, Gary Gorski	Position/Organization	Parent Liaisons / Safe Routes to School Newburyport
Email	Jtw51802@verizon.net garygorski@comcamt.net	Telephone	978-518-1249 978-463-8617

Describe any potential changes to the school's status in terms of future closure or relocation that are currently known (leave blank if there are no changes planned).

If there are walking school buses or bike trains, describe the frequency, meeting location, typical route, and approximate number of participating students walking or bicycling to school.

There is a regular walking school bus with a group of families. They meet most mornings (weather permitting) at the corner of Toppans Lane and High Street, proceed the ¼ mile to the Molin and Nock Schools along Toppans Lane.

Based on input from school staff, parents, and students, please describe any physical obstacles students face regarding routes to your school such as dangerous crossings, sidewalks along busy roads without adequate separation between traffic and pedestrians, missing or deteriorated sidewalks, or inadequate bicycle parking. If available, please show this information on a map and include your school's location, any zone boundaries, and the quadrant (east, north, west, south) where families residing within 1 mile are located (refer to the enclosed sample).

Parents relate concerns about the traffic congestion and speeds along High Street, which is a primary route for both school traffic as well as people going to and from work. Sidewalks are broken / uneven in spots and the bike lane along High Street is narrow in some locations.

For those neighborhoods off of Low Street (which is south of the school site), high speeds of traffic accompanied by lack of monitored crosswalks and no marked bike lanes, are reasons that families may feel less safe allowing their kids to bike or walk to the Nock or Molin Schools (either accompanied or unaccompanied).

For neighborhoods on the west end of town and particularly across Interstate 95, travel to and from the Nock and Molin Schools by foot may not be reasonable. However, it is certainly possible that more families would opt to travel with their students by bicycle if safety improvements were made to add bicycle lanes from these neighborhoods. This is particularly true along Hale Street.

Describe other impediments to walking or bicycling such as policies, other safety concerns, social issues, etc.

Due to our compact development and historic street patterns, we are in general a very pedestrian-friendly and walkable community. However, as with other communities, fiscal challenges have made it difficult for us to keep pace with the normal wear and tear of our City's roadways and sidewalks. By designating preferred walking and biking routes for our schools and undertaking an infrastructure assessment, we can prioritize how and where we should be spending what limited funding is available. Visible improvements send a message to our residents that we value our community's walkable and bikeable nature and that we support the health and welfare of our kids (and their parents who chaperone them). Walking and biking to school is contagious; the more we can do to support it as a community, the more our school families will make that choice.

Please estimate the number of additional students you would expect to see walking or bicycling to school if infrastructure improvements were implemented to address existing obstacles. If more than one obstacle is identified, pleas estimate the number of students for each remedy.

We would like to see these efforts double the number of students that walk and bike to school. At a minimum, we would like to see the improvements in the immediate vicinity of the Nock and Molin Schools encourage those who are occasionally walkers and bikers become every-day walkers and bikers. The more convenient these routes are, the less incentive there will be to hop in the car on a poor weather day.

Based on the Assessment Request Form submitted by the school, High Street (Route 113) was identified by both school administrative staff and parents as a safety concern for students walking to school due to the lack of safe crossing locations, poor sidewalk conditions, and inadequate bike lanes. This assessment focuses on the streets close to the school grounds, such as High Street (Route 113) because this street has been identified to have the greatest concentration of school-related walking and bicycling trips.

3.2 Student Residency Map

The Assessment Request submitted by the Nock Middle and the Molin Upper Elementary Schools included a map depicting the location for the School's students who live within a 1-mile radius of the school. The density of the student population within a 1-mile radius of the Nock Middle and the Molin Upper Elementary Schools is shown in Figure 2.

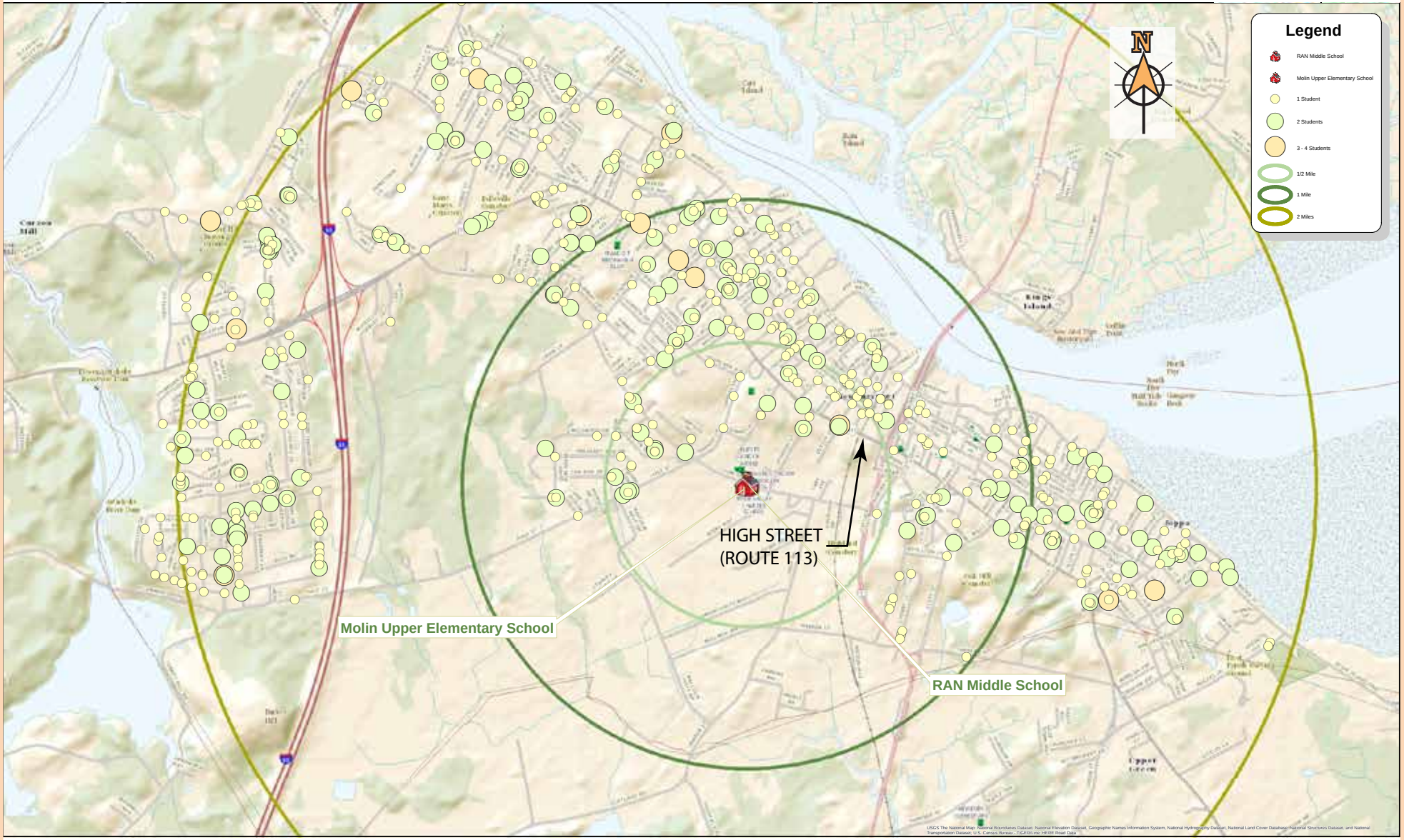
As shown on Figure 2, approximately 23 percent of the Nock Middle and the Molin Upper Elementary Schools population who live within 1-mile of the school reside on the north side of High Street (Route 113). An approximate additional 21 percent live beyond the 1-mile radius, but within a 2-mile radius of the schools. Due to the width, travel speeds, and volumes along this roadway, few students walk to school from neighborhoods on the opposite side of these roadways and those that do must cross at intersections with crossing guards.

Approximately four (4) percent of students residing within a 1-mile radius of the schools reside in neighborhoods south of Low Street and west of the Low Street / Toppans Lane intersection. This arterial roadway carries over 11,700 vehicles per day of which a significant portion of which is heavy vehicle traffic destined to/from the multiple commercial and industrial uses in the surrounding area. Low Street has a sidewalk along the northerly side of the roadway with a lack of ADA-compliant ramps at crossings. There are numerous unsignalized crossings at neighborhood entrances with wide curb radii which allow for high turning speeds.

Approximately eight (8) percent of students residing within a 1-mile radius of the schools reside in neighborhoods east of US Route 1. There are crosswalks across three of the four approaches at the Low Street / Pond Street / US Route 1 signalized intersection. This arterial roadway carries over 18,300 vehicles per day, of which a significant portion is heavy vehicle traffic destined to/from the multiple commercial and industrial uses in the surrounding area. Due to the width, travel speeds, and volumes along this roadway, few students walk to school from neighborhoods on the opposite side of these roadways.

Approximately 16 percent of students residing within a 2-mile radius of the schools reside in neighborhoods west of Interstate 95 and must travel along Hale Street to travel to and from school. Hale Street, between Squires Glen Drive and the Interstate 95 overpass, has no sidewalk. The existing sidewalk along the northerly side of the overpass is in poor condition. The straight layout of Hale Street creates an environment where vehicles can travel at high speed and offers no protection for pedestrians.

Based on the safety concerns raised in the assessment request, and the high potential for increasing walking and biking to school as a result of an SRTS-funded infrastructure improvement, the Nock Middle and the Molin Upper Elementary Schools were selected to receive an SRTS infrastructure assessment.



Not to Scale

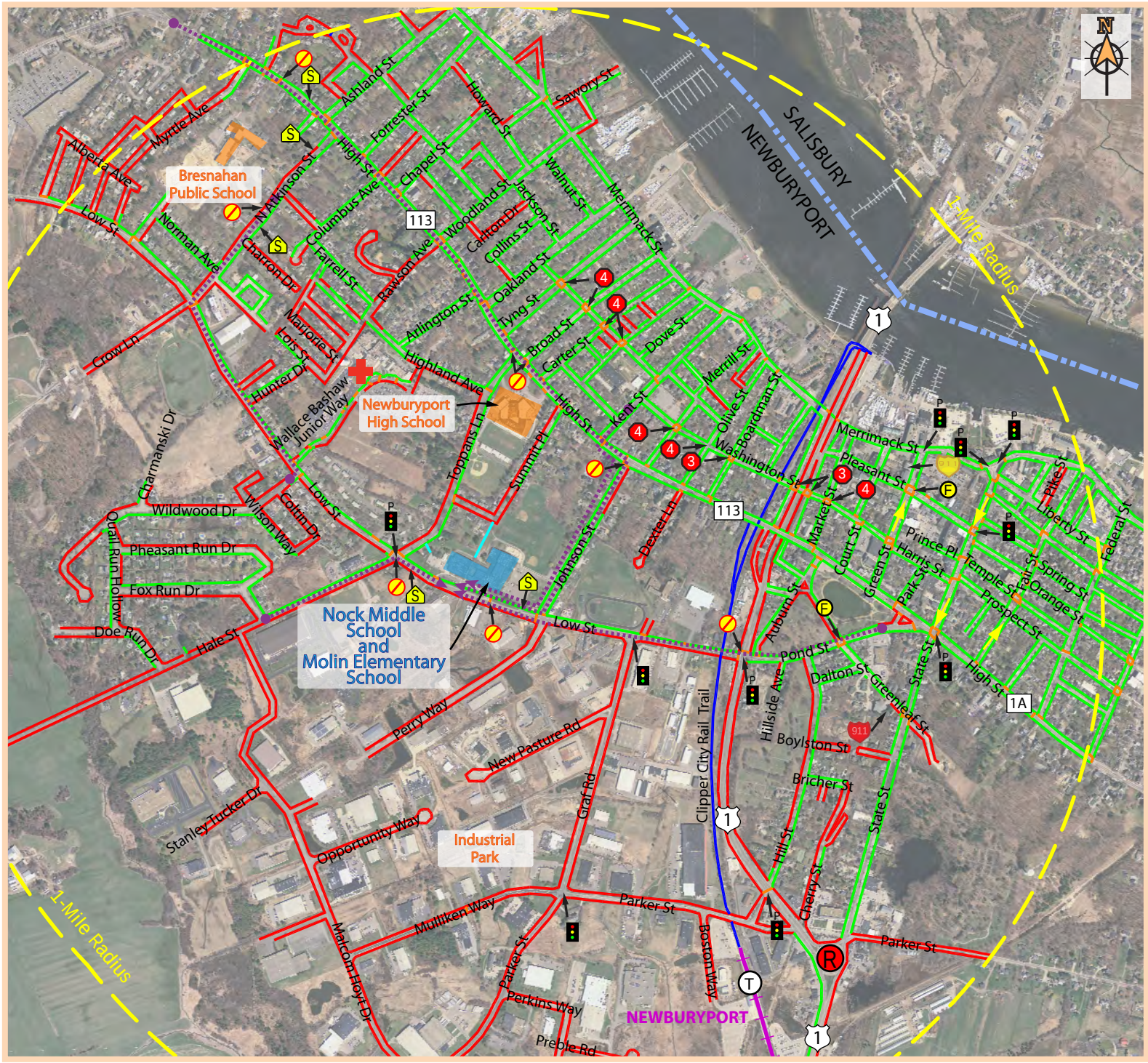
Figure 2: Student Residency Map

3.3 Infrastructure Assessment and Field Visit

The MassDOT Team attended a preliminary assessment meeting and performed a field visit and inventory of sidewalks at the Rupert A. Nock Middle and the Molin Upper Elementary Schools on Thursday June 12, 2014. The following people attended the meeting.

Attendee:	Representing:
Donna Holaday	Mayor of Newburyport
Tara K. Rossi	Molin Upper Elementary School Principal
Beth Raucci	Nock Middle School Principal
Juliet Walker	Newburyport Walking and Wheeling
Gary Gorski	Newburyport Walking and Wheeling
Gregory Whitney	Newburyport Police Department
Robert Cronin	Ward 3 Councilor
Steve Bergholm	Director of Facilities
Georgie Vining	Sewer Project Manager
Tracey Hurst	Hale Street Resident
Ellen Metsker	Hale Street Resident
Maureen Sullivan	Hale Street Resident
Heather Ross	Formerly with MA SRTS
Masrak Sutton	MassDOT – District 4
Corey O'Connor, E.I.T.	MassDOT Traffic and Safety Engineering
Douglas Halpert, E.I.T.	TEC, Inc.
William Schwartz, AICP	The Collaborative, Inc.
Rebecca Brown, P.E., PTOE	Formerly with TEC, Inc.

At the preliminary assessment meeting, school and City staff identified factors impacting walking and biking to the Rupert A. Nock Middle and the Molin Upper Elementary Schools, including the issues that were identified in the assessment request. As part of the field visit and inventory, MassDOT observed school arrival and dismissal procedures and activities; catalogued the locations of key walking and bicycle infrastructure, including sidewalks, pathways, and traffic control features; and identified other factors impacting travel to and from the school. The detailed walking and bicycling infrastructure inventory is shown in Figure 3. MassDOT's observations and assessments on walking and bicycling operations at the Rupert A. Nock Middle and the Molin Upper Elementary Schools are delineated in Section 3.4.



1" = 1,300'

KEY

- Sidewalk
- No Sidewalk
- Existing Crosswalk
- Town/City Line
- MBTA Commuter Rail
- Rail Trail
- Path (Paved)
- Walking School Bus Routes
- 3-Way Stop
- 4-Way Stop
- Flashing Signal
- Fully Signalized Intersection
- Fully Signalized Intersection w/ Pedestrian Crossings
- School Zone Flasher Assembly
- Crossing Guard
- Police Station
- Fire Department
- One-Way Street
- Hospital
- Rotary

Note: Streets not marked were not observed during the site visit.

Figure 3: Existing Conditions Around West Elementry School

3.4 General Observations

The following observations are based on field observations and the preliminary meeting unless otherwise noted.

School Arrival and Dismissal

- There are approximately 20 plus students who bike to school on their own from High Street. Some students bike from Hale Street but there are no sidewalks or bike lanes.
- Both the Nock and Molin Schools support walking school buses with designated pick-up locations at:
    - Wildwood Drive / Coltin Drive
    - Kent Street / Washington Street
    - Fox Run Drive / Hale Street
    - Eppa Way / Pond Street
    - The 2014 Newburyport Walk and Bike Week was held from May 5th – 9th and the details and walking route are shown in Attachment B.
- Students are dismissed all at once regardless of transportation mode. Children are pick-up by parents (who are encouraged to remain in their vehicles) along Johnson Street, Low Street, Summit Place, and other various locations.
- Field observations showed parents pulling U-turns on Low Street in order to have their children enter the vehicle on the passenger side without crossing the street. In addition, vehicles where observed travelling around one another that were stopped due to a crossing child or vehicles who were turning left onto a side street from High Street.
- During the dismissal period, congestion was observed on both sides of Low Street near the school driveways.

Sidewalk and Pathway Infrastructure

- Approximately 44 percent of the students live in the neighborhoods north of the school and walk along High Street to reach these neighborhoods. High Street is wide, with sidewalks and bike lanes on both sides, and marked crosswalks along its length. Due to its width, drivers maneuver around turning vehicles by utilizing the bike lane and/or parking lane and have a high potential for vehicle-pedestrian conflicts. This issue is addressed in the proposed SRTS project in Chapter 4.
- There are currently sidewalks on both sides of Johnson Street; however, the sidewalk on the westerly side extends from Low Street to High Street and the sidewalk on the easterly side extends from Low Street and terminates at a driveway approximately 700 feet prior to High Street. Both sidewalks feature sections in good and poor condition with marked crossings that lack ADA-compliant ramps. These issues are addressed in Recommendation 1 in Chapter 4.
- Low Street currently has a sidewalk on the northern side of the roadway only.

Marked crossings are provided across Low Street and adjacent side streets. Although the sidewalk extends from the Nock Middle School and the Molin Upper Elementary School to the Clipper City Rail Trail, it is not wide enough to accommodate pedestrians and cyclists based on Complete Streets standards. This issue is addressed in Recommendation 2 in Chapter 4.

- Currently Toppans Lane provides a sidewalk on the eastern side of the roadway only and no bicycle facilities. Marked crossings are provided across Toppans Lane and adjacent side streets. Many sections of sidewalk are in poor condition and lack ADA-compliant ramps. Although the sidewalk extends from Low Street to High Street, it is not wide enough to accommodate pedestrians and cyclists. This issue is addressed in Recommendation 4 in Chapter 4.
- Currently Summit Place provides a sidewalk on both sides of the roadway for most of its length; however, they terminate before reaching school grounds. Marked crossings are provided at High Street and Toppans Lane. Summit Place is used as a direct pedestrian connection to High Street and the neighborhoods to the north. This issue is addressed in Recommendation 5 in Chapter 4.
- There is currently a sidewalk on the northerly side of Hale Street beginning at the intersection at Low Street and terminating after just after Squires Glen Drive. A continuous sidewalk to neighborhoods beyond the half-mile radius would create a safer environment for those already walking/biking and may encourage more to walk/bike to school. This issue is addressed in Recommendation 6 in Chapter 4.

Traffic Speeds and Volumes

- Approximately 44 percent of students live in the neighborhoods north of the school and walk along High Street to reach these neighborhoods. High Street is experiences heavy traffic during commuter peaks as it is a connection to Interstate 95 to the west and US Route 1 to the east. High Street is wide, with sidewalks and bike lanes on both sides, and marked crosswalks along its length. Due to its width, drivers maneuver around turning vehicles by utilizing the bike lane and/or parking lane without a reduction in speed and have a high potential for vehicle-pedestrian conflicts. This issue is partially addressed in the proposed SRTS project in Chapter 4.
- The intersection of Hale Street / Low Street / Toppans Lane is currently signalized and features crossings on two of the four approaches. Although pedestrian signals and push buttons are present, they do not comply with current ADA standards and do not feature ADA-compliant push buttons or countdown signal heads. These issues are addressed in Recommendation 3 in Chapter 4.
- There is currently a sidewalk on the northerly side of Hale Street beginning at the intersection at Low Street and terminating after Squires Glen Drive. Although Hale Street is signed for 30 mph, due to its straight geometry, speeds have been recorded at over 40 mph. This issue is addressed in Recommendation 6 in Chapter 4.

Crossing Guards

- Crossing guards are located at the following locations:
    - High Street / Johnson Street
    - High Street / Broad Street
    - Low Street / Hale Street
    - Highland Avenue / Toppans Lane
    - Pond Street / US Route 1
    - North Atkinson Street / Bresnahan School Driveway
    - Low Street (Mid-Block) in front of Nock / Molin School
    - High Street (Mid-Block) between Ashland Street and Jefferson Street

Safety and Collision History

- According to MassDOT's Highway Traffic Engineering Section, the following intersection near the Rupert A. Nock Middle and the Molin Upper Elementary Schools is considered high crash locations within the region and are eligible for participation in the Highway Safety Improvement Program (HSIP):
    - US Route 1 Ramps / Summer Street / Winter Street / Merrimac Street
- According to MassDOT's Highway Traffic Engineering Section, the following intersection near the Rupert A. Nock Middle and the Molin Upper Elementary Schools is considered high crash locations for bicyclists within the region and are eligible for participation in the Highway Safety Improvement Program (HSIP):
    - High Street (Route 113) between Tyng Street and Summit Place

3.5 Currently Planned Municipal and State Construction Projects

There are four transportation improvement projects proposed in Newburyport within a 1-mile radius of the Nock Middle and the Molin Upper Elementary Schools. These projects are taken into account in developing the recommendations for the SRTS infrastructure assessment in order to ensure that the SRTS recommendations are not conflicting with or redundant to other planned projects. A brief summary of these projects is provided below.

- *Clipper City Rail Trail Phase II* – This MassDOT managed project (MassDOT Project #606503) is currently in the design phase. The project will extend the existing rail trail from its current terminus at Custom House Way to the east around downtown following near Marlboro Street and terminating at Parker Street. The project is funded as part of the FY2015 Transportation Improvement Program for the Merrimack Valley Metropolitan Planning Organization and is scheduled to begin construction in the spring of 2019.
- *Washington Street over US Route 1 Bridge Repairs* – This MassDOT managed project (MassDOT Project #607115) is currently in the preliminary design phase. Although the work will consist of repairs to the Washington Street Bridge (N-11-

015), no specific plans for the type of repairs or rehabilitation have been finalized. The project is scheduled to begin construction in the summer of 2021.

- *3 Corner Improvements* – The City of Newburyport Traffic Advisory Committee is looking at improvements to "3 Corners", which consists of the intersection of Storey Avenue, Ferry Road, and Moseley Avenue. This potential project is still in the pre-planning stages.
- *Hospital Traffic Signal Improvements* – The Merrimack Valley Planning Commission (MVPC) is currently investigating the installation of a traffic signal at the intersection of Low Street / Wallace Bashaw Junior Way (Anna Jaques Hospital Rear Driveway). This potential project is still in the planning stage.

4 Recommendations for Improvement

In the school's assessment request and during the field visit, Rupert A. Nock Middle and the Molin Upper Elementary Schools and City of Newburyport staff identified a number of existing safety concerns and infrastructure deficiencies related to walking and bicycling access to the school (See Sections 3.1 through 3.4). During the field visit, deficiencies and needs were identified (See Section 3.4).

MassDOT has identified recommendations described below for infrastructure improvements that address these issues and deficiencies described in Chapter 3 and shown graphically in Figure 4. The recommendations are focused principally on safe crossing locations, adequate sidewalk and bike lane conditions, and traffic calming. Preliminary conceptual improvement graphics (See Figure 5a and 5b) and narrative descriptions of potential improvements (see Sections 4.1 and 4.2) were prepared and shared in draft format with City of Newburyport Planning and Engineering staff to gain concurrence on the need, scope, and priority of the recommendations. Multiple follow-up meetings and field visits were conducted to verify the recommendations. The recommendations and potential project described are derived from the culmination of these discussions, the assessment request, the field observations, and additional analyses described in prior sections of this assessment.

The Nock Middle and the Molin Upper Elementary Schools assessment has identified a substantial benefit associated with an improvement project and a high potential for increasing walking / biking to school in addition to a significant safety enhancement for students already walking and biking. Furthermore, the recommended projects for the Nock Middle and the Molin Upper Elementary Schools will also provide a benefit to the surrounding community by providing additional options for alternative mode travel and recreation.

Not all of the recommendations identified by this assessment will be funded by MassDOT with Federal Transportation Alternatives (TA) funds. The project that is likely to have the greatest benefit to walking and biking to school has been proposed as a SRTS project. Additional recommended infrastructure recommendations serve to improve safety and mobility for the Nock Middle and the Molin Upper Elementary School's walking and biking populations. These recommendations are described to help assist the City of Newburyport to consider further improvement projects to help support SRTS within their community.

4.1 Proposed MassDOT SRTS Infrastructure Project

Install HAWK Signal and Implement Traffic Calming Measures on High Street

MassDOT recommends the following project under the SRTS infrastructure program: installation of a High-intensity Activated crossWalK (HAWK) signal (also called a Pedestrian Hybrid Signal) and corridor traffic calming measures along High Street (Route 113) from Toppans Lane to Buck Street. The installation of the HAWK signal at a midblock crosswalk along High Street, between Summit Place and Kent Street, and other proposed pedestrian refuge islands, will improve pedestrian safety and accessibility for students who live in neighborhoods on the northeasterly side of High Street and must cross the arterial roadway to walk to school. The student residency map described in

Section 3.2, indicates that approximately 44 percent of the Nock Middle School and Molin Upper Elementary School's walking population lives within neighborhoods northeast of High Street (Route 113). The reconstruction of sidewalk with vertical curb and ADA-compliant ramps will improve accessibility and safety for these students walking to the Nock Middle and the Molin Upper Elementary Schools. Each of the improvement areas along High Street preserve or enhance the existing striped bicycle lanes on both sides of the roadway.

A large number of neighborhoods are located north on the schools and must be accessed via High Street (Route 113). High Street currently features wide parking and travel lanes in both directions with marked crossings. Most students cross at crossings with a designated crossing guard provided by the schools; however, these crossings are approximately 45-65-feet wide and leave students exposed to traffic for extended distances. MassDOT recommends the construction of bump-outs and refuge islands at key crossings along High Street to reduce crossing distance, clearly define lane usage, and reduce travel speed.

The proposed SRTS project has the following major elements:

- Installation of a HAWK signal with bump-outs approximately mid-block between Summit Place and Kent Street.
- Construction of bump-outs and/or median refuge islands at Toppans Lane, Broad Street, Carter Street, Summit Place, Kent Street, Johnson Street, and Buck Street for reduced crossing distance, traffic calming, and improved lane delineation.
- Perform a "Road Diet" on High Street, between Kent Street and Buck Street, by removing pavement in an unnecessarily wide portion of the roadway, resetting curb lines and drainage infrastructure, and creating additional greenspace. This would provide a more consistent roadway cross-section within the project area.
- Maintain 5-foot striped bike lanes in both directions along High Street
- Construction of ADA-compliant accessible ramps with perpendicular crossings
- Application of new crosswalks and stop line pavement markings.
- Installation of MUTCD-compliant warning and regulatory signs.

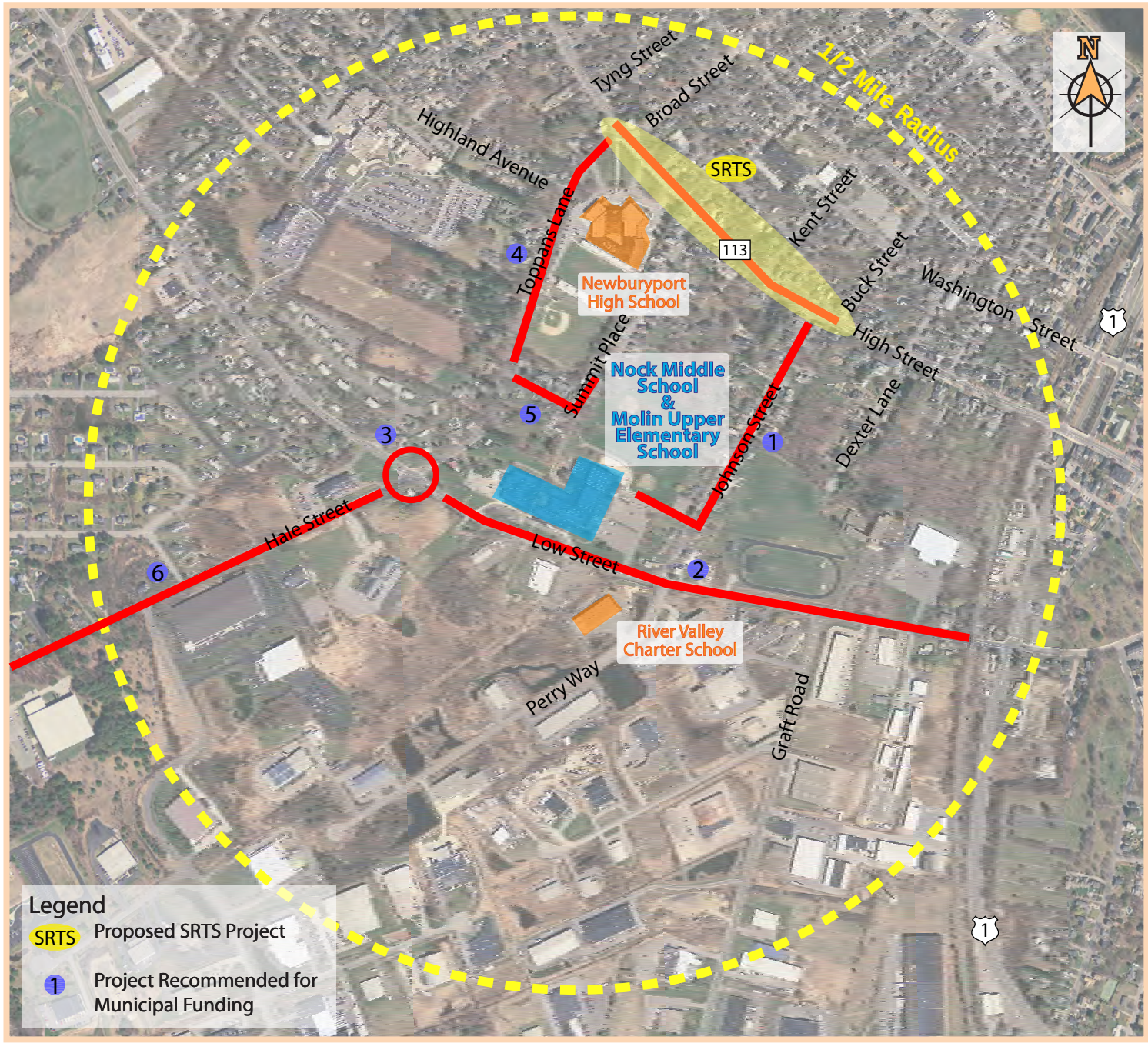
The installation of a HAWK signal will improve pedestrian safety and provide an additional controlled crossing along High Street (Route 113). The construction of curb bump-outs will reduce the crossing distance for pedestrians and help define on-street parking limits. The application of high visibility roadway striping for crosswalks and bike lanes, and the installation of new retroreflective pedestrian warning signs will improve driver awareness of pedestrians crossing the roadway. Construction of ADA-complaint accessible ramps will enhance accessibility for pedestrians with vision and mobility impairments.

In order to help determine whether or not the installation of a HAWK is justified, a pedestrian hybrid warrant analysis was conducted based on the ATRs and TMCs collected on Thursday, June 9, 2016. Utilizing the traffic volumes collected, a HAWK signal is warranted between Kent Street and Johnson Street during the 2:00 PM – 3:00

PM hour which coincides with school dismissal.

The sidewalk and access improvements, as noted above, along High Street (Route 113) may alter the current travel patterns of pedestrians. The City of Newburyport should evaluate the operating conditions of the affected intersections post implementation to determine whether or not to install a secondary HAWK signal near the High Street (Route 113) / Carter Street intersection. Based on the existing traffic volumes collected, a HAWK signal is warranted between Carter Street and the Newburyport High School Driveway during the 7:00- 8:00 AM and 2:00 PM – 3:00 PM hour which coincides with school arrival and dismissal respectively. The HAWK signal warrant analysis worksheets are included in Attachment C.

The conceptual cost estimate for the potential SRTS-funded infrastructure project is $1,328,000. The construction of these improvements will likely require several temporary and permanent easements. As described in Chapter 5, the City will be required to provide a commitment to acquiring these easements prior to advancing this project into design.



1"=800'

KEY	PROPOSED IMPROVEMENT	FEASIBILITY	SAFETY/ MOBILITY BENEFIT	COST
	Proposed SRTS Infrastructure Project			
SRTS	Install HAWK Signal and Traffic Calming on High Street	High	High	High
	Recommendations to be Pursued by the City or through Other Funding Sources			
1	Construct Sidewalk on East Side of Johnson Street and North Side of School Driveway	Moderate	Moderate	High
2	Construct Multi-Use Path Along Low Street	Moderate	High	High
3	Pedestrian Signal Upgrades at Low Street / Hale Street	High	Moderate	Moderate
4	Reconstruct Sidewalk on East Side of Toppans Lane	High	Moderate	Moderate
5	Construct Sidewalks on Summit Place	Moderate	Moderate	Moderate
6	Construct Multimodal Enhancements on North Side of Hale Street	Moderate	Moderate	High

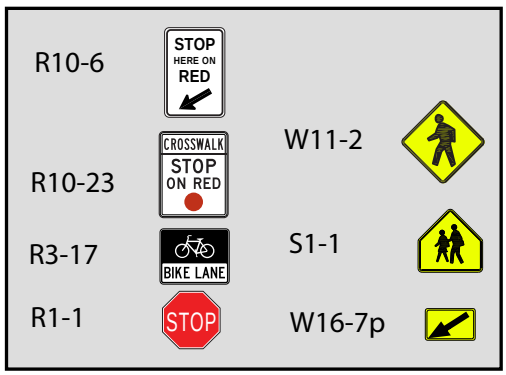
Figure 4: Location of Recommended Improvements

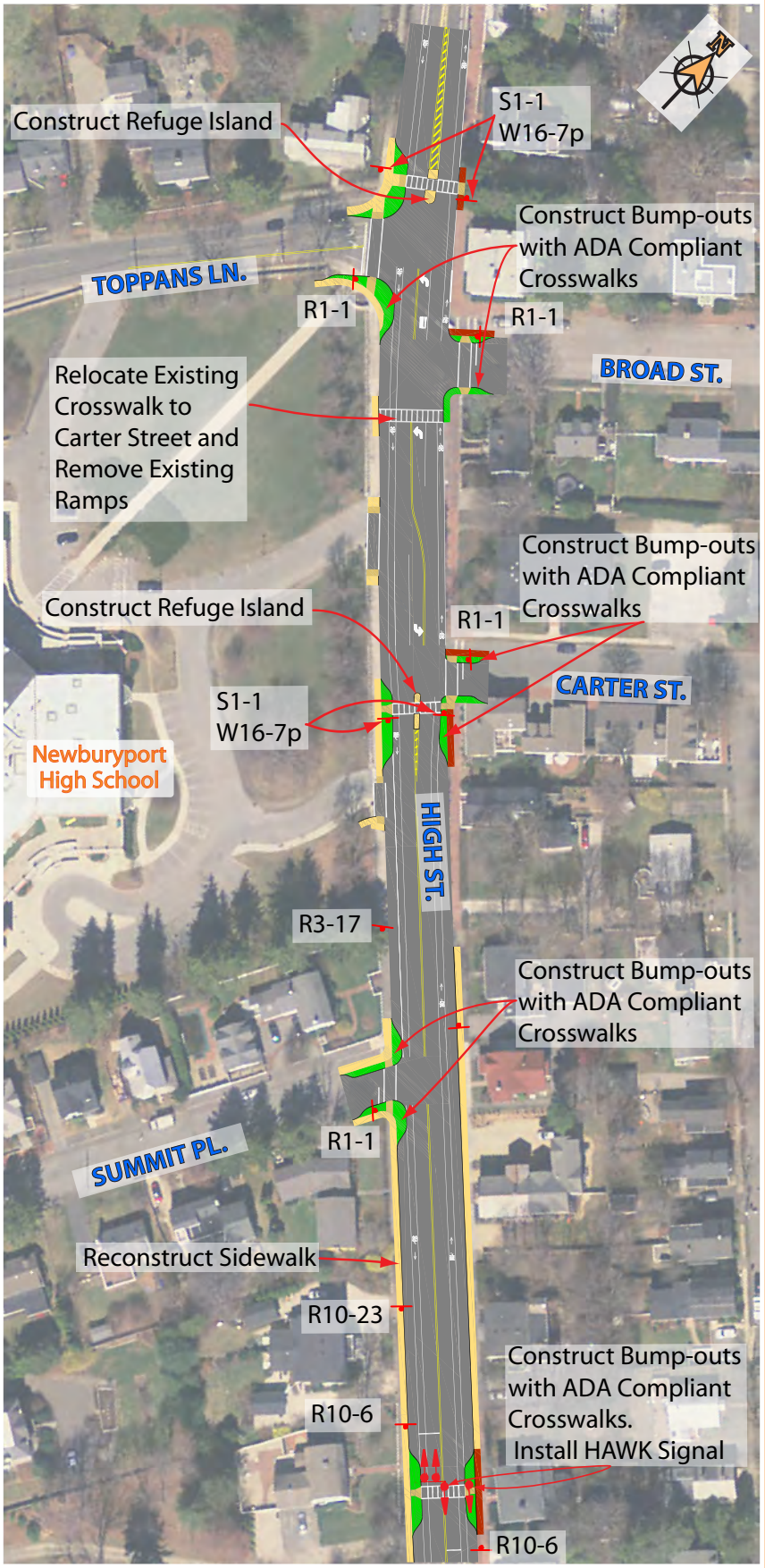
RECOMMENDED SCOPE OF WORK AND CONCEPTUAL COST ESTIMATE:

5' WIDE CONCRETE SIDEWALK & GRANITE CURB (INCLUDING RAMPS)	=	$ 397,500
PAVEMENT MILL & OVERLAY	=	$268,000
SIGNS & STRIPING	=	$ 62,000
STREETSCAPE	=	$ 25,000
DRAINAGE/UTILITY IMPROVEMENTS	=	$ 92,000
TRAFFIC CONTROL	=	$ 148,000
HAWK SIGNAL	=	$ 70,000
+/- 25% CONTINGENCY & CONSTRUCTION ENGINEERING	=	$ 265,500
TOTAL	=	**$ 1,328,000**

Brick Sidewalk Reconstruction

Concrete Sidewalk Reconstruction



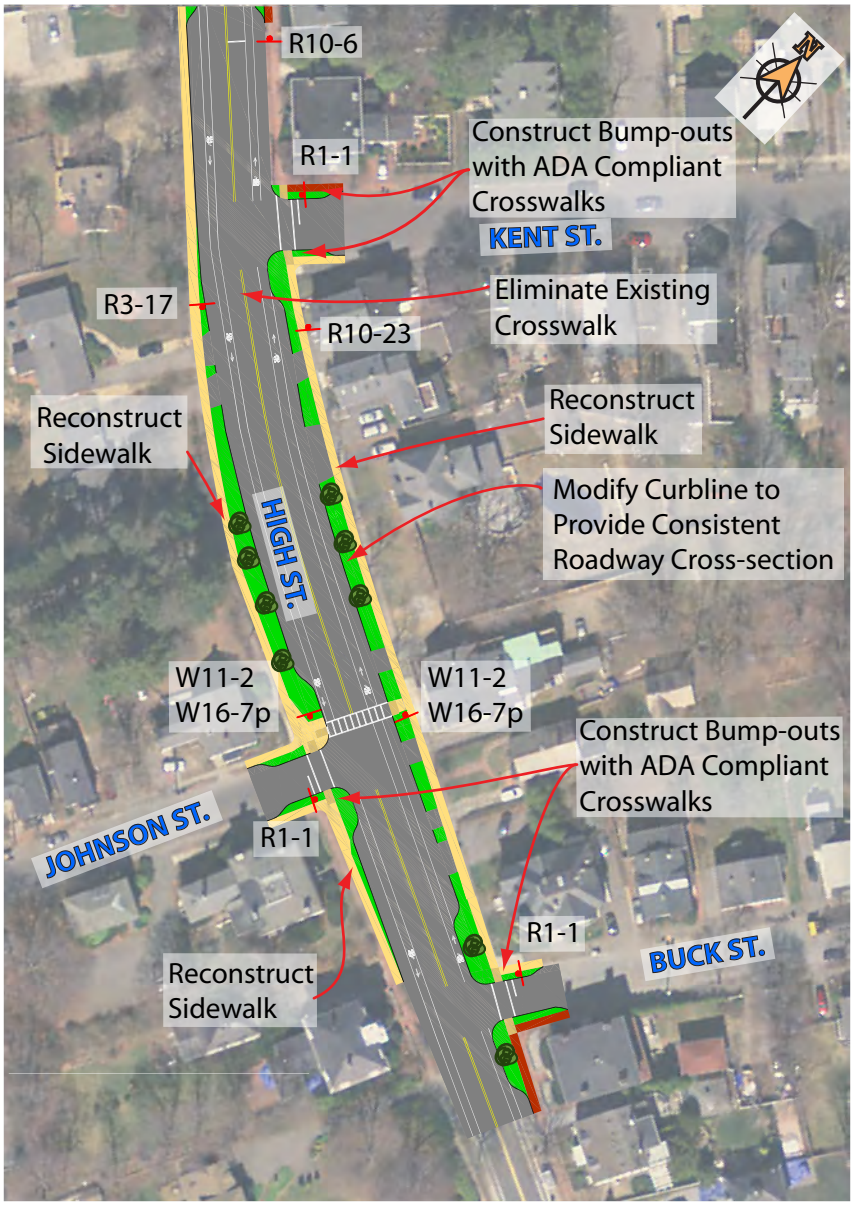


Continued on Figure 5b

Figure 5a : Install HAWK Signal and Traffic Calming Measures on High Street

Continued on Figure 5a

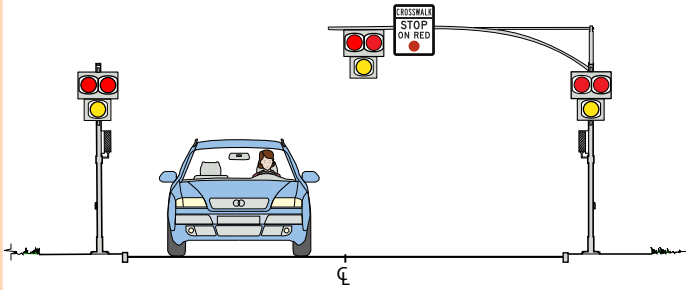
High Street Looking South at Kent Street



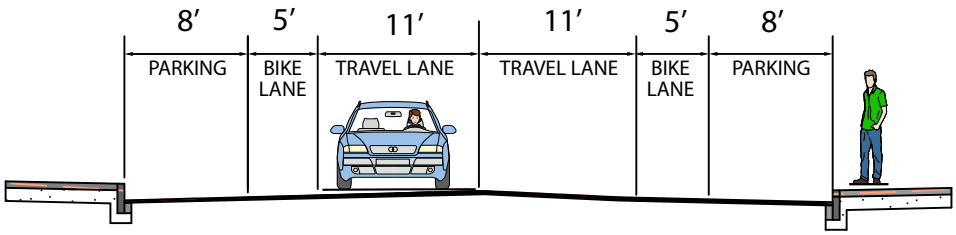
Pedestrian Hybrid Beacon

Brick Sidewalk Reconstruction

Concrete Sidewalk Reconstruction



Sample Section HAWK Signal



Typical Section High Street

Figure 5b : Install HAWK Signal and Traffic Calming Measures on High Street

4.2 Other Recommendations for Potential Implementation Using Other Funding Sources

MassDOT has identified additional recommended infrastructure improvement projects that were not included in the proposed SRTS project. These recommendations would improve pedestrian and bicycle access to the school property from adjacent neighborhoods. The following projects should be considered by the City of Newburyport to further enhance the multi-modal accommodations near the schools:

- Construct a sidewalk on east side of Johnson Street and north side of school driveway
- Construct a multi-use path along Low Street
- Complete pedestrian signal upgrades at Low Street / Hale Street
- Reconstruct the sidewalk on east side of Toppans Lane
- Construct sidewalks on Summit Place
- Construct a Multimodal Enhancements on Hale Street

While these projects will improve safety for students walking to school, they are not anticipated to see the same level of use as the improvements included in the proposed SRTS infrastructure project. Approximately 44 percent of students living in neighborhoods to the north of High Street would benefit from the improvements in the proposed SRTS infrastructure project. In comparison, approximately 8 percent of students would likely walk along Low Street, and up to 16 percent of students may walk along Hale Street from beyond the 1-mile radius to travel to the Nock Middle and the Molin Upper Elementary Schools.

MassDOT's current Complete Streets Guidelines recommend pedestrian and bicycle facilities on both sides of the road. Certain recommendations listed within this assessment consider a phased implementation of improvements that may not include facilities on both sides in an effort to propose the physical infrastructure that would have the highest initial benefit. As the City considers implementation in the future, certain improvements may need to be expanded as some funding sources may encourage a higher level of Complete Street initiatives.

Recommendation 1 – Construct Sidewalk on East Side of Johnson Street and North Side of School Driveway

Currently there are sidewalks on both sides of Johnson Street. However, the sidewalk on the eastern side does not connect from Low Street to High Street. There is no sidewalk on the north side of the school driveway which forces students to walk on the grass and through the tennis courts for separation from vehicles. The marked crossing at the driveway intersection is not signed and does not meet ADA standards. The project would include the following major elements:

- Construction and reconstruction of sidewalk on the east side of Johnson Street for complete sidewalk network.
- Construction on sidewalk on the north side of school driveway for improved

safety through school parking lot.

- Construction of ADA-compliant accessible ramps for perpendicular pedestrian crossings, wherever possible.
- Application of new crosswalk and stop line pavement markings.
- Installation of MUTCD-compliant warning and regulatory signs.

The reconstruction of sidewalks with vertical granite curbing will provide physical separation of pedestrians from motorists for improved safety. The construction of sidewalk will improve pedestrian connectivity. New ADA-compliant curb ramps would improve accessibility for pedestrians with vision or mobility impairments. New pavement markings and MUTCD-compliant signage would increase driver awareness of pedestrians crossing the roadway.

Recommendation 2 – Construct Multi-Use Path Along Low Street

Currently Low Street provides a sidewalk on the northern side of the roadway only and no bicycle facilities. Marked crossings are provided across Low Street and adjacent side streets. Although the sidewalk extends from the Nock Middle School and the Molin Upper Elementary School to the Clipper City Rail Trail, it is not wide enough to accommodate pedestrians and cyclists according to the latest Complete Streets guidelines. Approximately eight (8) percent of students live to the east of the schools and the rail trail is frequently used by the school for field trips. To improved pedestrian and bicycle mobility, MassDOT recommends construction of a 10-foot multi-use path with vertical granite curb along the north side of Low Street between Clipper City Rail Trail and Hale Street. As part of the project, crosswalks with ADA-compliant accessible ramps should be added on Overland Drive, Cary Avenue, Johnson Street, Nock Middle / Molin Upper Elementary School driveways, and Hale Street intersections with Low Street. In addition, maintain a connection to the Clipper City Rail Trial, provide wayfinding signage and advanced warning signage at crossings.

The construction of a multi-use path will provide physical separation of pedestrians and cyclists from motorists for improved safety. However, there may be right-of-way impacts associated with this improvement. This path will provide a more complete bicycle network for the City of Newburyport. New ADA-compliant curb ramps will improve accessibility for pedestrians with vision or mobility impairments. New pavement markings and MUTCD-compliant signage will increase driver awareness of pedestrians crossing the roadway.

Recommendation 3 – Pedestrian Signal Upgrades at Low Street / Hale Street

Approximately 20 percent students live to the west and south of the schools. Due to the age of the pedestrian signals and the intersection reputation, many parents do not feel safe letting their students walk/bike to school. The existing ramps and pedestrian push-buttons do not meet current ADA or MUTCD standards. MassDOT recommends the installation of ADA- and MUTCD- compliant ramps, push buttons, and signal heads with countdown should be installed to provide safe crossings.

New pedestrian signals with upgraded push buttons and countdown indications would enhance safety and accessibility of the pedestrian crossing, particularly when the crossing

guard is not present. The ADA-compliant push buttons and accessible ramps with tactile warning devices would improve accessibility for pedestrians with vision or mobility impairments. New pavement markings and MUTCD-compliant signage will improve driver awareness of pedestrians in the crosswalk and encourage compliance with yielding to pedestrians.

Recommendation 4 – Reconstruct Sidewalk on East Side of Toppans Lane

Currently Toppans Lane provides a sidewalk on the eastern side of the roadway only and no bicycle facilities. Marked crossings are provided across on adjacent side streets. Many locations in the sidewalk are in poor condition and do not feature ADA-compliant ramps. To improved pedestrian mobility, MassDOT recommends construction of a 5-foot sidewalk with vertical granite curb along the east side of Toppans Lane between Low Street and High Street. As part of the project, crosswalks with ADA-compliant accessible ramps should be added on Low Street, Summit Place, Highland Ave, Newburyport High School driveway, and High Street intersections with Toppans Lane to provide safe pedestrian crossings.

The construction of a 5-foot sidewalk with vertical curbing will provide separation of pedestrian and vehicular traffic along Toppans Lane. The construction of sidewalk will also provide a continuous sidewalk connection between High Street and Low Street with adequate width for pedestrians and ADA-compliance. The installation of new sidewalk, combined with new ADA-compliant curb ramps, will improve accessibility for all pedestrians.

Recommendation 5 – Construct Sidewalks on Summit Place

Currently Summit Place provides a sidewalk on both sides of the roadway for most of its length; however, they terminate before reaching school grounds. Marked crossings are provided at High Street and Toppans Lane. Summit Place is used as a direct connection to High Street and the neighborhoods to the north. Many locations in the sidewalk are in poor condition and do not feature ADA-compliant ramps. To improved pedestrian mobility, MassDOT recommends construction of a 5-foot sidewalk with vertical granite curb along both sides of Summit Place between Toppans Lane and High Street. As part of the project, crosswalks with ADA-compliant accessible ramps should be added on Toppans Lane and High Street intersections with Toppans Lane to provide safe pedestrian crossings.

The construction of missing sidewalk along Summit Place will provide a continuous sidewalk connection between High Street and Toppans Lane with vertical separation of pedestrian and vehicular traffic. The installation of new sidewalk, combined with new ADA-compliant curb ramps, will improve accessibility for all pedestrians.

Recommendation 6 – Construct Multimodal Enhancements on North Side of Hale Street

There is currently a sidewalk on the northerly side of Hale Street beginning at the intersection at Low Street and terminating after Squires Glen Drive. The current sidewalk is less than 5 feet wide and has a pedestrian barrier between the back of sidewalk and the adjacent wetlands. To improve pedestrian mobility, MassDOT recommends widening the existing sidewalk shelf along the north side of Hale Street at

the wetland crossing, and also between Squires Glen Drive and Turkey Hill Road, to provide a separate facility for pedestrians. The widening should accommodate a multimodal path with roadway vehicle barrier and should consider traffic calming devices along Hale Street. As part of the project, crosswalks with ADA-compliant accessible ramps should be added on Turkey Hill Road, Squires Glen Drive, and Low Street intersections with Hale Street to provide improved pedestrian crossings.

The construction of a continuous sidewalk to neighborhoods beyond the half-mile radius would create a safer environment for those already walking/biking and may encourage more students to walk/bike to school.

5 Next Steps

MassDOT intends to advance the proposed infrastructure project due to its ability to help increase the number of children walking and bicycling to school and substantially improve safety for pedestrians and bicyclists. The benefit of the proposed SRTS infrastructure project was assessed based on the inventory of existing infrastructure and identification of critical gaps, student residency / density information indicating the number of students that would benefit from infrastructure improvements as well as pedestrian / bicycle collision occurrence.

In order to successfully complete an SRTS infrastructure project, MassDOT and the City of Newburyport must work together to advance it through the SRTS Infrastructure Program process. The next steps include design and permitting, which are described in detail in Section 5.2 below. Schedules related to these activities can vary depending upon the school calendar (especially summer vacation), ability to reach a consensus on recommended actions, timing of City Meeting, logistics of the City's right-of-way acquisition process, and other factors.

Although the project development process is comprehensive and can take a significant amount of time, each step is necessary to satisfy requirements for the use of Federal money to build these projects. MassDOT and the City of Newburyport each have important responsibilities, described below. Cooperation and communication between MassDOT and the City will help to make the process move as smoothly and quickly as possible.

5.1 Project Approval (Step 3)

In order to advance the identified projects, the City of Newburyport must formally accept the recommendations in the report. This formal acceptance will entail the following steps:

Collaborative Review and Final Concept Development

The SRTS infrastructure project proposed for funding by MassDOT will be reviewed by the City of Newburyport Department of Public Works (DPW) Engineering and Highway Divisions, the Department of Planning, and other relevant City staff, and refined in collaboration with MassDOT and its consultants.

Formal Review and Approval

Assuming endorsement by the Director of Public Services, the proposed SRTS project must then be submitted to the City Council and Mayor for approval. The City Solicitor should review the assessment and provide guidance to the City Council regarding the right-of-way process, including the need for a permanent easement(s) on school property for any areas where Federal funds will be used for new or upgraded pedestrian or bicycle facilities.

To ensure community support for a proposed project, MassDOT strongly encourages the City to invite public comment from both the project abutters and the school community during this planning stage. Should the City's staff require assistance in presenting the recommendations, a representative of MassDOT would be available to participate in such

a meeting.

Formal approval requires a vote of the City Council and a letter from Mayor Holaday stating the City's support of the proposed SRTS project in its conceptual form.

Assumption of City Responsibilities

The City of Newburyport must also formally accept its responsibilities for implementing the project. This requires a vote of endorsement from the City Council and submission of a letter from the Mayor that acknowledges municipal responsibility for the Right of Way acquisition process and the municipality's responsibility for costs associated with right-of-way acquisitions. The infrastructure improvements typically fall within the public right-of-way, but often times, temporary easements are needed on abutting property owners land for limited work such as restoring grass areas, walkways, driveways, loam and seed, or to protect trees and landscaping, etc. A contractor cannot gain access to private property to conduct these improvements without the legal right to do so. In some circumstances there may even be a need for permanent easement(s) to make sure any permanent improvements are on land under the control of the municipality. The municipality will also be responsible for protecting improvements on their own land in perpetuity.

Your municipality may acquire the needed rights through a combination of Donations, Eminent Domain, Deed Grants, Permits or Rights of Entries. Frequently, municipalities will appeal for donations. Property owners are entitled to an appraisal, review appraisal, and just compensation for permanent or temporary takings; however, they can waive their rights to compensation and sign a Certificate of Donation and/or a Right of Entry for temporary easements to the benefit of the municipality. In addition, the municipality should be prepared to secure the funding needed for the Right of Way Acquisition costs, including but not limited to, appraisals, review appraisals, award of damages, legal fees and recordable documents, as well as Registry fees and recordings after the appropriate City Council vote. The design team will be responsible for providing the municipality with the needed plans to secure the Right of Way.

The City of Newburyport must also identify a municipal liaison that will be responsible for leading design reviews, organizing public meetings, and coordinating the right-of-way acquisition process to conform to M.G.L. Chapt. 79 and the Uniform Relocation and Assistance Act.

5.2 Design, Evaluation, and Construction (Steps 2 & 3)

Once the SRTS infrastructure project is proposed and approved by MassDOT, a project design will be advanced in coordination with MassDOT and the City's municipal liaison. This project design will require conformance with MassDOT's *Project Development and Design Guide* and HTP Directive as applicable.

Ground Survey

The design work will require detailed topographic ground survey and right-of-way layout research to properly locate the proposed infrastructure. The detailed ground survey is needed for any required utility design, including drainage, and to identify and minimize any impacts to the abutting parcels. Ground survey costs are covered by the SRTS

program.

Right-of-Way Certification (Municipal Responsibility)

The survey and design process would identify any fee takings and any easements (both temporary and permanent) on private property that are needed for construction. The City of Newburyport would be required to secure all fee takings and easements necessary to complete the project. The identification and legal clearance of the public right-of-way must be completed prior to MassDOT's issuance of a Right-of-Way Certificate, which is necessary to enable the use of Federal funds for construction activities as part of the SRTS program.

Under a City form of government, the acquisition of land generally requires a 2/3 vote of the City Council. The vote is typically scheduled following the preparation of the Final Right-of-Way Plans. MassDOT will fund the preparation of roadway layout and easement plans that may be required for the project. Although the school is publicly-owned property, the City of Newburyport would still be required to perform an Order of Taking for any easements on the school property; this plan needs to be recorded at the Registry of Deeds and is a requirement to secure the Federal funds for this project.

Permitting

MassDOT would coordinate any necessary Categorical Exclusion (CE) requests as part of National Environmental Policy Act (NEPA) permitting. These permitting elements require coordination with the MassDOT Highway Division's Environmental Section, Right-of-Way Bureau, and relevant District office.

Final Design and Programming

As part of the SRTS program, the MassDOT Highway Division may accept a combined submission at the 25 percent/75 percent design stage in order to expedite the design review process for projects that are primarily associated with new sidewalk construction or reconstruction. Figure 6, presents a *generalized* summary of the steps required as part of the design and permitting process with associated time frames. All design costs are managed and funded as part of the MassDOT SRTS program.

Construction

After final plans, specifications, and cost estimates (PS & E) are completed and approved, the MassDOT Highway Division would publicly advertise the project for construction bids. Upon selection of a construction firm, a contract would be prepared and signed. The Highway Division would oversee the project through the appropriate District office. All eligible construction costs would be covered by MassDOT's SRTS program.

Pre- and Post-Construction Evaluation

To quantify the benefits of the project, pre-construction and post-construction evaluations would be undertaken by MassDOT.

Figure 6: Safe Routes to School Infrastructure Program Typical Design and Permitting Timeframe

For additional information about the SRTS Infrastructure Program or to provide written comments on this Preliminary Assessment, please contact:

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Ten Park Plaza, Room 4150
Boston, MA 02116-3973
nicole.tishler@state.ma.us

This report was prepared by the TEC Team:

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Lawrence, MA 01843
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with

the COLLABORATIVE
Planners Collaborative
Design Collaborative
Communications Collaborative

Attachment A

Automatic Traffic Recorders (ATRs) &
Turning Movement Counts (TMCs)

High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

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

165126 A Volume
Site Code: T0233.02

Start	NB				SB				Combined				07-Jun-16
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Tue
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12:15	16		134		15		155		31		289		
12:30	8		141		4		123		12		264		
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11:45	151	590	9	59	145	576	7	53	296	1166	16	112	
Total	3111		5977		3098		5323		6209		11300		
Percent	50.1%		52.9%		49.9%		47.1%						
Day Total		9088				8421				17509			
Peak	11:00	-	02:30	-	08:00	-	03:00	-	11:00	-	02:30	-	-	-
Vol.	590	-	786	-	623	-	708	-	1166	-	1490	-	-	-
P.H.F.	0.970		0.949		0.900		0.927		0.959		0.970			

High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

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

165126 A Volume
Site Code: T0233.02

Start	NB				SB				Combined				08-Jun-16
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	12		176		10		150		22		326		
12:15	6		145		6		146		12		291		
12:30	6		157		5		139		11		296		
12:45	8	32	168	646	5	26	171	606	13	58	339	1252	
01:00	10		151		7		123		17		274		
01:15	1		141		3		124		4		265		
01:30	2		143		0		125		2		268		
01:45	3	16	154	589	0	10	162	534	3	26	316	1123	
02:00	5		161		2		139		7		300		
02:15	5		167		2		143		7		310		
02:30	1		183		1		172		2		355		
02:45	0	11	192	703	0	5	172	626	0	16	364	1329	
03:00	10		203		3		180		13		383		
03:15	3		178		3		165		6		343		
03:30	3		202		2		175		5		377		
03:45	4	20	155	738	3	11	198	718	7	31	353	1456	
04:00	8		199		5		143		13		342		
04:15	4		171		5		157		9		328		
04:30	9		180		12		151		21		331		
04:45	11	32	156	706	10	32	151	602	21	64	307	1308	
05:00	15		216		18		156		33		372		
05:15	25		176		29		156		54		332		
05:30	23		170		34		159		57		329		
05:45	32	95	178	740	29	110	198	669	61	205	376	1409	
06:00	49		180		42		141		91		321		
06:15	71		157		38		159		109		316		
06:30	70		130		56		128		126		258		
06:45	102	292	122	589	89	225	142	570	191	517	264	1159	
07:00	84		136		91		114		175		250		
07:15	134		105		131		101		265		206		
07:30	103		100		104		105		207		205		
07:45	138	459	85	426	135	461	87	407	273	920	172	833	
08:00	131		122		148		81		279		203		
08:15	122		91		158		80		280		171		
08:30	119		89		130		100		249		189		
08:45	131	503	101	403	143	579	81	342	274	1082	182	745	
09:00	132		74		138		73		270		147		
09:15	112		62		97		47		209		109		
09:30	126		61		120		33		246		94		
09:45	128	498	43	240	128	483	28	181	256	981	71	421	
10:00	111		41		159		40		270		81		
10:15	127		30		119		29		246		59		
10:30	137		26		138		21		275		47		
10:45	158	533	24	121	139	555	21	111	297	1088	45	232	
11:00	135		20		120		18		255		38		
11:15	137		21		132		21		269		42		
11:30	154		13		144		25		298		38		
11:45	147	573	16	70	155	551	8	72	302	1124	24	142	
Total	3064		5971		3048		5438		6112		11409		
Percent	50.1%		52.3%		49.9%		47.7%						
Day Total		9035				8486				17521			
Peak	10:45	-	02:45	-	08:00	-	03:00	-	11:00	-	02:45	-	-	-
Vol.	584	-	775	-	579	-	718	-	1124	-	1467	-	-	-
P.H.F.	0.924		0.954		0.916		0.907		0.930		0.958			

High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

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

165126 A Volume
Site Code: T0233.02

Start	NB				SB				Combined				09-Jun-16
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	15		182		9		169		24		351		
12:15	9		172		13		141		22		313		
12:30	11		155		6		174		17		329		
12:45	5	40	178	687	5	33	167	651	10	73	345	1338	
01:00	6		179		5		154		11		333		
01:15	6		161		2		124		8		285		
01:30	4		141		2		134		6		275		
01:45	4	20	113	594	3	12	146	558	7	32	259	1152	
02:00	2		179		2		121		4		300		
02:15	4		167		2		137		6		304		
02:30	1		171		0		176		1		347		
02:45	2	9	192	709	3	7	188	622	5	16	380	1331	
03:00	5		208		3		171		8		379		
03:15	3		200		0		164		3		364		
03:30	1		195		1		154		2		349		
03:45	4	13	203	806	1	5	191	680	5	18	394	1486	
04:00	6		171		4		163		10		334		
04:15	4		197		7		162		11		359		
04:30	5		193		9		151		14		344		
04:45	8	23	177	738	15	35	209	685	23	58	386	1423	
05:00	15		224		13		153		28		377		
05:15	23		191		25		159		48		350		
05:30	28		175		28		177		56		352		
05:45	32	98	169	759	33	99	149	638	65	197	318	1397	
06:00	37		165		41		146		78		311		
06:15	55		133		35		151		90		284		
06:30	65		157		61		140		126		297		
06:45	81	238	117	572	74	211	148	585	155	449	265	1157	
07:00	101		131		98		121		199		252		
07:15	131		121		152		99		283		220		
07:30	89		80		103		122		192		202		
07:45	130	451	91	423	143	496	114	456	273	947	205	879	
08:00	153		101		175		117		328		218		
08:15	162		103		137		85		299		188		
08:30	93		88		150		80		243		168		
08:45	145	553	73	365	150	612	59	341	295	1165	132	706	
09:00	123		71		107		72		230		143		
09:15	124		60		131		38		255		98		
09:30	132		53		135		42		267		95		
09:45	141	520	44	228	170	543	34	186	311	1063	78	414	
10:00	126		45		122		35		248		80		
10:15	145		37		134		22		279		59		
10:30	147		31		127		24		274		55		
10:45	150	568	23	136	136	519	7	88	286	1087	30	224	
11:00	159		22		157		30		316		52		
11:15	157		27		142		14		299		41		
11:30	158		15		137		7		295		22		
11:45	140	614	8	72	174	610	9	60	314	1224	17	132	
Total	3147		6089		3182		5550		6329		11639		
Percent	49.7%		52.3%		50.3%		47.7%						
Day Total		9236				8732				17968			
Peak	10:45	-	03:00	-	08:00	-	02:30	-	11:00	-	03:00	-	- -
Vol.	624	-	806	-	612	-	699	-	1224	-	1486	-	- -
P.H.F.	0.981		0.969		0.874		0.930		0.968		0.943		

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

High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

165126 A Class
Site Code: T0233.02

NB

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	38	5	0	0	0	0	1	0	0	0	0	0	44
01:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
02:00	0	6	3	0	1	0	0	0	0	0	0	0	0	10
03:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
04:00	0	17	5	0	2	1	0	0	0	0	0	0	0	25
05:00	3	95	11	1	3	1	0	0	0	0	0	0	0	114
06:00	5	219	23	2	5	1	0	0	0	0	0	0	0	255
07:00	9	395	42	3	6	3	0	2	1	0	0	0	0	461
08:00	14	445	58	1	13	5	0	1	0	0	0	0	0	537
09:00	17	396	59	0	4	3	0	0	0	0	0	0	0	479
10:00	16	471	69	4	9	1	0	1	1	0	0	0	0	572
11:00	15	484	72	4	10	5	0	0	0	0	0	0	0	590
12 PM	21	524	81	0	12	4	0	1	0	0	0	0	0	643
13:00	19	576	64	2	7	3	0	2	0	0	0	0	0	673
14:00	26	608	65	7	16	1	0	2	0	0	0	0	0	725
15:00	24	615	92	2	16	2	0	1	0	0	0	0	0	752
16:00	31	569	89	2	8	2	0	1	0	0	0	0	0	702
17:00	23	652	70	1	3	2	0	0	0	0	0	0	0	751
18:00	20	464	38	1	4	1	0	0	0	0	0	0	0	528
19:00	13	374	41	0	3	2	0	0	0	0	0	0	0	433
20:00	5	298	32	0	2	1	0	0	0	0	0	0	0	338
21:00	4	221	22	0	1	0	0	0	0	0	0	0	0	248
22:00	1	116	7	0	1	0	0	0	0	0	0	0	0	125
23:00	0	53	5	1	0	0	0	0	0	0	0	0	0	59
Total	266	7659	954	31	126	38	0	12	2	0	0	0	0	9088
Percent	2.9%	84.3%	10.5%	0.3%	1.4%	0.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	11:00	10:00	08:00	08:00		07:00	07:00					11:00
Vol.	17	484	72	4	13	5		2	1					590
PM Peak	16:00	17:00	15:00	14:00	14:00	12:00		13:00						15:00
Vol.	31	652	92	7	16	4		2						752

PRECISION
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High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

165126 A Class
Site Code: T0233.02

NB

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	29	3	0	0	0	0	0	0	0	0	0	0	32
01:00	0	16	0	0	0	0	0	0	0	0	0	0	0	16
02:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
03:00	0	18	0	0	2	0	0	0	0	0	0	0	0	20
04:00	0	23	7	0	1	0	0	1	0	0	0	0	0	32
05:00	3	73	15	1	2	1	0	0	0	0	0	0	0	95
06:00	5	249	28	4	5	1	0	0	0	0	0	0	0	292
07:00	16	383	50	2	5	0	2	1	0	0	0	0	0	459
08:00	11	430	49	2	8	2	0	1	0	0	0	0	0	503
09:00	11	413	56	1	12	5	0	0	0	0	0	0	0	498
10:00	14	438	65	1	12	2	0	1	0	0	0	0	0	533
11:00	16	480	64	1	6	6	0	0	0	0	0	0	0	573
12 PM	17	534	74	2	14	4	0	1	0	0	0	0	0	646
13:00	18	499	57	0	13	2	0	0	0	0	0	0	0	589
14:00	31	584	65	5	12	2	3	1	0	0	0	0	0	703
15:00	35	598	87	1	14	2	1	0	0	0	0	0	0	738
16:00	16	599	73	1	9	2	1	3	1	1	0	0	0	706
17:00	21	635	74	1	3	6	0	0	0	0	0	0	0	740
18:00	24	514	47	1	1	2	0	0	0	0	0	0	0	589
19:00	16	380	27	2	1	0	0	0	0	0	0	0	0	426
20:00	14	362	24	0	3	0	0	0	0	0	0	0	0	403
21:00	2	217	19	0	2	0	0	0	0	0	0	0	0	240
22:00	0	112	8	0	1	0	0	0	0	0	0	0	0	121
23:00	0	66	4	0	0	0	0	0	0	0	0	0	0	70
Total	270	7662	897	25	126	37	7	9	1	1	0	0	0	9035
Percent	3.0%	84.8%	9.9%	0.3%	1.4%	0.4%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	10:00	06:00	09:00	11:00	07:00	04:00						11:00
Vol.	16	480	65	4	12	6	2	1						573
PM Peak	15:00	17:00	15:00	14:00	12:00	17:00	14:00	16:00	16:00	16:00				17:00
Vol.	35	635	87	5	14	6	3	3	1	1				740

High Street (Route 113)
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165126 A Class
Site Code: T0233.02

NB

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	36	2	1	1	0	0	0	0	0	0	0	0	40
01:00	0	19	1	0	0	0	0	0	0	0	0	0	0	20
02:00	0	6	1	0	2	0	0	0	0	0	0	0	0	9
03:00	0	12	0	0	1	0	0	0	0	0	0	0	0	13
04:00	0	19	3	0	1	0	0	0	0	0	0	0	0	23
05:00	1	80	13	2	2	0	0	0	0	0	0	0	0	98
06:00	2	218	12	2	3	1	0	0	0	0	0	0	0	238
07:00	10	381	41	5	9	4	0	1	0	0	0	0	0	451
08:00	17	457	62	0	12	3	0	1	1	0	0	0	0	553
09:00	15	416	65	2	18	4	0	0	0	0	0	0	0	520
10:00	14	466	63	2	20	3	0	0	0	0	0	0	0	568
11:00	10	517	64	2	14	6	0	1	0	0	0	0	0	614
12 PM	15	575	71	4	17	4	1	0	0	0	0	0	0	687
13:00	20	500	57	3	8	3	1	2	0	0	0	0	0	594
14:00	26	589	65	7	13	6	0	3	0	0	0	0	0	709
15:00	30	671	85	0	14	5	1	0	0	0	0	0	0	806
16:00	31	614	81	1	9	1	0	1	0	0	0	0	0	738
17:00	19	664	71	0	4	0	0	1	0	0	0	0	0	759
18:00	21	484	61	0	3	3	0	0	0	0	0	0	0	572
19:00	9	381	28	1	3	1	0	0	0	0	0	0	0	423
20:00	11	326	24	0	4	0	0	0	0	0	0	0	0	365
21:00	1	210	16	0	1	0	0	0	0	0	0	0	0	228
22:00	4	125	5	0	2	0	0	0	0	0	0	0	0	136
23:00	0	61	11	0	0	0	0	0	0	0	0	0	0	72
Total	256	7827	902	32	161	44	3	10	1	0	0	0	0	9236
Percent	2.8%	84.7%	9.8%	0.3%	1.7%	0.5%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	09:00	07:00	10:00	11:00		07:00	08:00					11:00
Vol.	17	517	65	5	20	6		1	1					614
PM Peak	16:00	15:00	15:00	14:00	12:00	14:00	12:00	14:00						15:00
Vol.	31	671	85	7	17	6	1	3						806

PRECISION
D A T A
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High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

165126 A Class
Site Code: T0233.02

SB

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	27	5	1	0	0	0	0	0	0	0	0	0	33
01:00	0	13	4	0	0	0	0	0	0	0	0	0	0	17
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
03:00	0	5	2	0	1	0	0	0	0	0	0	0	0	8
04:00	0	16	8	1	4	0	0	0	0	0	0	0	0	29
05:00	0	69	30	1	7	0	0	0	0	0	0	0	0	107
06:00	4	134	31	2	26	2	0	3	1	0	0	0	0	203
07:00	11	348	102	6	30	4	0	1	0	0	0	0	0	502
08:00	13	459	102	6	37	4	0	1	1	0	0	0	0	623
09:00	9	374	85	3	28	2	0	4	0	0	0	0	0	505
10:00	14	347	88	3	33	2	0	1	0	0	0	0	0	488
11:00	12	441	92	4	25	1	0	1	0	0	0	0	0	576
12 PM	13	429	91	2	34	2	0	0	0	0	0	0	0	571
13:00	22	442	88	1	31	3	0	2	0	0	0	0	0	589
14:00	18	457	111	1	25	5	0	1	0	0	0	0	0	618
15:00	18	526	125	6	26	5	0	2	0	0	0	0	0	708
16:00	16	441	116	0	29	4	0	2	0	0	0	0	0	608
17:00	25	467	102	2	31	3	0	1	0	0	0	0	0	631
18:00	20	418	97	1	21	2	0	1	0	0	0	0	0	560
19:00	5	330	79	2	16	3	0	0	0	0	0	0	0	435
20:00	10	226	50	0	5	3	0	0	0	0	0	0	0	294
21:00	3	148	24	0	4	0	0	0	0	0	0	0	0	179
22:00	1	64	10	0	2	0	0	0	0	0	0	0	0	77
23:00	0	42	8	1	2	0	0	0	0	0	0	0	0	53
Total	214	6229	1451	43	417	45	0	20	2	0	0	0	0	8421
Percent	2.5%	74.0%	17.2%	0.5%	5.0%	0.5%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	07:00	07:00	08:00	07:00		09:00	06:00					08:00
Vol.	14	459	102	6	37	4		4	1					623
PM Peak	17:00	15:00	15:00	15:00	12:00	14:00		13:00						15:00
Vol.	25	526	125	6	34	5		2						708

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

High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

165126 A Class
Site Code: T0233.02

SB

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	24	2	0	0	0	0	0	0	0	0	0	0	26
01:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
02:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
03:00	0	6	4	0	1	0	0	0	0	0	0	0	0	11
04:00	0	21	7	1	3	0	0	0	0	0	0	0	0	32
05:00	0	74	33	1	2	0	0	0	0	0	0	0	0	110
06:00	3	151	42	1	28	0	0	0	0	0	0	0	0	225
07:00	6	327	78	5	40	5	0	0	0	0	0	0	0	461
08:00	11	395	112	12	43	3	1	2	0	0	0	0	0	579
09:00	13	326	108	2	26	5	1	1	1	0	0	0	0	483
10:00	16	412	84	3	38	2	0	0	0	0	0	0	0	555
11:00	12	419	88	4	24	3	0	1	0	0	0	0	0	551
12 PM	10	464	95	4	29	3	0	1	0	0	0	0	0	606
13:00	14	391	98	1	24	6	0	0	0	0	0	0	0	534
14:00	21	467	105	3	25	5	0	0	0	0	0	0	0	626
15:00	20	528	132	2	25	8	0	2	1	0	0	0	0	718
16:00	13	473	87	0	23	4	0	2	0	0	0	0	0	602
17:00	27	510	106	0	21	3	0	2	0	0	0	0	0	669
18:00	16	440	89	1	21	1	0	2	0	0	0	0	0	570
19:00	10	307	72	1	15	1	0	1	0	0	0	0	0	407
20:00	5	291	36	0	8	1	0	0	1	0	0	0	0	342
21:00	1	143	29	0	8	0	0	0	0	0	0	0	0	181
22:00	0	82	22	0	6	0	0	1	0	0	0	0	0	111
23:00	0	59	11	0	2	0	0	0	0	0	0	0	0	72
Total	198	6322	1443	41	412	50	2	15	3	0	0	0	0	8486
Percent	2.3%	74.5%	17.0%	0.5%	4.9%	0.6%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	08:00	08:00	08:00	07:00	08:00	08:00	09:00					08:00
Vol.	16	419	112	12	43	5	1	2	1					579
PM Peak	17:00	15:00	15:00	12:00	12:00	15:00		15:00	15:00					15:00
Vol.	27	528	132	4	29	8		2	1					718

PRECISION
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INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

165126 A Class
Site Code: T0233.02

SB

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	28	3	1	1	0	0	0	0	0	0	0	0	33
01:00	0	10	1	0	1	0	0	0	0	0	0	0	0	12
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
03:00	0	0	3	1	1	0	0	0	0	0	0	0	0	5
04:00	0	22	7	0	6	0	0	0	0	0	0	0	0	35
05:00	0	67	28	1	2	0	0	1	0	0	0	0	0	99
06:00	5	122	45	5	30	1	0	3	0	0	0	0	0	211
07:00	11	343	91	4	42	4	0	1	0	0	0	0	0	496
08:00	12	435	121	8	26	5	0	5	0	0	0	0	0	612
09:00	7	398	101	1	30	5	0	1	0	0	0	0	0	543
10:00	9	375	100	1	31	1	0	1	1	0	0	0	0	519
11:00	11	464	106	1	24	3	0	1	0	0	0	0	0	610
12 PM	15	474	128	2	30	1	0	1	0	0	0	0	0	651
13:00	16	441	75	1	21	4	0	0	0	0	0	0	0	558
14:00	19	466	99	4	26	8	0	0	0	0	0	0	0	622
15:00	22	503	116	4	31	3	0	1	0	0	0	0	0	680
16:00	31	511	107	0	32	4	0	0	0	0	0	0	0	685
17:00	15	501	100	0	19	2	0	1	0	0	0	0	0	638
18:00	16	443	101	3	21	0	0	1	0	0	0	0	0	585
19:00	10	345	83	0	17	1	0	0	0	0	0	0	0	456
20:00	6	279	45	0	9	2	0	0	0	0	0	0	0	341
21:00	3	157	18	0	8	0	0	0	0	0	0	0	0	186
22:00	2	67	15	0	3	1	0	0	0	0	0	0	0	88
23:00	0	50	8	0	2	0	0	0	0	0	0	0	0	60
Total	210	6507	1502	37	413	45	0	17	1	0	0	0	0	8732
Percent	2.4%	74.5%	17.2%	0.4%	4.7%	0.5%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	08:00	08:00	07:00	08:00		08:00	10:00					08:00
Vol.	12	464	121	8	42	5		5	1					612
PM Peak	16:00	16:00	12:00	14:00	16:00	14:00		12:00						16:00
Vol.	31	511	128	4	32	8		1						685

PRECISION
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High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

165126 A Speed
Site Code: T0233.02

NB

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	6	24	8	2	**1**	0	0	0	0	0	44	36	32
01:00	0	0	0	4	8	1	3	0	0	0	0	0	0	16	40	33
02:00	0	0	0	1	4	4	1	0	0	0	0	0	0	10	38	35
03:00	0	1	0	2	2	2	1	0	0	0	0	0	0	8	38	31
04:00	1	0	2	4	9	5	4	0	0	0	0	0	0	25	39	32
05:00	1	0	2	22	46	37	**6**	0	0	0	0	0	0	114	37	33
06:00	1	2	17	64	131	39	1	0	0	0	0	0	0	255	34	31
07:00	**27**	**29**	**101**	187	103	13	1	0	0	0	0	0	0	461	31	26
08:00	11	3	41	207	241	33	1	0	0	0	0	0	0	537	33	29
09:00	10	3	28	211	190	34	3	0	0	0	0	0	0	479	33	29
10:00	12	1	35	211	**267**	**44**	2	0	0	0	0	0	0	572	33	29
11:00	24	20	51	**230**	228	34	0	0	0	**1**	**1**	0	**1**	**590**	32	28
12 PM	21	32	59	224	273	30	3	0	**1**	0	0	0	0	643	32	28
13:00	11	5	45	284	296	30	0	0	0	0	0	**1**	**1**	673	32	29
14:00	**50**	**55**	**142**	**307**	155	15	1	0	0	0	0	0	0	725	31	25
15:00	27	43	120	275	254	33	0	0	0	0	0	0	0	**752**	32	27
16:00	30	25	42	200	317	**86**	2	0	0	0	0	0	0	702	33	29
17:00	19	15	49	234	**359**	72	3	0	0	0	0	0	0	751	33	29
18:00	15	6	25	158	270	52	2	0	0	0	0	0	0	528	33	30
19:00	8	5	20	126	225	41	**7**	**1**	0	0	0	0	0	433	33	30
20:00	2	1	12	117	162	41	3	0	0	0	0	0	0	338	33	30
21:00	2	1	8	67	142	26	2	0	0	0	0	0	0	248	33	31
22:00	0	1	3	25	69	23	4	0	0	0	0	0	0	125	35	32
23:00	0	1	1	14	20	22	0	1	0	0	0	0	0	59	37	33
Total	272	249	806	3180	3795	725	52	3	1	1	1	1	2	9088		
%	3.0%	2.7%	8.9%	35.0%	41.8%	8.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	07:00	07:00	11:00	10:00	10:00	05:00	00:00		11:00	11:00		11:00	11:00		
Vol.	27	29	101	230	267	44	6	1		1	1		1	590		
PM Peak	14:00	14:00	14:00	14:00	17:00	16:00	19:00	19:00	12:00			13:00	13:00	15:00		
Vol.	50	55	142	307	359	86	7	1	1			1	1	752		

Stats

15th Percentile :	24 MPH
50th Percentile :	29 MPH
85th Percentile :	33 MPH
95th Percentile :	36 MPH
Mean Speed(Average) :	29 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	6975
Percent in Pace :	76.7%
Number of Vehicles > 30 MPH :	3822
Percent of Vehicles > 30 MPH :	42.1%

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

High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

165126 A Speed
Site Code: T0233.02

NB

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	6	14	7	3	**1**	0	0	0	0	0	32	38	33
01:00	0	0	0	3	10	2	0	0	**1**	0	0	0	0	16	35	33
02:00	0	0	0	3	5	2	1	0	0	0	0	0	0	11	37	32
03:00	0	0	2	0	12	5	0	1	0	0	0	0	0	20	37	33
04:00	1	0	0	4	11	14	2	0	0	0	0	0	0	32	37	33
05:00	2	0	2	17	38	32	**4**	0	0	0	0	0	0	95	37	32
06:00	2	3	18	83	142	40	4	0	0	0	0	0	0	292	34	30
07:00	15	**32**	**95**	191	102	21	3	0	0	0	0	0	0	459	31	26
08:00	7	2	39	216	202	34	3	0	0	0	0	0	0	503	33	29
09:00	**20**	17	63	161	205	31	1	0	0	0	0	0	0	498	32	28
10:00	10	11	53	181	232	42	3	0	0	**1**	0	0	0	533	33	29
11:00	14	13	34	**220**	**240**	**51**	1	0	0	0	0	0	0	**573**	33	29
12 PM	12	7	49	300	249	29	0	0	0	0	0	0	0	646	32	29
13:00	13	11	88	247	210	18	2	0	0	0	0	0	0	589	32	28
14:00	**56**	**87**	**160**	276	114	8	0	**2**	0	0	0	0	0	703	29	24
15:00	39	40	140	**310**	182	27	0	0	0	0	0	0	0	738	31	26
16:00	24	11	43	254	**316**	55	2	1	0	0	0	0	0	706	33	29
17:00	28	24	63	247	316	58	2	0	0	**2**	0	0	0	**740**	33	29
18:00	18	2	24	184	281	75	5	0	0	0	0	0	0	589	33	30
19:00	14	4	20	88	208	**84**	**6**	0	0	0	0	0	**2**	426	35	31
20:00	3	0	11	136	212	35	4	0	**2**	0	0	0	0	403	33	30
21:00	1	0	9	58	119	48	5	0	0	0	0	0	0	240	35	32
22:00	0	0	0	25	58	31	5	1	0	1	0	0	0	121	37	33
23:00	0	0	1	11	38	15	4	0	1	0	0	0	0	70	37	33
Total	279	264	915	3221	3516	764	60	6	4	4	0	0	2	9035		
%	3.1%	2.9%	10.1%	35.7%	38.9%	8.5%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	07:00	07:00	11:00	11:00	11:00	05:00	00:00	01:00	10:00				11:00		
Vol.	20	32	95	220	240	51	4	1	1	1				573		
PM Peak	14:00	14:00	14:00	15:00	16:00	19:00	19:00	14:00	20:00	17:00			19:00	17:00		
Vol.	56	87	160	310	316	84	6	2	2	2			2	740		

Stats

15th Percentile :	23 MPH
50th Percentile :	28 MPH
85th Percentile :	33 MPH
95th Percentile :	36 MPH
Mean Speed(Average) :	29 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	6737
Percent in Pace :	74.6%
Number of Vehicles > 30 MPH :	3653
Percent of Vehicles > 30 MPH :	40.4%

PRECISION
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High Street (Route 113)
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165126 A Speed
Site Code: T0233.02

NB

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	1	8	14	12	3	**1**	0	0	0	**1**	0	40	38	34
01:00	0	0	1	3	8	7	1	0	0	0	0	0	0	20	37	33
02:00	0	0	0	1	2	4	2	0	0	0	0	0	0	9	40	36
03:00	0	0	4	5	3	0	1	0	0	0	0	0	0	13	32	28
04:00	0	1	1	3	8	5	3	1	**1**	0	0	0	0	23	41	34
05:00	0	0	1	20	36	35	6	0	0	0	0	0	0	98	37	33
06:00	0	0	6	50	117	**58**	**7**	0	0	0	0	0	0	238	36	32
07:00	**15**	**38**	**94**	192	93	18	1	0	0	0	0	0	0	451	31	26
08:00	11	19	79	**242**	183	18	1	0	0	0	0	0	0	553	32	28
09:00	8	0	27	202	245	37	0	0	0	0	0	0	**1**	520	33	30
10:00	11	4	44	233	240	34	1	0	0	0	0	0	1	568	32	29
11:00	10	7	35	233	**292**	35	1	0	1	0	0	0	0	**614**	33	29
12 PM	23	27	118	316	179	22	1	0	**1**	0	0	0	0	687	31	27
13:00	37	105	84	183	162	23	0	0	0	0	0	0	0	594	31	25
14:00	**70**	**183**	**233**	173	42	7	0	0	0	0	0	0	**1**	709	27	21
15:00	58	41	118	**325**	232	29	0	**1**	1	**1**	0	0	0	**806**	32	26
16:00	23	9	52	206	375	69	3	0	0	1	0	0	0	738	33	29
17:00	14	6	27	247	**382**	**81**	2	0	0	0	0	0	0	759	33	30
18:00	17	5	24	198	277	48	3	0	0	0	0	0	0	572	33	29
19:00	2	6	18	104	227	60	**4**	1	0	0	**1**	0	0	423	34	31
20:00	10	8	17	88	190	51	1	0	0	0	0	0	0	365	33	30
21:00	0	0	7	59	108	51	3	0	0	0	0	0	0	228	35	32
22:00	2	0	2	23	64	40	4	1	0	0	0	0	0	136	37	33
23:00	0	0	1	16	39	12	4	0	0	0	0	0	0	72	36	32
Total	311	459	994	3130	3518	756	52	5	4	2	1	1	3	9236		
%	3.4%	5.0%	10.8%	33.9%	38.1%	8.2%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	07:00	07:00	08:00	11:00	06:00	06:00	00:00	04:00			00:00	09:00	11:00		
Vol.	15	38	94	242	292	58	7	1	1			1	1	614		
PM Peak	14:00	14:00	14:00	15:00	17:00	17:00	19:00	15:00	12:00	15:00	19:00		14:00	15:00		
Vol.	70	183	233	325	382	81	4	1	1	1	1		1	806		

Stats

15th Percentile :	22 MPH
50th Percentile :	28 MPH
85th Percentile :	33 MPH
95th Percentile :	36 MPH
Mean Speed(Average) :	28 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	6648
Percent in Pace :	72.0%
Number of Vehicles > 30 MPH :	3638
Percent of Vehicles > 30 MPH :	39.4%

PRECISION
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165126 A Speed
Site Code: T0233.02

SB

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	0	2	13	11	7	0	0	0	0	0	0	33	40	35
01:00	0	0	0	1	3	4	3	3	**2**	**1**	0	0	0	17	50	41
02:00	0	0	0	0	4	2	0	0	1	0	0	0	0	7	38	36
03:00	0	0	0	1	2	3	0	0	0	0	0	0	**2**	8	37	34
04:00	0	0	0	1	11	12	5	0	0	0	0	0	0	29	39	36
05:00	0	0	1	5	29	53	14	**4**	0	1	0	0	0	107	40	36
06:00	2	1	2	21	85	69	**19**	4	0	0	0	0	0	203	38	34
07:00	8	2	**67**	**199**	186	37	3	0	0	0	0	0	0	502	33	29
08:00	10	**3**	16	119	**359**	101	15	0	0	0	0	0	0	**623**	35	31
09:00	2	0	2	86	290	**122**	3	0	0	0	0	0	0	505	36	32
10:00	**11**	2	8	88	290	84	4	0	0	0	0	0	1	488	34	31
11:00	7	3	17	172	279	88	4	3	1	0	0	0	2	576	34	31
12 PM	8	4	17	126	300	103	10	3	0	0	0	0	0	571	35	31
13:00	17	0	4	132	337	96	3	0	0	0	0	0	0	589	34	31
14:00	15	3	**63**	**247**	224	58	6	1	0	0	**1**	0	0	618	33	29
15:00	**22**	**12**	43	208	313	100	8	2	0	0	0	0	0	**708**	34	30
16:00	12	3	8	86	296	179	23	0	0	0	0	0	**1**	608	37	32
17:00	16	2	1	71	**356**	159	21	**4**	0	0	0	0	1	631	36	32
18:00	15	4	4	53	276	**187**	17	4	0	0	0	0	0	560	37	33
19:00	3	2	2	41	210	150	**26**	1	0	0	0	0	0	435	37	34
20:00	5	1	1	31	144	97	13	2	0	0	0	0	0	294	37	33
21:00	2	1	0	25	82	61	8	0	0	0	0	0	0	179	37	33
22:00	0	0	0	5	39	26	6	1	0	0	0	0	0	77	38	34
23:00	1	0	1	5	30	11	5	0	0	0	0	0	0	53	37	33
Total	156	43	257	1725	4158	1813	223	32	4	2	1	0	7	8421		
%	1.9%	0.5%	3.1%	20.5%	49.4%	21.5%	2.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.1%			
AM Peak	10:00	08:00	07:00	07:00	08:00	09:00	06:00	05:00	01:00	01:00			03:00	08:00		
Vol.	11	3	67	199	359	122	19	4	2	1			2	623		
PM Peak	15:00	15:00	14:00	14:00	17:00	18:00	19:00	17:00			14:00		16:00	15:00		
Vol.	22	12	63	247	356	187	26	4			1		1	708		

Stats

15th Percentile :	26 MPH
50th Percentile :	31 MPH
85th Percentile :	36 MPH
95th Percentile :	38 MPH
Mean Speed(Average) :	32 MPH
10 MPH Pace Speed :	30-39 MPH
Number in Pace :	5971
Percent in Pace :	70.9%
Number of Vehicles > 30 MPH :	5408
Percent of Vehicles > 30 MPH :	64.2%

High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

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

165126 A Speed
Site Code: T0233.02

SB

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	0	11	9	6	0	0	0	0	0	0	26	40	36
01:00	0	0	0	0	4	5	0	1	0	0	0	0	0	10	38	36
02:00	0	0	0	0	1	2	1	1	0	0	0	0	0	5	45	39
03:00	0	0	0	1	5	5	0	0	0	0	0	0	0	11	37	34
04:00	0	0	0	1	12	12	5	0	**1**	0	0	**1**	0	32	41	37
05:00	0	0	2	5	29	53	18	**3**	0	0	0	0	0	110	40	36
06:00	0	0	3	25	113	60	**20**	3	1	0	0	0	0	225	38	34
07:00	3	3	**65**	**153**	190	43	4	0	0	0	0	0	0	461	33	29
08:00	7	**6**	15	96	**327**	**119**	9	0	0	0	0	0	0	**579**	35	32
09:00	7	2	10	132	241	85	6	0	0	0	0	0	0	483	35	31
10:00	7	1	15	123	306	96	7	0	0	0	0	0	0	555	35	31
11:00	**8**	3	9	138	303	82	8	0	0	0	0	0	0	551	34	31
12 PM	5	1	18	165	**313**	94	9	0	0	0	0	0	**1**	606	34	31
13:00	5	2	22	140	275	83	7	0	0	0	0	0	0	534	34	31
14:00	30	**30**	**115**	**231**	179	39	2	0	0	0	0	0	0	626	32	27
15:00	**32**	24	65	186	288	109	12	1	0	0	0	0	1	**718**	34	29
16:00	10	3	5	87	285	189	20	2	0	0	0	0	1	602	37	33
17:00	15	2	13	104	306	**204**	23	1	0	**1**	0	0	0	669	37	32
18:00	9	1	2	56	313	174	11	**4**	0	0	0	0	0	570	36	33
19:00	7	0	6	51	168	142	**32**	1	0	0	0	0	0	407	38	33
20:00	1	3	7	33	171	119	6	1	0	0	0	0	1	342	37	33
21:00	1	0	0	16	98	53	10	2	0	1	0	0	0	181	37	34
22:00	0	0	0	3	43	48	14	3	0	0	0	0	0	111	39	36
23:00	0	0	0	4	35	25	7	1	0	0	0	0	0	72	38	35
Total	147	81	372	1750	4016	1850	237	24	2	2	0	1	4	8486		
%	1.7%	1.0%	4.4%	20.6%	47.3%	21.8%	2.8%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	08:00	07:00	07:00	08:00	08:00	06:00	05:00	04:00			04:00		08:00		
Vol.	8	6	65	153	327	119	20	3	1			1		579		
PM Peak	15:00	14:00	14:00	14:00	12:00	17:00	19:00	18:00		17:00			12:00	15:00		
Vol.	32	30	115	231	313	204	32	4		1			1	718		

Stats

15th Percentile :	25 MPH
50th Percentile :	31 MPH
85th Percentile :	36 MPH
95th Percentile :	38 MPH
Mean Speed(Average) :	31 MPH
10 MPH Pace Speed :	30-39 MPH
Number in Pace :	5866
Percent in Pace :	69.1%
Number of Vehicles > 30 MPH :	5333
Percent of Vehicles > 30 MPH :	62.8%

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

High Street (Route 113)
between Summit Place and Kent Street
City, State: Newburyport, MA
Client:TEC/ D. Halpert

165126 A Speed
Site Code: T0233.02

SB

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	1	2	1	11	10	6	**1**	0	**1**	0	0	0	33	41	35
01:00	0	0	0	0	3	5	3	1	0	0	0	0	0	12	42	38
02:00	0	0	0	0	2	3	2	0	0	0	0	0	0	7	41	37
03:00	0	0	1	0	1	2	1	0	0	0	0	0	0	5	40	34
04:00	0	0	1	1	9	17	5	1	**1**	0	0	0	0	35	40	36
05:00	0	0	0	9	29	41	19	1	0	0	0	0	0	99	40	36
06:00	3	0	2	16	80	89	**20**	1	0	0	0	0	0	211	38	34
07:00	5	7	**73**	**200**	179	28	4	0	0	0	0	0	0	496	32	28
08:00	4	4	24	195	300	77	7	1	0	0	0	0	0	**612**	33	31
09:00	4	0	13	121	277	**115**	13	0	0	0	0	0	0	543	36	32
10:00	**10**	**8**	6	124	276	84	9	0	0	1	0	0	**1**	519	34	31
11:00	7	0	27	138	**333**	103	2	0	0	0	0	0	0	610	34	31
12 PM	9	1	29	**246**	296	64	4	2	0	0	0	0	0	651	33	30
13:00	**138**	30	50	117	161	55	7	0	0	0	0	0	0	558	33	24
14:00	64	**44**	**158**	229	109	16	2	0	0	0	0	0	0	622	30	24
15:00	25	18	85	206	250	88	8	0	0	0	0	0	0	680	33	29
16:00	21	4	12	104	**322**	191	26	**3**	0	0	0	0	**2**	**685**	37	32
17:00	6	0	3	81	299	**216**	31	1	0	0	0	0	1	638	37	33
18:00	7	5	15	74	257	191	**34**	2	0	0	0	0	0	585	37	33
19:00	7	0	2	42	199	174	29	3	0	0	0	0	0	456	37	34
20:00	2	2	4	34	152	133	14	0	0	0	0	0	0	341	37	34
21:00	3	0	0	15	83	68	16	1	0	0	0	0	0	186	38	34
22:00	0	0	1	5	42	33	5	1	**1**	0	0	0	0	88	38	34
23:00	0	0	1	5	28	22	4	0	0	0	0	0	0	60	37	34
Total	315	124	509	1963	3698	1825	271	19	2	2	0	0	4	8732		
%	3.6%	1.4%	5.8%	22.5%	42.3%	20.9%	3.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	10:00	07:00	07:00	11:00	09:00	06:00	00:00	04:00	00:00			10:00	08:00		
Vol.	10	8	73	200	333	115	20	1	1	1			1	612		
PM Peak	13:00	14:00	14:00	12:00	16:00	17:00	18:00	16:00	22:00				16:00	16:00		
Vol.	138	44	158	246	322	216	34	3	1				2	685		

Stats

15th Percentile :	24 MPH
50th Percentile :	30 MPH
85th Percentile :	36 MPH
95th Percentile :	38 MPH
Mean Speed(Average) :	31 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	5661
Percent in Pace :	64.8%
Number of Vehicles > 30 MPH :	5081
Percent of Vehicles > 30 MPH :	58.2%

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: High Street (Route 113)
E/W: Carter Street/ High School Driveway
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 A
Site Code : T0233.02
Start Date : 6/9/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	High Street (Route 113) From North				Carter Street From East				High Street (Route 113) From South				High School Driveway 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
06:00 AM	0	41	0	0	3	0	1	0	0	38	0	0	0	0	0	0	83
06:15 AM	0	36	0	0	3	0	1	0	0	55	0	0	0	0	0	0	95
06:30 AM	0	61	1	0	2	0	1	0	2	67	0	0	1	0	0	0	135
06:45 AM	0	78	2	0	8	0	2	0	0	77	0	0	1	0	3	0	171
Total	0	216	3	0	16	0	5	0	2	237	0	0	2	0	3	0	484
07:00 AM	0	103	3	0	2	0	2	0	3	77	0	0	4	0	11	0	205
07:15 AM	0	117	2	0	3	0	6	0	2	94	0	0	24	3	27	0	278
07:30 AM	0	86	2	0	5	0	1	0	0	86	0	0	15	2	12	1	210
07:45 AM	0	147	3	0	3	0	2	0	3	118	0	0	3	0	2	0	281
Total	0	453	10	0	13	0	11	0	8	375	0	0	46	5	52	1	974
08:00 AM	0	179	8	0	8	0	0	0	2	158	0	0	2	0	2	0	359
08:15 AM	0	140	3	0	3	0	0	0	4	155	0	0	3	0	0	0	308
08:30 AM	0	156	2	0	6	0	1	0	1	100	0	0	4	0	3	0	273
08:45 AM	0	152	2	0	5	0	0	0	1	148	0	0	2	0	4	0	314
Total	0	627	15	0	22	0	1	0	8	561	0	0	11	0	9	0	1254
09:00 AM	0	109	4	0	6	0	0	0	3	118	0	0	2	0	3	0	245
09:15 AM	0	132	3	0	2	0	1	0	1	124	0	0	3	0	0	0	266
09:30 AM	0	123	2	0	3	0	2	0	1	131	0	0	4	0	4	0	270
09:45 AM	0	158	2	0	5	0	1	0	1	138	0	0	0	0	2	0	307
Total	0	522	11	0	16	0	4	0	6	511	0	0	9	0	9	0	1088
10:00 AM	0	127	5	0	12	0	0	0	3	120	0	0	1	0	3	0	271
10:15 AM	0	136	3	0	5	0	0	0	2	145	0	0	3	0	1	0	295
10:30 AM	0	126	3	0	3	0	1	0	2	140	0	0	5	0	3	0	283
10:45 AM	0	138	1	0	3	0	0	0	3	148	0	0	4	0	2	0	299
Total	0	527	12	0	23	0	1	0	10	553	0	0	13	0	9	0	1148
11:00 AM	0	162	3	0	2	0	0	0	1	160	0	0	2	0	3	0	333
11:15 AM	0	134	6	0	4	0	1	0	1	164	0	0	5	0	2	0	317
11:30 AM	0	142	2	0	4	0	1	0	2	160	0	0	4	0	1	0	316
11:45 AM	0	185	3	0	7	0	1	0	2	136	0	0	0	1	3	0	338
Total	0	623	14	0	17	0	3	0	6	620	0	0	11	1	9	0	1304
12:00 PM	0	170	10	0	8	0	0	0	2	181	0	0	2	0	1	0	374
12:15 PM	0	148	7	0	4	0	1	0	2	176	0	0	2	0	3	0	343
12:30 PM	0	179	4	0	6	0	0	0	2	151	0	0	8	0	1	0	351
12:45 PM	0	171	3	0	3	0	3	0	4	180	0	0	3	0	0	0	367
Total	0	668	24	0	21	0	4	0	10	688	0	0	15	0	5	0	1435
01:00 PM	0	163	4	0	1	0	0	0	2	186	0	0	2	0	1	0	359
01:15 PM	0	122	3	0	6	0	3	0	0	167	0	0	0	1	1	0	303
01:30 PM	0	157	3	0	5	0	0	0	2	148	0	0	1	0	0	0	316
01:45 PM	0	195	9	0	22	0	2	0	3	129	0	0	8	0	3	0	371
Total	0	637	19	0	34	0	5	0	7	630	0	0	11	1	5	0	1349
02:00 PM	0	125	15	0	2	0	1	0	2	180	0	0	2	0	2	0	329
02:15 PM	0	139	4	0	11	0	1	0	7	170	0	0	9	1	4	0	346
02:30 PM	0	177	4	0	4	0	2	0	3	198	0	0	17	0	10	0	415
02:45 PM	0	181	8	0	4	0	1	0	7	186	0	0	9	2	3	0	401
Total	0	622	31	0	21	0	5	0	19	734	0	0	37	3	19	0	1491
03:00 PM	0	172	6	0	1	0	0	0	1	223	0	0	6	1	7	0	417
03:15 PM	0	169	6	0	7	0	4	0	4	207	0	0	11	0	9	0	417
03:30 PM	0	159	5	0	1	0	0	0	1	194	0	0	1	0	3	0	364
03:45 PM	0	205	6	0	5	0	1	0	1	212	0	0	0	0	3	0	433
Total	0	705	23	0	14	0	5	0	7	836	0	0	18	1	22	0	1631

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: High Street (Route 113)
E/W: Carter Street/ High School Driveway
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 A
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Cars - Heavy Vehicles

	High Street (Route 113) From North				Carter Street From East				High Street (Route 113) From South				High School Driveway 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	169	5	0	4	0	1	0	1	163	0	0	0	0	5	0	348
04:15 PM	0	166	7	0	2	0	3	0	4	196	0	0	1	0	3	0	382
04:30 PM	0	154	8	0	5	0	0	0	0	193	0	0	0	0	0	0	360
04:45 PM	0	215	12	0	5	0	3	0	0	180	0	0	1	0	1	0	417
Total	0	704	32	0	16	0	7	0	5	732	0	0	2	0	9	0	1507
05:00 PM	0	163	9	0	6	0	2	0	1	229	0	0	0	0	2	0	412
05:15 PM	0	165	7	0	3	0	4	0	1	195	0	0	0	0	0	0	375
05:30 PM	0	193	8	0	5	0	1	0	3	183	0	0	0	0	2	0	395
05:45 PM	1	163	9	0	8	0	0	0	3	161	0	0	0	0	1	0	346
Total	1	684	33	0	22	0	7	0	8	768	0	0	0	0	5	0	1528
Grand Total	1	6988	227	0	235	0	58	0	96	7245	0	0	175	11	156	1	15193
Apprch %	0	96.8	3.1	0	80.2	0	19.8	0	1.3	98.7	0	0	51	3.2	45.5	0.3	
Total %	0	46	1.5	0	1.5	0	0.4	0	0.6	47.7	0	0	1.2	0.1	1	0	
Cars	1	6849	224	0	230	0	56	0	95	7077	0	0	171	11	148	1	14863
% Cars	100	98	98.7	0	97.9	0	96.6	0	99	97.7	0	0	97.7	100	94.9	100	97.8
Heavy Vehicles	0	139	3	0	5	0	2	0	1	168	0	0	4	0	8	0	330
% Heavy Vehicles	0	2	1.3	0	2.1	0	3.4	0	1	2.3	0	0	2.3	0	5.1	0	2.2

	High Street (Route 113) From North					Carter Street From East					High Street (Route 113) From South					High School Driveway 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 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	0	162	3	0	165	2	0	0	0	2	1	160	0	0	161	2	0	3	0	5	333
11:15 AM	0	134	6	0	140	4	0	1	0	5	1	164	0	0	165	5	0	2	0	7	317
11:30 AM	0	142	2	0	144	4	0	1	0	5	2	160	0	0	162	4	0	1	0	5	316
11:45 AM	0	185	3	0	188	7	0	1	0	8	2	136	0	0	138	0	1	3	0	4	338
Total Volume	0	623	14	0	637	17	0	3	0	20	6	620	0	0	626	11	1	9	0	21	1304
% App. Total	0	97.8	2.2	0		85	0	15	0		1	99	0	0		52.4	4.8	42.9	0		
PHF	.000	.842	.583	.000	.847	.607	.000	.750	.000	.625	.750	.945	.000	.000	.948	.550	.250	.750	.000	.750	.964
Cars	0	614	13	0	627	17	0	3	0	20	6	603	0	0	609	10	1	9	0	20	1276
% Cars	0	98.6	92.9	0	98.4	100	0	100	0	100	100	97.3	0	0	97.3	90.9	100	100	0	95.2	97.9
Heavy Vehicles	0	9	1	0	10	0	0	0	0	0	0	17	0	0	17	1	0	0	0	1	28
% Heavy Vehicles	0	1.4	7.1	0	1.6	0	0	0	0	0	0	2.7	0	0	2.7	9.1	0	0	0	4.8	2.1
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:30 PM																					
02:30 PM	0	177	4	0	181	4	0	2	0	6	3	198	0	0	201	17	0	10	0	27	415
02:45 PM	0	181	8	0	189	4	0	1	0	5	7	186	0	0	193	9	2	3	0	14	401
03:00 PM	0	172	6	0	178	1	0	0	0	1	1	223	0	0	224	6	1	7	0	14	417
03:15 PM	0	169	6	0	175	7	0	4	0	11	4	207	0	0	211	11	0	9	0	20	417
Total Volume	0	699	24	0	723	16	0	7	0	23	15	814	0	0	829	43	3	29	0	75	1650
% App. Total	0	96.7	3.3	0		69.6	0	30.4	0		1.8	98.2	0	0		57.3	4	38.7	0		
PHF	.000	.965	.750	.000	.956	.571	.000	.438	.000	.523	.536	.913	.000	.000	.925	.632	.375	.725	.000	.694	.989
Cars	0	687	23	0	710	16	0	7	0	23	15	790	0	0	805	42	3	28	0	73	1611
% Cars	0	98.3	95.8	0	98.2	100	0	100	0	100	100	97.1	0	0	97.1	97.7	100	96.6	0	97.3	97.6
Heavy Vehicles	0	12	1	0	13	0	0	0	0	0	0	24	0	0	24	1	0	1	0	2	39
% Heavy Vehicles	0	1.7	4.2	0	1.8	0	0	0	0	0	0	2.9	0	0	2.9	2.3	0	3.4	0	2.7	2.4

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: High Street (Route 113)
E/W: Carter Street/ High School Driveway
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 A
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Cars

	High Street (Route 113) From North				Carter Street From East				High Street (Route 113) From South				High School Driveway 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
06:00 AM	0	40	0	0	3	0	1	0	0	38	0	0	0	0	0	0	82
06:15 AM	0	33	0	0	3	0	1	0	0	52	0	0	0	0	0	0	89
06:30 AM	0	57	1	0	2	0	1	0	1	67	0	0	1	0	0	0	130
06:45 AM	0	75	2	0	8	0	1	0	0	76	0	0	1	0	3	0	166
Total	0	205	3	0	16	0	4	0	1	233	0	0	2	0	3	0	467
07:00 AM	0	101	3	0	2	0	2	0	3	73	0	0	4	0	8	0	196
07:15 AM	0	114	2	0	3	0	6	0	2	91	0	0	23	3	26	0	270
07:30 AM	0	82	2	0	5	0	1	0	0	86	0	0	15	2	12	1	206
07:45 AM	0	142	3	0	3	0	2	0	3	115	0	0	3	0	2	0	273
Total	0	439	10	0	13	0	11	0	8	365	0	0	45	5	48	1	945
08:00 AM	0	172	8	0	8	0	0	0	2	155	0	0	2	0	2	0	349
08:15 AM	0	135	3	0	3	0	0	0	4	152	0	0	3	0	0	0	300
08:30 AM	0	154	2	0	6	0	1	0	1	95	0	0	4	0	3	0	266
08:45 AM	0	147	2	0	5	0	0	0	1	145	0	0	2	0	4	0	306
Total	0	608	15	0	22	0	1	0	8	547	0	0	11	0	9	0	1221
09:00 AM	0	105	4	0	6	0	0	0	3	115	0	0	2	0	3	0	238
09:15 AM	0	130	3	0	2	0	1	0	1	122	0	0	3	0	0	0	262
09:30 AM	0	118	2	0	3	0	2	0	1	126	0	0	4	0	4	0	260
09:45 AM	0	156	2	0	3	0	1	0	1	132	0	0	0	0	2	0	297
Total	0	509	11	0	14	0	4	0	6	495	0	0	9	0	9	0	1057
10:00 AM	0	124	5	0	11	0	0	0	3	113	0	0	1	0	3	0	260
10:15 AM	0	130	3	0	5	0	0	0	2	143	0	0	3	0	1	0	287
10:30 AM	0	122	3	0	3	0	1	0	2	135	0	0	5	0	3	0	274
10:45 AM	0	134	1	0	3	0	0	0	3	144	0	0	4	0	2	0	291
Total	0	510	12	0	22	0	1	0	10	535	0	0	13	0	9	0	1112
11:00 AM	0	158	3	0	2	0	0	0	1	157	0	0	2	0	3	0	326
11:15 AM	0	132	6	0	4	0	1	0	1	160	0	0	4	0	2	0	310
11:30 AM	0	141	2	0	4	0	1	0	2	153	0	0	4	0	1	0	308
11:45 AM	0	183	2	0	7	0	1	0	2	133	0	0	0	1	3	0	332
Total	0	614	13	0	17	0	3	0	6	603	0	0	10	1	9	0	1276
12:00 PM	0	165	10	0	8	0	0	0	2	178	0	0	2	0	1	0	366
12:15 PM	0	147	7	0	4	0	1	0	2	172	0	0	2	0	3	0	338
12:30 PM	0	176	4	0	5	0	0	0	2	147	0	0	8	0	1	0	343
12:45 PM	0	168	3	0	3	0	3	0	4	175	0	0	3	0	0	0	359
Total	0	656	24	0	20	0	4	0	10	672	0	0	15	0	5	0	1406
01:00 PM	0	161	3	0	1	0	0	0	2	182	0	0	2	0	1	0	352
01:15 PM	0	121	3	0	6	0	3	0	0	163	0	0	0	1	1	0	298
01:30 PM	0	155	3	0	5	0	0	0	2	145	0	0	1	0	0	0	311
01:45 PM	0	193	9	0	22	0	2	0	3	121	0	0	8	0	3	0	361
Total	0	630	18	0	34	0	5	0	7	611	0	0	11	1	5	0	1322
02:00 PM	0	121	15	0	1	0	1	0	2	172	0	0	2	0	2	0	316
02:15 PM	0	134	4	0	11	0	1	0	7	165	0	0	8	1	1	0	332
02:30 PM	0	175	3	0	4	0	2	0	3	194	0	0	16	0	9	0	406
02:45 PM	0	179	8	0	4	0	1	0	7	179	0	0	9	2	3	0	392
Total	0	609	30	0	20	0	5	0	19	710	0	0	35	3	15	0	1446
03:00 PM	0	165	6	0	1	0	0	0	1	216	0	0	6	1	7	0	403
03:15 PM	0	168	6	0	7	0	4	0	4	201	0	0	11	0	9	0	410
03:30 PM	0	158	5	0	1	0	0	0	1	191	0	0	1	0	3	0	360
03:45 PM	0	203	6	0	5	0	1	0	1	209	0	0	0	0	3	0	428
Total	0	694	23	0	14	0	5	0	7	817	0	0	18	1	22	0	1601

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: High Street (Route 113)
E/W: Carter Street/ High School Driveway
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 A
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Cars

	High Street (Route 113) From North				Carter Street From East				High Street (Route 113) From South				High School Driveway 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	165	5	0	4	0	1	0	1	162	0	0	0	0	5	0	343
04:15 PM	0	162	7	0	2	0	3	0	4	192	0	0	1	0	3	0	374
04:30 PM	0	153	8	0	5	0	0	0	0	193	0	0	0	0	0	0	359
04:45 PM	0	212	12	0	5	0	3	0	0	178	0	0	1	0	1	0	412
Total	0	692	32	0	16	0	7	0	5	725	0	0	2	0	9	0	1488
05:00 PM	0	163	9	0	6	0	1	0	1	226	0	0	0	0	2	0	408
05:15 PM	0	164	7	0	3	0	4	0	1	194	0	0	0	0	0	0	373
05:30 PM	0	193	8	0	5	0	1	0	3	183	0	0	0	0	2	0	395
05:45 PM	1	163	9	0	8	0	0	0	3	161	0	0	0	0	1	0	346
Total	1	683	33	0	22	0	6	0	8	764	0	0	0	0	5	0	1522
Grand Total	1	6849	224	0	230	0	56	0	95	7077	0	0	171	11	148	1	14863
Apprch %	0	96.8	3.2	0	80.4	0	19.6	0	1.3	98.7	0	0	51.7	3.3	44.7	0.3	
Total %	0	46.1	1.5	0	1.5	0	0.4	0	0.6	47.6	0	0	1.2	0.1	1	0	

	High Street (Route 113) From North					Carter Street From East					High Street (Route 113) From South					High School Driveway 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 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	0	158	3	0	161	2	0	0	0	2	1	157	0	0	158	2	0	3	0	5	326
11:15 AM	0	132	6	0	138	4	0	1	0	5	1	160	0	0	161	4	0	2	0	6	310
11:30 AM	0	141	2	0	143	4	0	1	0	5	2	153	0	0	155	4	0	1	0	5	308
11:45 AM	0	183	2	0	185	7	0	1	0	8	2	133	0	0	135	0	1	3	0	4	332
Total Volume	0	614	13	0	627	17	0	3	0	20	6	603	0	0	609	10	1	9	0	20	1276
% App. Total	0	97.9	2.1	0		85	0	15	0		1	99	0	0		50	5	45	0		
PHF	.000	.839	.542	.000	.847	.607	.000	.750	.000	.625	.750	.942	.000	.000	.946	.625	.250	.750	.000	.833	.961
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:30 PM																					
02:30 PM	0	175	3	0	178	4	0	2	0	6	3	194	0	0	197	16	0	9	0	25	406
02:45 PM	0	179	8	0	187	4	0	1	0	5	7	179	0	0	186	9	2	3	0	14	392
03:00 PM	0	165	6	0	171	1	0	0	0	1	1	216	0	0	217	6	1	7	0	14	403
03:15 PM	0	168	6	0	174	7	0	4	0	11	4	201	0	0	205	11	0	9	0	20	410
Total Volume	0	687	23	0	710	16	0	7	0	23	15	790	0	0	805	42	3	28	0	73	1611
% App. Total	0	96.8	3.2	0		69.6	0	30.4	0		1.9	98.1	0	0		57.5	4.1	38.4	0		
PHF	.000	.959	.719	.000	.949	.571	.000	.438	.000	.523	.536	.914	.000	.000	.927	.656	.375	.778	.000	.730	.982

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: High Street (Route 113)
E/W: Carter Street/ High School Driveway
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 A
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Heavy Vehicles

	High Street (Route 113) From North				Carter Street From East				High Street (Route 113) From South				High School Driveway 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
06:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:15 AM	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	6
06:30 AM	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0	0	5
06:45 AM	0	3	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5
Total	0	11	0	0	0	0	1	0	1	4	0	0	0	0	0	0	17
07:00 AM	0	2	0	0	0	0	0	0	0	4	0	0	0	0	3	0	9
07:15 AM	0	3	0	0	0	0	0	0	0	3	0	0	1	0	1	0	8
07:30 AM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
07:45 AM	0	5	0	0	0	0	0	0	0	3	0	0	0	0	0	0	8
Total	0	14	0	0	0	0	0	0	0	10	0	0	1	0	4	0	29
08:00 AM	0	7	0	0	0	0	0	0	0	3	0	0	0	0	0	0	10
08:15 AM	0	5	0	0	0	0	0	0	0	3	0	0	0	0	0	0	8
08:30 AM	0	2	0	0	0	0	0	0	0	5	0	0	0	0	0	0	7
08:45 AM	0	5	0	0	0	0	0	0	0	3	0	0	0	0	0	0	8
Total	0	19	0	0	0	0	0	0	0	14	0	0	0	0	0	0	33
09:00 AM	0	4	0	0	0	0	0	0	0	3	0	0	0	0	0	0	7
09:15 AM	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4
09:30 AM	0	5	0	0	0	0	0	0	0	5	0	0	0	0	0	0	10
09:45 AM	0	2	0	0	2	0	0	0	0	6	0	0	0	0	0	0	10
Total	0	13	0	0	2	0	0	0	0	16	0	0	0	0	0	0	31
10:00 AM	0	3	0	0	1	0	0	0	0	7	0	0	0	0	0	0	11
10:15 AM	0	6	0	0	0	0	0	0	0	2	0	0	0	0	0	0	8
10:30 AM	0	4	0	0	0	0	0	0	0	5	0	0	0	0	0	0	9
10:45 AM	0	4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	8
Total	0	17	0	0	1	0	0	0	0	18	0	0	0	0	0	0	36
11:00 AM	0	4	0	0	0	0	0	0	0	3	0	0	0	0	0	0	7
11:15 AM	0	2	0	0	0	0	0	0	0	4	0	0	1	0	0	0	7
11:30 AM	0	1	0	0	0	0	0	0	0	7	0	0	0	0	0	0	8
11:45 AM	0	2	1	0	0	0	0	0	0	3	0	0	0	0	0	0	6
Total	0	9	1	0	0	0	0	0	0	17	0	0	1	0	0	0	28
12:00 PM	0	5	0	0	0	0	0	0	0	3	0	0	0	0	0	0	8
12:15 PM	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	5
12:30 PM	0	3	0	0	1	0	0	0	0	4	0	0	0	0	0	0	8
12:45 PM	0	3	0	0	0	0	0	0	0	5	0	0	0	0	0	0	8
Total	0	12	0	0	1	0	0	0	0	16	0	0	0	0	0	0	29
01:00 PM	0	2	1	0	0	0	0	0	0	4	0	0	0	0	0	0	7
01:15 PM	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	5
01:30 PM	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	5
01:45 PM	0	2	0	0	0	0	0	0	0	8	0	0	0	0	0	0	10
Total	0	7	1	0	0	0	0	0	0	19	0	0	0	0	0	0	27
02:00 PM	0	4	0	0	1	0	0	0	0	8	0	0	0	0	0	0	13
02:15 PM	0	5	0	0	0	0	0	0	0	5	0	0	1	0	3	0	14
02:30 PM	0	2	1	0	0	0	0	0	0	4	0	0	1	0	1	0	9
02:45 PM	0	2	0	0	0	0	0	0	0	7	0	0	0	0	0	0	9
Total	0	13	1	0	1	0	0	0	0	24	0	0	2	0	4	0	45
03:00 PM	0	7	0	0	0	0	0	0	0	7	0	0	0	0	0	0	14
03:15 PM	0	1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	7
03:30 PM	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	4
03:45 PM	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	5
Total	0	11	0	0	0	0	0	0	0	19	0	0	0	0	0	0	30

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: High Street (Route 113)
E/W: Carter Street/ High School Driveway
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 A
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Heavy Vehicles

	High Street (Route 113) From North				Carter Street From East				High Street (Route 113) From South				High School Driveway 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	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5
04:15 PM	0	4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	8
04:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	5
Total	0	12	0	0	0	0	0	0	0	7	0	0	0	0	0	0	19
05:00 PM	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0	0	4
05:15 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
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	1	0	0	0	0	1	0	0	4	0	0	0	0	0	0	6
Grand Total	0	139	3	0	5	0	2	0	1	168	0	0	4	0	8	0	330
Apprch %	0	97.9	2.1	0	71.4	0	28.6	0	0.6	99.4	0	0	33.3	0	66.7	0	
Total %	0	42.1	0.9	0	1.5	0	0.6	0	0.3	50.9	0	0	1.2	0	2.4	0	

	High Street (Route 113) From North					Carter Street From East					High Street (Route 113) From South					High School Driveway 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 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:30 AM																					
09:30 AM	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	10
09:45 AM	0	2	0	0	2	2	0	0	0	2	0	6	0	0	6	0	0	0	0	0	10
10:00 AM	0	3	0	0	3	1	0	0	0	1	0	7	0	0	7	0	0	0	0	0	11
10:15 AM	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	8
Total Volume	0	16	0	0	16	3	0	0	0	3	0	20	0	0	20	0	0	0	0	0	39
% App. Total	0	100	0	0		100	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.667	.000	.000	.667	.375	.000	.000	.000	.375	.000	.714	.000	.000	.714	.000	.000	.000	.000	.000	.886
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:45 PM																					
01:45 PM	0	2	0	0	2	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	10
02:00 PM	0	4	0	0	4	1	0	0	0	1	0	8	0	0	8	0	0	0	0	0	13
02:15 PM	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	1	0	3	0	4	14
02:30 PM	0	2	1	0	3	0	0	0	0	0	0	4	0	0	4	1	0	1	0	2	9
Total Volume	0	13	1	0	14	1	0	0	0	1	0	25	0	0	25	2	0	4	0	6	46
% App. Total	0	92.9	7.1	0		100	0	0	0		0	100	0	0		33.3	0	66.7	0		
PHF	.000	.650	.250	.000	.700	.250	.000	.000	.000	.250	.000	.781	.000	.000	.781	.500	.000	.333	.000	.375	.821

PRECISION
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Client: TEC/ D. Halpert

File Name : 165126 A
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Peds and Bicycles

	High Street (Route 113) From North					Carter Street From East					High Street (Route 113) From South					High School Driveway 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
06:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	3
06:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	2	5
06:30 AM	0	0	0	1	0	0	0	0	4	1	0	0	0	0	0	0	0	0	4	0	10
06:45 AM	0	1	0	0	3	0	0	0	3	1	0	6	0	0	0	0	0	0	3	4	21
Total	0	1	0	1	3	0	0	0	8	4	0	6	0	0	0	0	0	0	10	6	39
07:00 AM	0	1	0	0	13	0	0	0	4	1	0	1	0	0	0	0	0	0	2	3	25
07:15 AM	0	1	0	0	13	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	17
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	3	6
07:45 AM	0	2	0	0	2	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	8
Total	0	4	0	0	28	0	0	0	7	1	0	6	0	0	0	0	0	0	3	7	56
08:00 AM	0	1	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	5
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	4
08:30 AM	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	4
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Total	0	2	0	0	2	0	0	0	1	1	0	3	0	0	0	0	0	0	3	3	15
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	5
09:15 AM	0	0	0	0	2	0	0	0	1	2	0	0	0	0	0	0	0	0	2	0	7
09:30 AM	0	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	1	7
09:45 AM	0	2	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	1	8
Total	0	2	0	3	2	0	0	0	4	4	0	2	0	0	0	0	0	0	4	6	27
10:00 AM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	3
10:15 AM	0	1	0	0	0	0	0	0	1	3	0	2	0	0	0	0	0	0	1	0	8
10:30 AM	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	4
10:45 AM	0	2	0	3	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3	10
Total	0	4	0	3	0	0	0	0	3	6	0	4	0	0	0	0	0	0	1	4	25
11:00 AM	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3
11:15 AM	0	2	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	5
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1	4
11:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Total	0	3	1	0	0	0	0	0	0	2	0	4	0	0	0	0	0	0	3	1	14
12:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	5
12:15 PM	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	1	2	6
12:30 PM	0	1	0	0	2	0	0	0	3	2	0	0	0	0	0	0	0	0	0	3	11
12:45 PM	0	0	0	0	2	1	0	0	1	4	0	1	0	0	0	0	0	0	0	0	9
Total	0	2	0	0	4	1	0	0	6	7	0	1	0	0	0	0	0	0	2	8	31
01:00 PM	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	4
01:15 PM	0	0	0	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	8
01:30 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	4
01:45 PM	0	0	0	1	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	0	6
Total	0	0	0	3	1	0	0	0	7	1	0	2	0	0	0	0	0	0	2	6	22
02:00 PM	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	6
02:15 PM	0	1	0	22	1	0	0	0	3	3	0	0	0	0	0	0	0	0	12	0	42
02:30 PM	0	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	4	12
02:45 PM	0	0	0	2	0	0	0	0	1	2	0	1	0	0	0	0	0	0	2	1	9
Total	0	1	0	29	2	0	0	0	5	6	0	1	0	0	0	0	0	0	20	5	69
03:00 PM	0	1	0	4	0	0	0	0	0	1	0	2	0	0	0	0	0	0	1	0	9
03:15 PM	0	1	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0	0	0	2	8
03:30 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	2	6
03:45 PM	0	0	0	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	0	1	6
Total	0	2	0	4	0	0	0	0	1	7	0	9	0	0	0	0	0	0	1	5	29

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: High Street (Route 113)
E/W: Carter Street/ High School Driveway
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 A
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Peds and Bicycles

	High Street (Route 113) From North					Carter Street From East					High Street (Route 113) From South					High School Driveway 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	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	0	9
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	4
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	4
Total	0	0	0	1	0	0	0	0	1	4	0	3	0	0	0	1	0	0	9	1	20
05:00 PM	0	0	0	0	0	0	0	0	3	0	0	1	0	0	0	0	0	0	0	0	4
05:15 PM	0	3	0	0	4	0	0	0	3	0	0	2	0	0	0	0	0	0	0	0	12
05:30 PM	0	4	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	6
05:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	9	0	0	4	0	0	0	6	0	0	5	0	0	0	0	0	0	0	0	24
Grand Total	0	30	1	44	46	1	0	0	49	43	0	46	0	0	0	1	0	0	58	52	371
Apprch %	0	24.8	0.8	36.4	38	1.1	0	0	52.7	46.2	0	100	0	0	0	0.9	0	0	52.3	46.8	
Total %	0	8.1	0.3	11.9	12.4	0.3	0	0	13.2	11.6	0	12.4	0	0	0	0.3	0	0	15.6	14	

	High Street (Route 113) From North						Carter Street From East						High Street (Route 113) From South						High School Driveway 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 06:00 AM to 11:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 06:30 AM																									
06:30 AM	0	0	0	1	0	1	0	0	0	4	1	5	0	0	0	0	0	0	0	0	0	4	0	4	10
06:45 AM	0	1	0	0	3	4	0	0	0	3	1	4	0	6	0	0	0	6	0	0	0	3	4	7	21
07:00 AM	0	1	0	0	13	14	0	0	0	4	1	5	0	1	0	0	0	1	0	0	0	2	3	5	25
07:15 AM	0	1	0	0	13	14	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	17
Total Volume	0	3	0	1	29	33	0	0	0	13	3	16	0	7	0	0	0	7	0	0	0	9	8	17	73
% App. Total	0	9.1	0	3	87.9		0	0	0	81.2	18.8		0	100	0	0	0		0	0	0	52.9	47.1		
PHF	.000	.750	.000	.250	.558	.589	.000	.000	.000	.813	.750	.800	.000	.292	.000	.000	.000	.292	.000	.000	.000	.563	.500	.607	.730
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 02:15 PM																									
02:15 PM	0	1	0	22	1	24	0	0	0	3	3	6	0	0	0	0	0	0	0	0	0	12	0	12	42
02:30 PM	0	0	0	4	0	4	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3	4	7	12
02:45 PM	0	0	0	2	0	2	0	0	0	1	2	3	0	1	0	0	0	1	0	0	0	2	1	3	9
03:00 PM	0	1	0	4	0	5	0	0	0	0	1	1	0	2	0	0	0	2	0	0	0	1	0	1	9
Total Volume	0	2	0	32	1	35	0	0	0	4	7	11	0	3	0	0	0	3	0	0	0	18	5	23	72
% App. Total	0	5.7	0	91.4	2.9		0	0	0	36.4	63.6		0	100	0	0	0		0	0	0	78.3	21.7		
PHF	.000	.500	.000	.364	.250	.365	.000	.000	.000	.333	.583	.458	.000	.375	.000	.000	.000	.375	.000	.000	.000	.375	.313	.479	.429

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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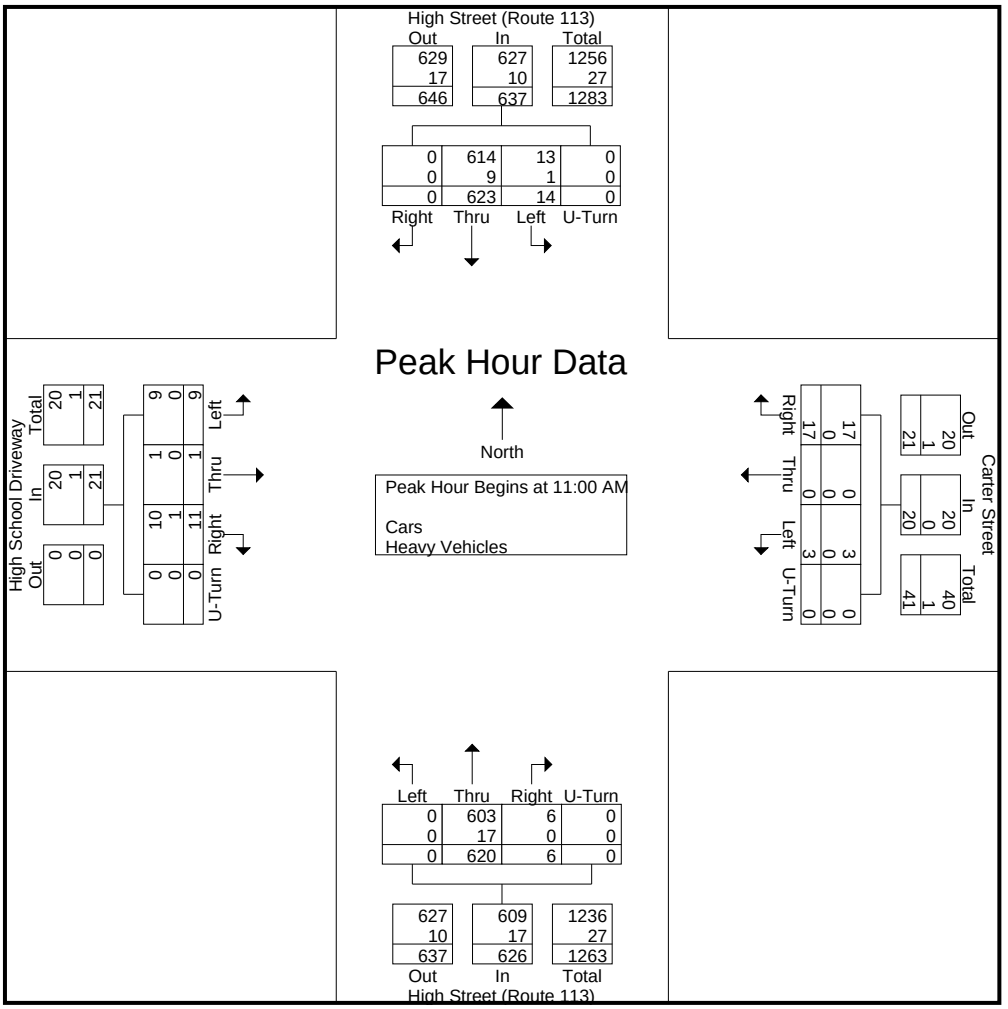
N/S: High Street (Route 113)
E/W: Carter Street/ High School Driveway
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 A
Site Code : T0233.02
Start Date : 6/9/2016
Page No : 1

	High Street (Route 113) From North					Carter Street From East					High Street (Route 113) From South					High School Driveway 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 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	0	162	3	0	165	2	0	0	0	2	1	160	0	0	161	2	0	3	0	5	333
11:15 AM	0	134	6	0	140	4	0	1	0	5	1	164	0	0	165	5	0	2	0	7	317
11:30 AM	0	142	2	0	144	4	0	1	0	5	2	160	0	0	162	4	0	1	0	5	316
11:45 AM	0	185	3	0	188	7	0	1	0	8	2	136	0	0	138	0	1	3	0	4	338
Total Volume	0	623	14	0	637	17	0	3	0	20	6	620	0	0	626	11	1	9	0	21	1304
% App. Total	0	97.8	2.2	0		85	0	15	0		1	99	0	0		52.4	4.8	42.9	0		
PHF	.000	.842	.583	.000	.847	.607	.000	.750	.000	.625	.750	.945	.000	.000	.948	.550	.250	.750	.000	.750	.964
Cars	0	614	13	0	627	17	0	3	0	20	6	603	0	0	609	10	1	9	0	20	1276
% Cars	0	98.6	92.9	0	98.4	100	0	100	0	100	100	97.3	0	0	97.3	90.9	100	100	0	95.2	97.9
Heavy Vehicles	0	9	1	0	10	0	0	0	0	0	0	17	0	0	17	1	0	0	0	1	28
% Heavy Vehicles	0	1.4	7.1	0	1.6	0	0	0	0	0	0	2.7	0	0	2.7	9.1	0	0	0	4.8	2.1

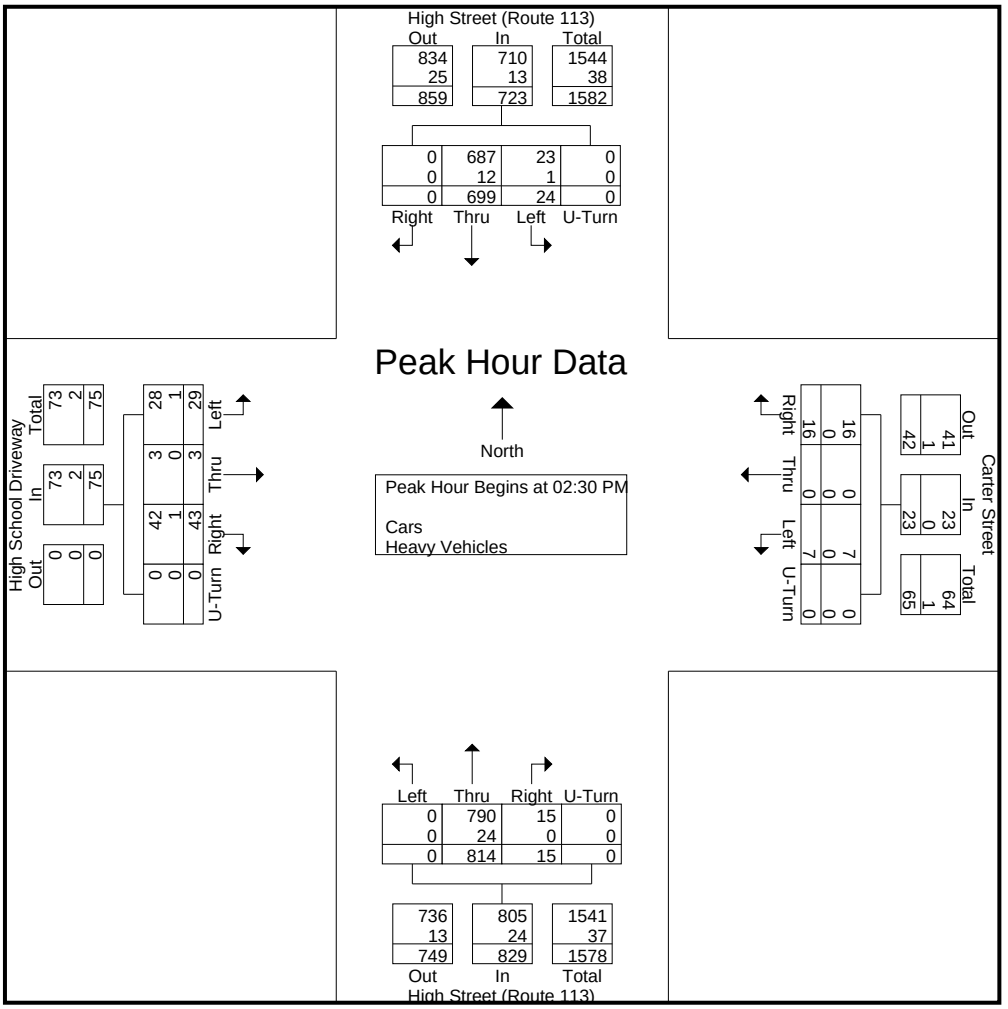


PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: High Street (Route 113)
E/W: Carter Street/ High School Driveway
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 A
Site Code : T0233.02
Start Date : 6/9/2016

	High Street (Route 113) From North					Carter Street From East					High Street (Route 113) From South					High School Driveway 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 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:30 PM																					
02:30 PM	0	177	4	0	181	4	0	2	0	6	3	198	0	0	201	17	0	10	0	27	415
02:45 PM	0	181	8	0	189	4	0	1	0	5	7	186	0	0	193	9	2	3	0	14	401
03:00 PM	0	172	6	0	178	1	0	0	0	1	1	223	0	0	224	6	1	7	0	14	417
03:15 PM	0	169	6	0	175	7	0	4	0	11	4	207	0	0	211	11	0	9	0	20	417
Total Volume	0	699	24	0	723	16	0	7	0	23	15	814	0	0	829	43	3	29	0	75	1650
% App. Total	0	96.7	3.3	0		69.6	0	30.4	0		1.8	98.2	0	0		57.3	4	38.7	0		
PHF	.000	.965	.750	.000	.956	.571	.000	.438	.000	.523	.536	.913	.000	.000	.925	.632	.375	.725	.000	.694	.989
Cars	0	687	23	0	710	16	0	7	0	23	15	790	0	0	805	42	3	28	0	73	1611
% Cars	0	98.3	95.8	0	98.2	100	0	100	0	100	100	97.1	0	0	97.1	97.7	100	96.6	0	97.3	97.6
Heavy Vehicles	0	12	1	0	13	0	0	0	0	0	0	24	0	0	24	1	0	1	0	2	39
% Heavy Vehicles	0	1.7	4.2	0	1.8	0	0	0	0	0	0	2.9	0	0	2.9	2.3	0	3.4	0	2.7	2.4



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: High Street (Route 113)
W: Johnson Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 B
Site Code : T0233.02
Start Date : 6/9/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	High Street (Route 113) From North			High Street (Route 113) From South			Johnson Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
06:00 AM	11	33	0	40	1	0	0	0	0	85
06:15 AM	10	35	0	46	2	0	3	2	0	98
06:30 AM	14	47	0	59	3	0	2	4	0	129
06:45 AM	22	58	0	72	4	0	3	5	0	164
Total	57	173	0	217	10	0	8	11	0	476
07:00 AM	34	65	0	86	17	0	5	8	0	215
07:15 AM	51	112	0	117	24	0	17	15	0	336
07:30 AM	14	92	0	84	7	0	7	7	0	211
07:45 AM	36	117	0	111	22	0	7	4	0	297
Total	135	386	0	398	70	0	36	34	0	1059
08:00 AM	38	155	0	146	19	0	7	7	0	372
08:15 AM	16	130	0	150	9	0	16	15	0	336
08:30 AM	14	144	0	89	6	0	13	5	0	271
08:45 AM	10	148	0	132	6	0	7	5	0	308
Total	78	577	0	517	40	0	43	32	0	1287
09:00 AM	6	104	0	121	3	0	7	3	0	244
09:15 AM	11	125	0	119	3	0	5	6	0	269
09:30 AM	9	127	0	121	4	0	4	5	0	270
09:45 AM	8	159	0	126	5	0	8	4	0	310
Total	34	515	0	487	15	0	24	18	0	1093
10:00 AM	8	114	0	123	9	0	6	9	0	269
10:15 AM	10	123	0	126	5	0	3	7	0	274
10:30 AM	8	129	0	134	1	0	8	7	0	287
10:45 AM	10	128	0	129	1	0	5	8	0	281
Total	36	494	0	512	16	0	22	31	0	1111
11:00 AM	4	153	0	154	1	0	12	9	0	333
11:15 AM	4	131	0	146	2	0	8	10	0	301
11:30 AM	8	136	0	145	5	0	10	5	0	309
11:45 AM	15	164	0	145	14	0	7	12	0	357
Total	31	584	0	590	22	0	37	36	0	1300
12:00 PM	20	151	0	169	7	0	19	13	0	379
12:15 PM	12	134	0	159	8	0	4	7	0	324
12:30 PM	11	166	0	153	2	0	11	10	0	353
12:45 PM	10	161	0	186	7	0	6	4	0	374
Total	53	612	0	667	24	0	40	34	0	1430
01:00 PM	12	132	0	172	4	0	8	11	0	339
01:15 PM	7	124	0	148	6	0	4	8	0	297
01:30 PM	11	141	0	156	7	0	7	7	0	329
01:45 PM	17	139	0	151	13	0	9	13	0	342
Total	47	536	0	627	30	0	28	39	0	1307
02:00 PM	8	128	0	174	14	0	22	8	0	354
02:15 PM	16	138	0	158	8	0	12	14	0	346
02:30 PM	23	171	0	172	17	0	17	16	0	416
02:45 PM	11	183	0	183	6	0	9	19	0	411
Total	58	620	0	687	45	0	60	57	0	1527
03:00 PM	11	159	0	210	4	0	6	14	0	404
03:15 PM	13	165	0	189	5	0	16	5	0	393
03:30 PM	4	150	0	154	7	0	11	17	0	343
03:45 PM	8	186	0	176	5	0	19	20	0	414
Total	36	660	0	729	21	0	52	56	0	1554

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: High Street (Route 113)
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City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 B
Site Code : T0233.02
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Groups Printed- Cars - Heavy Vehicles

	High Street (Route 113) From North			High Street (Route 113) From South			Johnson Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	14	152	0	164	6	0	8	13	0	357
04:15 PM	7	150	0	184	4	0	12	10	0	367
04:30 PM	2	148	0	175	2	0	10	13	0	350
04:45 PM	18	195	0	163	7	0	19	15	0	417
Total	41	645	0	686	19	0	49	51	0	1491
05:00 PM	11	144	0	202	6	0	23	23	0	409
05:15 PM	7	153	0	176	4	0	12	10	0	362
05:30 PM	8	175	0	180	1	0	4	11	0	379
05:45 PM	3	149	0	160	5	0	10	9	0	336
Total	29	621	0	718	16	0	49	53	0	1486
Grand Total	635	6423	0	6835	328	0	448	452	0	15121
Apprch %	9	91	0	95.4	4.6	0	49.8	50.2	0	
Total %	4.2	42.5	0	45.2	2.2	0	3	3	0	
Cars	609	6317	0	6706	315	0	433	431	0	14811
% Cars	95.9	98.3	0	98.1	96	0	96.7	95.4	0	97.9
Heavy Vehicles	26	106	0	129	13	0	15	21	0	310
% Heavy Vehicles	4.1	1.7	0	1.9	4	0	3.3	4.6	0	2.1

	High Street (Route 113) From North				High Street (Route 113) From South				Johnson Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:00 AM													
11:00 AM	4	153	0	157	154	1	0	155	12	9	0	21	333
11:15 AM	4	131	0	135	146	2	0	148	8	10	0	18	301
11:30 AM	8	136	0	144	145	5	0	150	10	5	0	15	309
11:45 AM	15	164	0	179	145	14	0	159	7	12	0	19	357
Total Volume	31	584	0	615	590	22	0	612	37	36	0	73	1300
% App. Total	5	95	0		96.4	3.6	0		50.7	49.3	0		
PHF	.517	.890	.000	.859	.958	.393	.000	.962	.771	.750	.000	.869	.910
Cars	31	575	0	606	575	22	0	597	37	35	0	72	1275
% Cars	100	98.5	0	98.5	97.5	100	0	97.5	100	97.2	0	98.6	98.1
Heavy Vehicles	0	9	0	9	15	0	0	15	0	1	0	1	25
% Heavy Vehicles	0	1.5	0	1.5	2.5	0	0	2.5	0	2.8	0	1.4	1.9
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 02:30 PM													
02:30 PM	23	171	0	194	172	17	0	189	17	16	0	33	416
02:45 PM	11	183	0	194	183	6	0	189	9	19	0	28	411
03:00 PM	11	159	0	170	210	4	0	214	6	14	0	20	404
03:15 PM	13	165	0	178	189	5	0	194	16	5	0	21	393
Total Volume	58	678	0	736	754	32	0	786	48	54	0	102	1624
% App. Total	7.9	92.1	0		95.9	4.1	0		47.1	52.9	0		
PHF	.630	.926	.000	.948	.898	.471	.000	.918	.706	.711	.000	.773	.976
Cars	54	669	0	723	733	31	0	764	47	54	0	101	1588
% Cars	93.1	98.7	0	98.2	97.2	96.9	0	97.2	97.9	100	0	99.0	97.8
Heavy Vehicles	4	9	0	13	21	1	0	22	1	0	0	1	36
% Heavy Vehicles	6.9	1.3	0	1.8	2.8	3.1	0	2.8	2.1	0	0	1.0	2.2

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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N/S: High Street (Route 113)
W: Johnson Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 B
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Cars

	High Street (Route 113) From North			High Street (Route 113) From South			Johnson Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
06:00 AM	11	32	0	40	1	0	0	0	0	84
06:15 AM	10	33	0	44	2	0	3	2	0	94
06:30 AM	13	45	0	59	3	0	2	4	0	126
06:45 AM	21	55	0	71	4	0	3	5	0	159
Total	55	165	0	214	10	0	8	11	0	463
07:00 AM	34	63	0	83	15	0	5	6	0	206
07:15 AM	50	109	0	114	24	0	14	15	0	326
07:30 AM	14	90	0	84	7	0	6	6	0	207
07:45 AM	35	112	0	109	20	0	7	4	0	287
Total	133	374	0	390	66	0	32	31	0	1026
08:00 AM	33	152	0	144	19	0	7	7	0	362
08:15 AM	16	129	0	148	9	0	16	15	0	333
08:30 AM	13	143	0	87	6	0	13	4	0	266
08:45 AM	10	144	0	130	6	0	7	5	0	302
Total	72	568	0	509	40	0	43	31	0	1263
09:00 AM	6	101	0	120	2	0	7	3	0	239
09:15 AM	11	122	0	118	2	0	4	3	0	260
09:30 AM	8	124	0	119	4	0	4	3	0	262
09:45 AM	7	158	0	120	5	0	8	4	0	302
Total	32	505	0	477	13	0	23	13	0	1063
10:00 AM	8	110	0	118	9	0	6	8	0	259
10:15 AM	10	120	0	125	4	0	3	6	0	268
10:30 AM	7	125	0	129	1	0	7	7	0	276
10:45 AM	9	125	0	125	1	0	5	8	0	273
Total	34	480	0	497	15	0	21	29	0	1076
11:00 AM	4	151	0	153	1	0	12	8	0	329
11:15 AM	4	128	0	143	2	0	8	10	0	295
11:30 AM	8	135	0	139	5	0	10	5	0	302
11:45 AM	15	161	0	140	14	0	7	12	0	349
Total	31	575	0	575	22	0	37	35	0	1275
12:00 PM	19	147	0	169	7	0	18	12	0	372
12:15 PM	12	133	0	156	7	0	4	6	0	318
12:30 PM	11	164	0	152	2	0	10	8	0	347
12:45 PM	10	158	0	180	7	0	6	2	0	363
Total	52	602	0	657	23	0	38	28	0	1400
01:00 PM	10	129	0	169	4	0	8	11	0	331
01:15 PM	7	123	0	145	6	0	3	8	0	292
01:30 PM	10	140	0	154	6	0	7	7	0	324
01:45 PM	17	138	0	142	13	0	9	12	0	331
Total	44	530	0	610	29	0	27	38	0	1278
02:00 PM	7	126	0	168	14	0	19	8	0	342
02:15 PM	15	133	0	156	7	0	12	13	0	336
02:30 PM	21	169	0	168	16	0	17	16	0	407
02:45 PM	10	181	0	176	6	0	9	19	0	401
Total	53	609	0	668	43	0	57	56	0	1486
03:00 PM	10	155	0	205	4	0	5	14	0	393
03:15 PM	13	164	0	184	5	0	16	5	0	387
03:30 PM	4	149	0	151	6	0	11	17	0	338
03:45 PM	8	183	0	173	5	0	19	20	0	408
Total	35	651	0	713	20	0	51	56	0	1526

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: High Street (Route 113)
W: Johnson Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 B
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Cars

	High Street (Route 113) From North			High Street (Route 113) From South			Johnson Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	13	150	0	163	6	0	8	13	0	353
04:15 PM	7	147	0	183	4	0	10	9	0	360
04:30 PM	2	147	0	175	2	0	10	13	0	349
04:45 PM	18	194	0	162	7	0	19	15	0	415
Total	40	638	0	683	19	0	47	50	0	1477
05:00 PM	11	143	0	198	6	0	23	23	0	404
05:15 PM	6	153	0	176	3	0	12	10	0	360
05:30 PM	8	175	0	180	1	0	4	11	0	379
05:45 PM	3	149	0	159	5	0	10	9	0	335
Total	28	620	0	713	15	0	49	53	0	1478
Grand Total	609	6317	0	6706	315	0	433	431	0	14811
Apprch %	8.8	91.2	0	95.5	4.5	0	50.1	49.9	0	
Total %	4.1	42.7	0	45.3	2.1	0	2.9	2.9	0	

	High Street (Route 113) From North				High Street (Route 113) From South				Johnson Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:00 AM													
11:00 AM	4	151	0	155	153	1	0	154	12	8	0	20	329
11:15 AM	4	128	0	132	143	2	0	145	8	10	0	18	295
11:30 AM	8	135	0	143	139	5	0	144	10	5	0	15	302
11:45 AM	15	161	0	176	140	14	0	154	7	12	0	19	349
Total Volume	31	575	0	606	575	22	0	597	37	35	0	72	1275
% App. Total	5.1	94.9	0		96.3	3.7	0		51.4	48.6	0		
PHF	.517	.893	.000	.861	.940	.393	.000	.969	.771	.729	.000	.900	.913
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 02:30 PM													
02:30 PM	21	169	0	190	168	16	0	184	17	16	0	33	407
02:45 PM	10	181	0	191	176	6	0	182	9	19	0	28	401
03:00 PM	10	155	0	165	205	4	0	209	5	14	0	19	393
03:15 PM	13	164	0	177	184	5	0	189	16	5	0	21	387
Total Volume	54	669	0	723	733	31	0	764	47	54	0	101	1588
% App. Total	7.5	92.5	0		95.9	4.1	0		46.5	53.5	0		
PHF	.643	.924	.000	.946	.894	.484	.000	.914	.691	.711	.000	.765	.975

PRECISION
D A T A
INDUSTRIES, LLC
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N/S: High Street (Route 113)
W: Johnson Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 B
Site Code : T0233.02
Start Date : 6/9/2016
Page No : 1

Groups Printed- Heavy Vehicles

	High Street (Route 113) From North			High Street (Route 113) From South			Johnson Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
06:00 AM	0	1	0	0	0	0	0	0	0	1
06:15 AM	0	2	0	2	0	0	0	0	0	4
06:30 AM	1	2	0	0	0	0	0	0	0	3
06:45 AM	1	3	0	1	0	0	0	0	0	5
Total	2	8	0	3	0	0	0	0	0	13
07:00 AM	0	2	0	3	2	0	0	2	0	9
07:15 AM	1	3	0	3	0	0	3	0	0	10
07:30 AM	0	2	0	0	0	0	1	1	0	4
07:45 AM	1	5	0	2	2	0	0	0	0	10
Total	2	12	0	8	4	0	4	3	0	33
08:00 AM	5	3	0	2	0	0	0	0	0	10
08:15 AM	0	1	0	2	0	0	0	0	0	3
08:30 AM	1	1	0	2	0	0	0	1	0	5
08:45 AM	0	4	0	2	0	0	0	0	0	6
Total	6	9	0	8	0	0	0	1	0	24
09:00 AM	0	3	0	1	1	0	0	0	0	5
09:15 AM	0	3	0	1	1	0	1	3	0	9
09:30 AM	1	3	0	2	0	0	0	2	0	8
09:45 AM	1	1	0	6	0	0	0	0	0	8
Total	2	10	0	10	2	0	1	5	0	30
10:00 AM	0	4	0	5	0	0	0	1	0	10
10:15 AM	0	3	0	1	1	0	0	1	0	6
10:30 AM	1	4	0	5	0	0	1	0	0	11
10:45 AM	1	3	0	4	0	0	0	0	0	8
Total	2	14	0	15	1	0	1	2	0	35
11:00 AM	0	2	0	1	0	0	0	1	0	4
11:15 AM	0	3	0	3	0	0	0	0	0	6
11:30 AM	0	1	0	6	0	0	0	0	0	7
11:45 AM	0	3	0	5	0	0	0	0	0	8
Total	0	9	0	15	0	0	0	1	0	25
12:00 PM	1	4	0	0	0	0	1	1	0	7
12:15 PM	0	1	0	3	1	0	0	1	0	6
12:30 PM	0	2	0	1	0	0	1	2	0	6
12:45 PM	0	3	0	6	0	0	0	2	0	11
Total	1	10	0	10	1	0	2	6	0	30
01:00 PM	2	3	0	3	0	0	0	0	0	8
01:15 PM	0	1	0	3	0	0	1	0	0	5
01:30 PM	1	1	0	2	1	0	0	0	0	5
01:45 PM	0	1	0	9	0	0	0	1	0	11
Total	3	6	0	17	1	0	1	1	0	29
02:00 PM	1	2	0	6	0	0	3	0	0	12
02:15 PM	1	5	0	2	1	0	0	1	0	10
02:30 PM	2	2	0	4	1	0	0	0	0	9
02:45 PM	1	2	0	7	0	0	0	0	0	10
Total	5	11	0	19	2	0	3	1	0	41
03:00 PM	1	4	0	5	0	0	1	0	0	11
03:15 PM	0	1	0	5	0	0	0	0	0	6
03:30 PM	0	1	0	3	1	0	0	0	0	5
03:45 PM	0	3	0	3	0	0	0	0	0	6
Total	1	9	0	16	1	0	1	0	0	28

PRECISION
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N/S: High Street (Route 113)
W: Johnson Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 B
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Heavy Vehicles

	High Street (Route 113) From North			High Street (Route 113) From South			Johnson Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	1	2	0	1	0	0	0	0	0	4
04:15 PM	0	3	0	1	0	0	2	1	0	7
04:30 PM	0	1	0	0	0	0	0	0	0	1
04:45 PM	0	1	0	1	0	0	0	0	0	2
Total	1	7	0	3	0	0	2	1	0	14
05:00 PM	0	1	0	4	0	0	0	0	0	5
05:15 PM	1	0	0	0	1	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	1	0	0	0	0	0	1
Total	1	1	0	5	1	0	0	0	0	8
Grand Total	26	106	0	129	13	0	15	21	0	310
Apprch %	19.7	80.3	0	90.8	9.2	0	41.7	58.3	0	
Total %	8.4	34.2	0	41.6	4.2	0	4.8	6.8	0	

	High Street (Route 113) From North				High Street (Route 113) From South				Johnson Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:15 AM													
09:15 AM	0	3	0	3	1	1	0	2	1	3	0	4	9
09:30 AM	1	3	0	4	2	0	0	2	0	2	0	2	8
09:45 AM	1	1	0	2	6	0	0	6	0	0	0	0	8
10:00 AM	0	4	0	4	5	0	0	5	0	1	0	1	10
Total Volume	2	11	0	13	14	1	0	15	1	6	0	7	35
% App. Total	15.4	84.6	0		93.3	6.7	0		14.3	85.7	0		
PHF	.500	.688	.000	.813	.583	.250	.000	.625	.250	.500	.000	.438	.875
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 01:45 PM													
01:45 PM	0	1	0	1	9	0	0	9	0	1	0	1	11
02:00 PM	1	2	0	3	6	0	0	6	3	0	0	3	12
02:15 PM	1	5	0	6	2	1	0	3	0	1	0	1	10
02:30 PM	2	2	0	4	4	1	0	5	0	0	0	0	9
Total Volume	4	10	0	14	21	2	0	23	3	2	0	5	42
% App. Total	28.6	71.4	0		91.3	8.7	0		60	40	0		
PHF	.500	.500	.000	.583	.583	.500	.000	.639	.250	.500	.000	.417	.875

PRECISION
D A T A
INDUSTRIES, LLC
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N/S: High Street (Route 113)
W: Johnson Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 B
Site Code : T0233.02
Start Date : 6/9/2016
Page No : 1

Groups Printed- Peds and Bicycles

	High Street (Route 113) From North				High Street (Route 113) From South				Johnson Street From West				
Start Time	Right	Thru	Peds EB	Peds WB	Thru	Left	Peds WB	Peds EB	Right	Left	Peds NB	Peds SB	Int. Total
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
06:30 AM	0	0	0	0	1	0	0	0	0	0	0	1	2
06:45 AM	0	1	1	4	0	0	0	0	0	0	0	2	8
Total	0	1	1	4	1	0	0	0	0	0	0	4	11
07:00 AM	0	1	0	8	0	0	0	0	0	0	2	0	11
07:15 AM	0	1	0	5	1	0	0	0	0	0	3	0	10
07:30 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
07:45 AM	1	3	0	1	0	0	0	0	0	0	0	1	6
Total	1	5	0	14	2	0	0	0	0	0	6	1	29
08:00 AM	0	0	3	3	2	0	0	0	0	0	1	0	9
08:15 AM	0	1	0	3	0	0	0	0	0	0	0	2	6
08:30 AM	0	1	0	0	1	0	0	0	0	0	1	0	3
08:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	3
Total	0	2	3	6	3	0	0	0	0	0	5	2	21
09:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	1	0	0	0	0	0	0	0	1	2
09:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	1	0	0	0	0	0	0	0	1	4
10:00 AM	0	0	0	0	1	0	0	0	0	0	0	2	3
10:15 AM	0	1	0	0	2	0	0	0	0	0	0	1	4
10:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
10:45 AM	0	3	0	0	1	0	0	0	0	1	1	0	6
Total	0	4	0	0	6	0	0	0	0	1	1	3	15
11:00 AM	0	0	0	0	1	0	0	0	0	0	0	1	2
11:15 AM	0	2	0	0	2	0	0	0	0	0	1	0	5
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	2
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	3	0	0	0	0	0	1	3	9
12:00 PM	0	1	3	2	0	0	0	0	0	0	1	0	7
12:15 PM	0	0	17	0	0	0	0	0	0	0	0	1	18
12:30 PM	0	1	2	1	0	0	0	0	0	0	0	0	4
12:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	2	22	4	0	0	0	0	0	0	1	1	30
01:00 PM	0	1	0	0	0	0	0	0	0	0	0	1	2
01:15 PM	0	1	0	1	0	0	0	0	0	0	0	1	3
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
01:45 PM	0	1	0	1	0	0	0	0	0	0	0	3	5
Total	0	3	0	2	0	0	0	0	0	0	0	6	11
02:00 PM	0	0	6	0	0	0	0	0	0	0	3	3	12
02:15 PM	0	2	3	0	0	0	0	0	0	0	1	6	12
02:30 PM	0	0	1	0	0	0	0	0	0	0	0	5	6
02:45 PM	0	4	6	0	0	0	0	0	0	0	1	2	13
Total	0	6	16	0	0	0	0	0	0	0	5	16	43
03:00 PM	0	2	0	0	2	0	0	0	0	0	0	1	5
03:15 PM	0	2	1	0	3	0	0	0	0	0	0	0	6
03:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	4
03:45 PM	0	0	0	0	2	0	0	0	0	0	1	0	3
Total	0	4	1	0	7	0	0	0	0	0	3	3	18

PRECISION
D A T A
INDUSTRIES, LLC
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N/S: High Street (Route 113)
W: Johnson Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 B
Site Code : T0233.02
Start Date : 6/9/2016
Page No : 2

Groups Printed- Peds and Bicycles

	High Street (Route 113) From North				High Street (Route 113) From South				Johnson Street From West				
Start Time	Right	Thru	Peds EB	Peds WB	Thru	Left	Peds WB	Peds EB	Right	Left	Peds NB	Peds SB	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	2	1	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	2	0	0	0	0	0	0	0	1	1	5
04:45 PM	0	1	0	0	0	0	0	0	0	0	2	0	3
Total	0	2	2	0	0	0	0	0	0	0	5	2	11
05:00 PM	0	0	0	1	0	0	0	0	0	0	0	4	5
05:15 PM	0	3	0	0	1	0	0	0	0	0	0	1	5
05:30 PM	0	3	0	0	1	0	0	0	0	0	0	1	5
05:45 PM	0	2	0	0	0	0	0	0	0	0	1	0	3
Total	0	8	0	1	2	0	0	0	0	0	1	6	18
Grand Total	1	41	45	32	24	0	0	0	0	1	28	48	220
Apprch %	0.8	34.5	37.8	26.9	100	0	0	0	0	1.3	36.4	62.3	
Total %	0.5	18.6	20.5	14.5	10.9	0	0	0	0	0.5	12.7	21.8	

	High Street (Route 113) From North					High Street (Route 113) From South					Johnson Street From West					
Start Time	Right	Thru	Peds EB	Peds WB	App. Total	Thru	Left	Peds WB	Peds EB	App. Total	Right	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 06:30 AM																
06:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1	2
06:45 AM	0	1	1	4	6	0	0	0	0	0	0	0	0	2	2	8
07:00 AM	0	1	0	8	9	0	0	0	0	0	0	0	2	0	2	11
07:15 AM	0	1	0	5	6	1	0	0	0	1	0	0	3	0	3	10
Total Volume	0	3	1	17	21	2	0	0	0	2	0	0	5	3	8	31
% App. Total	0	14.3	4.8	81		100	0	0	0		0	0	62.5	37.5		
PHF	.000	.750	.250	.531	.583	.500	.000	.000	.000	.500	.000	.000	.417	.375	.667	.705
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 02:00 PM																
02:00 PM	0	0	6	0	6	0	0	0	0	0	0	0	3	3	6	12
02:15 PM	0	2	3	0	5	0	0	0	0	0	0	0	1	6	7	12
02:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	5	5	6
02:45 PM	0	4	6	0	10	0	0	0	0	0	0	0	1	2	3	13
Total Volume	0	6	16	0	22	0	0	0	0	0	0	0	5	16	21	43
% App. Total	0	27.3	72.7	0		0	0	0	0		0	0	23.8	76.2		
PHF	.000	.375	.667	.000	.550	.000	.000	.000	.000	.000	.000	.000	.417	.667	.750	.827

PRECISION
D A T A
INDUSTRIES, LLC
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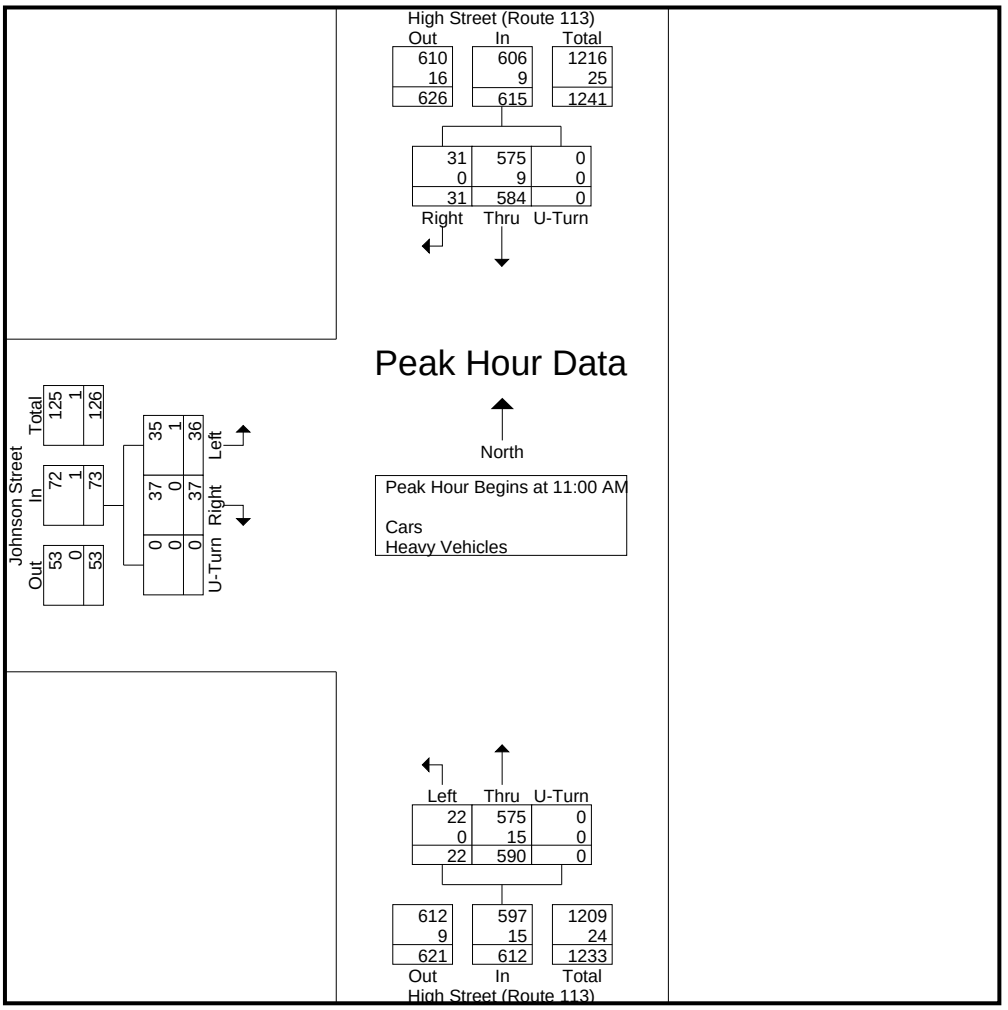
N/S: High Street (Route 113)
W: Johnson Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 B
Site Code : T0233.02
Start Date : 6/9/2016
Page No : 1

	High Street (Route 113) From North				High Street (Route 113) From South				Johnson Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:00 AM													
11:00 AM	4	153	0	157	154	1	0	155	12	9	0	21	333
11:15 AM	4	131	0	135	146	2	0	148	8	10	0	18	301
11:30 AM	8	136	0	144	145	5	0	150	10	5	0	15	309
11:45 AM	15	164	0	179	145	14	0	159	7	12	0	19	357
Total Volume	31	584	0	615	590	22	0	612	37	36	0	73	1300
% App. Total	5	95	0		96.4	3.6	0		50.7	49.3	0		
PHF	.517	.890	.000	.859	.958	.393	.000	.962	.771	.750	.000	.869	.910
Cars	31	575	0	606	575	22	0	597	37	35	0	72	1275
% Cars	100	98.5	0	98.5	97.5	100	0	97.5	100	97.2	0	98.6	98.1
Heavy Vehicles	0	9	0	9	15	0	0	15	0	1	0	1	25
% Heavy Vehicles	0	1.5	0	1.5	2.5	0	0	2.5	0	2.8	0	1.4	1.9



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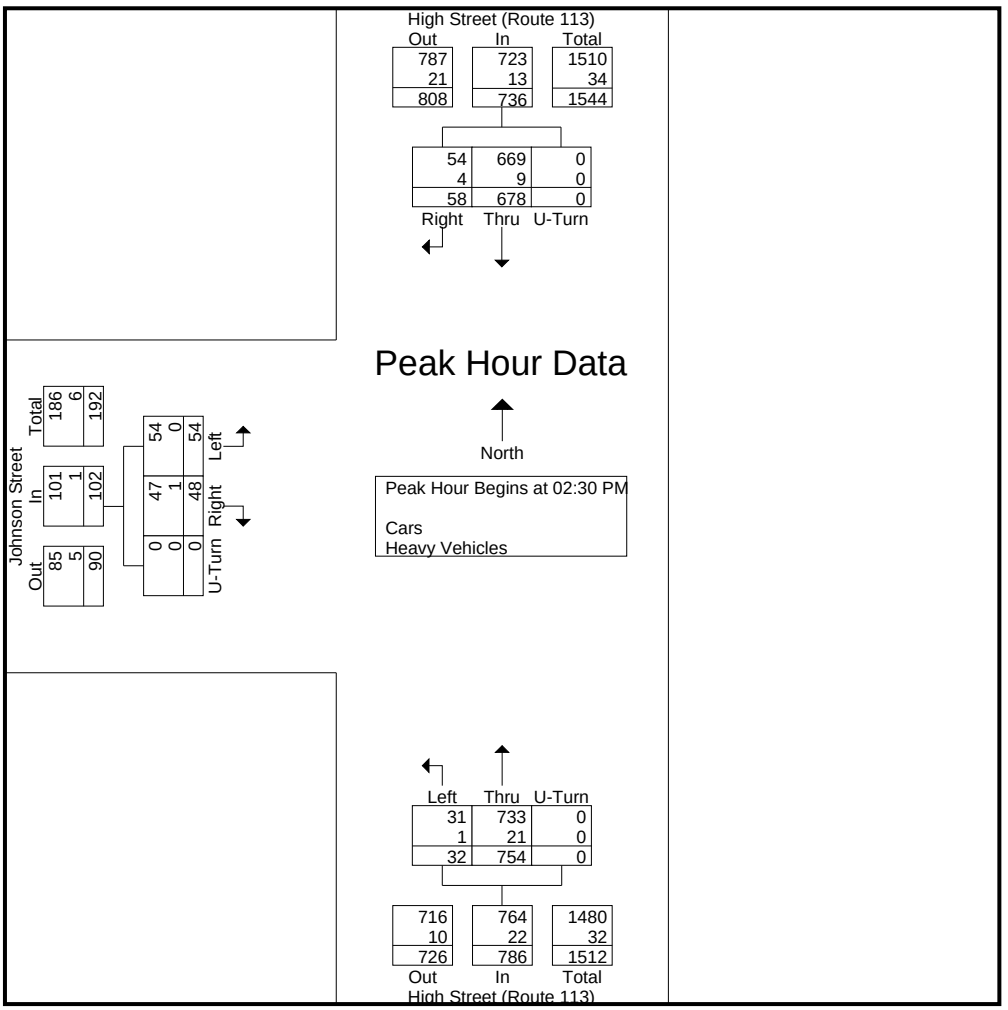
N/S: High Street (Route 113)
W: Johnson Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 B
Site Code : T0233.02
Start Date : 6/9/2016

	High Street (Route 113) From North				High Street (Route 113) From South				Johnson Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 02:30 PM													
02:30 PM	23	171	0	194	172	17	0	189	17	16	0	33	416
02:45 PM	11	183	0	194	183	6	0	189	9	19	0	28	411
03:00 PM	11	159	0	170	210	4	0	214	6	14	0	20	404
03:15 PM	13	165	0	178	189	5	0	194	16	5	0	21	393
Total Volume	58	678	0	736	754	32	0	786	48	54	0	102	1624
% App. Total	7.9	92.1	0		95.9	4.1	0		47.1	52.9	0		
PHF	.630	.926	.000	.948	.898	.471	.000	.918	.706	.711	.000	.773	.976
Cars	54	669	0	723	733	31	0	764	47	54	0	101	1588
% Cars	93.1	98.7	0	98.2	97.2	96.9	0	97.2	97.9	100	0	99.0	97.8
Heavy Vehicles	4	9	0	13	21	1	0	22	1	0	0	1	36
% Heavy Vehicles	6.9	1.3	0	1.8	2.8	3.1	0	2.8	2.1	0	0	1.0	2.2



PRECISION
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46 Morton Street, Framingham, MA 01702
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N/S: High Street (Route 113)
E: Kent Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 C
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Cars - Heavy Vehicles

	High Street (Route 113) From North			Kent Street From East			High Street (Route 113) From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
06:00 AM	45	0	0	2	3	0	1	34	0	85
06:15 AM	35	0	0	5	5	0	0	51	0	96
06:30 AM	60	0	0	5	4	0	3	62	0	134
06:45 AM	72	3	0	10	8	0	2	70	0	165
Total	212	3	0	22	20	0	6	217	0	480
07:00 AM	92	7	0	15	7	0	5	89	0	215
07:15 AM	157	10	0	20	9	0	8	127	0	331
07:30 AM	97	7	0	10	6	0	7	80	0	207
07:45 AM	151	8	0	10	14	0	3	120	0	306
Total	497	32	0	55	36	0	23	416	0	1059
08:00 AM	172	7	0	10	12	0	6	147	0	354
08:15 AM	142	10	0	8	4	0	6	155	0	325
08:30 AM	150	7	0	7	8	0	1	91	0	264
08:45 AM	152	4	0	17	9	0	5	131	0	318
Total	616	28	0	42	33	0	18	524	0	1261
09:00 AM	110	1	0	6	2	0	3	121	0	243
09:15 AM	128	10	0	9	7	0	7	116	0	277
09:30 AM	126	5	0	4	4	0	2	127	0	268
09:45 AM	166	8	0	13	4	0	4	134	0	329
Total	530	24	0	32	17	0	16	498	0	1117
10:00 AM	123	9	0	10	2	0	6	116	0	266
10:15 AM	132	8	0	16	3	0	4	131	0	294
10:30 AM	127	9	0	10	8	0	7	140	0	301
10:45 AM	134	9	0	21	5	0	6	125	0	300
Total	516	35	0	57	18	0	23	512	0	1161
11:00 AM	153	8	0	8	5	0	6	156	0	336
11:15 AM	132	13	0	8	3	0	7	155	0	318
11:30 AM	141	10	0	11	2	0	2	153	0	319
11:45 AM	172	3	0	6	5	0	11	135	0	332
Total	598	34	0	33	15	0	26	599	0	1305
12:00 PM	158	16	0	16	11	0	15	176	0	392
12:15 PM	144	6	0	11	8	0	4	164	0	337
12:30 PM	170	11	0	10	4	0	12	152	0	359
12:45 PM	166	15	0	11	4	0	7	198	0	401
Total	638	48	0	48	27	0	38	690	0	1489
01:00 PM	147	14	0	7	7	0	4	179	0	358
01:15 PM	124	7	0	13	7	0	7	151	0	309
01:30 PM	145	4	0	10	5	0	13	149	0	326
01:45 PM	165	5	1	11	5	0	35	118	0	340
Total	581	30	1	41	24	0	59	597	0	1333
02:00 PM	124	5	0	16	4	0	18	168	0	335
02:15 PM	145	12	0	19	9	0	16	151	0	352
02:30 PM	192	23	0	8	8	0	9	181	0	421
02:45 PM	178	11	0	17	5	0	8	188	0	407
Total	639	51	0	60	26	0	51	688	0	1515
03:00 PM	159	22	0	18	7	0	17	205	0	428
03:15 PM	176	17	0	12	8	0	10	192	1	416
03:30 PM	145	12	0	22	5	0	6	171	0	361
03:45 PM	196	18	0	12	3	0	8	201	0	438
Total	676	69	0	64	23	0	41	769	1	1643

PRECISION
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N/S: High Street (Route 113)
E: Kent Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 C
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Cars - Heavy Vehicles

	High Street (Route 113) From North			Kent Street From East			High Street (Route 113) From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	157	14	0	17	5	0	7	157	0	357
04:15 PM	159	14	0	14	5	0	11	181	0	384
04:30 PM	136	14	0	18	0	0	10	181	0	359
04:45 PM	213	16	0	15	9	0	15	166	0	434
Total	665	58	0	64	19	0	43	685	0	1534
05:00 PM	143	19	0	23	9	0	11	212	0	417
05:15 PM	157	7	0	20	5	0	8	179	0	376
05:30 PM	172	16	0	10	7	0	14	170	0	389
05:45 PM	150	9	0	8	4	0	13	161	0	345
Total	622	51	0	61	25	0	46	722	0	1527
Grand Total	6790	463	1	579	283	0	390	6917	1	15424
Apprch %	93.6	6.4	0	67.2	32.8	0	5.3	94.6	0	
Total %	44	3	0	3.8	1.8	0	2.5	44.8	0	
Cars	6668	454	1	571	275	0	376	6780	1	15126
% Cars	98.2	98.1	100	98.6	97.2	0	96.4	98	100	98.1
Heavy Vehicles	122	9	0	8	8	0	14	137	0	298
% Heavy Vehicles	1.8	1.9	0	1.4	2.8	0	3.6	2	0	1.9

	High Street (Route 113) From North				Kent Street From East				High Street (Route 113) From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:00 AM													
11:00 AM	153	8	0	161	8	5	0	13	6	156	0	162	336
11:15 AM	132	13	0	145	8	3	0	11	7	155	0	162	318
11:30 AM	141	10	0	151	11	2	0	13	2	153	0	155	319
11:45 AM	172	3	0	175	6	5	0	11	11	135	0	146	332
Total Volume	598	34	0	632	33	15	0	48	26	599	0	625	1305
% App. Total	94.6	5.4	0		68.8	31.2	0		4.2	95.8	0		
PHF	.869	.654	.000	.903	.750	.750	.000	.923	.591	.960	.000	.965	.971
Cars	590	34	0	624	33	15	0	48	25	585	0	610	1282
% Cars	98.7	100	0	98.7	100	100	0	100	96.2	97.7	0	97.6	98.2
Heavy Vehicles	8	0	0	8	0	0	0	0	1	14	0	15	23
% Heavy Vehicles	1.3	0	0	1.3	0	0	0	0	3.8	2.3	0	2.4	1.8
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 02:30 PM													
02:30 PM	192	23	0	215	8	8	0	16	9	181	0	190	421
02:45 PM	178	11	0	189	17	5	0	22	8	188	0	196	407
03:00 PM	159	22	0	181	18	7	0	25	17	205	0	222	428
03:15 PM	176	17	0	193	12	8	0	20	10	192	1	203	416
Total Volume	705	73	0	778	55	28	0	83	44	766	1	811	1672
% App. Total	90.6	9.4	0		66.3	33.7	0		5.4	94.5	0.1		
PHF	.918	.793	.000	.905	.764	.875	.000	.830	.647	.934	.250	.913	.977
Cars	693	72	0	765	52	27	0	79	44	746	1	791	1635
% Cars	98.3	98.6	0	98.3	94.5	96.4	0	95.2	100	97.4	100	97.5	97.8
Heavy Vehicles	12	1	0	13	3	1	0	4	0	20	0	20	37
% Heavy Vehicles	1.7	1.4	0	1.7	5.5	3.6	0	4.8	0	2.6	0	2.5	2.2

PRECISION
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46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
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N/S: High Street (Route 113)
E: Kent Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 C
Site Code : T0233.02
Start Date : 6/9/2016
Page No : 1

Groups Printed- Cars

	High Street (Route 113) From North			Kent Street From East			High Street (Route 113) From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
06:00 AM	44	0	0	2	3	0	1	34	0	84
06:15 AM	32	0	0	5	5	0	0	48	0	90
06:30 AM	56	0	0	5	4	0	3	61	0	129
06:45 AM	67	3	0	10	8	0	2	69	0	159
Total	199	3	0	22	20	0	6	212	0	462
07:00 AM	90	7	0	15	7	0	4	84	0	207
07:15 AM	153	10	0	20	9	0	7	124	0	323
07:30 AM	97	5	0	10	6	0	6	80	0	204
07:45 AM	148	7	0	9	13	0	3	118	0	298
Total	488	29	0	54	35	0	20	406	0	1032
08:00 AM	167	7	0	10	11	0	6	147	0	348
08:15 AM	140	10	0	8	4	0	6	153	0	321
08:30 AM	149	6	0	6	7	0	1	90	0	259
08:45 AM	146	4	0	16	9	0	5	128	0	308
Total	602	27	0	40	31	0	18	518	0	1236
09:00 AM	107	0	0	6	2	0	3	120	0	238
09:15 AM	127	10	0	9	7	0	6	114	0	273
09:30 AM	124	4	0	4	4	0	2	122	0	260
09:45 AM	163	8	0	13	4	0	4	131	0	323
Total	521	22	0	32	17	0	15	487	0	1094
10:00 AM	120	9	0	9	2	0	6	109	0	255
10:15 AM	127	8	0	15	3	0	3	130	0	286
10:30 AM	124	9	0	10	7	0	7	135	0	292
10:45 AM	128	9	0	21	5	0	6	121	0	290
Total	499	35	0	55	17	0	22	495	0	1123
11:00 AM	151	8	0	8	5	0	6	154	0	332
11:15 AM	129	13	0	8	3	0	6	152	0	311
11:30 AM	140	10	0	11	2	0	2	147	0	312
11:45 AM	170	3	0	6	5	0	11	132	0	327
Total	590	34	0	33	15	0	25	585	0	1282
12:00 PM	153	16	0	16	10	0	14	173	0	382
12:15 PM	143	6	0	11	8	0	4	159	0	331
12:30 PM	167	11	0	10	4	0	10	150	0	352
12:45 PM	163	15	0	11	4	0	6	192	0	391
Total	626	48	0	48	26	0	34	674	0	1456
01:00 PM	144	14	0	7	5	0	3	175	0	348
01:15 PM	123	7	0	13	7	0	7	148	0	305
01:30 PM	143	4	0	10	5	0	13	147	0	322
01:45 PM	163	5	1	11	5	0	33	110	0	328
Total	573	30	1	41	22	0	56	580	0	1303
02:00 PM	122	4	0	16	4	0	18	162	0	326
02:15 PM	140	11	0	19	9	0	15	149	0	343
02:30 PM	189	23	0	8	7	0	9	178	0	414
02:45 PM	175	11	0	16	5	0	8	180	0	395
Total	626	49	0	59	25	0	50	669	0	1478
03:00 PM	155	21	0	16	7	0	17	201	0	417
03:15 PM	174	17	0	12	8	0	10	187	1	409
03:30 PM	144	12	0	22	5	0	6	169	0	358
03:45 PM	194	18	0	12	3	0	8	198	0	433
Total	667	68	0	62	23	0	41	755	1	1617

PRECISION
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N/S: High Street (Route 113)
E: Kent Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 C
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Cars

	High Street (Route 113) From North			Kent Street From East			High Street (Route 113) From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	154	14	0	17	5	0	7	156	0	353
04:15 PM	156	14	0	14	5	0	11	180	0	380
04:30 PM	135	14	0	18	0	0	10	181	0	358
04:45 PM	212	16	0	15	9	0	15	164	0	431
Total	657	58	0	64	19	0	43	681	0	1522
05:00 PM	142	19	0	23	9	0	11	209	0	413
05:15 PM	156	7	0	20	5	0	8	179	0	375
05:30 PM	172	16	0	10	7	0	14	170	0	389
05:45 PM	150	9	0	8	4	0	13	160	0	344
Total	620	51	0	61	25	0	46	718	0	1521
Grand Total	6668	454	1	571	275	0	376	6780	1	15126
Apprch %	93.6	6.4	0	67.5	32.5	0	5.3	94.7	0	
Total %	44.1	3	0	3.8	1.8	0	2.5	44.8	0	

	High Street (Route 113) From North				Kent Street From East				High Street (Route 113) From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:00 AM													
11:00 AM	151	8	0	159	8	5	0	13	6	154	0	160	332
11:15 AM	129	13	0	142	8	3	0	11	6	152	0	158	311
11:30 AM	140	10	0	150	11	2	0	13	2	147	0	149	312
11:45 AM	170	3	0	173	6	5	0	11	11	132	0	143	327
Total Volume	590	34	0	624	33	15	0	48	25	585	0	610	1282
% App. Total	94.6	5.4	0		68.8	31.2	0		4.1	95.9	0		
PHF	.868	.654	.000	.902	.750	.750	.000	.923	.568	.950	.000	.953	.965
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 02:30 PM													
02:30 PM	189	23	0	212	8	7	0	15	9	178	0	187	414
02:45 PM	175	11	0	186	16	5	0	21	8	180	0	188	395
03:00 PM	155	21	0	176	16	7	0	23	17	201	0	218	417
03:15 PM	174	17	0	191	12	8	0	20	10	187	1	198	409
Total Volume	693	72	0	765	52	27	0	79	44	746	1	791	1635
% App. Total	90.6	9.4	0		65.8	34.2	0		5.6	94.3	0.1		
PHF	.917	.783	.000	.902	.813	.844	.000	.859	.647	.928	.250	.907	.980

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: High Street (Route 113)
E: Kent Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 C
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Heavy Vehicles

	High Street (Route 113) From North			Kent Street From East			High Street (Route 113) From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
06:00 AM	1	0	0	0	0	0	0	0	0	1
06:15 AM	3	0	0	0	0	0	0	3	0	6
06:30 AM	4	0	0	0	0	0	0	1	0	5
06:45 AM	5	0	0	0	0	0	0	1	0	6
Total	13	0	0	0	0	0	0	5	0	18
07:00 AM	2	0	0	0	0	0	1	5	0	8
07:15 AM	4	0	0	0	0	0	1	3	0	8
07:30 AM	0	2	0	0	0	0	1	0	0	3
07:45 AM	3	1	0	1	1	0	0	2	0	8
Total	9	3	0	1	1	0	3	10	0	27
08:00 AM	5	0	0	0	1	0	0	0	0	6
08:15 AM	2	0	0	0	0	0	0	2	0	4
08:30 AM	1	1	0	1	1	0	0	1	0	5
08:45 AM	6	0	0	1	0	0	0	3	0	10
Total	14	1	0	2	2	0	0	6	0	25
09:00 AM	3	1	0	0	0	0	0	1	0	5
09:15 AM	1	0	0	0	0	0	1	2	0	4
09:30 AM	2	1	0	0	0	0	0	5	0	8
09:45 AM	3	0	0	0	0	0	0	3	0	6
Total	9	2	0	0	0	0	1	11	0	23
10:00 AM	3	0	0	1	0	0	0	7	0	11
10:15 AM	5	0	0	1	0	0	1	1	0	8
10:30 AM	3	0	0	0	1	0	0	5	0	9
10:45 AM	6	0	0	0	0	0	0	4	0	10
Total	17	0	0	2	1	0	1	17	0	38
11:00 AM	2	0	0	0	0	0	0	2	0	4
11:15 AM	3	0	0	0	0	0	1	3	0	7
11:30 AM	1	0	0	0	0	0	0	6	0	7
11:45 AM	2	0	0	0	0	0	0	3	0	5
Total	8	0	0	0	0	0	1	14	0	23
12:00 PM	5	0	0	0	1	0	1	3	0	10
12:15 PM	1	0	0	0	0	0	0	5	0	6
12:30 PM	3	0	0	0	0	0	2	2	0	7
12:45 PM	3	0	0	0	0	0	1	6	0	10
Total	12	0	0	0	1	0	4	16	0	33
01:00 PM	3	0	0	0	2	0	1	4	0	10
01:15 PM	1	0	0	0	0	0	0	3	0	4
01:30 PM	2	0	0	0	0	0	0	2	0	4
01:45 PM	2	0	0	0	0	0	2	8	0	12
Total	8	0	0	0	2	0	3	17	0	30
02:00 PM	2	1	0	0	0	0	0	6	0	9
02:15 PM	5	1	0	0	0	0	1	2	0	9
02:30 PM	3	0	0	0	1	0	0	3	0	7
02:45 PM	3	0	0	1	0	0	0	8	0	12
Total	13	2	0	1	1	0	1	19	0	37
03:00 PM	4	1	0	2	0	0	0	4	0	11
03:15 PM	2	0	0	0	0	0	0	5	0	7
03:30 PM	1	0	0	0	0	0	0	2	0	3
03:45 PM	2	0	0	0	0	0	0	3	0	5
Total	9	1	0	2	0	0	0	14	0	26

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: High Street (Route 113)
E: Kent Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 C
Site Code : T0233.02
Start Date : 6/9/2016

Groups Printed- Heavy Vehicles

	High Street (Route 113) From North			Kent Street From East			High Street (Route 113) From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	3	0	0	0	0	0	0	1	0	4
04:15 PM	3	0	0	0	0	0	0	1	0	4
04:30 PM	1	0	0	0	0	0	0	0	0	1
04:45 PM	1	0	0	0	0	0	0	2	0	3
Total	8	0	0	0	0	0	0	4	0	12
05:00 PM	1	0	0	0	0	0	0	3	0	4
05:15 PM	1	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	1	0	1
Total	2	0	0	0	0	0	0	4	0	6
Grand Total	122	9	0	8	8	0	14	137	0	298
Apprch %	93.1	6.9	0	50	50	0	9.3	90.7	0	
Total %	40.9	3	0	2.7	2.7	0	4.7	46	0	

	High Street (Route 113) From North				Kent Street From East				High Street (Route 113) From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 10:00 AM													
10:00 AM	3	0	0	3	1	0	0	1	0	7	0	7	11
10:15 AM	5	0	0	5	1	0	0	1	1	1	0	2	8
10:30 AM	3	0	0	3	0	1	0	1	0	5	0	5	9
10:45 AM	6	0	0	6	0	0	0	0	0	4	0	4	10
Total Volume	17	0	0	17	2	1	0	3	1	17	0	18	38
% App. Total	100	0	0		66.7	33.3	0		5.6	94.4	0		
PHF	.708	.000	.000	.708	.500	.250	.000	.750	.250	.607	.000	.643	.864
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 02:15 PM													
02:15 PM	5	1	0	6	0	0	0	0	1	2	0	3	9
02:30 PM	3	0	0	3	0	1	0	1	0	3	0	3	7
02:45 PM	3	0	0	3	1	0	0	1	0	8	0	8	12
03:00 PM	4	1	0	5	2	0	0	2	0	4	0	4	11
Total Volume	15	2	0	17	3	1	0	4	1	17	0	18	39
% App. Total	88.2	11.8	0		75	25	0		5.6	94.4	0		
PHF	.750	.500	.000	.708	.375	.250	.000	.500	.250	.531	.000	.563	.813

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: High Street (Route 113)
E: Kent Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 C
Site Code : T0233.02
Start Date : 6/9/2016
Page No : 1

Groups Printed- Peds and Bicycles

	High Street (Route 113) From North				Kent Street From East				High Street (Route 113) From South				
Start Time	Thru	Left	Peds EB	Peds WB	Right	Left	Peds SB	Peds NB	Right	Thru	Peds WB	Peds EB	Int. Total
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	1	0	0	0	0	0	0	0	0	5	0	0	6
Total	1	0	0	0	0	0	0	0	0	5	0	0	6
07:00 AM	0	0	0	0	0	0	2	1	0	0	1	0	4
07:15 AM	0	0	0	0	0	0	2	0	0	1	9	0	12
07:30 AM	1	0	0	0	0	0	1	0	0	1	0	0	3
07:45 AM	0	0	0	0	0	0	5	0	0	0	0	0	5
Total	1	0	0	0	0	0	10	1	0	2	10	0	24
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	0	0	0	0	0	1	0	0	0	3	5
08:30 AM	1	0	0	0	0	0	0	0	0	0	0	1	2
08:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	2	0	0	0	0	0	1	1	0	0	0	4	8
09:00 AM	1	0	0	0	0	0	0	2	0	0	0	0	3
09:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
09:30 AM	0	0	0	0	0	0	2	2	0	0	0	0	4
09:45 AM	1	0	1	0	0	0	1	0	0	0	0	1	4
Total	2	0	1	0	0	0	4	4	0	0	0	1	12
10:00 AM	1	0	0	0	0	0	2	1	0	0	0	0	4
10:15 AM	1	0	0	0	0	0	0	3	0	0	0	0	4
10:30 AM	0	0	0	0	0	0	1	4	0	2	1	0	8
10:45 AM	3	0	0	0	0	0	2	0	0	1	0	0	6
Total	5	0	0	0	0	0	5	8	0	3	1	0	22
11:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	2
11:15 AM	2	0	0	0	0	0	0	3	0	2	0	0	7
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	2	0	0	0	0	0	0	3	0	4	1	0	10
12:00 PM	1	0	0	0	0	0	1	0	0	0	0	0	2
12:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
12:30 PM	1	0	0	0	0	0	8	2	0	0	0	0	11
12:45 PM	0	0	0	0	0	0	1	3	0	0	0	0	4
Total	2	0	0	0	0	0	10	6	0	0	0	0	18
01:00 PM	1	0	0	0	0	0	1	0	0	0	0	0	2
01:15 PM	1	0	0	0	0	0	1	0	0	0	0	0	2
01:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	2
01:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	2	0	0	0	0	0	3	2	0	0	0	1	8
02:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
02:15 PM	2	0	0	0	0	0	0	0	0	0	0	12	14
02:30 PM	0	0	0	0	0	0	4	0	0	0	0	8	12
02:45 PM	2	0	0	0	0	1	1	0	0	0	0	2	6
Total	4	0	0	0	0	1	6	0	0	0	0	22	33
03:00 PM	2	0	0	0	0	0	0	1	0	0	0	1	4
03:15 PM	1	0	0	1	0	1	0	3	0	0	0	1	7
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	3	0	0	1	0	1	0	5	0	0	0	2	12

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: High Street (Route 113)
E: Kent Street
City, State: Newburyport, MA
Client: TEC/ D. Halpert

File Name : 165126 C
Site Code : T0233.02
Start Date : 6/9/2016
Page No : 2

Groups Printed- Peds and Bicycles

	High Street (Route 113) From North				Kent Street From East				High Street (Route 113) From South				
Start Time	Thru	Left	Peds EB	Peds WB	Right	Left	Peds SB	Peds NB	Right	Thru	Peds WB	Peds EB	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	1	0	0	0	0	0	0	0	1	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	1	0	0	0	0	0	0	0	1	0	3
05:00 PM	0	0	0	0	0	0	3	0	0	1	1	0	5
05:15 PM	3	0	0	0	0	0	2	0	0	1	0	0	6
05:30 PM	4	0	0	0	0	0	0	1	0	2	0	0	7
05:45 PM	2	0	0	0	0	0	0	1	0	0	0	0	3
Total	9	0	0	0	0	0	5	2	0	4	1	0	21
Grand Total	34	0	2	1	0	2	44	32	0	18	14	30	177
Apprch %	91.9	0	5.4	2.7	0	2.6	56.4	41	0	29	22.6	48.4	
Total %	19.2	0	1.1	0.6	0	1.1	24.9	18.1	0	10.2	7.9	16.9	

	High Street (Route 113) From North					Kent Street From East					High Street (Route 113) From South					
Start Time	Thru	Left	Peds EB	Peds WB	App. Total	Right	Left	Peds SB	Peds NB	App. Total	Right	Thru	Peds WB	Peds EB	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 06:45 AM																
06:45 AM	1	0	0	0	1	0	0	0	0	0	0	5	0	0	5	6
07:00 AM	0	0	0	0	0	0	0	2	1	3	0	0	1	0	1	4
07:15 AM	0	0	0	0	0	0	0	2	0	2	0	1	9	0	10	12
07:30 AM	1	0	0	0	1	0	0	1	0	1	0	1	0	0	1	3
Total Volume	2	0	0	0	2	0	0	5	1	6	0	7	10	0	17	25
% App. Total	100	0	0	0		0	0	83.3	16.7		0	41.2	58.8	0		
PHF	.500	.000	.000	.000	.500	.000	.000	.625	.250	.500	.000	.350	.278	.000	.425	.521
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 02:15 PM																
02:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	12	12	14
02:30 PM	0	0	0	0	0	0	0	4	0	4	0	0	0	8	8	12
02:45 PM	2	0	0	0	2	0	1	1	0	2	0	0	0	2	2	6
03:00 PM	2	0	0	0	2	0	0	0	1	1	0	0	0	1	1	4
Total Volume	6	0	0	0	6	0	1	5	1	7	0	0	0	23	23	36
% App. Total	100	0	0	0		0	14.3	71.4	14.3		0	0	0	100		
PHF	.750	.000	.000	.000	.750	.000	.250	.313	.250	.438	.000	.000	.000	.479	.479	.643

PRECISION
D A T A
INDUSTRIES, LLC
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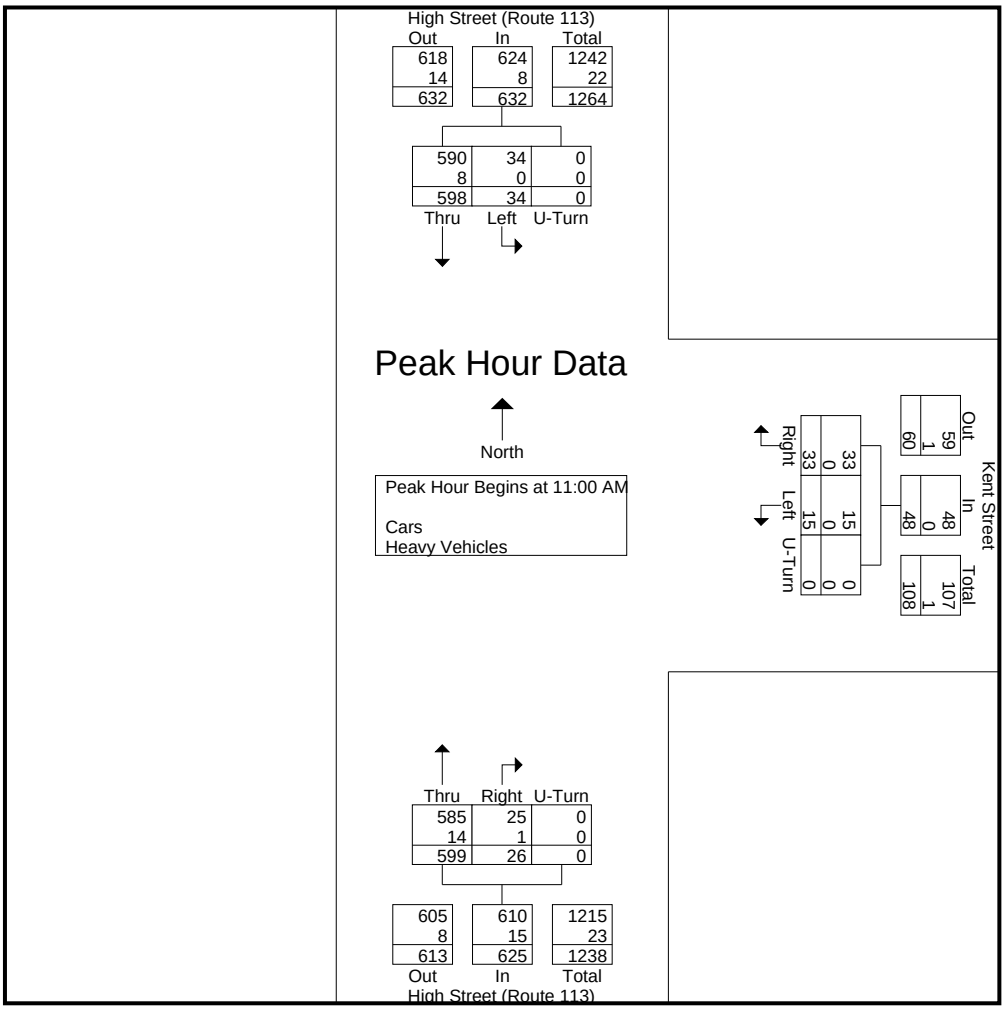
	High Street (Route 113) From North				Kent Street From East				High Street (Route 113) From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:00 AM													
11:00 AM	153	8	0	161	8	5	0	13	6	156	0	162	336
11:15 AM	132	13	0	145	8	3	0	11	7	155	0	162	318
11:30 AM	141	10	0	151	11	2	0	13	2	153	0	155	319
11:45 AM	172	3	0	175	6	5	0	11	11	135	0	146	332
Total Volume	598	34	0	632	33	15	0	48	26	599	0	625	1305
% App. Total	94.6	5.4	0		68.8	31.2	0		4.2	95.8	0		
PHF	.869	.654	.000	.903	.750	.750	.000	.923	.591	.960	.000	.965	.971
Cars	590	34	0	624	33	15	0	48	25	585	0	610	1282
% Cars	98.7	100	0	98.7	100	100	0	100	96.2	97.7	0	97.6	98.2
Heavy Vehicles	8	0	0	8	0	0	0	0	1	14	0	15	23
% Heavy Vehicles	1.3	0	0	1.3	0	0	0	0	3.8	2.3	0	2.4	1.8



PRECISION
D A T A
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Office: 508-875-0100 Fax: 508-875-0118
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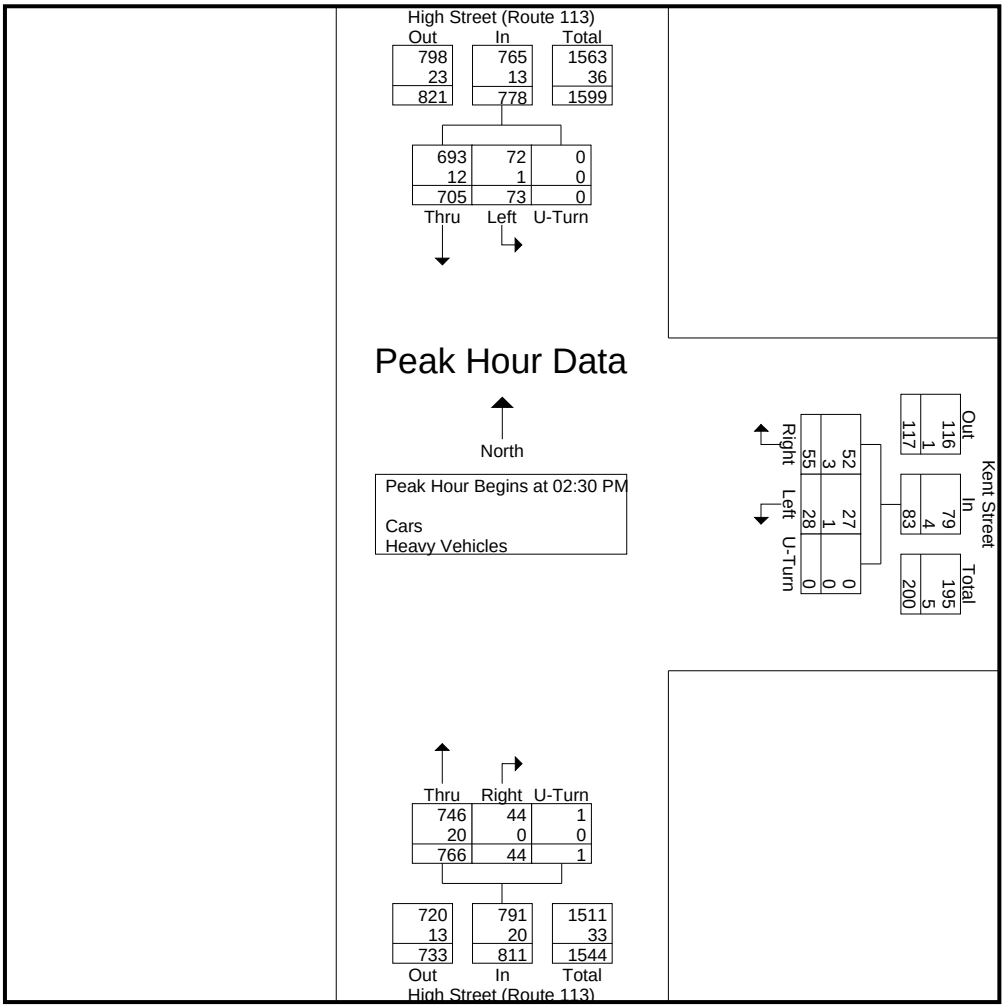
	High Street (Route 113) From North				Kent Street From East				High Street (Route 113) From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 02:30 PM													
02:30 PM	192	23	0	215	8	8	0	16	9	181	0	190	421
02:45 PM	178	11	0	189	17	5	0	22	8	188	0	196	407
03:00 PM	159	22	0	181	18	7	0	25	17	205	0	222	428
03:15 PM	176	17	0	193	12	8	0	20	10	192	1	203	416
Total Volume	705	73	0	778	55	28	0	83	44	766	1	811	1672
% App. Total	90.6	9.4	0		66.3	33.7	0		5.4	94.5	0.1		
PHF	.918	.793	.000	.905	.764	.875	.000	.830	.647	.934	.250	.913	.977
Cars	693	72	0	765	52	27	0	79	44	746	1	791	1635
% Cars	98.3	98.6	0	98.3	94.5	96.4	0	95.2	100	97.4	100	97.5	97.8
Heavy Vehicles	12	1	0	13	3	1	0	4	0	20	0	20	37
% Heavy Vehicles	1.7	1.4	0	1.7	5.5	3.6	0	4.8	0	2.6	0	2.5	2.2



Attachment B

2014 Newburyport Walk and Bike Week Walking Routes

Newburyport Walk and Bike Week is May 5-9 and River Valley Charter School, Molin, and Bresnahan School students and their families are invited to take part in this great event.

Each day during the week, students are encouraged to meet up with their friends and neighbors and walk or bike to school instead of taking the car or the bus.

Volunteers will be on site at several group meet-up locations around town to get the walkers and bikers organized and on their way to school.

Special guest walkers, including the mayor, will be participating on Monday morning and throughout the week. In addition, Wednesday, May 7, is Massachusetts Walk and Bike to School Day, and there will be giveaways on Friday to end the week.

Leaving the car in the driveway and walking and riding to school instead is a great way for young learners to start the day: it's good exercise, it's green, and best of all it's a fun way to start the day with friends and family.

Several meet-up spots will be set up along the High Street and Low St corridors to get students to the schools:

- Atkinson Common to walk to the Bresnahan School and RVCS
- Cushing Park on Kent Street to walk to RVCS, the Bresnahan, and Molin Schools
- Washington Square on the Bartlett Mall to walk to the Molin and RVCS
- Squire's Glen/Hale Street to walk to the Molin
- Coltin Drive and Low Street to walk to the Bresnahan

Groups are also being organized to walk/ride from the Cherry Hill and Turkey Hill neighborhoods.

Newburyport is a beautiful and safe city to walk and bike in and Walk and Bike Week is a great way to enjoy our home town in the springtime.

So during the week of May 5-9, please join us as we walk and bike to school.

For more information on meet-up times, or to volunteer, please contact Walking and Wheeling Newburyport at walkingandwheeling@gmail.com.

May 5 to 9, 2014

WALK&BIKE WEEK newburyport

Legend

✱ Walk / Bike to School Week Meet Up Point

Walk / Bike to School Day Routes

Bresnahan Route

Molin Route

River Valley Route

Route segment distances measured in miles.

Walk / Bike Start Times

Atkinson Common
8:00 am depart to Bresnahan
7:55 am depart to River Valley Chater School

Bartlett Mall
7:45 am depart to Molin
8:00 am depart to River Valley Charter School

Cushing Park
7:45 am depart to Molin and Bresnahan
8:00 am depart to River Valley Charter School

Hale St @ Squires Glen
7:50 am depart to Molin

Low St @ Coltin Dr
7:45 am depart to Bresnahan

Atkinson Common
Bresnahan School
Cushing Park
High School
Nock / Molin Schools
River Valley Charter School
Bartlett Mall
IC School
Brown School
Anna Jaques Hospital
Veterans Cemetery
Merrimack River
0.29
0.22
0.36
0.8
0.1
0.06
0.32
0.13
0.26
0.15
0.64

Attachment C

HAWK Signal Warrant Analyses

Project: Safe Routes to School
Town: Newburyport, MA
TEC # T0233-9
Analyst: TEC / Douglas S. Halpert, E.I.T.

Table for Figure 4F-2

Crosswalk Length = 34 FT		Crosswalk Length = 50 FT		Crosswalk Length = 72 FT		Crosswalk Length = 100 FT	
VPH Major	Major PPH	VPH Major	Major PPH	VPH Major	Major PPH	VPH Major	Major PPH
2000	20*	2000	20*	2000	20*	2000	20*
1750	20*	1750	20*	1750	20*	1750	20*
1500	20*	1500	20*	1500	20*	1500	20*
1250	20*	1250	20*	1250	20*	1250	20*
1000	50	1000	20*	1000	20*	1000	20*
750	150	750	25	750	25	750	20*
500	-	500	150	500	25	500	20*
250	-	250	-	250	300	250	100
225	-	225	-	175	500	100	500

* Note: 20 pph applies as the lower threshold volume
VPH Major (Total of both approaches)

High Street (Route 113) between Summit Place and Kent Street

2016 BASE YEAR RAW DATA INPUT

Time	VPH Major	Major PPH	**Warranted**
7-8 AM	919	14	No
8-9 AM	1172	10	No
9-10 AM	1036	2	No
10-11 AM	1042	0	No
11-12 PM	1205	0	No
12-1 PM	1332	4	No
1-2 PM	1220	3	No
2-3 PM	1365	22	Yes
3-4 PM	1425	3	No
4-5 PM	1372	0	No
5-6 PM	1368	1	No

Crosswalk is approximately 65 feet long.

Project: Safe Routes to School
Town: Newburyport, MA
TEC # T0233-9
Analyst: TEC / Douglas S. Halpert, E.I.T.

Table for Figure 4F-2

Crosswalk Length = 34 FT		Crosswalk Length = 50 FT		Crosswalk Length = 72 FT		Crosswalk Length = 100 FT	
VPH Major	Major PPH	VPH Major	Major PPH	VPH Major	Major PPH	VPH Major	Major PPH
2000	20*	2000	20*	2000	20*	2000	20*
1750	20*	1750	20*	1750	20*	1750	20*
1500	20*	1500	20*	1500	20*	1500	20*
1250	20*	1250	20*	1250	20*	1250	20*
1000	50	1000	20*	1000	20*	1000	20*
750	150	750	25	750	25	750	20*
500	-	500	150	500	25	500	20*
250	-	250	-	250	300	250	100
225	-	225	-	175	500	100	500

* Note: 20 pph applies as the lower threshold volume
VPH Major (Total of both approaches)

High Street (Route 113) @ Carter Street and High School Driveway

2016 BASE YEAR RAW DATA INPUT

Time	VPH Major	Major PPH	**Warranted**
7-8 AM	846	28	Yes
8-9 AM	1211	2	No
9-10 AM	1050	5	No
10-11 AM	1102	3	No
11-12 PM	1263	0	No
12-1 PM	1390	4	No
1-2 PM	1293	4	No
2-3 PM	1406	31	Yes
3-4 PM	1571	4	No
4-5 PM	1473	1	No
5-6 PM	1493	4	No

Crosswalk is approximately 50 feet long.