MONTACHUSETT REGIONAL PLANNING COMMISSION

Walkability Report

2012

For the town of Groton

September 2012

Walkability Study
For
Groton, MA

Main Street, Groton

Prepared for the town of Groton

Prepared in cooperation with the Massachusetts Department of Transportation and the U.S. Department of Transportation. The views and opinions of the Montachusett Regional Planning Commission expressed herein do not necessarily state or reflect those of the Massachusetts Department of Transportation or the U.S. Department of Transportation.
Contract # 69656

September 2012

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I. EXECUTIVE SUMMARY

The purpose of this report is to assist the town of Groton with a Walkability Study. Walkability is a measure of how friendly an area is for walking. There are many factors that influence walkability such as the presence of sidewalks or footpaths, roadway and traffic conditions and safety, accessibility for all users, etc. A walkable community not only benefits people by providing increased accessibility for walkers, it also has been known to provide health benefits for its residents, increased social interaction, reduction in crime, an increased sense of pride and volunteerism.

A study area was developed, which incorporated critical infrastructure locations provided by the Groton Planning Department, within the downtown area and a 1000' buffer was placed around those locations. Data that was collected within the study area included traffic volume, speed and classification counts, turning movement counts, sidewalks and related sign inventory as well as public input.

The residents and business owners were invited to participate in a walking audit where they had the opportunity to walk as a group within the study area and provide their personal experiences and thoughts regarding how walkable they felt the town is. Topic areas included sidewalks, roadways, crosswalks, trails, parks and public gathering spots, shade trees and benches, parking and local attractions. All comments and feedback are provided throughout the document as well as a more detailed attachment is provided at the conclusion of the report.

Based on the data collected, a recommendations section was included. These recommendations comprised of sidewalk maintenance and connections, traffic calming measures for speeding and crosswalk locations, improved roadway striping for school zones, additional and improved parking, and town policy changes that will incorporate walkability.

II. INTRODUCTION

A walkable community is one that allows residents access to major community elements that are generally within a 10 minute walking distance. Those community elements may include shopping centers, town hall, library, post office, and the senior center. The term "Walkability" refers to how friendly an area is to walking. Factors that make a community walkable include street connectivity and design, pedestrian features, access for all roadway users (vehicles and pedestrians), desirable streetscapes, and pedestrian safety features. Being a walkable community doesn't necessarily refer to only transportation features; aspects like socialization and walking for exercise can also play a part.

This report will outline the process of how the town of Groton was evaluated for walkability as well as providing some recommendations to help boost pedestrian friendliness within the study area.

III. STUDY PROCESS

A. Study Area

The study area for this report was determined by the Town of Groton's Planning Department and MRPC staff. This area is located within the Groton center and included key community elements such as town hall, public safety building, elementary schools, parks, religious facilities, library, post office, senior center, shopping centers, banks, restaurants, etc. A 1,000 foot buffer was placed around these locations (see Map Figure 1). This selected area was broad enough to incorporate all the key locations and have it be realistic for walkers.

B. Walking Audit

Once the study area was established, the MRPC and the Groton Planning Department led a walking audit of the study area in downtown Groton on April 21, 2012 (see flyer and handout in Appendix A). The walking audit was conducted to provide an assessment of walkability within the study area. Participants met in the town hall, broke up into two groups and walked two designated routes. (See Map Figure 2 and route descriptions below)

Photo provided by Nashoba Publishing

Routes

1. This route traveled behind the Town Hall, down Station Avenue and up Court Street, crossed over Route 119 to Hollis Road where it traveled north to Legion Common then west along School Street where it traveled south along Route 119 back to Town Hall.

2. This route traveled south from Town Hall along Route 119, turned west down Broadmeadow Road, south onto Playground Road where it continued south down Route 119 and stopped at the Lawrence Academy athletic fields. This route covered both sides of Route 119 within the stretch from Town Hall to the athletic fields.

During the walkability audit participants were asked to observe the following:

- Sidewalks – Are there sidewalks within the study area? Is the width/condition acceptable (at least 4 feet wide)? Do they have handicap access ramps at each crossing and crosswalk? Are there large cracks, bumps, dips, etc. present?

- Roadways – Are the current roadways in good condition? Is speeding a problem? Are large trucks an issue? Are drivers able to see pedestrians in crosswalks – is there adequate sight distance?

- Crosswalks – Are the current crosswalks adequate? Do you feel safe while crossing at the crosswalks? Are vehicles parked closer than 10 feet to the crosswalks? Are there "no parking" zones near crosswalks? Is the striping on the crosswalk visible?

- Trails – Are the trails in the area accessible to the study area? Are there guide signs to help people navigate to those trails and trail parking areas?

- Parks/Public Gathering spots – Are these located nearby? Are they accessible? Is the number of parks/gathering spots adequate for the area?

- Shade Trees/Benches – Are there sufficient areas to take a rest? Will you be walking in the sun most of the time or are their shaded areas to cool off in the summer?

- Parking – Is there ample parking available within the study area? Are parked cars a problem within the study area? Are their guide signs to show where the parking areas are?

- Attractions – What are the local attractions or key destinations that you walked pasted (ex. library, parks, shops)? Is there a local attraction guide or signs for visitors?

Other questions to consider were:

1. What are the positive aspects of your walking route?
2. Would this walk be adequate for a young child, elderly person, or a disabled person?
3. What would make this area more walkable for all users?

4. What would encourage more walking in the area? What is missing?
5. What are the concerns regarding walking within the study area?
6. Are the neighborhoods in the area considered mixed income? Is there a variety of housing types in the area?
7. Did you see other people out walking within the study area?

After the walking audit was conducted, participants were asked to provide feedback, both positive and negative, based on their walking experiences. All comments made by the participants have been documented and included in this report in Appendix B.

Summary of Findings Based Upon Input

The following summarizes a sample of the responses that participants developed regarding the positives and negatives of walkability for the Groton study area based on the observation topics mentioned above.

Sidewalks - Overall, most of the major roadways downtown have sidewalks (and they're plowed in the winter!). However, there could be improvements made to the areas in front of Town Hall and roads that connect to major attractions such as the rail trail, parks, common areas, etc. There also lacks a sidewalk connection south to the Post Office, CVS and Johnson's Dairy Bar, and north to Mill Run Plaza. This potential improvement ranked #1 by participants.

Playground Road – no sidewalk

Sidewalk in front of Town Hall

Mill Run Plaza – no connecting sidewalk to downtown

Post office/CVS – pedestrian walking along roadway

Roadways – Route 119 is in good condition although there is a problem with speeding and distracted drivers. The intersection of Broadmeadow and Main Street was mentioned as being unsafe for both drivers and pedestrians. The stretch of road in front of the Library was mentioned as one of the most dangerous areas to cross the street due to a blind curve and speeding.

Main/Broadmeadow Intersection

Main St - Blind Curve at Library

Crosswalks - There are a high number of curb cuts throughout Route 119 which creates a dangerous situation for pedestrians. Cars parked too close to the crosswalks create a sight distance problem for both drivers and pedestrians. Bump outs and raised crosswalks were recommended to make pedestrians more visible and for slowing vehicles down.

Walkers going around a vehicle exiting onto Route 119 from Dunkin Donuts.

Vehicles parked close to the crosswalk on Route 119

Trails – The Nashua River Rail Trail was mentioned several times as a positive aspect of the Groton town center. Many people use the trail for recreating as well as commuting. This trail provides a major connection to the Ayer town center as well as the town of Pepperell and into New Hampshire. There are multiple trail access points within the study area although sidewalks are missing at most of them.

Broadmeadow Road – no connection to the Rail Trail, Pedestrian walking along roadway

Station Avenue/Court Street trail access

Parks/Public Gathering Spots- The playground located on Playground Road was mentioned as a major gathering spot for children and parents. This location is also dangerous due to a lack of sidewalks and vehicles that cut through even though there is a sign that states the roadway as "Not Thru to Traffic". The Legion Common is also a popular gathering spot that would benefit from having additional sidewalks.

Entering Playground Road

Legion Common-no sidewalk on this side of street

Shade Trees/Benches – One of the positive comments mentioned was the abundance of flower gardens and foliage along the routes that make the area more aesthetically pleasing. There are also many shade trees located along Main Street and the surrounding areas.

Shade Trees along Route 119

Resting area outside of Legion Hall

Parking – It was noted that there is not adequate parking available within the study area. A designated municipal lot with parking signs would be beneficial. Vehicles parking along Route 119 are not always safe but painting designated parking spaces in this area would be helpful.

Attractions – Most people felt that there were an abundance of attractions and shops in the area. Many local businesses, restaurants, cafes and parks already exist. The study area is also located in the historic district.

Local establishments along Route 119

C. Data Collection

1. Traffic Volume Data:

The following traffic volumes were conducted as part of the MRPC's yearly count program. See Appendix C for more detailed data.

Location	Traffic Volume (Vehicles per Day)	Year of Count	Peak Morning/ Afternoon Hours
Broadmeadow Rd. west of Main Street (Rt. 119/225)	1,060	2012	10:00am/4:00pm
Boston Rd (Rt. 119/225) east of Lovers Lane	14,600	2012	6:00am/4:00pm
Hollis St north of Main St (Rt. 119/225)	4,000	2012	8:00am/5:00pm
Lowell Rd (Rt. 40) east of Main St (Rt. 119/225)	4,800	2012	8:00am/5:00pm
Main Street (Rt. 119/225) north of Lowell Rd (Rt. 40)	15,800	2012	7:00am/4:00pm
Main Street (Rt. 119/225) south of Lowell Rd (Rt. 40)	15,300	2012	6:00am/3:00pm
Pleasant Street west of Main Street (Rt. 119/225)	3,000	2012	8:00am/4:00pm
Playground Road south of Main Street (Rt. 119/225)	500	2012	10:00am/2:00pm
Main Street (Rt. 119/225) north of Pleasant Street	13,200	2010	7:00am/5:00pm

Traffic volumes along Route 119/225 vary from 15,800 at the center of town, 14,600 further east and 13,200 to the west. This roadway is a major connector from Townsend to the west, which also includes traffic coming from New Hampshire, to Routes 2 and 495. Route 40 is a major connector to Route 3 and averages 4,400 vehicles per day. The side streets vary from just under 5,000 to only 500 vehicles per day. These streets are generally for local traffic.

2. Turning Movement Counts:

Turning Movement counts were conducted at specified intersections within the study area during the morning and afternoon peak hours. The peak hour times of 7:00-9:00AM and 4:00-6:00PM were used for each location. (See Appendix D for full turning movement counts) The highest peak hour, which was the PM peak hour, was used when determining the level of service.

From the TMC data collected, a Level of Service (LOS) analysis was conducted. The LOS of a roadway traffic facility represents the quality of traffic flow and is used to assess the operation of that traffic facility. LOS analyses are based on the methods in the *Highway Capacity Manual (2010)* (HCM). LOS is defined differently for each type of traffic facility, such as an unsignalized intersection, signalized intersection, two-lane road, or multi-lane road. For intersections, the LOS criteria are defined by the average amount of delay experienced by a vehicle at the intersection due to the traffic controls (i.e., signs or signals). Usually each approach is assessed independently, since the LOS of the major and minor approaches may differ greatly. Table 1 summarized the LOS average control delay criteria for intersections controlled by STOP signs and those controlled by traffic signals.

Table 1 - Average Control Delay

LOS	Average Control Delay (seconds per vehicle)	
	Stop-Controlled	Signalized
A	≤10.0	≤10.0
B	10.1 - 15.0	10.1 - 20.0
C	15.1 - 25.0	20.1 - 35.0
D	25.1 - 35.0	35.1 - 55.0
E	35.1 - 50.0	55.1 - 80.0
F	>50.0	>80.0

The following LOS descriptions apply to intersections:

- **LOS A** describes operations with little or no delay due to very low major street traffic with many acceptable gaps and traffic flows easily.
- **LOS B** describes operations where stopped vehicles experience short traffic delays but there are still many acceptable gaps in the major street traffic.
- **LOS C** describes operations where stopped vehicles experience average traffic delays due to less frequent acceptable gaps in the major street traffic.

- **LOS D** describes operations where stopped vehicles experience long traffic delays due to a limited number of acceptable gaps in the major street traffic.
- **LOS E** describes operations where stopped vehicles experience very long traffic delays due to a very small number of acceptable gaps in the major street traffic. This level is considered by many agencies to be the limit of acceptable delay.
- **LOS F** describes operations where stopped vehicles experience extreme traffic delays due to virtually no acceptable gaps in the major street traffic. This level, considered to be unacceptable to most drivers, often occurs with ***oversaturation***, that is, when arrival flow rates exceed the capacity of the intersection.

Table 2 - 2012 Peak Hour Turning Movement Volumes and LOS
(vehicles per hour)

Intersection at Main Street (Rt. 119) and Broadmeadow Rd. / Lowell Road (Rt. 40)

Approach	*Left Turn*	*Through*	*Right Turn*	*Pedestrians*	*Total*	*LOS*
Main Street – Southbound	219	461	24	0	704	F
Main Street – Northbound	60	1138	113	2	1311	D
Lowell Road - Westbound	56	31	231	9	327	A
Broadmeadow Road-Eastbound	0	2	0	0	2	-

The Main Street and Broadmeadow intersection LOS shows that the intersection is very congested during peak times and traffic traveling southbound along Main Street have a difficult time turning left onto Route 40 (this movement contributes to 30% of vehicles traveling through this intersection). Both directions of Rt. 119 have a high number of left turns which causes vehicles to have a difficult time traveling through the intersection.

Intersection at Main Street (Rt. 119) and Pleasant Street

Approach	*Left Turn*	*Through*	*Right Turn*	*Pedestrians*	*Total*	*LOS*
Main Street – Southbound	7	661	25	0	693	B
Main Street – Northbound	153	1488	3	0	1644	B
Pleasant St - Eastbound	12	4	117	2	135	E

Analysis at this intersection was complicated since it's a skewed design where the traffic taking a right from Pleasant Street is almost yielding onto Main Street and the left turns from the same direction are more challenging. There is a significantly higher volume of traffic traveling through this intersection compared to the other intersections in this study but luckily there is a smaller number of cars turning left from the side street. This is due to cars taking Elm Street to the north as a short cut in order to take a left onto Main Street.

Intersection at Main Street (Rt. 119) and Elm Street (Rt. 111/225)

Approach	*Left Turn*	*Through*	*Right Turn*	*Pedestrians*	*Total*	*LOS*
Main Street – Southbound	1	265	64	1	331	A
Main Street – Northbound	15	742	27	0	784	A
Legion St – Westbound	0	0	0	0	0	-
Elm St - Eastbound	59	47	15	1	122	E

This intersection scored well for Route 111/119 since there was a very low number of left turning vehicles. Legion Street is a one-way road that travels northeast away from the intersection, therefore not having a LOS grade. But Elm Street serves as a major cut through to Route 111/119 northbound, avoiding the intersection of Main Street and Pleasant Street just to the south. Therefore, there are a large number of left turns at this location causing the LOS to be an E.

3. Traffic Speed Data:

Generally when determining the speed limit for a roadway the 85th percentile speed is used. This is considered the speed at or below which most drivers feel safe driving. See Appendix E for more detailed speed count information. The speed data that was collected was done so during the last week of school before summer break. This could affect the speeds during school hours which we used as between 7:00am and 3:00pm.

Main Street (Rt. 119) north of Lowell Road (Rt. 40)

	Speed Range (MPH)							
	1-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50+
% of Vehicles in 24 hrs	15.1%	19.5%	**31%**	26.9%	7%	0.6%	0%	0%
% of Vehicles during school hrs	15.5%	22.4%	**34.7%**	23.1%	3.9%	0.2%	0%	0%

Speed Limit on Main Street: 25mph (southbound) 30 mph (northbound).
85th Percentile Speed – 28 mph

Speeds along this stretch of roadway were generally adequate which is probably due to the congestion that occurs along Main Street and at the Main Street/Lowell Street intersection. Traffic tends to travel at or just below the posted speed limit.

Main Street (Rt. 119) south of Lowell Rd (Rt. 40)

	Speed Range (MPH)							
	1-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50+
% of Vehicles in 24 hrs	7.6%	1.1%	3.7%	28.9%	**47.5%**	10.5%	0.6%	0.1%
% of Vehicles during school hrs	8.5%	1.0%	5.1%	33.3%	**45.1%**	6.6%	0.3%	0%

Speed Limit on Main Street: 30 mph
85th Percentile Speed –34 mph.

Vehicle speeds at this location are much greater than they were on the other side of the intersection. This is could be due to the fact that this area is far less dense and has fewer cars parked along the roadway. People tend to feel safer traveling faster when there are less visible obstacles along the roadway. This location was also noted in our walk audit to be one of the most dangerous crosswalk locations. Speeding is definitely a factor here.

Boston Road (Rt. 119/225) east of Lovers Lane

	Speed Range (MPH)							
	1-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50+
% of Vehicles in 24 hrs	4.1%	3.1%	5%	8.4%	31.5%	**39.5%**	7.9%	0.4%
% of Vehicles during school hrs	5.3%	4.5%	6.5%	10.5%	**34.6%**	32.2%	6.1%	0.3%

Speed Limit on Main Street (Rt. 13): 35 mph (southbound) 30 mph (northbound)
85th Percentile Speed – 39 mph

At this location the traffic is averaging over the posted speed limits. This stretch of roadway is fairly straight and the roadway is relatively wide which is contusive to speeding. One issue is that there are no sidewalks along this roadway so pedestrians that walk along the street are at higher risk of injury from the speeding vehicles. Another issue is customers pulling in and out of the shopping plaza have a higher risk for injury if a crash were to occur.

4. **Traffic Classification Data:**
   - Classification data is based on the FHWA Vehicle Classification Scheme F (see Appendix C for a graphical representation of the classes)

Main Street (Rt. 119) north of Lowell Road (Rt. 40)

	Classification									
	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double +	Not Classified
% of Vehicles in 24 hrs	1.2%	73.9%	12.8%	0.2%	1.7%	0.5%	0.1%	0.7%	0.4%	8.5%

Summary: 1.5% of heavy vehicles (3 axle or more).

Main Street (Rt. 119) south of Lowell Rd (Rt. 40)

	Classification									
	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double +	Not Classified
% of Vehicles in 24 hrs	1.4%	68.8%	17.3%	0.6%	3.0%	0.5%	0.1%	0.9%	1.3%	7.1%

Summary: 1.9% of heavy vehicles (3 axle or more).

Boston Road (Rt. 119/225) east of Lovers Lane

	Classification									
	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double +	Not Classified
% of Vehicles in 24 hrs	1.3%	73.8%	15.9%	0.4%	3.1%	0.4%	0%	0.6%	0.5%	3.9%

Summary: 1.5% of heavy vehicles (3 axle or more).

For all three of the locations it's not a surprise that cars are the primary vehicle out on the roadways. This does show that the trucks that travel southbound along Main street may turn left onto Route 40 which would make the truck count lower on the south side of the intersection.

5. Crash History

The MRPC has accident data available from the Massachusetts Department of Transportation (MassDOT) for the years of 2007-2009. All recorded crashes in the study area were mapped in Figure 3. For the town of Groton there were 152 total crashes recorded within the study area. Of those 152 reported crashes, zero were reported as fatal injury crashes, 35 were considered non-fatal injury crashes, 111 were considered property damage only, six were considered unknown/severity unspecified. None of the crashes were with a cyclist or pedestrian. (Map Figure 3).

As shown on the map, there are clearly an abundance of crashes that occurred along Route 119, there doesn't appear to be an area that shows to be largely problematic. Although the more severe accidents seem to be along the southern section of roadway where there also seems to be higher speeds.

6. Inventory of Road Facilities

This inventory incorporated all roadways (local streets, collectors, arterials, and highways) and any pedestrian-related infrastructure that may exist. Data that was collected included sidewalks, crosswalks, and signage. (See Map Figure 4)

Sidewalks are probably one of the most important aspects of a walkable community. In most downtown areas, simply walking along the side of the road with traffic is far too dangerous for most pedestrians. Since the average daily traffic through downtown Groton is 15,800 vehicles it is imperative that sidewalks exist and are in good condition to accommodate pedestrians of all ages and abilities.

MRPC staff rated each existing sidewalk as good, fair and poor. Locations that did not currently have a sidewalk were also inventoried.

Sidewalk analysis was based on the following-

1. <u>Adequate Width</u>

All existing sidewalks were observed and analyzed to see if there is an adequate width to accommodate all roadway users The Americans with Disabilities Act (ADA) requires that sidewalks be at least five feet in width.

2. Obstructions

Obstructions that were observed in this study included utility poles, drainage culverts, fire hydrants, vegetation, signs, etc. These items were noted if they obstructed more than 25% of the width of the sidewalk and would be impassible by a wheelchair.

3. Sidewalk Ramps/Handicap Access

Sidewalk ramps make a nice smooth transition from the sidewalk onto the street or parking area. These ramps are required to meet the American with Disabilities Act (ADA) standards. This information can be found in the Federal Highway Administration (FHWA) publication, "Designing Sidewalks and Trails for Access, Part I of II, Review of Existing Guidelines and Practices" chapter 4. (http://www.fhwa.dot.gov/environment/sidewalks/chap4a.htm)

4. Sidewalk Surface

The sidewalk surface condition was determined by the percentage of cracking that occurred on the sidewalk, the smoothness (bumps, dips, depressions) of the sidewalk and the amount of loose pavement, gravel or sand located on the sidewalk.

The overall Sidewalk Condition Map (Map Figure 3) was created based on all of the safety factors listed above and was then divided up into three categories:

Good - Sidewalks that were considered good had safety factors that equaled less than 25% of the entire sidewalk area.

Fair - Sidewalks that were considered fair had safety factors that equaled between 25%-50% of the entire sidewalk area.

Poor – Sidewalks that were considered poor had safety factors that were greater than 50% of the entire sidewalk area.

Within the study area there were sidewalks on 35.5% of the roadways. The condition of those sidewalks was broken down as follows:

Good - 84.4%
Fair - 0%
Poor - 15.6%

There are many miles of sidewalks within the study area and a large percentage of them are in excellent condition.

D. Recommendations

When streets and town centers are designed only for cars, they become barriers for pedestrians of all abilities, who cannot get from point A to point B safely. As a result, many people end up in their cars, missing out on opportunities for much needed fresh air, socialization and physical activity.

Based upon the data collected and the analysis conducted, the following recommendations resulted: (Numbered recommendations can be referenced as examples on map Figure 5)

Sidewalks

- Repair all damaged, cracked, chipped and uneven portions of the existing sidewalks (see Figure 4).
- Continue to maintain existing sidewalks, keeping them free of debris, vegetation, snow, etc.
- Add sidewalks that would make connections with key areas of town that were mentioned during the walk audit (see Figure 5).
- Mandate sidewalks in all developments, and bicycle lanes where appropriate.

Crosswalks

- Consider traffic calming techniques such as road narrowing or adding bump outs at major crosswalk locations along Main Street - #1.
- Place "No Parking" signs for areas within 10 feet of a crosswalk or driveway.
- Keep striping visible - #2.

Roadways

- Provide designated parking spaces along Main Street - #3.
- Consider turning lanes along Main Street for dangerous areas (ie. Intersection at Lowell/Broadmeadow Road, CVS/Post Office, Mill Run Plaza) - #4.
- Consider Bike Lanes along Route 119 - #5.
- Clear away vegetation and obstructions to allow improved sight distance at all intersections and driveway entrances and exits (ex. Playground Rd at Main St)
- Add/improve stripping and signage within the school zones to improve safety for children walking to school - #6.
- Warning signs look great and should continue to be placed and maintained in the school area to warn all drivers of pedestrians, cyclists and children. Placement of all regulatory and guidance signs should conform to guidelines established by Massachusetts Department of Transportation (MassDOT) – Highway Division and the "Manual on Uniform Traffic Control Devices" (MUTCD).
- Continue to monitor and regulate speeding along Route 119.

Other

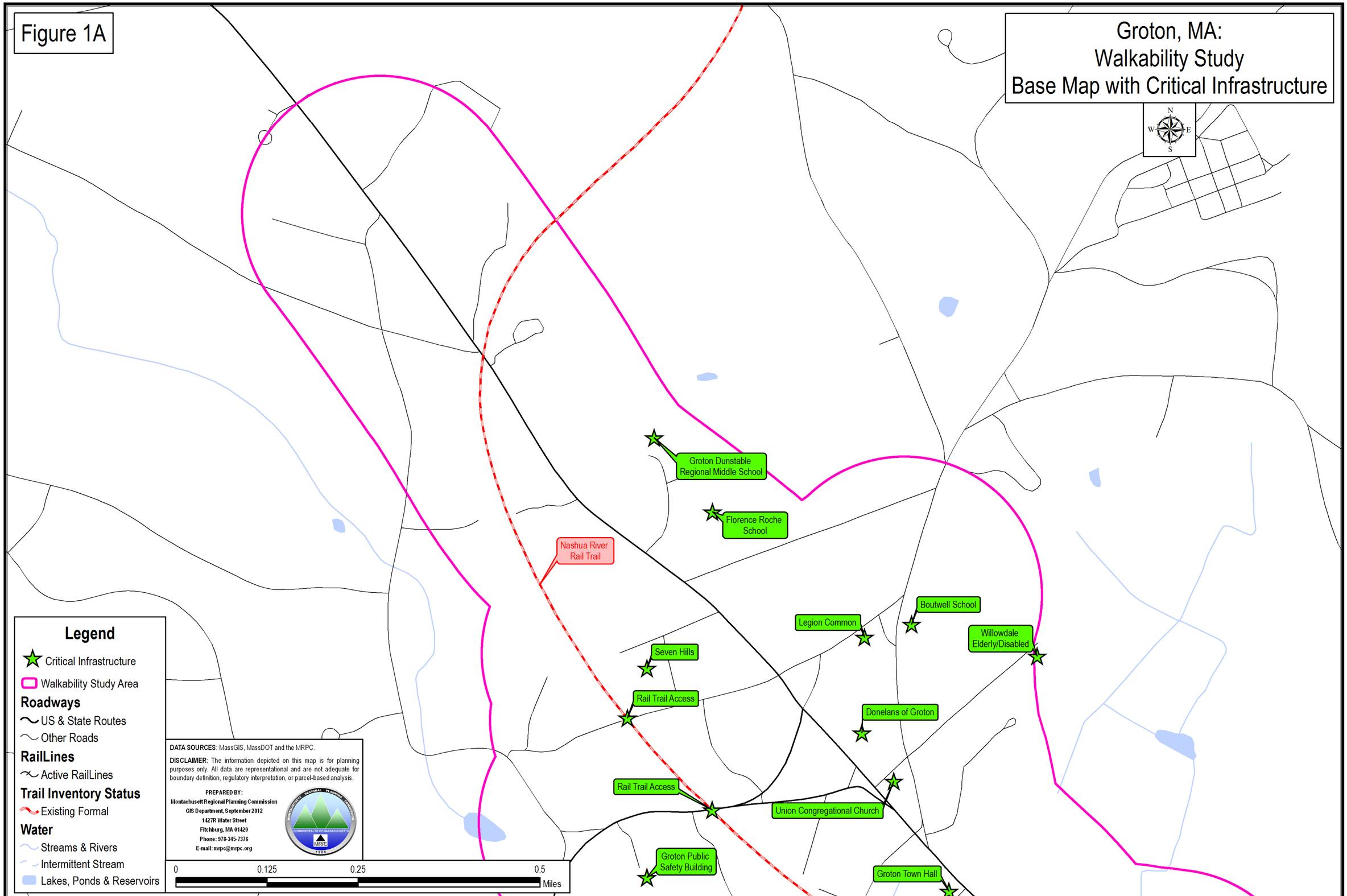
- Provide and maintain additional lighting along Main Street.

- Encourage major businesses to put out trash barrels outside their buildings or consider having the town put barrels out at various locations.
- Study the placement of parking for future businesses along Main Street (parking lots in the rear of the buildings or designated parking lots).
- Municipal parking lot locations should be considered.
- Changes to town policy that would be geared toward a more walkable community (ex. When repairing or repaving an existing roadway, consider adding a sidewalk or bike lane simultaneously). More information regarding this can be found on the Complete Streets website (www.completestreets.org).

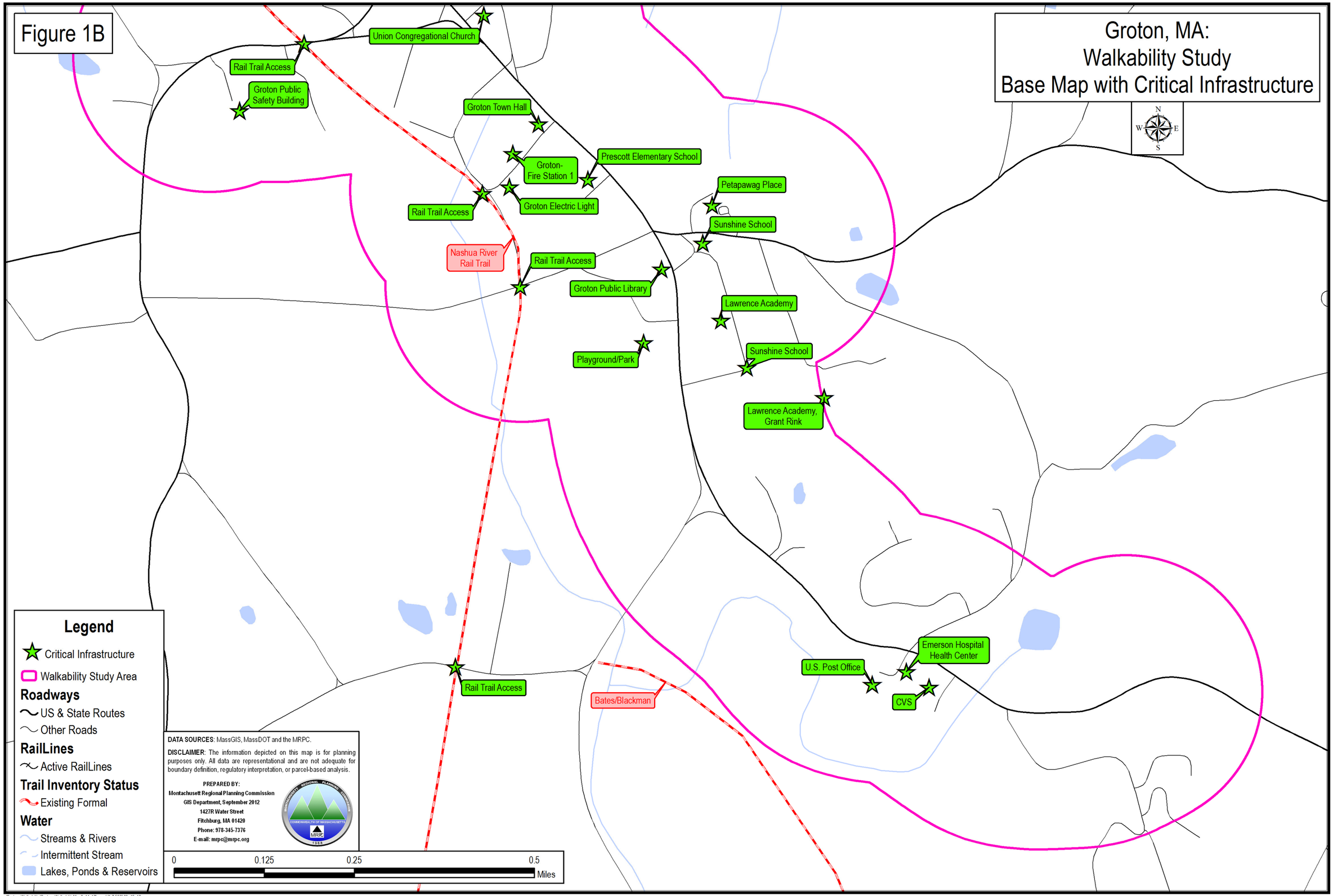
MAP FIGURES

Figure 1A

Groton, MA:
Walkability Study
Base Map with Critical Infrastructure



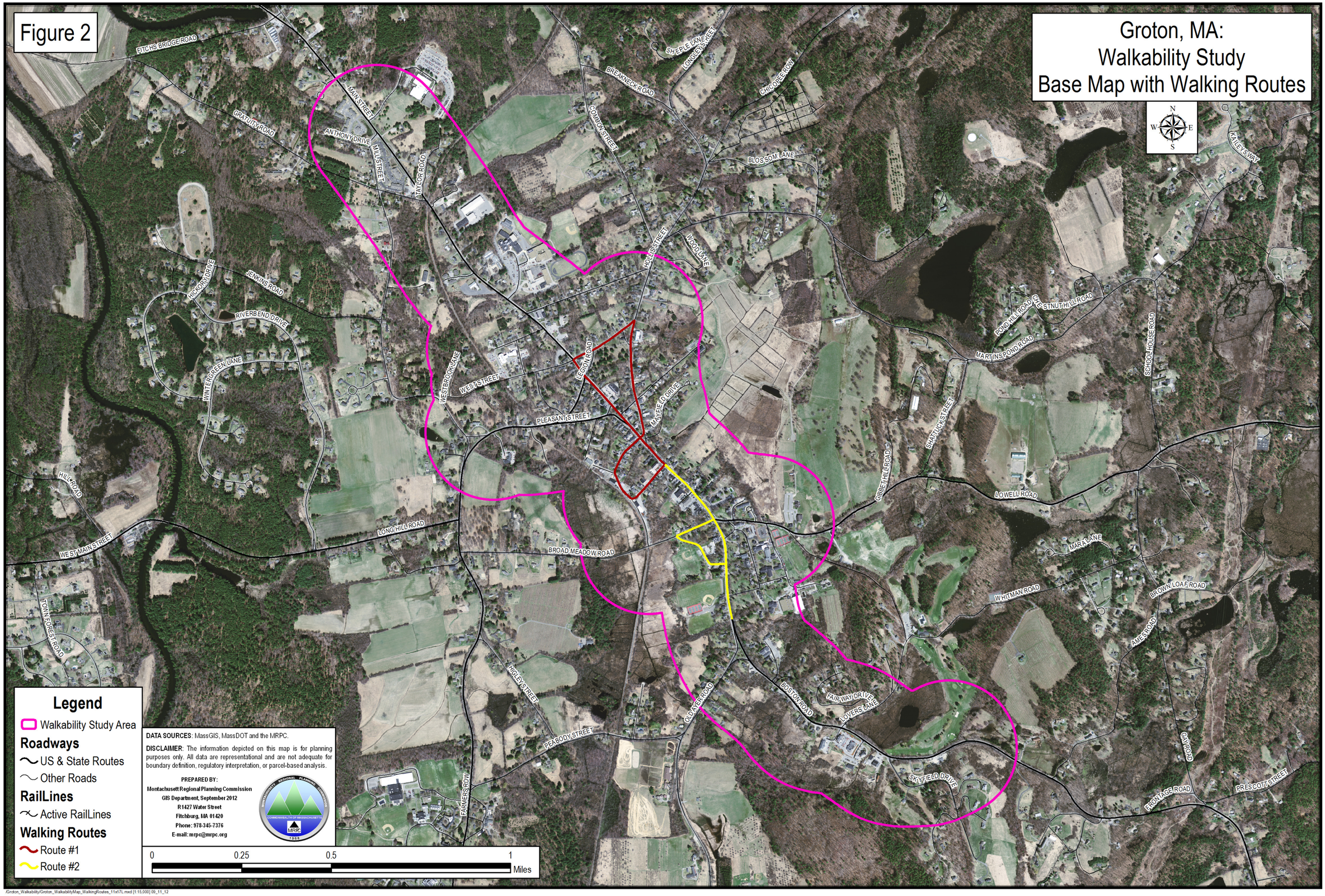
/Groton_Walkability/Groton_Walkability/Map1_11x17L.mxd [1:7,500] 09_19_12



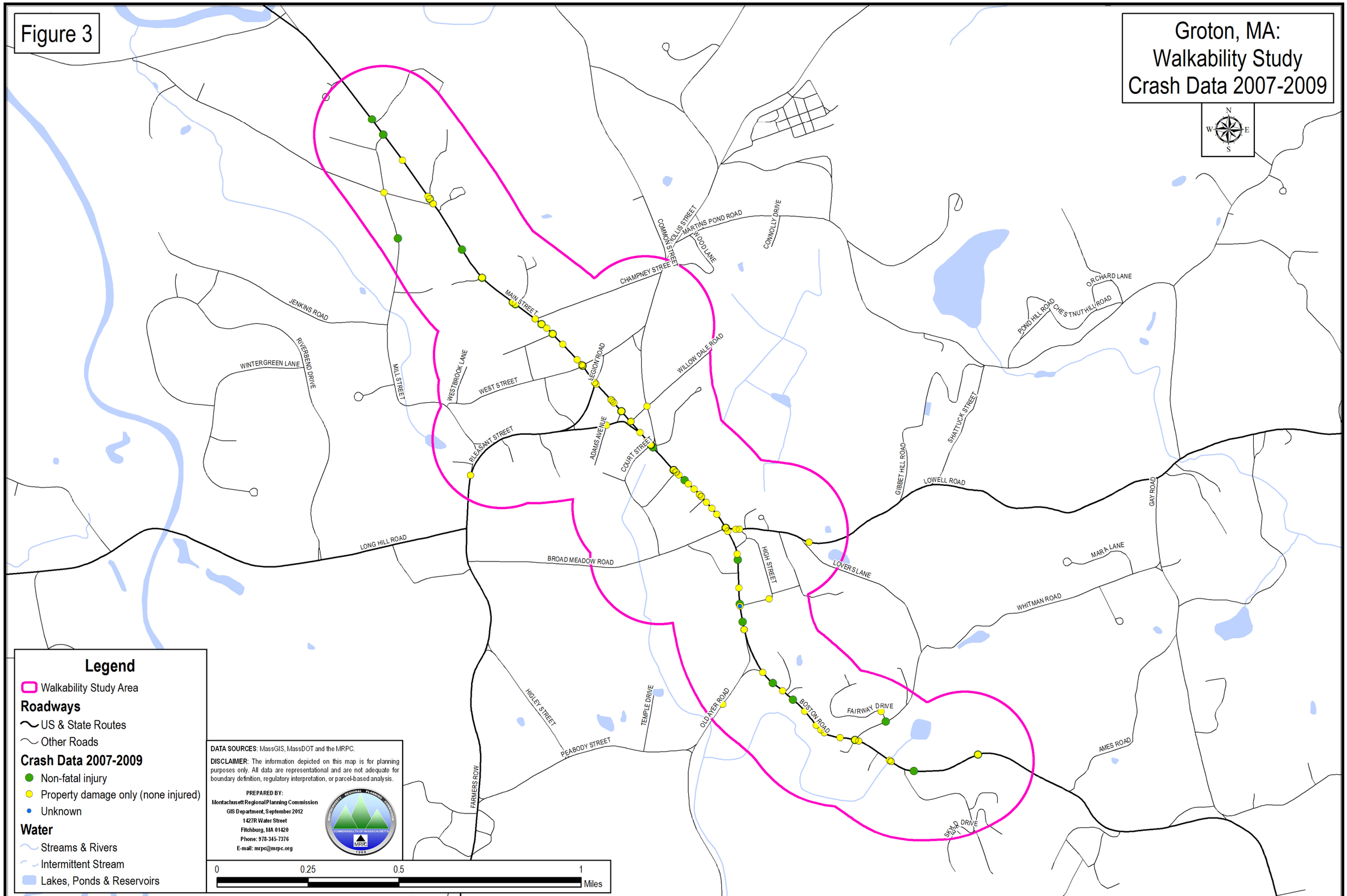
/Groton_Walkability/Groton_Walkability/Map2_11x17L.mxd [1:7,500] 09_19_12

Figure 2

Groton, MA: Walkability Study Base Map with Walking Routes



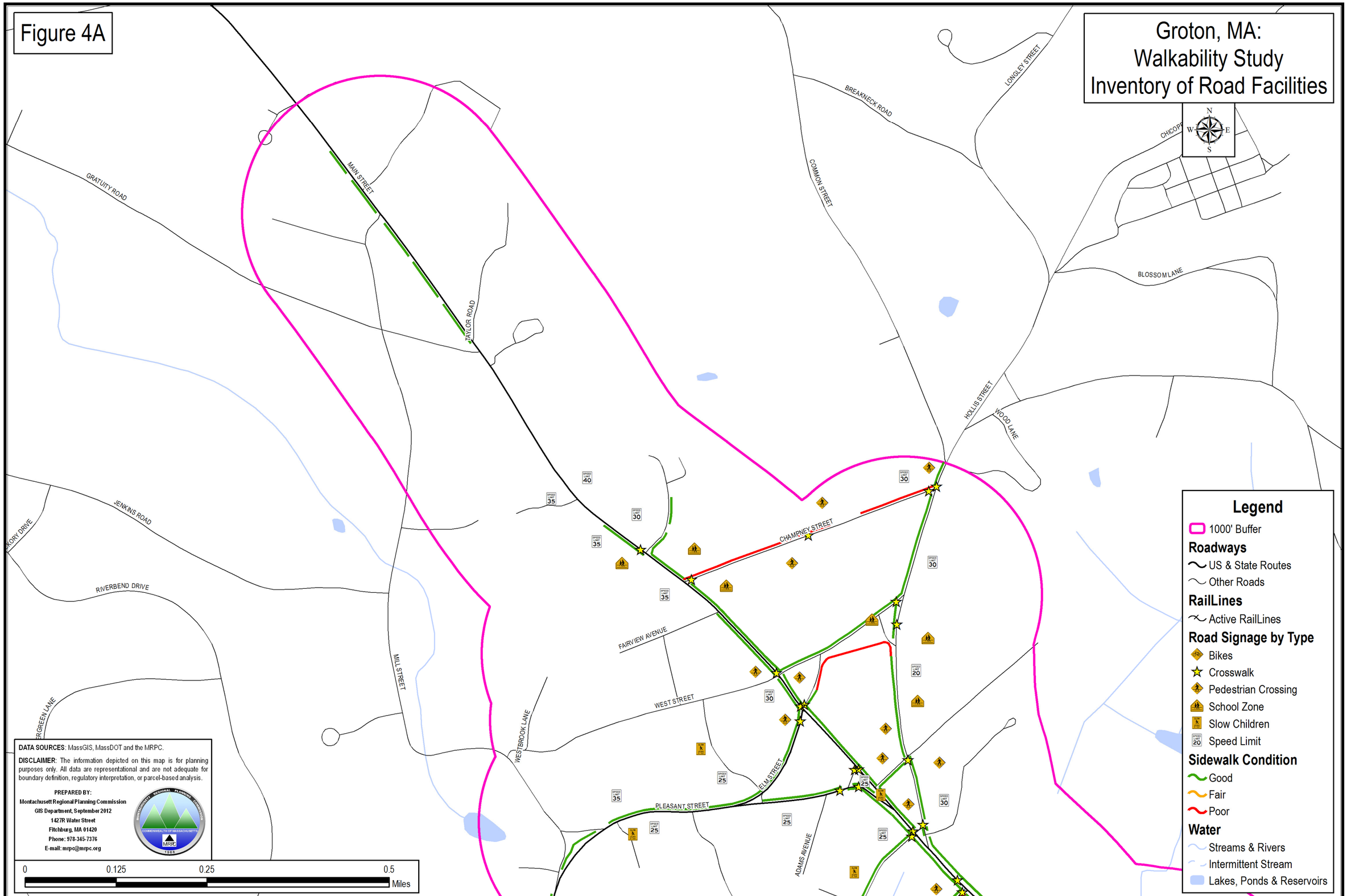
/Groton_Walkability/Groton_Walkability/Map_WalkingRoutes_11x17L.mxd {1:15,000} 09_11_12



/Groton_Walkability/Groton_Walkability_CrashDataMap_11x17L.mxd [1:15,000] 09_19_12

Figure 4A

Groton, MA: Walkability Study Inventory of Road Facilities



DATA SOURCES: MassGIS, MassDOT and the MRPC.

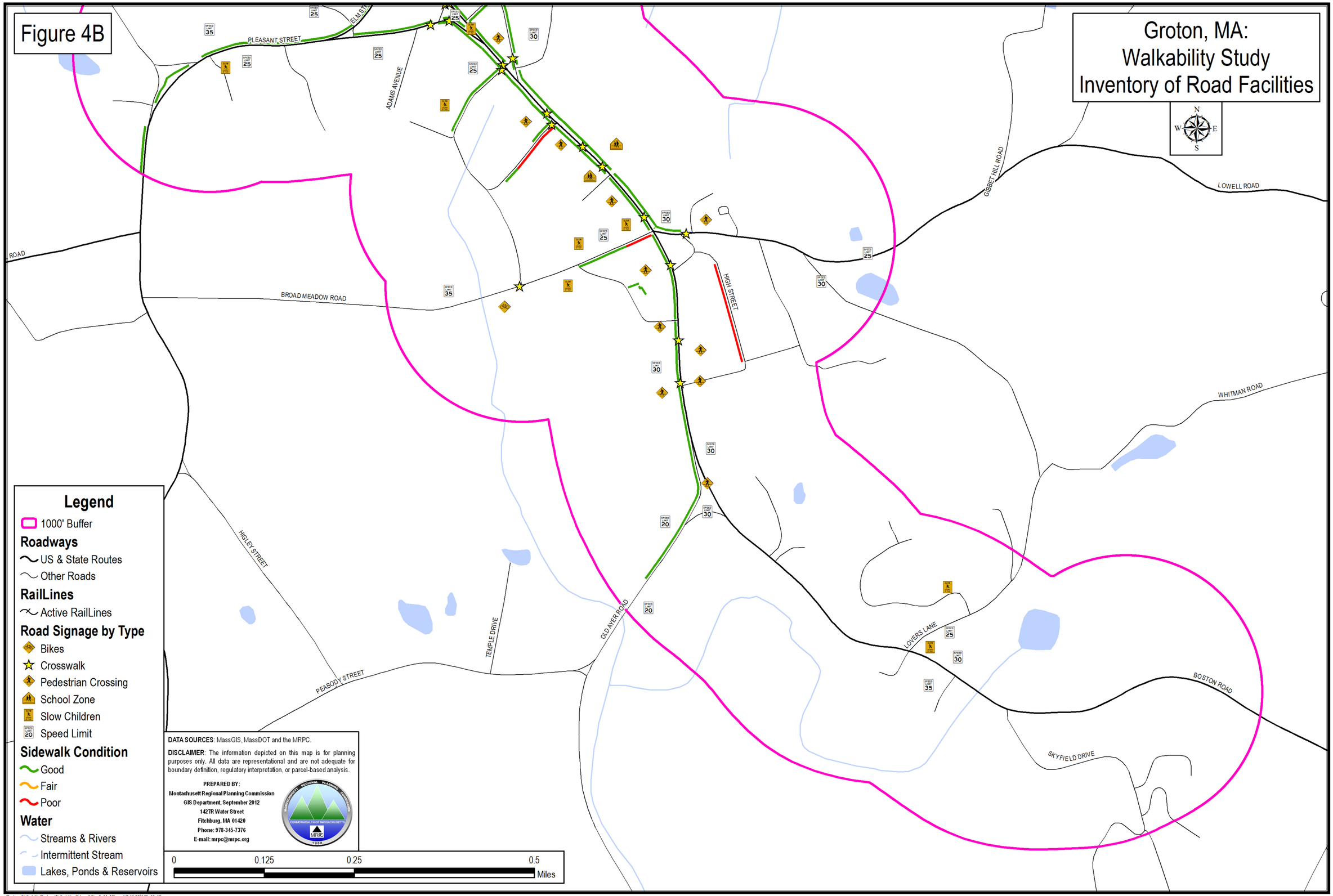
DISCLAIMER: The information depicted on this map is for planning purposes only. All data are representational and are not adequate for boundary definition, regulatory interpretation, or parcel-based analysis.

PREPARED BY:
Montachusett Regional Planning Commission
GIS Department, September 2012
1427R Water Street
Fitchburg, MA 01420
Phone: 978-345-7376
E-mail: mrpc@mrpc.org

/Groton_Walkability/Groton_Walkability_SidewalkSign1_11x17L.mxd [1:15,000] 09_19_12

Figure 4B

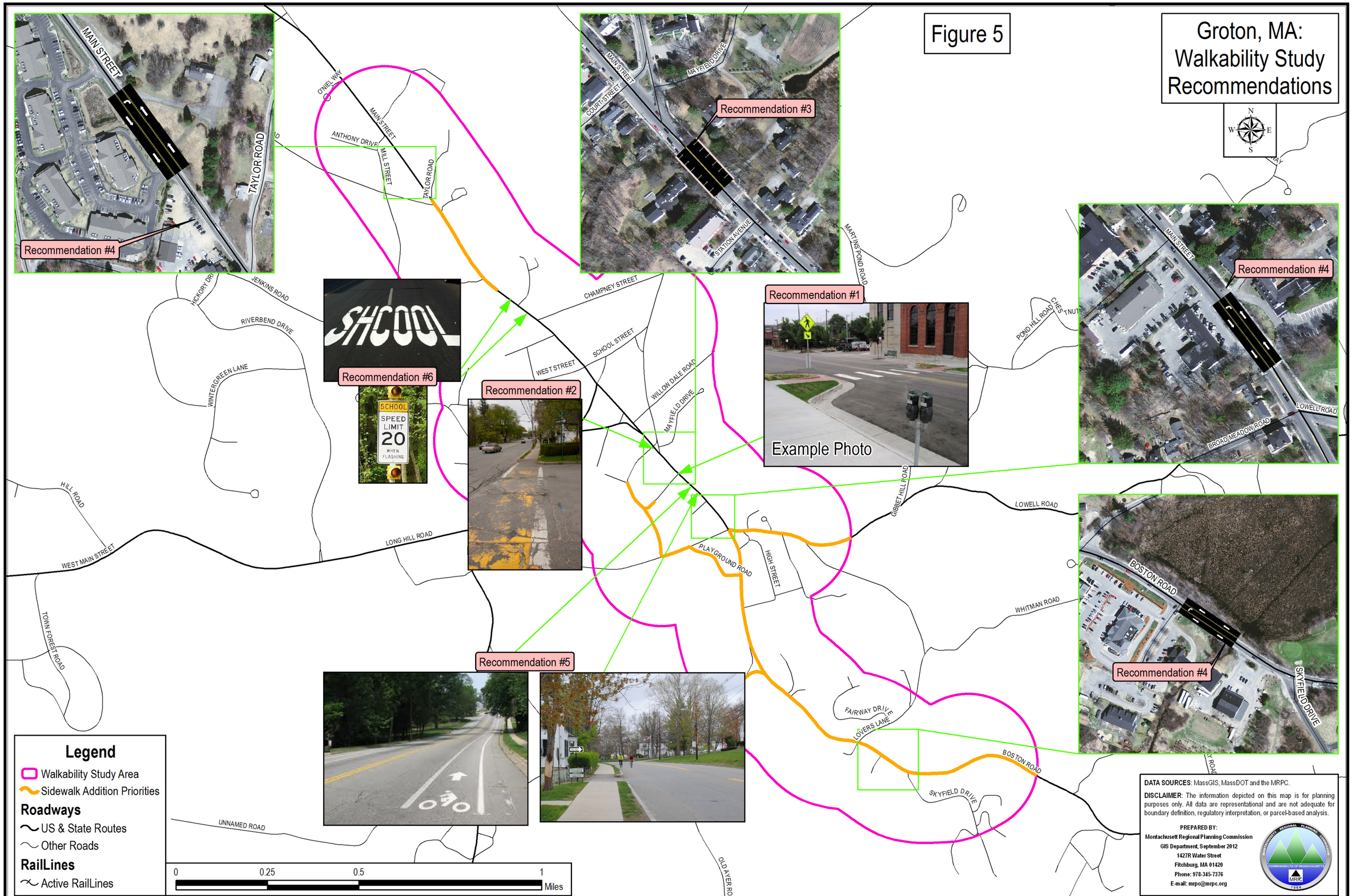
Groton, MA: Walkability Study Inventory of Road Facilities



/Groton_Walkability/Groton_Walkability_SidewalkSign2_11x17L.mxd [1:15,000] 09_19_12

Figure 5

Groton, MA: Walkability Study Recommendations



/Groton_Walkability/Groton_Walkability_Recommendations_11x17L.mxd [1:15,000] 09_25_12

APPENDIX A – Walking Audit Flyer and Handout

W A L K G R O T O N !

Are you interested in making Groton a more Walkable community? Come join us as we "Walk Groton" on April 21st and learn how you can help!

When: APRIL 21, 9:00 AM *(Rain Date 4/22)* Where: GROTON TOWN HALL

By walking the streets of downtown Groton we can identify positive and negative aspects affecting pedestrian travel and prioritizing specific solutions that will increase safety and accessibility for pedestrians. Potential solutions could include addressing missing sidewalk links, intersections, crosswalks, signage and traffic calming. Come let us know how Groton can be more pedestrian friendly!

Agenda

9:00-9:15 – Introduction & project overview

9:15-10:45 – Walking audit

11:00-11:45 – Review findings, come up with possible solutions, wrap up

---

All Groton residents, business owners, public officials, young & old! All are welcome!

Montachusett Regional Planning Commission

What to look for while conducting a Walkability Audit:

Sidewalks – Are there sidewalks within the study area? Is the width/condition acceptable (at least 4 feet wide)? Do they have handicap access ramps at each crossing & crosswalk? Are there large cracks, bumps, dips, etc. present?

Roadways – Are the current roadways in good condition? Is speeding a problem? Are large trucks an issue? Are drivers able to see pedestrians in crosswalks – is there adequate sight distance?

Crosswalks – Are the current crosswalks adequate? Do you feel safe while crossing at the crosswalks? Are vehicles parked closer than 10 feet to the crosswalks? Are there no parking zones near crosswalks? Is the striping on the crosswalk visible?

Trails – Are the trails in the area accessible to the study area? Are there guide signs to help people navigate to those trails & trail parking areas?

Parks/Public Gathering spots – Are these located nearby? Are they accessible? Is the number of parks/gathering spots adequate for the area?

Shade Trees/Benches – Are there sufficient areas to take a rest? Will you be walking in the sun most of the time or are their shaded areas to cool off in the summer?

Parking – Is there ample parking available within the study area? Are parked cars a problem within the study area? Are their guide signs to show where the parking areas are?

Attractions – What are the local attractions or key destinations that you walked by? (ex. library, parks, shops) Is there a local attraction guide or signs for visitors?

Other questions to consider-

1. What are the positive aspects of your walking route?
2. Would this walk be adequate for a young child, elderly person, or a disabled person?
3. What would make this area more walkable for all users?
4. What would encourage more walking in the area? What's missing?
5. What are the concerns regarding walking within the study area?
6. Are the neighborhoods in the area considered mixed income? Is there a variety of housing types in the area?
7. Did you see other people out walking within the study area?

APPENDIX B – Walking Audit Comments

Groton Walkability Notes

Positives-

(Numbers 1-7 are listed by priority from the stars on the poster board)

1. Good places to go – businesses, food, recreation, etc
2. There ARE sidewalks – most of the study area has a sidewalk that's in good condition
3. There are historic buildings/areas in the town center
4. Many gardens/foliage along walking routes – aesthetically pleasing
5. The sidewalks are plowed in the winter
6. There are many rail trail access points
7. The town center includes a good mix in housing/income
8. The crosswalks are painted and visible
9. The sidewalk widths were adequate
10. There is an abundance of stores/shops
11. The existing sidewalks are relatively flat and easy to walk on
12. Good playground/Library access

Negatives & Issues-

(Numbers 1- 15 are listed by priority from the stars on the poster board)

1. Missing sidewalk along Route 119 to CVS/Johnson's
2. Missing sidewalk along Route 119 to Mill Run Plaza
3. Advanced warning signs are needed to show speed limits, designated town center/residential areas, crosswalks, parking, etc.
4. The speed limit on Route 119 is too high – the roadway is narrow due to on street parking
5. Parking too close to crosswalks – no buffer
6. Broadmeadow & Main St – dangerous intersection
7. Water station to refill water bottles (other than the water fountain at town hall)
8. Rail trail is not marked (Broadmeadow Road in particular)
9. Sidewalks needed along Route 40 to Gibbet Hill
10. Entering/Exiting vehicles from plazas (ex. Dunkin Donuts) – too many curb cuts & conflict points
11. Bump outs along crosswalks may help slow vehicles

12. Sidewalks needed along Groton Common
13. Speeding is a problem through the town center
14. Distracted drivers/pedestrians
15. Municipal parking lot needed
16. Sidewalks needed on Willowdale Road to the Willowdale Elderly facility
17. Drivers are passing other drivers who are stopped for pedestrians
18. U-Turns on Route 119
19. Sidewalks across driveways
20. Sight distance problems (ex. Coming out of Playground Road)
21. Lacking sidewalk connectivity along side streets
22. Potential college locating in Groton may add to number of walkers
23. Dangerous stretch of road in front of Library (blind turn)
24. Groton School/Lawrence Academy students walking
25. School St & Legion Road lack curbing
26. Should put utilities underground/beautify the area
27. Cars parked on roadside create blind spots
28. Pedestrians assume drivers see them
29. Speeding on Broadmeadow –used as a cut through & intersects with Rail Trail but no advance warning signs exist.
30. Poor lighting at crosswalks
31. No trash barrels available within the study area
32. Mixed crosswalk types, not consistent
33. Parking spaces along Route 119 are not marked
34. Lack of consistent sidewalks/curbing
35. Not all crosswalks have curbed sidewalks on each side
36. Raised crosswalks might help with visibility and slow down traffic

APPENDIX C – Traffic Volume Counts

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Broadmeadow Road
Location: W. of Main Street (Rt 119)
Functional Class: U-5

Site Code: 1152012444
Station ID:

Latitude: 0' 0.000 Undefined

Start Time	Mon 18-Jun-12	Tue	Wed	Thu	Fri	Average Day	Sat	Sun	Week Average
12:00 AM	13	8	*	*	*	10	*	*	10
01:00	4	3	*	*	*	4	*	*	4
02:00	4	2	*	*	*	3	*	*	3
03:00	1	2	*	*	*	2	*	*	2
04:00	0	0	*	*	*	0	*	*	0
05:00	2	5	*	*	*	4	*	*	4
06:00	15	9	*	*	*	12	*	*	12
07:00	24	28	*	*	*	26	*	*	26
08:00	49	37	*	*	*	43	*	*	43
09:00	45	45	*	*	*	45	*	*	45
10:00	**87**	**87**	*	*	*	**87**	*	*	**87**
11:00	85	85	*	*	*	85	*	*	85
12:00 PM	72	94	*	*	*	83	*	*	83
01:00	64	82	*	*	*	73	*	*	73
02:00	82	93	*	*	*	88	*	*	88
03:00	92	95	*	*	*	94	*	*	94
04:00	**124**	**134**	*	*	*	**129**	*	*	**129**
05:00	121	134	*	*	*	128	*	*	128
06:00	119	108	*	*	*	114	*	*	114
07:00	72	89	*	*	*	80	*	*	80
08:00	51	63	*	*	*	57	*	*	57
09:00	43	64	*	*	*	54	*	*	54
10:00	23	37	*	*	*	30	*	*	30
11:00	21	23	*	*	*	22	*	*	22
Total	1213	1327	0	0	0	1273	0	0	1273
% Avg. WkDay	95.3%	104.2%	0.0%	0.0%	0.0%	100.0%			
% Avg. Week	95.3%	104.2%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	10:00	10:00				10:00			10:00
Vol.	87	87				87			87
PM Peak	16:00	16:00				16:00			16:00
Vol.	124	134				129			129
Total	1213	1327	0	0	0	1273	0	0	1273

ADT ADT 1,297 AADT 1,297

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class:U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

Start Time	18-Jun-12 Mon	East	West	Combined Total
12:00 AM		9	21	30
01:00		7	9	16
02:00		12	9	21
03:00		72	10	82
04:00		389	25	414
05:00		974	118	1092
06:00		1060	218	1278
07:00		952	291	1243
08:00		639	336	975
09:00		469	327	796
10:00		410	398	808
11:00		423	411	834
12:00 PM		402	432	834
01:00		387	437	824
02:00		439	631	1070
03:00		411	849	1260
04:00		403	986	1389
05:00		295	903	1198
06:00		264	476	740
07:00		204	323	527
08:00		135	229	364
09:00		66	118	184
10:00		27	83	110
11:00		24	46	70
Total		8473	7686	
Percent		52.4%	47.6%	

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class:U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

Start Time	19-Jun-12 Tue	East	West	Combined Total
12:00 AM		7	25	32
01:00		4	19	23
02:00		18	13	31
03:00		71	7	78
04:00		398	25	423
05:00		945	132	1077
06:00		1087	257	1344
07:00		952	291	1243
08:00		639	336	975
09:00		469	327	796
10:00		430	357	787
11:00		439	394	833
12:00 PM		448	402	850
01:00		417	473	890
02:00		423	630	1053
03:00		391	842	1233
04:00		372	884	1256
05:00		300	937	1237
06:00		235	556	791
07:00		184	323	507
08:00		150	263	413
09:00		76	154	230
10:00		36	106	142
11:00		18	67	85
Total		8509	7820	
Percent		52.1%	47.9%	
Grand Total		16982	15506	
Percentage		52.3%	47.7%	

ADT ADT 16,152 AADT 16,152

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Hollis Road
Location: N. of Main Street (Rt 119)
Functional Class: U-5

Site Code: 1152012452
Station ID:

Latitude: 0' 0.000 Undefined

Start Time	18-Jun-12 Mon	South	North	Combined Total
12:00 AM		8	29	37
01:00		5	11	16
02:00		1	3	4
03:00		3	2	5
04:00		5	1	6
05:00		33	5	38
06:00		118	15	133
07:00		179	46	225
08:00		234	78	312
09:00		194	85	279
10:00		140	105	245
11:00		124	98	222
12:00 PM		123	129	252
01:00		131	147	278
02:00		140	157	297
03:00		124	189	313
04:00		125	243	368
05:00		137	246	383
06:00		106	240	346
07:00		98	217	315
08:00		60	125	185
09:00		36	91	127
10:00		26	47	73
11:00		12	28	40
Total		2162	2337	
Percent		48.1%	51.9%	
Grand Total		2162	2337	
Percentage		48.1%	51.9%	

ADT ADT 2,719 AADT 2,719

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Lowell Road
Location: E. of Main Street (Rt 119)
Functional Class: U-3

Site Code: 1152012453
Station ID:

Latitude: 0' 0.000 Undefined

Start Time	18-Jun-12 Mon	West	East	Combined Total
12:00 AM		19	23	42
01:00		5	9	14
02:00		1	8	9
03:00		3	1	4
04:00		7	1	8
05:00		52	14	66
06:00		130	63	193
07:00		218	105	323
08:00		219	158	377
09:00		189	150	339
10:00		137	123	260
11:00		132	118	250
12:00 PM		138	150	288
01:00		134	155	289
02:00		150	151	301
03:00		159	171	330
04:00		195	280	475
05:00		221	283	504
06:00		193	218	411
07:00		148	153	301
08:00		84	146	230
09:00		85	110	195
10:00		40	78	118
11:00		19	34	53
Total		2678	2702	
Percent		49.8%	50.2%	

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Lowell Road
Location: E. of Main Street (Rt 119)
Functional Class: U-3

Site Code: 1152012453
Station ID:

Latitude: 0' 0.000 Undefined

Start Time	19-Jun-12 Tue	West	East	Combined Total
12:00 AM		13	12	25
01:00		5	9	14
02:00		1	6	7
03:00		3	0	3
04:00		9	3	12
05:00		49	19	68
06:00		134	56	190
07:00		215	119	334
08:00		207	158	365
09:00		189	150	339
10:00		137	123	260
11:00		132	118	250
12:00 PM		155	148	303
01:00		158	131	289
02:00		175	171	346
03:00		151	195	346
04:00		217	251	468
05:00		219	235	454
06:00		193	182	375
07:00		146	179	325
08:00		130	115	245
09:00		89	103	192
10:00		42	77	119
11:00		31	31	62
Total		2800	2591	
Percent		51.9%	48.1%	
Grand Total		5478	5293	
Percentage		50.9%	49.1%	

ADT ADT 5,392 AADT 5,392

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: N. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012463
Station ID:

Latitude: 0' 0.000 Undefined

Start Time	18-Jun-12 Mon	North	South	Combined Total
12:00 AM		78	33	111
01:00		32	16	48
02:00		11	7	18
03:00		15	21	36
04:00		14	84	98
05:00		38	461	499
06:00		134	1048	1182
07:00		216	1082	1298
08:00		264	967	1231
09:00		370	697	1067
10:00		389	521	910
11:00		450	490	940
12:00 PM		482	531	1013
01:00		505	514	1019
02:00		547	489	1036
03:00		595	464	1059
04:00		801	405	1206
05:00		750	381	1131
06:00		884	315	1199
07:00		562	365	927
08:00		422	234	656
09:00		275	180	455
10:00		157	99	256
11:00		101	42	143
Total		8092	9446	
Percent		46.1%	53.9%	
Grand Total		8092	9446	
Percentage		46.1%	53.9%	

ADT ADT 17,754 AADT 17,754

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: S. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012442
Station ID:

Latitude: 0' 0.000 Undefined

Start Time	18-Jun-12 Mon	North	South	Combined Total
12:00 AM		20	10	30
01:00		13	11	24
02:00		11	26	37
03:00		19	126	145
04:00		56	630	686
05:00		167	1057	1224
06:00		272	980	1252
07:00		375	792	1167
08:00		404	535	939
09:00		410	446	856
10:00		499	444	943
11:00		467	447	914
12:00 PM		516	430	946
01:00		573	427	1000
02:00		791	423	1214
03:00		954	398	1352
04:00		995	325	1320
05:00		815	270	1085
06:00		455	260	715
07:00		343	180	523
08:00		207	119	326
09:00		101	61	162
10:00		89	30	119
11:00		49	15	64
Total		8601	8442	
Percent		50.5%	49.5%	
Grand Total		8601	8442	
Percentage		50.5%	49.5%	

ADT ADT 17,221 AADT 17,221

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Playground Road
Location: S. of Main Street (Rt 119)
Functional Class: U-0

Site Code: 11520124303
Station ID:

Latitude: 0' 0.000 Undefined

Start Time	18-Jun-12 Mon	East Morning	East Afternoon	Hour Totals Morning	Hour Totals Afternoon
12:00		1	12		
12:15		0	10		
12:30		0	10		
12:45		0	8	1	40
01:00		0	12		
01:15		0	8		
01:30		0	12		
01:45		0	9	0	41
02:00		0	15		
02:15		0	11		
02:30		1	19		
02:45		0	16	1	61
03:00		0	10		
03:15		0	22		
03:30		0	13		
03:45		0	19	0	64
04:00		0	17		
04:15		1	17		
04:30		0	17		
04:45		1	12	2	63
05:00		4	19		
05:15		0	9		
05:30		0	11		
05:45		2	1	6	40
06:00		3	6		
06:15		0	7		
06:30		5	5		
06:45		3	5	11	23
07:00		1	8		
07:15		4	3		
07:30		11	5		
07:45		8	7	24	23
08:00		6	3		
08:15		5	2		
08:30		5	10		
08:45		4	6	20	21
09:00		15	2		
09:15		9	0		
09:30		7	0		
09:45		13	1	44	3
10:00		9	1		
10:15		5	0		
10:30		7	0		
10:45		10	0	31	1
11:00		5	1		
11:15		10	0		
11:30		5	0		
11:45		9	0	29	1
Total		169	381		
Percent		30.7%	69.3%		
Grand Total		169	381		
Percent		30.7%	69.3%		
ADT		ADT 602			AADT 602

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Pleasant Street
Location: W. of Main Street (Rt 119)
Functional Class: U-3

Site Code: 1152012472
Station ID:

Latitude: 0' 0.000 Undefined

Start Time	25-Jun-12 Mon	West	East	Combined Total
12:00 AM		15	3	18
01:00		11	8	19
02:00		1	1	2
03:00		0	2	2
04:00		0	9	9
05:00		5	24	29
06:00		11	82	93
07:00		61	118	179
08:00		85	160	245
09:00		85	154	239
10:00		92	131	223
11:00		82	98	180
12:00 PM		81	119	200
01:00		90	93	183
02:00		75	102	177
03:00		84	104	188
04:00		140	143	283
05:00		124	126	250
06:00		146	100	246
07:00		95	87	182
08:00		46	48	94
09:00		47	40	87
10:00		27	18	45
11:00		15	9	24
Total		1418	1779	
Percent		44.4%	55.6%	

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Pleasant Street
Location: W. of Main Street (Rt 119)
Functional Class: U-3

Site Code: 1152012472
Station ID:

Latitude: 0' 0.000 Undefined

Start Time	26-Jun-12 Tue	West	East	Combined Total
12:00 AM		11	8	19
01:00		2	4	6
02:00		1	2	3
03:00		2	1	3
04:00		0	4	4
05:00		5	15	20
06:00		14	76	90
07:00		55	113	168
08:00		96	165	261
09:00		98	161	259
10:00		79	128	207
11:00		65	121	186
12:00 PM		74	118	192
01:00		97	134	231
02:00		101	117	218
03:00		109	125	234
04:00		138	144	282
05:00		139	131	270
06:00		136	140	276
07:00		122	98	220
08:00		62	61	123
09:00		72	35	107
10:00		33	27	60
11:00		17	24	41
Total		1528	1952	
Percent		43.9%	56.1%	
Grand Total		2946	3731	
Percentage		44.1%	55.9%	

ADT ADT 3,480 AADT 3,480

APPENDIX D – Turning Movement Counts

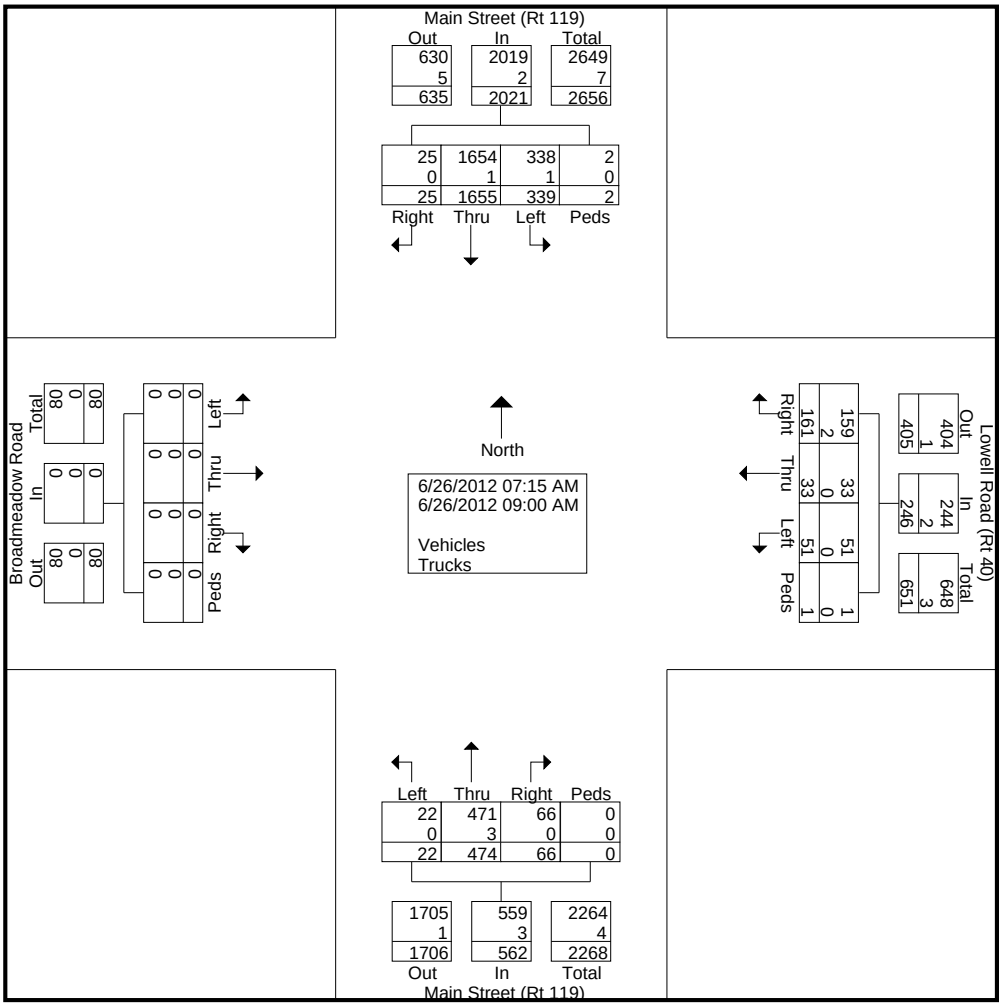
Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main Street (119 & 225)
Location: Lowell Road (Rt 40)
Functional Class: U-3

File Name : 115-2012-3730 AM
Site Code : 00003730
Start Date : 6/26/2012
Page No : 1

Groups Printed- Vehicles - Trucks

	Main Street (Rt 119) From North					Lowell Road (Rt 40) From East					Main Street (Rt 119) From South					Broadmeadow Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	4	233	42	0	279	17	5	2	0	24	5	42	0	0	47	0	0	0	0	0	350
07:30 AM	1	231	42	0	274	11	4	2	0	17	2	43	1	0	46	0	0	0	0	0	337
07:45 AM	4	207	49	0	260	21	3	4	0	28	9	53	2	0	64	0	0	0	0	0	352
Total	9	671	133	0	813	49	12	8	0	69	16	138	3	0	157	0	0	0	0	0	1039
08:00 AM	2	223	39	1	265	21	5	12	0	38	7	60	7	0	74	0	0	0	0	0	377
08:15 AM	2	185	37	0	224	21	4	7	1	33	10	58	1	0	69	0	0	0	0	0	326
08:30 AM	4	156	33	1	194	24	5	4	0	33	8	58	2	0	68	0	0	0	0	0	295
08:45 AM	2	219	51	0	272	24	5	8	0	37	10	85	3	0	98	0	0	0	0	0	407
Total	10	783	160	2	955	90	19	31	1	141	35	261	13	0	309	0	0	0	0	0	1405
09:00 AM	6	201	46	0	253	22	2	12	0	36	15	75	6	0	96	0	0	0	0	0	385
Grand Total	25	1655	339	2	2021	161	33	51	1	246	66	474	22	0	562	0	0	0	0	0	2829
Apprch %	1.2	81.9	16.8	0.1		65.4	13.4	20.7	0.4		11.7	84.3	3.9	0		0	0	0	0		
Total %	0.9	58.5	12	0.1	71.4	5.7	1.2	1.8	0	8.7	2.3	16.8	0.8	0	19.9	0	0	0	0	0	
Vehicles	25	1654	338	2	2019	159	33	51	1	244	66	471	22	0	559	0	0	0	0	0	2822
% Vehicles	100	99.9	99.7	100	99.9	98.8	100	100	100	99.2	100	99.4	100	0	99.5	0	0	0	0	0	99.8
Trucks	0	1	1	0	2	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	7
% Trucks	0	0.1	0.3	0	0.1	1.2	0	0	0	0.8	0	0.6	0	0	0.5	0	0	0	0	0	0.2



Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main Street (119 & 225)
Location: Lowell Road (Rt 40)
Functional Class: U-3

File Name : 115-2012-3730 AM
Site Code : 00003730
Start Date : 6/26/2012
Page No : 2

	Main Street (Rt 119) From North					Lowell Road (Rt 40) From East					Main Street (Rt 119) From South					Broadmeadow Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 09:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	**4**	**233**	42	0	**279**	17	**5**	2	0	24	5	42	0	0	47	0	0	0	0	0	350
07:30 AM	1	231	42	0	274	11	4	2	0	17	2	43	1	0	46	0	0	0	0	0	337
07:45 AM	4	207	**49**	0	260	**21**	3	4	0	28	**9**	53	2	0	64	0	0	0	0	0	352
08:00 AM	2	223	39	**1**	265	21	5	**12**	0	**38**	7	**60**	**7**	0	**74**	0	0	0	0	0	**377**
Total Volume	11	894	172	1	1078	70	17	20	0	107	23	198	10	0	231	0	0	0	0	0	1416
% App. Total	1	82.9	16	0.1		65.4	15.9	18.7	0		10	85.7	4.3	0		0	0	0	0		
PHF	.688	.959	.878	.250	.966	.833	.850	.417	.000	.704	.639	.825	.357	.000	.780	.000	.000	.000	.000	.000	.939

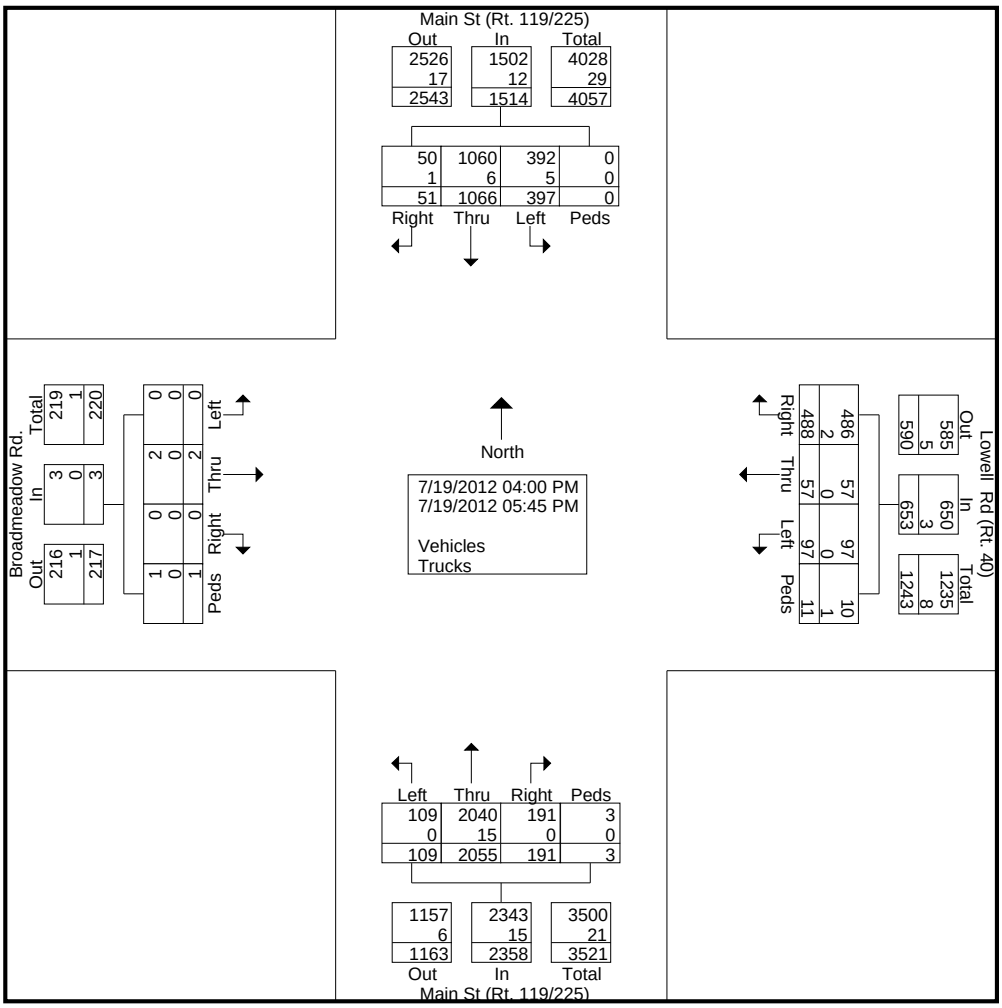
Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main Street (Rt. 119/225)
Location: At Lowell Rd (Rt. 40)
Functional Class:U-3

File Name : 115-2012-3730 PM
Site Code : 00003730
Start Date : 7/19/2012
Page No : 1

Groups Printed- Vehicles - Trucks

	Main St (Rt. 119/225) From North					Lowell Rd (Rt. 40) From East					Main St (Rt. 119/225) From South					Broadmeadow Rd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	11	141	41	0	193	68	11	14	2	95	18	215	21	0	254	0	0	0	0	0	542
04:15 PM	5	203	32	0	240	70	7	7	0	84	11	205	7	0	223	0	0	0	1	1	548
04:30 PM	6	121	43	0	170	59	2	16	0	77	20	221	12	0	253	0	0	0	0	0	500
04:45 PM	5	140	62	0	207	60	6	4	0	70	29	276	9	1	315	0	0	0	0	0	592
Total	27	605	178	0	810	257	26	41	2	326	78	917	49	1	1045	0	0	0	1	1	2182
05:00 PM	4	116	55	0	175	66	9	14	8	97	18	285	9	0	312	0	0	0	0	0	584
05:15 PM	8	114	54	0	176	64	5	11	1	81	24	271	14	0	309	0	0	0	0	0	566
05:30 PM	7	111	46	0	164	54	9	11	0	74	38	295	21	2	356	0	0	0	0	0	594
05:45 PM	5	120	64	0	189	47	8	20	0	75	33	287	16	0	336	0	2	0	0	2	602
Total	24	461	219	0	704	231	31	56	9	327	113	1138	60	2	1313	0	2	0	0	2	2346
Grand Total	51	1066	397	0	1514	488	57	97	11	653	191	2055	109	3	2358	0	2	0	1	3	4528
Apprch %	3.4	70.4	26.2	0		74.7	8.7	14.9	1.7		8.1	87.2	4.6	0.1		0	66.7	0	33.3		
Total %	1.1	23.5	8.8	0	33.4	10.8	1.3	2.1	0.2	14.4	4.2	45.4	2.4	0.1	52.1	0	0	0	0	0.1	
Vehicles	50	1060	392	0	1502	486	57	97	10	650	191	2040	109	3	2343	0	2	0	1	3	4498
% Vehicles	98	99.4	98.7	0	99.2	99.6	100	100	90.9	99.5	100	99.3	100	100	99.4	0	100	0	100	100	99.3
Trucks	1	6	5	0	12	2	0	0	1	3	0	15	0	0	15	0	0	0	0	0	30
% Trucks	2	0.6	1.3	0	0.8	0.4	0	0	9.1	0.5	0	0.7	0	0	0.6	0	0	0	0	0	0.7



Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main Street (Rt. 119/225)
Location: At Lowell Rd (Rt. 40)
Functional Class:U-3

File Name : 115-2012-3730 PM
Site Code : 00003730
Start Date : 7/19/2012
Page No : 2

	Main St (Rt. 119/225) From North					Lowell Rd (Rt. 40) From East					Main St (Rt. 119/225) From South					Broadmeadow Rd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	4	116	55	0	175	**66**	**9**	14	**8**	**97**	18	285	9	0	312	0	0	0	0	0	584
05:15 PM	**8**	114	54	0	176	64	5	11	1	81	24	271	14	0	309	0	0	0	0	0	566
05:30 PM	7	111	46	0	164	54	9	11	0	74	**38**	**295**	**21**	**2**	**356**	0	0	0	0	0	594
05:45 PM	5	**120**	**64**	0	**189**	47	8	**20**	0	75	33	287	16	0	336	0	**2**	0	0	**2**	**602**
Total Volume	24	461	219	0	704	231	31	56	9	327	113	1138	60	2	1313	0	2	0	0	2	2346
% App. Total	3.4	65.5	31.1	0		70.6	9.5	17.1	2.8		8.6	86.7	4.6	0.2		0	100	0	0		
PHF	.750	.960	.855	.000	.931	.875	.861	.700	.281	.843	.743	.964	.714	.250	.922	.000	.250	.000	.000	.250	.974

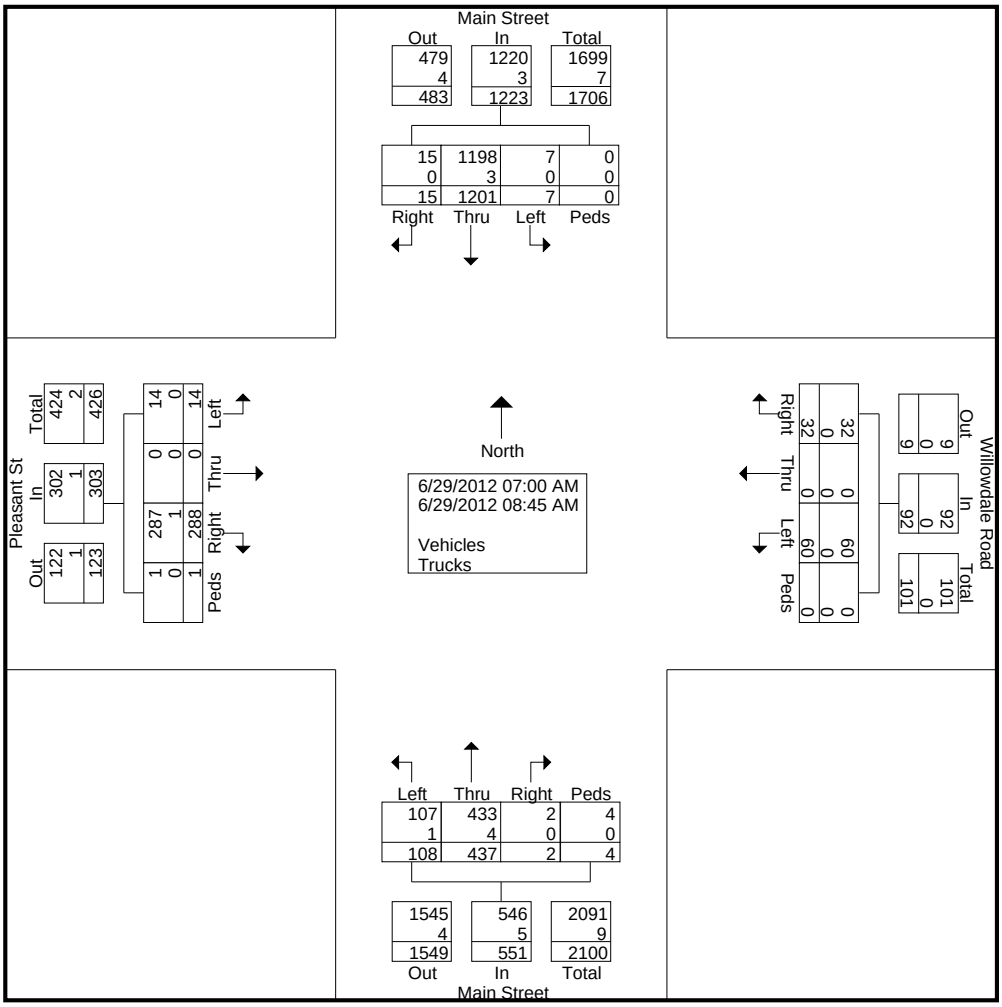
Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 111/119/225)
Location: At Pleasant St
Functional Class: U-3

File Name : 115-2012-4304 AM
Site Code : 00004304
Start Date : 6/29/2012
Page No : 1

Groups Printed- Vehicles - Trucks

	Main Street From North					Willowdale Road From East					Main Street From South					Pleasant St From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	158	1	0	160	6	0	6	0	12	0	44	6	0	50	32	0	0	0	32	254
07:15 AM	0	140	0	0	140	6	0	9	0	15	0	59	10	0	69	28	0	1	0	29	253
07:30 AM	3	152	0	0	155	4	0	4	0	8	0	45	17	0	62	34	0	1	0	35	260
07:45 AM	1	171	1	0	173	6	0	9	0	15	0	61	16	2	79	42	0	2	0	44	311
Total	5	621	2	0	628	22	0	28	0	50	0	209	49	2	260	136	0	4	0	140	1078
08:00 AM	1	171	0	0	172	3	0	11	0	14	0	53	13	0	66	37	0	3	1	41	293
08:15 AM	2	152	1	0	155	2	0	5	0	7	0	65	13	1	79	33	0	4	0	37	278
08:30 AM	3	123	4	0	130	3	0	7	0	10	1	41	11	1	54	41	0	3	0	44	238
08:45 AM	4	134	0	0	138	2	0	9	0	11	1	69	22	0	92	41	0	0	0	41	282
Total	10	580	5	0	595	10	0	32	0	42	2	228	59	2	291	152	0	10	1	163	1091
Grand Total	15	1201	7	0	1223	32	0	60	0	92	2	437	108	4	551	288	0	14	1	303	2169
Apprch %	1.2	98.2	0.6	0		34.8	0	65.2	0		0.4	79.3	19.6	0.7		95	0	4.6	0.3		
Total %	0.7	55.4	0.3	0	56.4	1.5	0	2.8	0	4.2	0.1	20.1	5	0.2	25.4	13.3	0	0.6	0	14	
Vehicles	15	1198	7	0	1220	32	0	60	0	92	2	433	107	4	546	287	0	14	1	302	2160
% Vehicles	100	99.8	100	0	99.8	100	0	100	0	100	100	99.1	99.1	100	99.1	99.7	0	100	100	99.7	99.6
Trucks	0	3	0	0	3	0	0	0	0	0	0	4	1	0	5	1	0	0	0	1	9
% Trucks	0	0.2	0	0	0.2	0	0	0	0	0	0	0.9	0.9	0	0.9	0.3	0	0	0	0.3	0.4



Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 111/119/225)
Location: At Pleasant St
Functional Class: U-3

File Name : 115-2012-4304 AM
Site Code : 00004304
Start Date : 6/29/2012
Page No : 2

	Main Street From North					Willowdale Road From East					Main Street From South					Pleasant St From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**3**	152	0	0	155	4	0	4	0	8	0	45	**17**	0	62	34	0	1	0	35	260
07:45 AM	1	**171**	**1**	0	**173**	**6**	0	9	0	**15**	0	61	16	**2**	**79**	**42**	0	2	0	**44**	**311**
08:00 AM	1	171	0	0	172	3	0	**11**	0	14	0	53	13	0	66	37	0	3	**1**	41	293
08:15 AM	2	152	1	0	155	2	0	5	0	7	0	**65**	13	1	79	33	0	**4**	0	37	278
Total Volume	7	646	2	0	655	15	0	29	0	44	0	224	59	3	286	146	0	10	1	157	1142
% App. Total	1.1	98.6	0.3	0		34.1	0	65.9	0		0	78.3	20.6	1		93	0	6.4	0.6		
PHF	.583	.944	.500	.000	.947	.625	.000	.659	.000	.733	.000	.862	.868	.375	.905	.869	.000	.625	.250	.892	.918

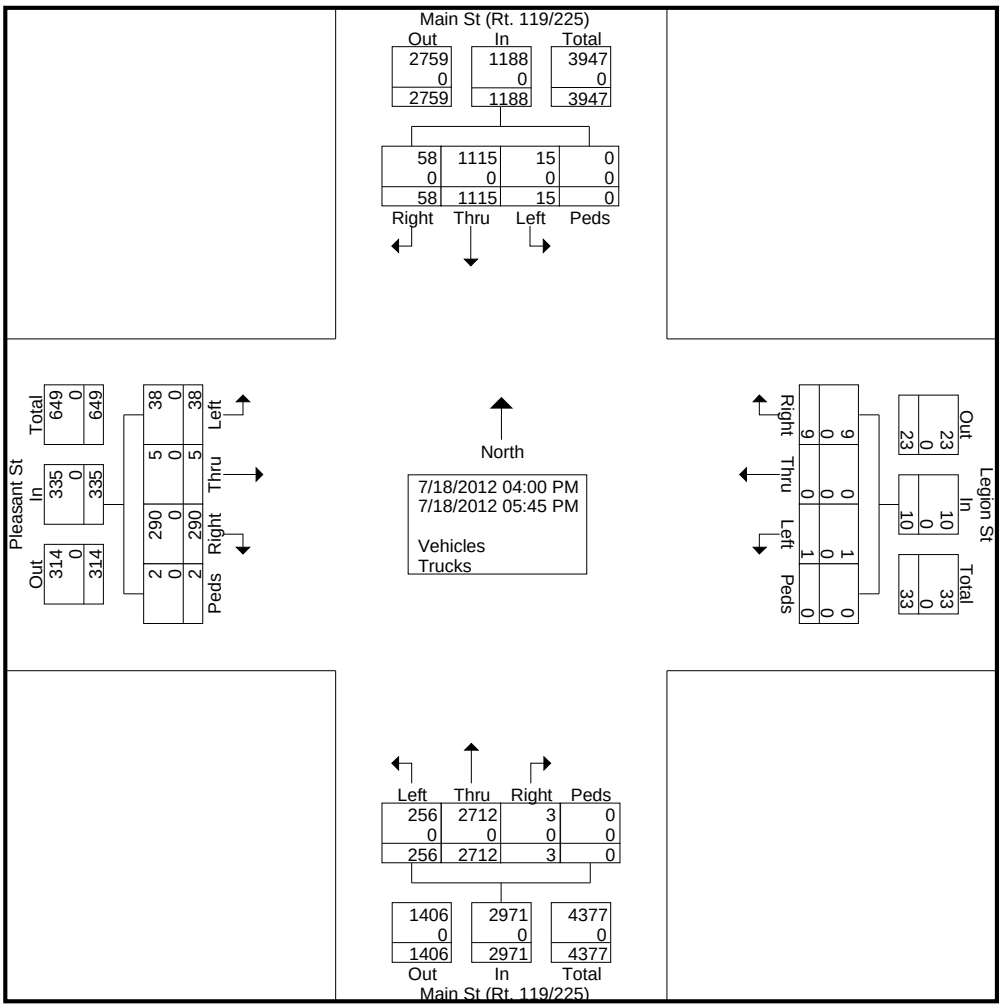
Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: at Pleasant St
Functional Class:U-3

File Name : 115-2012-4304 PM
Site Code : 00004304
Start Date : 7/18/2012
Page No : 1

Groups Printed- Vehicles - Trucks

	Main St (Rt. 119/225) From North					Legion St From East					Main St (Rt. 119/225) From South					Pleasant St From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	106	4	0	110	2	0	0	0	2	0	300	40	0	340	52	0	2	0	54	506
04:15 PM	6	130	4	0	140	3	0	1	0	4	0	314	25	0	339	52	0	3	0	55	538
04:30 PM	9	137	0	0	146	2	0	0	0	2	0	201	34	0	235	43	0	15	0	58	441
04:45 PM	12	237	3	0	252	0	0	0	0	0	1	347	36	0	384	50	3	7	0	60	696
Total	27	610	11	0	648	7	0	1	0	8	1	1162	135	0	1298	197	3	27	0	227	2181
05:00 PM	8	191	0	0	199	0	0	0	0	0	0	333	25	0	358	12	0	0	0	12	569
05:15 PM	1	114	2	0	117	2	0	0	0	2	0	386	30	0	416	24	0	1	1	26	561
05:30 PM	4	119	2	0	125	0	0	0	0	0	2	422	62	0	486	31	1	4	1	37	648
05:45 PM	18	81	0	0	99	0	0	0	0	0	0	409	4	0	413	26	1	6	0	33	545
Total	31	505	4	0	540	2	0	0	0	2	2	1550	121	0	1673	93	2	11	2	108	2323
Grand Total	58	1115	15	0	1188	9	0	1	0	10	3	2712	256	0	2971	290	5	38	2	335	4504
Apprch %	4.9	93.9	1.3	0		90	0	10	0		0.1	91.3	8.6	0		86.6	1.5	11.3	0.6		
Total %	1.3	24.8	0.3	0	26.4	0.2	0	0	0	0.2	0.1	60.2	5.7	0	66	6.4	0.1	0.8	0	7.4	
Vehicles	58	1115	15	0	1188	9	0	1	0	10	3	2712	256	0	2971	290	5	38	2	335	4504
% Vehicles	100	100	100	0	100	100	0	100	0	100	100	100	100	0	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: at Pleasant St
Functional Class:U-3

File Name : 115-2012-4304 PM
Site Code : 00004304
Start Date : 7/18/2012
Page No : 2

	Main St (Rt. 119/225) From North					Legion St From East					Main St (Rt. 119/225) From South					Pleasant St From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**12**	**237**	**3**	0	**252**	0	0	0	0	0	1	347	36	0	384	**50**	**3**	**7**	0	**60**	**696**
05:00 PM	8	191	0	0	199	0	0	0	0	0	0	333	25	0	358	12	0	0	0	12	569
05:15 PM	1	114	2	0	117	**2**	0	0	0	**2**	0	386	30	0	416	24	0	1	**1**	26	561
05:30 PM	4	119	2	0	125	0	0	0	0	0	**2**	**422**	**62**	0	**486**	31	1	4	1	37	648
Total Volume	25	661	7	0	693	2	0	0	0	2	3	1488	153	0	1644	117	4	12	2	135	2474
% App. Total	3.6	95.4	1	0		100	0	0	0		0.2	90.5	9.3	0		86.7	3	8.9	1.5		
PHF	.521	.697	.583	.000	.688	.250	.000	.000	.000	.250	.375	.882	.617	.000	.846	.585	.333	.429	.500	.563	.889

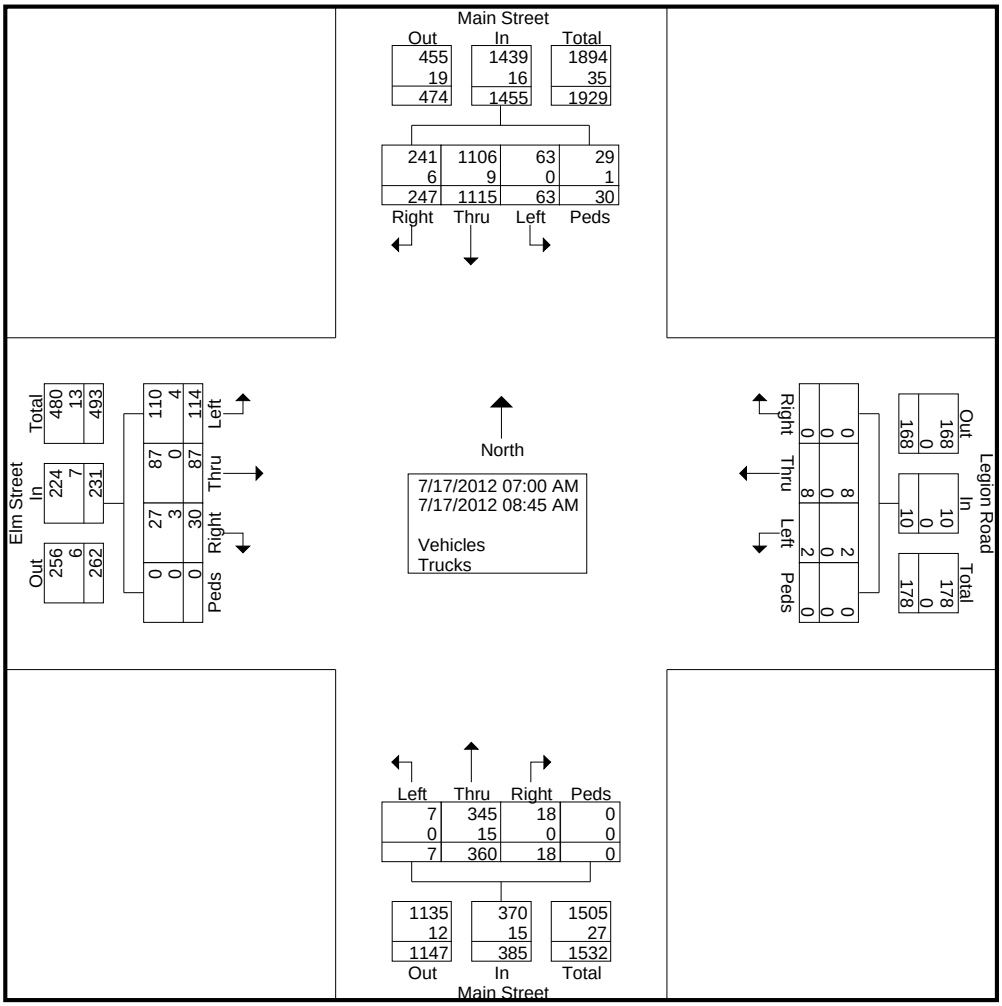
Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main Street
Location: Elm Street & Legion Road
Functional Class: U-3

File Name : 115-2012-4305 AM
Site Code : 00004305
Start Date : 7/17/2012
Page No : 1

Groups Printed- Vehicles - Trucks

	Main Street From North					Legion Road From East					Main Street From South					Elm Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	41	205	0	0	246	0	1	2	0	3	2	60	1	0	63	4	7	18	0	29	341
07:15 AM	35	91	14	18	158	0	2	0	0	2	1	10	1	0	12	2	11	5	0	18	190
07:30 AM	11	121	16	0	148	0	4	0	0	4	2	18	0	0	20	5	7	6	0	18	190
07:45 AM	27	162	27	0	216	0	0	0	0	0	0	42	0	0	42	2	14	13	0	29	287
Total	114	579	57	18	768	0	7	2	0	9	5	130	2	0	137	13	39	42	0	94	1008
08:00 AM	18	157	5	2	182	0	0	0	0	0	4	74	2	0	80	3	10	13	0	26	288
08:15 AM	55	123	0	9	187	0	0	0	0	0	3	40	0	0	43	4	5	6	0	15	245
08:30 AM	48	132	1	0	181	0	0	0	0	0	1	56	0	0	57	7	15	30	0	52	290
08:45 AM	12	124	0	1	137	0	1	0	0	1	5	60	3	0	68	3	18	23	0	44	250
Total	133	536	6	12	687	0	1	0	0	1	13	230	5	0	248	17	48	72	0	137	1073
Grand Total	247	1115	63	30	1455	0	8	2	0	10	18	360	7	0	385	30	87	114	0	231	2081
Apprch %	17	76.6	4.3	2.1		0	80	20	0		4.7	93.5	1.8	0		13	37.7	49.4	0		
Total %	11.9	53.6	3	1.4	69.9	0	0.4	0.1	0	0.5	0.9	17.3	0.3	0	18.5	1.4	4.2	5.5	0	11.1	
Vehicles	241	1106	63	29	1439	0	8	2	0	10	18	345	7	0	370	27	87	110	0	224	2043
% Vehicles	97.6	99.2	100	96.7	98.9	0	100	100	0	100	100	95.8	100	0	96.1	90	100	96.5	0	97	98.2
Trucks	6	9	0	1	16	0	0	0	0	0	0	15	0	0	15	3	0	4	0	7	38
% Trucks	2.4	0.8	0	3.3	1.1	0	0	0	0	0	0	4.2	0	0	3.9	10	0	3.5	0	3	1.8



Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main Street
Location: Elm Street & Legion Road
Functional Class: U-3

File Name : 115-2012-4305 AM
Site Code : 00004305
Start Date : 7/17/2012

	Main Street From North					Legion Road From East					Main Street From South					Elm Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	27	**162**	**27**	0	**216**	0	0	0	0	0	0	42	0	0	42	2	14	13	0	29	287
08:00 AM	18	157	5	2	182	0	0	0	0	0	**4**	**74**	**2**	0	**80**	3	10	13	0	26	288
08:15 AM	**55**	123	0	**9**	187	0	0	0	0	0	3	40	0	0	43	4	5	6	0	15	245
08:30 AM	48	132	1	0	181	0	0	0	0	0	1	56	0	0	57	**7**	**15**	**30**	0	**52**	**290**
Total Volume	148	574	33	11	766	0	0	0	0	0	8	212	2	0	222	16	44	62	0	122	1110
% App. Total	19.3	74.9	4.3	1.4		0	0	0	0		3.6	95.5	0.9	0		13.1	36.1	50.8	0		
PHF	.673	.886	.306	.306	.887	.000	.000	.000	.000	.000	.500	.716	.250	.000	.694	.571	.733	.517	.000	.587	.957

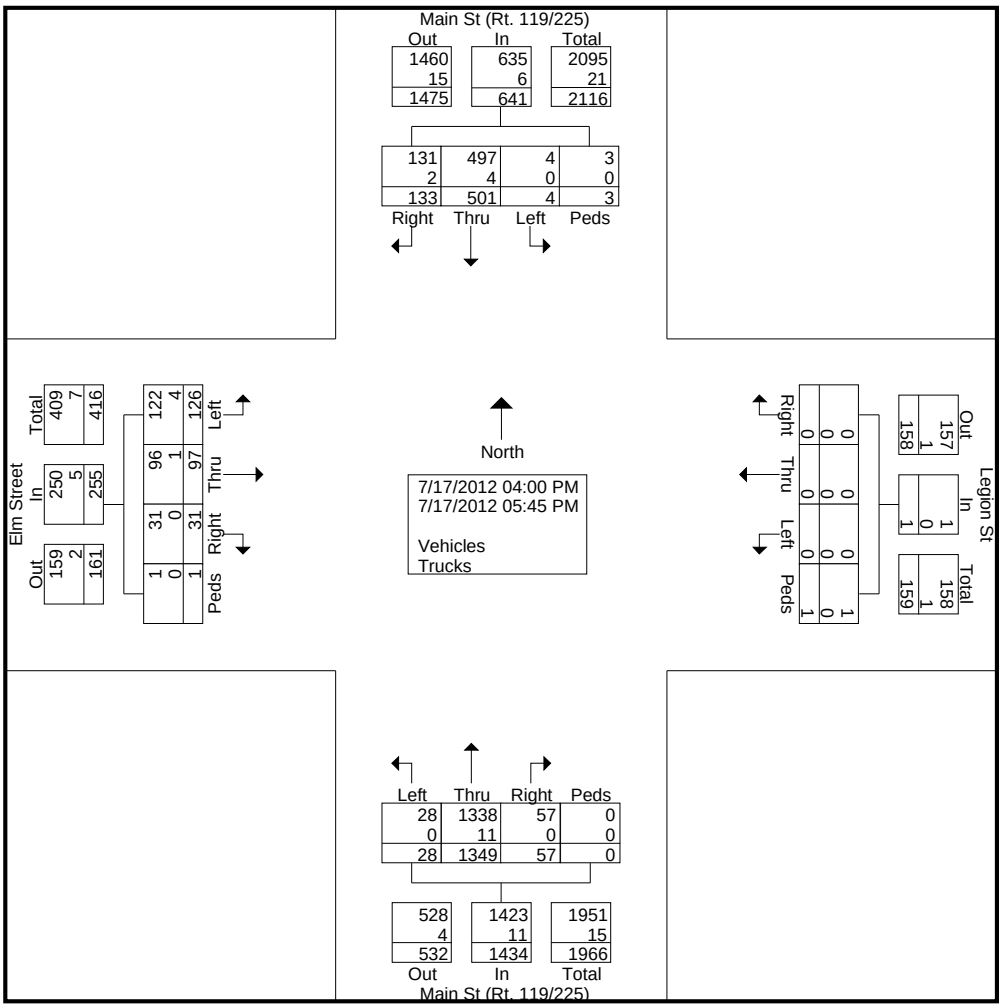
Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: at Elm/Legion St
Functional Class: U-3

File Name : 115-2012-4305 PM
Site Code : 0004305
Start Date : 7/17/2012
Page No : 1

Groups Printed- Vehicles - Trucks

	Main St (Rt. 119/225) From North					Legion St From East					Main St (Rt. 119/225) From South					Elm Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	23	51	0	2	76	0	0	0	0	0	5	126	3	0	134	6	5	30	0	41	251
04:15 PM	12	49	2	0	63	0	0	0	1	1	6	133	3	0	142	3	17	13	0	33	239
04:30 PM	24	71	0	0	95	0	0	0	0	0	8	164	6	0	178	0	15	10	0	25	298
04:45 PM	15	73	1	0	89	0	0	0	0	0	8	195	3	0	206	1	13	12	0	26	321
Total	74	244	3	2	323	0	0	0	1	1	27	618	15	0	660	10	50	65	0	125	1109
05:00 PM	18	65	0	0	83	0	0	0	0	0	5	142	2	0	149	8	10	19	1	38	270
05:15 PM	17	61	0	1	79	0	0	0	0	0	6	198	3	0	207	4	15	12	0	31	317
05:30 PM	14	66	0	0	80	0	0	0	0	0	8	207	7	0	222	2	9	16	0	27	329
05:45 PM	10	65	1	0	76	0	0	0	0	0	11	184	1	0	196	7	13	14	0	34	306
Total	59	257	1	1	318	0	0	0	0	0	30	731	13	0	774	21	47	61	1	130	1222
Grand Total	133	501	4	3	641	0	0	0	1	1	57	1349	28	0	1434	31	97	126	1	255	2331
Apprch %	20.7	78.2	0.6	0.5		0	0	0	100		4	94.1	2	0		12.2	38	49.4	0.4		
Total %	5.7	21.5	0.2	0.1	27.5	0	0	0	0	0	2.4	57.9	1.2	0	61.5	1.3	4.2	5.4	0	10.9	
Vehicles	131	497	4	3	635	0	0	0	1	1	57	1338	28	0	1423	31	96	122	1	250	2309
% Vehicles	98.5	99.2	100	100	99.1	0	0	0	100	100	100	99.2	100	0	99.2	100	99	96.8	100	98	99.1
Trucks	2	4	0	0	6	0	0	0	0	0	0	11	0	0	11	0	1	4	0	5	22
% Trucks	1.5	0.8	0	0	0.9	0	0	0	0	0	0	0.8	0	0	0.8	0	1	3.2	0	2	0.9



Montachusett Regional Planning Commission
R1427 Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: at Elm/Legion St
Functional Class: U-3

File Name : 115-2012-4305 PM
Site Code : 0004305
Start Date : 7/17/2012
Page No : 2

	Main St (Rt. 119/225) From North					Legion St From East					Main St (Rt. 119/225) From South					Elm Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	15	**73**	**1**	0	**89**	0	0	0	0	0	**8**	195	3	0	206	1	13	12	0	26	321
05:00 PM	**18**	65	0	0	83	0	0	0	0	0	5	142	2	0	149	**8**	10	**19**	**1**	**38**	270
05:15 PM	17	61	0	**1**	79	0	0	0	0	0	6	198	3	0	207	4	**15**	12	0	31	317
05:30 PM	14	66	0	0	80	0	0	0	0	0	8	**207**	**7**	0	**222**	2	9	16	0	27	**329**
Total Volume	64	265	1	1	331	0	0	0	0	0	27	742	15	0	784	15	47	59	1	122	1237
% App. Total	19.3	80.1	0.3	0.3		0	0	0	0		3.4	94.6	1.9	0		12.3	38.5	48.4	0.8		
PHF	.889	.908	.250	.250	.930	.000	.000	.000	.000	.000	.844	.896	.536	.000	.883	.469	.783	.776	.250	.803	.940

APPENDIX E – Speed Counts

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

East

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	0	0	0	0	3	6	0	0	0	0	0	0	0	0	9	32-41	8
01:00	0	0	1	0	2	3	1	0	0	0	0	0	0	0	7	31-40	5
02:00	0	0	0	1	5	6	0	0	0	0	0	0	0	0	12	30-39	10
03:00	1	0	1	2	22	39	6	1	0	0	0	0	0	0	72	32-41	55
04:00	2	0	0	5	95	245	40	2	0	0	0	0	0	0	389	33-42	317
05:00	19	2	3	22	314	**544**	**69**	1	0	0	0	0	0	0	974	32-41	766
06:00	25	10	25	54	401	501	41	**3**	0	0	0	0	0	0	**1060**	31-40	787
07:00	29	22	36	**116**	**422**	307	20	0	0	0	0	0	0	0	952	30-39	644
08:00	**31**	**43**	38	82	251	174	19	1	0	0	0	0	0	0	639	30-39	367
09:00	24	36	**50**	65	183	99	11	1	0	0	0	0	0	0	469	29-38	249
10:00	27	35	30	49	152	109	8	0	0	0	0	0	0	0	410	30-39	220
11:00	25	23	47	68	171	80	9	0	0	0	0	0	0	0	423	29-38	229
12 PM	24	26	**35**	47	147	114	8	1	0	0	0	0	0	0	402	30-39	222
13:00	22	**33**	28	45	156	97	6	0	0	0	0	0	0	0	387	30-39	216
14:00	32	22	30	**59**	**161**	**124**	11	0	0	0	0	0	0	0	**439**	30-39	243
15:00	**39**	26	35	55	155	94	7	0	0	0	0	0	0	0	411	30-39	211
16:00	33	25	33	28	152	121	8	**3**	0	0	0	0	0	0	403	31-40	223
17:00	37	16	27	25	79	91	**19**	1	0	0	0	0	0	0	295	31-40	137
18:00	20	12	19	8	83	107	14	1	0	0	0	0	0	0	264	31-40	157
19:00	10	12	17	15	75	65	9	1	0	0	0	0	0	0	204	31-40	118
20:00	1	12	8	14	56	42	2	0	0	0	0	0	0	0	135	30-39	85
21:00	0	0	1	3	27	30	5	0	0	0	0	0	0	0	66	31-40	51
22:00	0	0	0	2	13	11	0	1	0	0	0	0	0	0	27	31-40	21
23:00	0	0	0	0	9	11	2	1	**1**	0	0	0	0	0	24	31-40	18
Total	401	355	464	765	3134	3020	315	18	1	0	0	0	0	0	8473		
Percent	4.7%	4.2%	5.5%	9.0%	37.0%	35.6%	3.7%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	09:00	07:00	07:00	05:00	05:00	06:00							06:00		
Vol.	31	43	50	116	422	544	69	3							1060		
PM Peak	15:00	13:00	12:00	14:00	14:00	14:00	17:00	16:00	23:00						14:00		
Vol.	39	33	35	59	161	124	19	3	1						439		

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

East

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/19/12	0	0	0	0	2	4	1	0	0	0	0	0	0	0	7	32-41	6
01:00	0	0	0	0	1	3	0	0	0	0	0	0	0	0	4	31-40	4
02:00	1	0	1	1	6	7	2	0	0	0	0	0	0	0	18	32-41	11
03:00	0	0	0	1	28	34	8	0	0	0	0	0	0	0	71	31-40	56
04:00	0	0	1	5	58	271	**60**	**2**	**1**	0	0	0	0	0	398	34-43	330
05:00	10	0	5	48	288	**534**	60	0	0	0	0	0	0	0	945	32-41	742
06:00	25	11	17	73	405	497	58	1	0	0	0	0	0	0	**1087**	31-40	791
07:00	29	22	36	**116**	**422**	307	20	0	0	0	0	0	0	0	952	30-39	644
08:00	**31**	**43**	38	82	251	174	19	1	0	0	0	0	0	0	639	30-39	367
09:00	24	36	**50**	65	183	99	11	1	0	0	0	0	0	0	469	29-38	249
10:00	19	20	41	61	195	88	6	0	0	0	0	0	0	0	430	29-38	257
11:00	18	25	46	52	178	112	8	0	0	0	0	0	0	0	439	30-39	253
12 PM	19	22	27	53	**221**	97	9	0	0	0	0	0	0	0	**448**	29-38	284
13:00	17	**29**	19	**58**	163	119	12	0	0	0	0	0	0	0	417	30-39	245
14:00	27	21	22	45	175	119	14	0	0	0	0	0	0	0	423	30-39	251
15:00	**30**	15	**34**	54	151	100	7	0	0	0	0	0	0	0	391	30-39	217
16:00	28	17	23	17	128	**146**	13	0	0	0	0	0	0	0	372	31-40	226
17:00	26	16	22	24	86	112	14	0	0	0	0	0	0	0	300	31-40	163
18:00	9	14	11	18	67	96	**19**	**1**	0	0	0	0	0	0	235	32-41	140
19:00	5	14	11	13	65	69	7	0	0	0	0	0	0	0	184	31-40	114
20:00	1	8	6	11	76	44	4	0	0	0	0	0	0	0	150	30-39	106
21:00	0	0	0	3	37	29	7	0	0	0	0	0	0	0	76	31-40	59
22:00	1	0	0	1	12	16	5	1	0	0	0	0	0	0	36	32-41	25
23:00	0	0	0	1	10	7	0	0	0	0	0	0	0	0	18	31-40	15
Total	320	313	410	802	3208	3084	364	7	1	0	0	0	0	0	8509		
Percent	3.8%	3.7%	4.8%	9.4%	37.7%	36.2%	4.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	09:00	07:00	07:00	05:00	04:00	04:00	04:00						06:00		
Vol.	31	43	50	116	422	534	60	2	1						1087		
PM Peak	15:00	13:00	15:00	13:00	12:00	16:00	18:00	18:00							12:00		
Vol.	30	29	34	58	221	146	19	1							448		
Total	721	668	874	1567	6342	6104	679	25	2	0	0	0	0	0	16982		
Percent	4.2%	3.9%	5.1%	9.2%	37.3%	35.9%	4.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	22 MPH
50th Percentile :	33 MPH
85th Percentile :	38 MPH
95th Percentile :	40 MPH

Stats

10 MPH Pace Speed :	31-40 MPH
Number in Pace :	10651
Percent in Pace :	62.7%
Number of Vehicles > 35 MPH :	6490
Percent of Vehicles > 35 MPH :	38.2%
Mean Speed(Average) :	31 MPH

Montachusett Regional Planning Commission
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Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

West

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	0	0	0	0	6	10	5	0	0	0	0	0	0	0	21	33-42	16
01:00	0	0	0	0	3	5	1	0	0	0	0	0	0	0	9	33-42	7
02:00	0	0	0	0	1	5	2	1	0	0	0	0	0	0	9	34-43	7
03:00	0	0	0	0	1	3	5	1	0	0	0	0	0	0	10	38-47	7
04:00	0	0	1	1	3	9	10	0	**1**	0	0	0	0	0	25	36-45	17
05:00	10	2	0	2	9	48	38	**8**	1	0	0	0	0	0	118	36-45	72
06:00	21	2	3	15	35	88	**50**	3	1	0	0	0	0	0	218	34-43	122
07:00	22	8	19	28	75	106	31	2	0	0	0	0	0	0	291	32-41	156
08:00	**28**	12	17	14	75	147	42	1	0	0	0	0	0	0	336	33-42	193
09:00	20	22	20	19	72	142	31	1	0	0	0	0	0	0	327	32-41	184
10:00	27	**24**	32	25	86	**158**	42	4	0	0	0	0	0	0	398	32-41	210
11:00	20	14	**35**	**37**	**105**	148	50	2	0	0	0	0	0	0	**411**	32-41	223
12 PM	16	12	51	34	102	167	48	1	**1**	0	0	0	0	0	432	32-41	240
13:00	23	19	33	38	126	164	33	1	0	0	0	0	0	0	437	31-40	248
14:00	28	21	54	61	145	258	63	1	0	0	0	0	0	0	631	32-41	357
15:00	**47**	**29**	**73**	**139**	244	270	47	0	0	0	0	0	0	0	849	31-40	447
16:00	41	22	58	109	**318**	358	78	2	0	0	0	0	0	0	**986**	31-40	591
17:00	19	17	47	74	218	**449**	76	**3**	0	0	0	0	0	0	903	32-41	602
18:00	13	12	18	21	89	217	**103**	3	0	0	0	0	0	0	476	34-43	304
19:00	6	7	8	10	67	175	49	1	0	0	0	0	0	0	323	33-42	229
20:00	3	1	7	9	63	108	35	3	0	0	0	0	0	0	229	32-41	158
21:00	0	0	2	3	25	60	27	1	0	0	0	0	0	0	118	34-43	86
22:00	1	0	0	2	18	39	20	3	0	0	0	0	0	0	83	34-43	58
23:00	0	0	0	1	14	24	6	0	1	0	0	0	0	0	46	32-41	35
Total	345	224	478	642	1900	3158	892	42	5	0	0	0	0	0	7686		
Percent	4.5%	2.9%	6.2%	8.4%	24.7%	41.1%	11.6%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	10:00	11:00	11:00	11:00	10:00	06:00	05:00	04:00						11:00		
Vol.	28	24	35	37	105	158	50	8	1						411		
PM Peak	15:00	15:00	15:00	15:00	16:00	17:00	18:00	17:00	12:00						16:00		
Vol.	47	29	73	139	318	449	103	3	1						986		

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

West

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/19/12	1	0	0	1	10	5	8	0	0	0	0	0	0	0	25	30-39	14
01:00	1	0	0	0	3	13	1	1	0	0	0	0	0	0	19	33-42	15
02:00	1	0	0	0	6	4	1	1	0	0	0	0	0	0	13	32-41	8
03:00	0	1	0	0	1	2	2	0	1	0	0	0	0	0	7	37-46	3
04:00	0	0	0	0	2	10	10	2	1	0	0	0	0	0	25	36-45	18
05:00	13	0	4	2	13	43	40	**15**	**2**	0	0	0	0	0	132	36-45	71
06:00	16	1	8	15	39	97	**79**	2	0	0	0	0	0	0	257	35-44	155
07:00	22	8	19	**28**	75	106	31	2	0	0	0	0	0	0	291	32-41	156
08:00	28	12	17	14	75	**147**	42	1	0	0	0	0	0	0	336	33-42	193
09:00	20	22	20	19	72	142	31	1	0	0	0	0	0	0	327	32-41	184
10:00	18	**24**	28	28	85	144	27	3	0	0	0	0	0	0	357	32-41	196
11:00	**29**	21	**32**	24	**117**	122	47	2	0	0	0	0	0	0	**394**	31-40	202
12 PM	18	**20**	26	43	97	140	56	2	0	0	0	0	0	0	402	32-41	211
13:00	27	15	25	33	118	197	54	4	0	0	0	0	0	0	473	32-41	276
14:00	**41**	17	35	47	164	263	59	4	0	0	0	0	0	0	630	32-41	369
15:00	41	14	52	84	255	316	75	**5**	0	0	0	0	0	0	842	31-40	498
16:00	33	11	**60**	**107**	222	359	**89**	3	0	0	0	0	0	0	884	32-41	520
17:00	20	18	42	85	**256**	**457**	59	0	0	0	0	0	0	0	**937**	32-41	634
18:00	16	5	19	20	111	308	74	3	0	0	0	0	0	0	556	33-42	393
19:00	5	6	11	5	55	186	50	5	0	0	0	0	0	0	323	33-42	234
20:00	2	2	6	7	87	140	19	0	0	0	0	0	0	0	263	32-41	203
21:00	3	1	2	10	40	72	25	1	0	0	0	0	0	0	154	33-42	104
22:00	0	0	0	1	21	54	30	0	0	0	0	0	0	0	106	34-43	80
23:00	0	0	1	1	16	34	12	3	0	0	0	0	0	0	67	33-42	48
Total	355	198	407	574	1940	3361	921	60	4	0	0	0	0	0	7820		
Percent	4.5%	2.5%	5.2%	7.3%	24.8%	43.0%	11.8%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	10:00	11:00	07:00	11:00	08:00	06:00	05:00	05:00						11:00		
Vol.	29	24	32	28	117	147	79	15	2						394		
PM Peak	14:00	12:00	16:00	16:00	17:00	17:00	16:00	15:00							17:00		
Vol.	41	20	60	107	256	457	89	5							937		
Total	700	422	885	1216	3840	6519	1813	102	9	0	0	0	0	0	15506		
Percent	4.5%	2.7%	5.7%	7.8%	24.8%	42.0%	11.7%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	23 MPH
50th Percentile :	34 MPH
85th Percentile :	40 MPH
95th Percentile :	43 MPH

Stats		
	10 MPH Pace Speed :	32-41 MPH
	Number in Pace :	9203
	Percent in Pace :	59.4%
	Number of Vehicles > 35 MPH :	7737
	Percent of Vehicles > 35 MPH :	49.9%
	Mean Speed(Average) :	33 MPH

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

East, West

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	0	0	0	0	9	16	5	0	0	0	0	0	0	0	30	33-42	23
01:00	0	0	1	0	5	8	2	0	0	0	0	0	0	0	16	31-40	12
02:00	0	0	0	1	6	11	2	1	0	0	0	0	0	0	21	32-41	16
03:00	1	0	1	2	23	42	11	2	0	0	0	0	0	0	82	32-41	60
04:00	2	0	1	6	98	254	50	2	**1**	0	0	0	0	0	414	33-42	332
05:00	29	4	3	24	323	**592**	**107**	**9**	1	0	0	0	0	0	1092	32-41	821
06:00	46	12	28	69	436	589	91	6	1	0	0	0	0	0	**1278**	32-41	892
07:00	51	30	55	**144**	**497**	413	51	2	0	0	0	0	0	0	1243	30-39	792
08:00	**59**	55	55	96	326	321	61	2	0	0	0	0	0	0	975	31-40	546
09:00	44	58	70	84	255	241	42	2	0	0	0	0	0	0	796	31-40	418
10:00	54	**59**	62	74	238	267	50	4	0	0	0	0	0	0	808	31-40	421
11:00	45	37	**82**	105	276	228	59	2	0	0	0	0	0	0	834	30-39	437
12 PM	40	38	86	81	249	281	56	2	1	0	0	0	0	0	834	31-40	455
13:00	45	52	61	83	282	261	39	1	0	0	0	0	0	0	824	31-40	458
14:00	60	43	84	120	306	382	74	1	0	0	0	0	0	0	1070	31-40	590
15:00	**86**	**55**	**108**	**194**	399	364	54	0	0	0	0	0	0	0	1260	30-39	658
16:00	74	47	91	137	**470**	479	86	**5**	0	0	0	0	0	0	**1389**	31-40	813
17:00	56	33	74	99	297	**540**	95	4	0	0	0	0	0	0	1198	32-41	733
18:00	33	24	37	29	172	324	**117**	4	0	0	0	0	0	0	740	33-42	451
19:00	16	19	25	25	142	240	58	2	0	0	0	0	0	0	527	32-41	339
20:00	4	13	15	23	119	150	37	3	0	0	0	0	0	0	364	31-40	238
21:00	0	0	3	6	52	90	32	1	0	0	0	0	0	0	184	33-42	134
22:00	1	0	0	4	31	50	20	4	0	0	0	0	0	0	110	33-42	76
23:00	0	0	0	1	23	35	8	1	**2**	0	0	0	0	0	70	32-41	53
Total	746	579	942	1407	5034	6178	1207	60	6	0	0	0	0	0	16159		
Percent	4.6%	3.6%	5.8%	8.7%	31.2%	38.2%	7.5%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	10:00	11:00	07:00	07:00	05:00	05:00	05:00	04:00						06:00		
Vol.	59	59	82	144	497	592	107	9	1						1278		
PM Peak	15:00	15:00	15:00	15:00	16:00	17:00	18:00	16:00	23:00						16:00		
Vol.	86	55	108	194	470	540	117	5	2						1389		

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

East, West

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/19/12	1	0	0	1	12	9	9	0	0	0	0	0	0	0	32	33-42	19
01:00	1	0	0	0	4	16	1	1	0	0	0	0	0	0	23	33-42	18
02:00	2	0	1	1	12	11	3	1	0	0	0	0	0	0	31	31-40	20
03:00	0	1	0	1	29	36	10	0	1	0	0	0	0	0	78	32-41	59
04:00	0	0	1	5	60	281	70	4	**2**	0	0	0	0	0	423	34-43	347
05:00	23	0	9	50	301	577	100	**15**	2	0	0	0	0	0	1077	32-41	795
06:00	41	12	25	88	444	**594**	**137**	3	0	0	0	0	0	0	**1344**	32-41	918
07:00	51	30	55	**144**	**497**	413	51	2	0	0	0	0	0	0	1243	30-39	792
08:00	**59**	55	55	96	326	321	61	2	0	0	0	0	0	0	975	31-40	546
09:00	44	**58**	70	84	255	241	42	2	0	0	0	0	0	0	796	31-40	418
10:00	37	44	69	89	280	232	33	3	0	0	0	0	0	0	787	30-39	439
11:00	47	46	**78**	76	295	234	55	2	0	0	0	0	0	0	833	30-39	449
12 PM	37	42	53	96	318	237	65	2	0	0	0	0	0	0	850	30-39	482
13:00	44	**44**	44	91	281	316	66	4	0	0	0	0	0	0	890	31-40	511
14:00	68	38	57	92	339	382	73	4	0	0	0	0	0	0	1053	31-40	612
15:00	**71**	29	**86**	**138**	**406**	416	82	**5**	0	0	0	0	0	0	1233	31-40	709
16:00	61	28	83	124	350	505	**102**	3	0	0	0	0	0	0	**1256**	32-41	743
17:00	46	34	64	109	342	**569**	73	0	0	0	0	0	0	0	1237	32-41	794
18:00	25	19	30	38	178	404	93	4	0	0	0	0	0	0	791	33-42	528
19:00	10	20	22	18	120	255	57	5	0	0	0	0	0	0	507	32-41	338
20:00	3	10	12	18	163	184	23	0	0	0	0	0	0	0	413	31-40	305
21:00	3	1	2	13	77	101	32	1	0	0	0	0	0	0	230	32-41	162
22:00	1	0	0	2	33	70	35	1	0	0	0	0	0	0	142	34-43	104
23:00	0	0	1	2	26	41	12	3	0	0	0	0	0	0	85	32-41	62
Total	675	511	817	1376	5148	6445	1285	67	5	0	0	0	0	0	16329		
Percent	4.1%	3.1%	5.0%	8.4%	31.5%	39.5%	7.9%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	09:00	11:00	07:00	07:00	06:00	06:00	05:00	04:00						06:00		
Vol.	59	58	78	144	497	594	137	15	2						1344		
PM Peak	15:00	13:00	15:00	15:00	15:00	17:00	16:00	15:00							16:00		
Vol.	71	44	86	138	406	569	102	5							1256		
Total	1421	1090	1759	2783	10182	12623	2492	127	11	0	0	0	0	0	32488		
Percent	4.4%	3.4%	5.4%	8.6%	31.3%	38.9%	7.7%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	22 MPH
50th Percentile :	34 MPH
85th Percentile :	39 MPH
95th Percentile :	41 MPH

Stats

10 MPH Pace Speed :	31-40 MPH
Number in Pace :	19683
Percent in Pace :	60.6%
Number of Vehicles > 35 MPH :	14224
Percent of Vehicles > 35 MPH :	43.8%
Mean Speed(Average) :	32 MPH

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: N. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012463
Station ID:

Latitude: 0' 0.000 Undefined

North

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	1	2	13	46	13	3	0	0	0	0	0	0	0	0	78	23-32	58
01:00	0	2	6	15	9	0	0	0	0	0	0	0	0	0	32	24-33	22
02:00	0	1	3	2	5	0	0	0	0	0	0	0	0	0	11	27-36	6
03:00	0	1	2	5	6	1	0	0	0	0	0	0	0	0	15	25-34	10
04:00	0	0	0	9	4	1	0	0	0	0	0	0	0	0	14	25-34	12
05:00	1	3	8	9	13	4	0	0	0	0	0	0	0	0	38	26-35	20
06:00	23	7	33	40	25	**6**	0	0	0	0	0	0	0	0	134	22-31	60
07:00	46	15	32	77	**43**	3	0	0	0	0	0	0	0	0	216	24-33	96
08:00	**60**	35	57	74	36	2	0	0	0	0	0	0	0	0	264	22-31	100
09:00	52	36	114	130	36	2	0	0	0	0	0	0	0	0	370	21-30	192
10:00	47	54	**152**	116	20	0	0	0	0	0	0	0	0	0	389	20-29	213
11:00	54	**59**	149	**165**	21	2	0	0	0	0	0	0	0	0	**450**	21-30	246
12 PM	59	99	187	126	10	1	0	0	0	0	0	0	0	0	482	19-28	252
13:00	35	68	203	177	21	1	0	0	0	0	0	0	0	0	505	20-29	309
14:00	56	80	221	168	20	2	0	0	0	0	0	0	0	0	547	20-29	312
15:00	98	109	198	166	23	1	0	0	0	0	0	0	0	0	595	20-29	281
16:00	**197**	**242**	264	89	8	1	0	0	0	0	0	0	0	0	801	15-24	363
17:00	187	219	226	116	2	0	0	0	0	0	0	0	0	0	750	14-23	324
18:00	105	152	**321**	**287**	18	1	0	0	0	0	0	0	0	0	**884**	20-29	477
19:00	15	29	151	273	**90**	**4**	0	0	0	0	0	0	0	0	562	22-31	382
20:00	13	30	100	205	71	2	**1**	0	0	0	0	0	0	0	422	23-32	277
21:00	6	16	71	140	39	3	0	0	0	0	0	0	0	0	275	22-31	190
22:00	9	8	31	72	35	2	0	0	0	0	0	0	0	0	157	24-33	98
23:00	0	4	19	49	26	3	0	0	0	0	0	0	0	0	101	24-33	71
Total	1064	1271	2561	2556	594	45	1	0	0	0	0	0	0	0	8092		
Percent	13.1%	15.7%	31.6%	31.6%	7.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	11:00	10:00	11:00	07:00	06:00									11:00		
Vol.	60	59	152	165	43	6									450		
PM Peak	16:00	16:00	18:00	18:00	19:00	19:00	20:00								18:00		
Vol.	197	242	321	287	90	4	1								884		
Total	1064	1271	2561	2556	594	45	1	0	0	0	0	0	0	0	8092		
Percent	13.1%	15.7%	31.6%	31.6%	7.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	10 MPH
50th Percentile :	21 MPH
85th Percentile :	28 MPH
95th Percentile :	31 MPH

Stats

10 MPH Pace Speed :	20-29 MPH
Number in Pace :	3996
Percent in Pace :	49.4%
Number of Vehicles > 25 MPH :	2700
Percent of Vehicles > 25 MPH :	33.4%
Mean Speed(Average) :	21 MPH

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: N. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012463
Station ID:

Latitude: 0' 0.000 Undefined

South

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	2	3	11	11	6	0	0	0	0	0	0	0	0	0	33	21-30	19
01:00	0	1	6	5	3	1	0	0	0	0	0	0	0	0	16	20-29	10
02:00	0	0	2	2	3	0	0	0	0	0	0	0	0	0	7	24-33	5
03:00	1	1	3	12	2	2	0	0	0	0	0	0	0	0	21	23-32	14
04:00	1	2	5	32	40	4	0	0	0	0	0	0	0	0	84	26-35	63
05:00	7	12	48	213	**165**	**15**	**1**	0	0	0	0	0	0	0	461	25-34	334
06:00	42	122	287	**442**	146	9	0	0	0	0	0	0	0	0	1048	22-31	626
07:00	132	**295**	**386**	240	26	3	0	0	0	0	0	0	0	0	**1082**	17-26	536
08:00	**153**	283	338	176	15	2	0	0	0	0	0	0	0	0	967	16-25	466
09:00	93	188	267	131	18	0	0	0	0	0	0	0	0	0	697	17-26	351
10:00	107	149	181	72	12	0	0	0	0	0	0	0	0	0	521	16-25	240
11:00	77	134	147	109	23	0	0	0	0	0	0	0	0	0	490	17-26	217
12 PM	146	**146**	170	63	6	0	0	0	0	0	0	0	0	0	**531**	15-24	226
13:00	94	124	190	92	14	0	0	0	0	0	0	0	0	0	514	17-26	239
14:00	54	133	**208**	78	15	1	0	0	0	0	0	0	0	0	489	17-26	264
15:00	126	140	125	59	13	1	0	0	0	0	0	0	0	0	464	11-20	198
16:00	159	131	83	28	4	0	0	0	0	0	0	0	0	0	405	7-16	199
17:00	**179**	85	76	37	4	0	0	0	0	0	0	0	0	0	381	6-15	196
18:00	122	53	78	48	14	0	0	0	0	0	0	0	0	0	315	5-14	141
19:00	44	66	107	**121**	25	2	0	0	0	0	0	0	0	0	365	21-30	178
20:00	28	28	54	83	**32**	**9**	0	0	0	0	0	0	0	0	234	22-31	112
21:00	14	42	61	46	15	2	0	0	0	0	0	0	0	0	180	19-28	89
22:00	4	8	26	46	15	0	0	0	0	0	0	0	0	0	99	23-32	63
23:00	1	5	9	15	9	3	0	0	0	0	0	0	0	0	42	24-33	22
Total	1586	2151	2868	2161	625	54	1	0	0	0	0	0	0	0	9446		
Percent	16.8%	22.8%	30.4%	22.9%	6.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	07:00	07:00	06:00	05:00	05:00	05:00								07:00		
Vol.	153	295	386	442	165	15	1								1082		
PM Peak	17:00	12:00	14:00	19:00	20:00	20:00									12:00		
Vol.	179	146	208	121	32	9									531		
Total	1586	2151	2868	2161	625	54	1	0	0	0	0	0	0	0	9446		
Percent	16.8%	22.8%	30.4%	22.9%	6.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	9 MPH
50th Percentile :	19 MPH
85th Percentile :	27 MPH
95th Percentile :	31 MPH

Stats

10 MPH Pace Speed :	19-28 MPH
Number in Pace :	4026
Percent in Pace :	42.6%
Number of Vehicles > 25 MPH :	2344
Percent of Vehicles > 25 MPH :	24.8%
Mean Speed(Average) :	19 MPH

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: N. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012463
Station ID:

Latitude: 0' 0.000 Undefined

North, South

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	3	5	24	57	19	3	0	0	0	0	0	0	0	0	111	23-32	76
01:00	0	3	12	20	12	1	0	0	0	0	0	0	0	0	48	24-33	31
02:00	0	1	5	4	8	0	0	0	0	0	0	0	0	0	18	24-33	11
03:00	1	2	5	17	8	3	0	0	0	0	0	0	0	0	36	24-33	23
04:00	1	2	5	41	44	5	0	0	0	0	0	0	0	0	98	26-35	75
05:00	8	15	56	222	**178**	**19**	**1**	0	0	0	0	0	0	0	499	25-34	353
06:00	65	129	320	**482**	171	15	0	0	0	0	0	0	0	0	1182	22-31	685
07:00	178	310	**418**	317	69	6	0	0	0	0	0	0	0	0	**1298**	19-28	596
08:00	**213**	**318**	395	250	51	4	0	0	0	0	0	0	0	0	1231	17-26	546
09:00	145	224	381	261	54	2	0	0	0	0	0	0	0	0	1067	19-28	517
10:00	154	203	333	188	32	0	0	0	0	0	0	0	0	0	910	18-27	425
11:00	131	193	296	274	44	2	0	0	0	0	0	0	0	0	940	20-29	445
12 PM	205	245	357	189	16	1	0	0	0	0	0	0	0	0	1013	17-26	455
13:00	129	192	393	269	35	1	0	0	0	0	0	0	0	0	1019	19-28	528
14:00	110	213	**429**	246	35	3	0	0	0	0	0	0	0	0	1036	19-28	557
15:00	224	249	323	225	36	2	0	0	0	0	0	0	0	0	1059	18-27	437
16:00	356	**373**	347	117	12	1	0	0	0	0	0	0	0	0	**1206**	11-20	527
17:00	**366**	304	302	153	6	0	0	0	0	0	0	0	0	0	1131	7-16	487
18:00	227	205	399	335	32	1	0	0	0	0	0	0	0	0	1199	20-29	556
19:00	59	95	258	**394**	**115**	6	0	0	0	0	0	0	0	0	927	22-31	550
20:00	41	58	154	288	103	**11**	**1**	0	0	0	0	0	0	0	656	23-32	385
21:00	20	58	132	186	54	5	0	0	0	0	0	0	0	0	455	22-31	268
22:00	13	16	57	118	50	2	0	0	0	0	0	0	0	0	256	23-32	161
23:00	1	9	28	64	35	6	0	0	0	0	0	0	0	0	143	24-33	93
Total	2650	3422	5429	4717	1219	99	2	0	0	0	0	0	0	0	17538		
Percent	15.1%	19.5%	31.0%	26.9%	7.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	06:00	05:00	05:00	05:00								07:00		
Vol.	213	318	418	482	178	19	1								1298		
PM Peak	17:00	16:00	14:00	19:00	19:00	20:00	20:00								16:00		
Vol.	366	373	429	394	115	11	1								1206		
Total	2650	3422	5429	4717	1219	99	2	0	0	0	0	0	0	0	17538		
Percent	15.1%	19.5%	31.0%	26.9%	7.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	9 MPH
50th Percentile :	20 MPH
85th Percentile :	28 MPH
95th Percentile :	31 MPH

Stats

10 MPH Pace Speed :	20-29 MPH
Number in Pace :	7934
Percent in Pace :	45.2%
Number of Vehicles > 25 MPH :	5025
Percent of Vehicles > 25 MPH :	28.7%
Mean Speed(Average) :	20 MPH

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: S. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012442
Station ID:

Latitude: 0' 0.000 Undefined

North

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	0	0	1	7	10	2	0	0	0	0	0	0	0	0	20	27-36	15
01:00	0	0	0	6	4	3	0	0	0	0	0	0	0	0	13	27-36	9
02:00	1	0	0	1	3	6	0	0	0	0	0	0	0	0	11	32-41	8
03:00	0	0	0	4	9	4	2	0	0	0	0	0	0	0	19	27-36	13
04:00	2	0	0	8	30	12	3	1	0	0	0	0	0	0	56	29-38	39
05:00	23	0	3	23	81	34	3	0	0	0	0	0	0	0	167	29-38	100
06:00	**46**	1	5	45	139	31	4	1	0	0	0	0	0	0	272	28-37	157
07:00	40	1	10	105	182	30	**6**	0	0	0	0	0	0	**1**	375	27-36	241
08:00	27	2	18	114	203	37	2	0	0	0	**1**	0	0	0	404	27-36	276
09:00	26	0	22	117	205	**38**	2	0	0	0	0	0	0	0	410	27-36	281
10:00	35	**3**	**26**	**178**	223	27	3	**3**	**1**	0	0	0	0	0	**499**	26-35	339
11:00	39	1	16	146	**227**	37	1	0	0	0	0	0	0	0	467	27-36	317
12 PM	34	0	21	159	256	41	2	**1**	0	**1**	0	**1**	0	0	516	27-36	358
13:00	28	1	27	191	293	32	1	0	0	0	0	0	0	0	573	27-36	418
14:00	132	33	72	243	276	34	0	0	0	0	0	0	**1**	0	791	26-35	407
15:00	161	51	**118**	347	263	14	0	0	0	0	0	0	0	0	954	25-34	484
16:00	**195**	**76**	71	**355**	280	18	0	0	0	0	0	0	0	0	**995**	25-34	478
17:00	29	1	21	319	**400**	**42**	2	1	0	0	0	0	0	0	815	26-35	622
18:00	15	1	5	136	262	35	0	0	0	0	0	0	0	**1**	455	27-36	354
19:00	8	0	8	122	172	32	1	0	0	0	0	0	0	0	343	27-36	261
20:00	9	0	5	74	103	12	**4**	0	0	0	0	0	0	0	207	27-36	153
21:00	0	0	0	30	47	21	2	0	0	0	0	0	0	1	101	28-37	73
22:00	1	0	4	29	47	7	1	0	0	0	0	0	0	0	89	27-36	68
23:00	2	0	2	21	23	1	0	0	0	0	0	0	0	0	49	26-35	38
Total	853	171	455	2780	3738	550	39	7	1	1	1	1	1	3	8601		
Percent	9.9%	2.0%	5.3%	32.3%	43.5%	6.4%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	06:00	10:00	10:00	10:00	11:00	09:00	07:00	10:00	10:00		08:00			07:00	10:00		
Vol.	46	3	26	178	227	38	6	3	1		1			1	499		
PM Peak	16:00	16:00	15:00	16:00	17:00	17:00	20:00	12:00		12:00		12:00	14:00	18:00	16:00		
Vol.	195	76	118	355	400	42	4	1		1		1	1	1	995		
Total	853	171	455	2780	3738	550	39	7	1	1	1	1	1	3	8601		
Percent	9.9%	2.0%	5.3%	32.3%	43.5%	6.4%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	12 MPH
50th Percentile :	29 MPH
85th Percentile :	34 MPH
95th Percentile :	36 MPH

Stats		
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	5377
	Percent in Pace :	62.5%
	Number of Vehicles > 30 MPH :	3878
	Percent of Vehicles > 30 MPH :	45.1%
	Mean Speed(Average) :	27 MPH

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: S. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012442
Station ID:

Latitude: 0' 0.000 Undefined

South

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	0	0	0	2	5	3	0	0	0	0	0	0	0	0	10	29-38	8
01:00	0	0	0	1	6	3	1	0	0	0	0	0	0	0	11	31-40	8
02:00	0	0	0	6	7	13	0	0	0	0	0	0	0	0	26	32-41	18
03:00	0	0	0	3	58	59	6	0	0	0	0	0	0	0	126	31-40	104
04:00	5	0	1	31	330	249	**12**	**2**	0	0	0	0	0	0	630	31-40	511
05:00	18	1	4	90	**675**	**259**	10	0	0	0	0	0	0	0	**1057**	30-39	855
06:00	34	0	6	**263**	572	100	5	0	0	0	0	0	0	0	980	27-36	752
07:00	31	0	10	209	450	89	3	0	0	0	0	0	0	0	792	27-36	594
08:00	25	0	15	158	278	55	4	0	0	0	0	0	0	0	535	27-36	386
09:00	18	**2**	14	197	193	21	1	0	0	0	0	0	0	0	446	26-35	336
10:00	**40**	2	12	168	186	35	0	1	0	0	0	0	0	0	444	26-35	295
11:00	25	1	**27**	167	197	30	0	0	0	0	0	0	0	0	447	26-35	313
12 PM	24	0	20	**176**	187	23	0	0	0	0	0	0	0	0	**430**	26-35	311
13:00	25	0	8	145	**226**	21	2	0	0	0	0	0	0	0	427	27-36	318
14:00	44	0	**26**	157	175	20	0	**1**	0	0	0	0	0	0	423	26-35	275
15:00	39	0	13	129	188	28	1	0	0	0	0	0	0	0	398	27-36	265
16:00	**57**	**2**	14	82	130	39	1	0	0	0	0	0	0	0	325	27-36	172
17:00	20	2	2	47	138	**56**	5	0	0	0	0	0	0	0	270	29-38	179
18:00	17	0	3	44	152	38	3	1	**2**	0	0	0	0	0	260	28-37	184
19:00	9	0	2	33	88	42	**6**	0	0	0	0	0	0	0	180	29-38	122
20:00	2	1	3	29	48	33	3	0	0	0	0	0	0	0	119	29-38	78
21:00	1	0	0	7	38	13	2	0	0	0	0	0	0	0	61	29-38	48
22:00	1	0	0	5	15	8	0	1	0	0	0	0	0	0	30	30-39	21
23:00	0	0	0	2	8	3	2	0	0	0	0	0	0	0	15	29-38	11
Total	435	11	180	2151	4350	1240	67	6	2	0	0	0	0	0	8442		
Percent	5.2%	0.1%	2.1%	25.5%	51.5%	14.7%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	09:00	11:00	06:00	05:00	05:00	04:00	04:00							05:00		
Vol.	40	2	27	263	675	259	12	2							1057		
PM Peak	16:00	16:00	14:00	12:00	13:00	17:00	19:00	14:00	18:00						12:00		
Vol.	57	2	26	176	226	56	6	1	2						430		
Total	435	11	180	2151	4350	1240	67	6	2	0	0	0	0	0	8442		
Percent	5.2%	0.1%	2.1%	25.5%	51.5%	14.7%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	25 MPH
50th Percentile :	31 MPH
85th Percentile :	35 MPH
95th Percentile :	38 MPH

Stats

10 MPH Pace Speed :	28-37 MPH
Number in Pace :	5890
Percent in Pace :	69.8%
Number of Vehicles > 30 MPH :	5184
Percent of Vehicles > 30 MPH :	61.4%
Mean Speed(Average) :	30 MPH

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: S. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012442
Station ID:

Latitude: 0' 0.000 Undefined

North, South

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	0	0	1	9	15	5	0	0	0	0	0	0	0	0	30	28-37	22
01:00	0	0	0	7	10	6	1	0	0	0	0	0	0	0	24	28-37	17
02:00	1	0	0	7	10	19	0	0	0	0	0	0	0	0	37	31-40	26
03:00	0	0	0	7	67	63	8	0	0	0	0	0	0	0	145	31-40	116
04:00	7	0	1	39	360	261	**15**	3	0	0	0	0	0	0	686	30-39	549
05:00	41	1	7	113	**756**	**293**	13	0	0	0	0	0	0	0	1224	29-38	951
06:00	**80**	1	11	308	711	131	9	1	0	0	0	0	0	0	**1252**	27-36	902
07:00	71	1	20	314	632	119	9	0	0	0	0	0	0	**1**	1167	27-36	834
08:00	52	2	33	272	481	92	6	0	0	0	**1**	0	0	0	939	27-36	662
09:00	44	2	36	314	398	59	3	0	0	0	0	0	0	0	856	26-35	612
10:00	75	**5**	38	**346**	409	62	3	**4**	**1**	0	0	0	0	0	943	26-35	634
11:00	64	2	**43**	313	424	67	1	0	0	0	0	0	0	0	914	27-36	627
12 PM	58	0	41	335	443	64	2	**1**	0	**1**	0	**1**	0	0	946	26-35	665
13:00	53	1	35	336	519	53	3	0	0	0	0	0	0	0	1000	27-36	736
14:00	176	33	98	400	451	54	0	1	0	0	0	0	**1**	0	1214	26-35	679
15:00	200	51	**131**	**476**	451	42	1	0	0	0	0	0	0	0	**1352**	26-35	736
16:00	**252**	**78**	85	437	410	57	1	0	0	0	0	0	0	0	1320	26-35	645
17:00	49	3	23	366	**538**	**98**	**7**	1	0	0	0	0	0	0	1085	27-36	789
18:00	32	1	8	180	414	73	3	1	**2**	0	0	0	0	**1**	715	27-36	533
19:00	17	0	10	155	260	74	7	0	0	0	0	0	0	0	523	27-36	376
20:00	11	1	8	103	151	45	7	0	0	0	0	0	0	0	326	27-36	228
21:00	1	0	0	37	85	34	4	0	0	0	0	0	0	1	162	28-37	120
22:00	2	0	4	34	62	15	1	1	0	0	0	0	0	0	119	27-36	88
23:00	2	0	2	23	31	4	2	0	0	0	0	0	0	0	64	27-36	47
Total	1288	182	635	4931	8088	1790	106	13	3	1	1	1	1	3	17043		
Percent	7.6%	1.1%	3.7%	28.9%	47.5%	10.5%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	06:00	10:00	11:00	10:00	05:00	05:00	04:00	10:00	10:00		08:00			07:00	06:00		
Vol.	80	5	43	346	756	293	15	4	1		1			1	1252		
PM Peak	16:00	16:00	15:00	15:00	17:00	17:00	17:00	12:00	18:00	12:00		12:00	14:00	18:00	15:00		
Vol.	252	78	131	476	538	98	7	1	2	1		1	1	1	1352		
Total	1288	182	635	4931	8088	1790	106	13	3	1	1	1	1	3	17043		
Percent	7.6%	1.1%	3.7%	28.9%	47.5%	10.5%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	20 MPH
50th Percentile :	30 MPH
85th Percentile :	34 MPH
95th Percentile :	37 MPH

Stats

10 MPH Pace Speed :	27-36 MPH
Number in Pace :	11228
Percent in Pace :	65.9%
Number of Vehicles > 30 MPH :	9031
Percent of Vehicles > 30 MPH :	53.0%
Mean Speed(Average) :	29 MPH

APPENDIX F – Classification Data

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

East

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	Not Classed	Total
06/18/12	1	7	0	0	0	0	0	0	1	0	0	0	0	0	9
01:00	1	5	0	0	0	0	0	0	1	0	0	0	0	0	7
02:00	0	8	4	0	0	0	0	0	0	0	0	0	0	0	12
03:00	2	48	17	0	1	1	0	0	2	0	0	0	0	1	72
04:00	10	269	88	1	8	5	0	2	4	0	0	0	0	2	389
05:00	26	703	197	1	22	1	1	3	1	0	0	0	0	19	974
06:00	14	865	129	1	17	2	0	4	4	1	0	0	0	23	1060
07:00	13	798	97	1	10	0	0	3	3	0	0	0	0	27	952
08:00	6	495	83	3	11	2	1	8	2	0	0	0	0	28	639
09:00	7	369	53	6	11	0	0	3	2	0	0	0	0	18	469
10:00	2	296	67	4	7	4	0	1	4	0	0	0	0	25	410
11:00	2	307	61	4	14	4	1	4	7	1	0	0	0	18	423
12 PM	5	287	60	2	13	7	0	2	3	0	0	0	0	23	402
13:00	2	300	50	1	6	3	0	3	1	2	0	0	0	19	387
14:00	6	323	59	1	12	4	0	2	2	0	0	0	0	30	439
15:00	6	302	46	2	9	1	0	5	1	0	0	0	0	39	411
16:00	3	318	36	1	6	2	0	3	1	0	0	0	0	33	403
17:00	1	222	29	0	4	1	0	1	1	0	0	0	0	36	295
18:00	3	211	24	0	6	0	0	0	0	0	0	0	0	20	264
19:00	1	170	26	1	0	0	0	0	0	0	0	0	0	6	204
20:00	1	114	17	0	1	0	0	1	1	0	0	0	0	0	135
21:00	1	58	6	0	1	0	0	0	0	0	0	0	0	0	66
22:00	0	23	2	0	0	0	0	1	1	0	0	0	0	0	27
23:00	0	19	5	0	0	0	0	0	0	0	0	0	0	0	24
Total	113	6517	1156	29	159	37	3	46	42	4	0	0	0	367	8473
Percent	1.3%	76.9%	13.6%	0.3%	1.9%	0.4%	0.0%	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%	4.3%	
AM Peak	05:00	06:00	05:00	09:00	05:00	04:00	05:00	08:00	11:00	06:00				08:00	
Vol.	26	865	197	6	22	5	1	8	7	1				28	
PM Peak	14:00	14:00	12:00	12:00	12:00	12:00		15:00	12:00	13:00				15:00	
Vol.	6	323	60	2	13	7		5	3	2				39	

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

East

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	Not Classed	Total
06/19/12	0	5	1	0	0	0	0	1	0	0	0	0	0	0	7
01:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
02:00	0	14	2	0	0	0	0	0	1	0	0	0	0	1	18
03:00	0	49	15	0	3	1	0	0	3	0	0	0	0	0	71
04:00	9	271	106	0	5	3	0	0	2	1	0	0	0	1	398
05:00	27	690	178	3	26	3	0	5	2	1	0	0	0	10	945
06:00	14	886	129	3	20	7	0	2	3	1	0	0	0	22	1087
07:00	13	798	97	1	10	0	0	3	3	0	0	0	0	27	952
08:00	6	495	83	3	11	2	1	8	2	0	0	0	0	28	639
09:00	7	369	53	6	11	0	0	3	2	0	0	0	0	18	469
10:00	3	325	65	4	10	1	2	1	3	1	0	0	0	15	430
11:00	9	324	56	0	18	6	1	2	6	0	0	0	0	17	439
12 PM	3	350	49	1	16	4	0	3	5	0	0	0	0	17	448
13:00	5	322	55	1	12	2	0	2	1	1	0	0	0	16	417
14:00	3	316	64	0	11	2	0	1	1	0	1	0	0	24	423
15:00	2	307	37	0	11	0	0	4	1	0	0	1	0	28	391
16:00	2	289	42	2	6	1	0	2	0	1	0	0	0	27	372
17:00	2	227	36	0	8	0	0	1	1	0	0	0	0	25	300
18:00	5	195	22	0	3	0	0	0	2	0	0	0	0	8	235
19:00	5	155	18	1	0	0	0	0	0	0	0	0	0	5	184
20:00	1	133	15	0	0	0	0	0	0	0	0	0	0	1	150
21:00	0	68	7	0	1	0	0	0	0	0	0	0	0	0	76
22:00	2	31	1	0	0	0	0	1	0	0	0	0	0	1	36
23:00	0	16	1	0	0	0	0	1	0	0	0	0	0	0	18
Total	118	6639	1132	25	182	32	4	40	38	6	1	1	0	291	8509
Percent	1.4%	78.0%	13.3%	0.3%	2.1%	0.4%	0.0%	0.5%	0.4%	0.1%	0.0%	0.0%	0.0%	3.4%	
AM Peak	05:00	06:00	05:00	09:00	05:00	06:00	10:00	08:00	11:00	04:00				08:00	
Vol.	27	886	178	6	26	7	2	8	6	1				28	
PM Peak	13:00	12:00	14:00	16:00	12:00	12:00		15:00	12:00	13:00	14:00	15:00		15:00	
Vol.	5	350	64	2	16	4		4	5	1	1	1		28	
Grand Total	231	13156	2288	54	341	69	7	86	80	10	1	1	0	658	16982
Percent	1.4%	77.5%	13.5%	0.3%	2.0%	0.4%	0.0%	0.5%	0.5%	0.1%	0.0%	0.0%	0.0%	3.9%	

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

West

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	Not Classed	Total
06/18/12	0	14	6	0	1	0	0	0	0	0	0	0	0	0	21
01:00	0	5	4	0	0	0	0	0	0	0	0	0	0	0	9
02:00	0	8	1	0	0	0	0	0	0	0	0	0	0	0	9
03:00	0	5	4	0	1	0	0	0	0	0	0	0	0	0	10
04:00	1	19	4	1	0	0	0	0	0	0	0	0	0	0	25
05:00	2	67	25	0	8	1	0	1	4	0	0	0	0	10	118
06:00	1	132	49	1	11	2	0	0	1	0	0	0	0	21	218
07:00	4	166	66	4	21	2	0	5	1	0	0	0	0	22	291
08:00	3	197	70	3	27	2	0	4	2	0	0	0	0	28	336
09:00	2	216	59	3	19	3	0	6	1	0	0	0	0	18	327
10:00	1	236	95	7	24	5	1	2	3	0	0	0	0	24	398
11:00	3	254	99	6	19	3	1	2	3	1	0	0	0	20	411
12 PM	8	299	82	3	16	3	1	3	2	0	0	0	0	15	432
13:00	5	295	93	0	13	2	3	1	2	0	0	0	0	23	437
14:00	7	416	127	4	31	5	0	8	5	0	0	0	0	28	631
15:00	11	589	169	3	26	2	0	7	3	1	0	0	0	38	849
16:00	8	745	158	0	33	0	0	4	2	0	0	0	0	36	986
17:00	13	681	146	1	38	1	1	3	0	0	0	0	0	19	903
18:00	5	366	78	1	11	0	0	2	0	0	0	0	0	13	476
19:00	1	254	52	0	7	0	0	1	2	0	0	0	0	6	323
20:00	1	172	39	0	12	0	0	1	1	0	0	0	0	3	229
21:00	1	89	23	0	4	0	0	0	1	0	0	0	0	0	118
22:00	0	60	14	0	8	0	0	0	0	0	0	0	0	1	83
23:00	0	35	6	0	1	0	0	2	2	0	0	0	0	0	46
Total	77	5320	1469	37	331	31	7	52	35	2	0	0	0	325	7686
Percent	1.0%	69.2%	19.1%	0.5%	4.3%	0.4%	0.1%	0.7%	0.5%	0.0%	0.0%	0.0%	0.0%	4.2%	
AM Peak	07:00	11:00	11:00	10:00	08:00	10:00	10:00	09:00	05:00	11:00				08:00	
Vol.	4	254	99	7	27	5	1	6	4	1				28	
PM Peak	17:00	16:00	15:00	14:00	17:00	14:00	13:00	14:00	14:00	15:00				15:00	
Vol.	13	745	169	4	38	5	3	8	5	1				38	

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

West

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	Not Classed	Total
06/19/12	1	19	3	0	1	0	0	0	0	0	0	0	0	1	25
01:00	0	13	3	1	0	0	0	1	0	0	0	0	0	1	19
02:00	0	9	2	0	1	0	0	0	0	0	0	0	0	1	13
03:00	0	3	4	0	0	0	0	0	0	0	0	0	0	0	7
04:00	0	14	3	2	2	1	0	1	2	0	0	0	0	0	25
05:00	2	67	37	1	10	0	0	1	1	0	0	0	0	13	132
06:00	2	168	51	0	18	1	0	1	0	0	0	0	0	16	257
07:00	4	166	66	4	21	2	0	5	1	0	0	0	0	22	291
08:00	3	197	70	3	27	2	0	4	2	0	0	0	0	28	336
09:00	2	216	59	3	19	3	0	6	1	0	0	0	0	18	327
10:00	1	244	66	4	13	3	0	4	4	0	0	0	0	18	357
11:00	3	243	78	2	19	5	1	6	6	1	0	0	0	30	394
12 PM	6	272	75	3	20	4	0	2	1	0	0	0	0	19	402
13:00	11	297	107	3	20	2	0	4	1	1	0	0	0	27	473
14:00	8	427	125	0	22	1	0	8	1	0	0	0	0	38	630
15:00	9	559	183	5	39	2	0	3	1	1	3	0	0	37	842
16:00	11	645	166	1	23	1	0	2	0	0	0	0	1	34	884
17:00	16	732	132	1	27	0	1	6	0	0	0	0	0	22	937
18:00	10	409	92	1	23	2	0	2	1	0	0	0	0	16	556
19:00	6	256	51	0	3	0	0	2	0	0	0	0	0	5	323
20:00	3	206	44	0	8	0	0	0	0	0	0	0	0	2	263
21:00	0	112	33	0	3	0	0	3	1	0	0	0	0	2	154
22:00	1	84	17	0	3	0	0	0	0	1	0	0	0	0	106
23:00	0	61	5	0	1	0	0	0	0	0	0	0	0	0	67
Total	99	5419	1472	34	323	29	2	61	23	4	3	0	1	350	7820
Percent	1.3%	69.3%	18.8%	0.4%	4.1%	0.4%	0.0%	0.8%	0.3%	0.1%	0.0%	0.0%	0.0%	4.5%	
AM Peak	07:00	10:00	11:00	07:00	08:00	11:00	11:00	09:00	11:00	11:00				11:00	
Vol.	4	244	78	4	27	5	1	6	6	1				30	
PM Peak	17:00	17:00	15:00	15:00	15:00	12:00	17:00	14:00	12:00	13:00	15:00		16:00	14:00	
Vol.	16	732	183	5	39	4	1	8	1	1	3		1	38	
Grand Total	176	10739	2941	71	654	60	9	113	58	6	3	0	1	675	15506
Percent	1.1%	69.3%	19.0%	0.5%	4.2%	0.4%	0.1%	0.7%	0.4%	0.0%	0.0%	0.0%	0.0%	4.4%	

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

East, West

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	Not Classed	Total
06/18/12	1	21	6	0	1	0	0	0	1	0	0	0	0	0	30
01:00	1	10	4	0	0	0	0	0	1	0	0	0	0	0	16
02:00	0	16	5	0	0	0	0	0	0	0	0	0	0	0	21
03:00	2	53	21	0	2	1	0	0	2	0	0	0	0	1	82
04:00	11	288	92	2	8	5	0	2	4	0	0	0	0	2	414
05:00	28	770	222	1	30	2	1	4	5	0	0	0	0	29	1092
06:00	15	997	178	2	28	4	0	4	5	1	0	0	0	44	1278
07:00	17	964	163	5	31	2	0	8	4	0	0	0	0	49	1243
08:00	9	692	153	6	38	4	1	12	4	0	0	0	0	56	975
09:00	9	585	112	9	30	3	0	9	3	0	0	0	0	36	796
10:00	3	532	162	11	31	9	1	3	7	0	0	0	0	49	808
11:00	5	561	160	10	33	7	2	6	10	2	0	0	0	38	834
12 PM	13	586	142	5	29	10	1	5	5	0	0	0	0	38	834
13:00	7	595	143	1	19	5	3	4	3	2	0	0	0	42	824
14:00	13	739	186	5	43	9	0	10	7	0	0	0	0	58	1070
15:00	17	891	215	5	35	3	0	12	4	1	0	0	0	77	1260
16:00	11	1063	194	1	39	2	0	7	3	0	0	0	0	69	1389
17:00	14	903	175	1	42	2	1	4	1	0	0	0	0	55	1198
18:00	8	577	102	1	17	0	0	2	0	0	0	0	0	33	740
19:00	2	424	78	1	7	0	0	1	2	0	0	0	0	12	527
20:00	2	286	56	0	13	0	0	2	2	0	0	0	0	3	364
21:00	2	147	29	0	5	0	0	0	1	0	0	0	0	0	184
22:00	0	83	16	0	8	0	0	1	1	0	0	0	0	1	110
23:00	0	54	11	0	1	0	0	2	2	0	0	0	0	0	70
Total	190	11837	2625	66	490	68	10	98	77	6	0	0	0	692	16159
Percent	1.2%	73.3%	16.2%	0.4%	3.0%	0.4%	0.1%	0.6%	0.5%	0.0%	0.0%	0.0%	0.0%	4.3%	
AM Peak	05:00	06:00	05:00	10:00	08:00	10:00	11:00	08:00	11:00	11:00				08:00	
Vol.	28	997	222	11	38	9	2	12	10	2				56	
PM Peak	15:00	16:00	15:00	12:00	14:00	12:00	13:00	15:00	14:00	13:00				15:00	
Vol.	17	1063	215	5	43	10	3	12	7	2				77	

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Boston Road
Location: E. of Lovers Lane
Functional Class: U-3

Site Code: 11520124302
Station ID:

Latitude: 0' 0.000 Undefined

East, West

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	Not Classed	Total
06/19/12	1	24	4	0	1	0	0	1	0	0	0	0	0	1	32
01:00	0	17	3	1	0	0	0	1	0	0	0	0	0	1	23
02:00	0	23	4	0	1	0	0	0	1	0	0	0	0	2	31
03:00	0	52	19	0	3	1	0	0	3	0	0	0	0	0	78
04:00	9	285	109	2	7	4	0	1	4	1	0	0	0	1	423
05:00	29	757	215	4	36	3	0	6	3	1	0	0	0	23	1077
06:00	16	1054	180	3	38	8	0	3	3	1	0	0	0	38	1344
07:00	17	964	163	5	31	2	0	8	4	0	0	0	0	49	1243
08:00	9	692	153	6	38	4	1	12	4	0	0	0	0	56	975
09:00	9	585	112	9	30	3	0	9	3	0	0	0	0	36	796
10:00	4	569	131	8	23	4	2	5	7	1	0	0	0	33	787
11:00	12	567	134	2	37	11	2	8	12	1	0	0	0	47	833
12 PM	9	622	124	4	36	8	0	5	6	0	0	0	0	36	850
13:00	16	619	162	4	32	4	0	6	2	2	0	0	0	43	890
14:00	11	743	189	0	33	3	0	9	2	0	1	0	0	62	1053
15:00	11	866	220	5	50	2	0	7	2	1	3	1	0	65	1233
16:00	13	934	208	3	29	2	0	4	0	1	0	0	1	61	1256
17:00	18	959	168	1	35	0	1	7	1	0	0	0	0	47	1237
18:00	15	604	114	1	26	2	0	2	3	0	0	0	0	24	791
19:00	11	411	69	1	3	0	0	2	0	0	0	0	0	10	507
20:00	4	339	59	0	8	0	0	0	0	0	0	0	0	3	413
21:00	0	180	40	0	4	0	0	3	1	0	0	0	0	2	230
22:00	3	115	18	0	3	0	0	1	0	1	0	0	0	1	142
23:00	0	77	6	0	1	0	0	1	0	0	0	0	0	0	85
Total	217	12058	2604	59	505	61	6	101	61	10	4	1	1	641	16329
Percent	1.3%	73.8%	15.9%	0.4%	3.1%	0.4%	0.0%	0.6%	0.4%	0.1%	0.0%	0.0%	0.0%	3.9%	
AM Peak	05:00	06:00	05:00	09:00	06:00	11:00	10:00	08:00	11:00	04:00				08:00	
Vol.	29	1054	215	9	38	11	2	12	12	1				56	
PM Peak	17:00	17:00	15:00	15:00	15:00	12:00	17:00	14:00	12:00	13:00	15:00	15:00	16:00	15:00	
Vol.	18	959	220	5	50	8	1	9	6	2	3	1	1	65	
Grand Total	407	23895	5229	125	995	129	16	199	138	16	4	1	1	1333	32488
Percent	1.3%	73.6%	16.1%	0.4%	3.1%	0.4%	0.0%	0.6%	0.4%	0.0%	0.0%	0.0%	0.0%	4.1%	

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: N. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012463
Station ID:

Latitude: 0' 0.000 Undefined

North

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	1	2	13	46	13	3	0	0	0	0	0	0	0	0	78	23-32	58
01:00	0	2	6	15	9	0	0	0	0	0	0	0	0	0	32	24-33	22
02:00	0	1	3	2	5	0	0	0	0	0	0	0	0	0	11	27-36	6
03:00	0	1	2	5	6	1	0	0	0	0	0	0	0	0	15	25-34	10
04:00	0	0	0	9	4	1	0	0	0	0	0	0	0	0	14	25-34	12
05:00	1	3	8	9	13	4	0	0	0	0	0	0	0	0	38	26-35	20
06:00	23	7	33	40	25	**6**	0	0	0	0	0	0	0	0	134	22-31	60
07:00	46	15	32	77	**43**	3	0	0	0	0	0	0	0	0	216	24-33	96
08:00	**60**	35	57	74	36	2	0	0	0	0	0	0	0	0	264	22-31	100
09:00	52	36	114	130	36	2	0	0	0	0	0	0	0	0	370	21-30	192
10:00	47	54	**152**	116	20	0	0	0	0	0	0	0	0	0	389	20-29	213
11:00	54	**59**	149	**165**	21	2	0	0	0	0	0	0	0	0	**450**	21-30	246
12 PM	59	99	187	126	10	1	0	0	0	0	0	0	0	0	482	19-28	252
13:00	35	68	203	177	21	1	0	0	0	0	0	0	0	0	505	20-29	309
14:00	56	80	221	168	20	2	0	0	0	0	0	0	0	0	547	20-29	312
15:00	98	109	198	166	23	1	0	0	0	0	0	0	0	0	595	20-29	281
16:00	**197**	**242**	264	89	8	1	0	0	0	0	0	0	0	0	801	15-24	363
17:00	187	219	226	116	2	0	0	0	0	0	0	0	0	0	750	14-23	324
18:00	105	152	**321**	**287**	18	1	0	0	0	0	0	0	0	0	**884**	20-29	477
19:00	15	29	151	273	**90**	**4**	0	0	0	0	0	0	0	0	562	22-31	382
20:00	13	30	100	205	71	2	**1**	0	0	0	0	0	0	0	422	23-32	277
21:00	6	16	71	140	39	3	0	0	0	0	0	0	0	0	275	22-31	190
22:00	9	8	31	72	35	2	0	0	0	0	0	0	0	0	157	24-33	98
23:00	0	4	19	49	26	3	0	0	0	0	0	0	0	0	101	24-33	71
Total	1064	1271	2561	2556	594	45	1	0	0	0	0	0	0	0	8092		
Percent	13.1%	15.7%	31.6%	31.6%	7.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	11:00	10:00	11:00	07:00	06:00									11:00		
Vol.	60	59	152	165	43	6									450		
PM Peak	16:00	16:00	18:00	18:00	19:00	19:00	20:00								18:00		
Vol.	197	242	321	287	90	4	1								884		
Total	1064	1271	2561	2556	594	45	1	0	0	0	0	0	0	0	8092		
Percent	13.1%	15.7%	31.6%	31.6%	7.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	10 MPH
50th Percentile :	21 MPH
85th Percentile :	28 MPH
95th Percentile :	31 MPH

Stats

10 MPH Pace Speed :	20-29 MPH
Number in Pace :	3996
Percent in Pace :	49.4%
Number of Vehicles > 25 MPH :	2700
Percent of Vehicles > 25 MPH :	33.4%
Mean Speed(Average) :	21 MPH

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: N. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012463
Station ID:

Latitude: 0' 0.000 Undefined

South

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	2	3	11	11	6	0	0	0	0	0	0	0	0	0	33	21-30	19
01:00	0	1	6	5	3	1	0	0	0	0	0	0	0	0	16	20-29	10
02:00	0	0	2	2	3	0	0	0	0	0	0	0	0	0	7	24-33	5
03:00	1	1	3	12	2	2	0	0	0	0	0	0	0	0	21	23-32	14
04:00	1	2	5	32	40	4	0	0	0	0	0	0	0	0	84	26-35	63
05:00	7	12	48	213	**165**	**15**	**1**	0	0	0	0	0	0	0	461	25-34	334
06:00	42	122	287	**442**	146	9	0	0	0	0	0	0	0	0	1048	22-31	626
07:00	132	**295**	**386**	240	26	3	0	0	0	0	0	0	0	0	**1082**	17-26	536
08:00	**153**	283	338	176	15	2	0	0	0	0	0	0	0	0	967	16-25	466
09:00	93	188	267	131	18	0	0	0	0	0	0	0	0	0	697	17-26	351
10:00	107	149	181	72	12	0	0	0	0	0	0	0	0	0	521	16-25	240
11:00	77	134	147	109	23	0	0	0	0	0	0	0	0	0	490	17-26	217
12 PM	146	**146**	170	63	6	0	0	0	0	0	0	0	0	0	**531**	15-24	226
13:00	94	124	190	92	14	0	0	0	0	0	0	0	0	0	514	17-26	239
14:00	54	133	**208**	78	15	1	0	0	0	0	0	0	0	0	489	17-26	264
15:00	126	140	125	59	13	1	0	0	0	0	0	0	0	0	464	11-20	198
16:00	159	131	83	28	4	0	0	0	0	0	0	0	0	0	405	7-16	199
17:00	**179**	85	76	37	4	0	0	0	0	0	0	0	0	0	381	6-15	196
18:00	122	53	78	48	14	0	0	0	0	0	0	0	0	0	315	5-14	141
19:00	44	66	107	**121**	25	2	0	0	0	0	0	0	0	0	365	21-30	178
20:00	28	28	54	83	**32**	**9**	0	0	0	0	0	0	0	0	234	22-31	112
21:00	14	42	61	46	15	2	0	0	0	0	0	0	0	0	180	19-28	89
22:00	4	8	26	46	15	0	0	0	0	0	0	0	0	0	99	23-32	63
23:00	1	5	9	15	9	3	0	0	0	0	0	0	0	0	42	24-33	22
Total	1586	2151	2868	2161	625	54	1	0	0	0	0	0	0	0	9446		
Percent	16.8%	22.8%	30.4%	22.9%	6.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	07:00	07:00	06:00	05:00	05:00	05:00								07:00		
Vol.	153	295	386	442	165	15	1								1082		
PM Peak	17:00	12:00	14:00	19:00	20:00	20:00									12:00		
Vol.	179	146	208	121	32	9									531		
Total	1586	2151	2868	2161	625	54	1	0	0	0	0	0	0	0	9446		
Percent	16.8%	22.8%	30.4%	22.9%	6.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	9 MPH
50th Percentile :	19 MPH
85th Percentile :	27 MPH
95th Percentile :	31 MPH

Stats

10 MPH Pace Speed :	19-28 MPH
Number in Pace :	4026
Percent in Pace :	42.6%
Number of Vehicles > 25 MPH :	2344
Percent of Vehicles > 25 MPH :	24.8%
Mean Speed(Average) :	19 MPH

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: N. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012463
Station ID:

Latitude: 0' 0.000 Undefined

North, South

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	3	5	24	57	19	3	0	0	0	0	0	0	0	0	111	23-32	76
01:00	0	3	12	20	12	1	0	0	0	0	0	0	0	0	48	24-33	31
02:00	0	1	5	4	8	0	0	0	0	0	0	0	0	0	18	24-33	11
03:00	1	2	5	17	8	3	0	0	0	0	0	0	0	0	36	24-33	23
04:00	1	2	5	41	44	5	0	0	0	0	0	0	0	0	98	26-35	75
05:00	8	15	56	222	**178**	**19**	**1**	0	0	0	0	0	0	0	499	25-34	353
06:00	65	129	320	**482**	171	15	0	0	0	0	0	0	0	0	1182	22-31	685
07:00	178	310	**418**	317	69	6	0	0	0	0	0	0	0	0	**1298**	19-28	596
08:00	**213**	**318**	395	250	51	4	0	0	0	0	0	0	0	0	1231	17-26	546
09:00	145	224	381	261	54	2	0	0	0	0	0	0	0	0	1067	19-28	517
10:00	154	203	333	188	32	0	0	0	0	0	0	0	0	0	910	18-27	425
11:00	131	193	296	274	44	2	0	0	0	0	0	0	0	0	940	20-29	445
12 PM	205	245	357	189	16	1	0	0	0	0	0	0	0	0	1013	17-26	455
13:00	129	192	393	269	35	1	0	0	0	0	0	0	0	0	1019	19-28	528
14:00	110	213	**429**	246	35	3	0	0	0	0	0	0	0	0	1036	19-28	557
15:00	224	249	323	225	36	2	0	0	0	0	0	0	0	0	1059	18-27	437
16:00	356	**373**	347	117	12	1	0	0	0	0	0	0	0	0	**1206**	11-20	527
17:00	**366**	304	302	153	6	0	0	0	0	0	0	0	0	0	1131	7-16	487
18:00	227	205	399	335	32	1	0	0	0	0	0	0	0	0	1199	20-29	556
19:00	59	95	258	**394**	**115**	6	0	0	0	0	0	0	0	0	927	22-31	550
20:00	41	58	154	288	103	**11**	**1**	0	0	0	0	0	0	0	656	23-32	385
21:00	20	58	132	186	54	5	0	0	0	0	0	0	0	0	455	22-31	268
22:00	13	16	57	118	50	2	0	0	0	0	0	0	0	0	256	23-32	161
23:00	1	9	28	64	35	6	0	0	0	0	0	0	0	0	143	24-33	93
Total	2650	3422	5429	4717	1219	99	2	0	0	0	0	0	0	0	17538		
Percent	15.1%	19.5%	31.0%	26.9%	7.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	06:00	05:00	05:00	05:00								07:00		
Vol.	213	318	418	482	178	19	1								1298		
PM Peak	17:00	16:00	14:00	19:00	19:00	20:00	20:00								16:00		
Vol.	366	373	429	394	115	11	1								1206		
Total	2650	3422	5429	4717	1219	99	2	0	0	0	0	0	0	0	17538		
Percent	15.1%	19.5%	31.0%	26.9%	7.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	9 MPH
50th Percentile :	20 MPH
85th Percentile :	28 MPH
95th Percentile :	31 MPH

Stats

10 MPH Pace Speed :	20-29 MPH
Number in Pace :	7934
Percent in Pace :	45.2%
Number of Vehicles > 25 MPH :	5025
Percent of Vehicles > 25 MPH :	28.7%
Mean Speed(Average) :	20 MPH

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: S. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012442
Station ID:

Latitude: 0' 0.000 Undefined

North

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	0	0	1	7	10	2	0	0	0	0	0	0	0	0	20	27-36	15
01:00	0	0	0	6	4	3	0	0	0	0	0	0	0	0	13	27-36	9
02:00	1	0	0	1	3	6	0	0	0	0	0	0	0	0	11	32-41	8
03:00	0	0	0	4	9	4	2	0	0	0	0	0	0	0	19	27-36	13
04:00	2	0	0	8	30	12	3	1	0	0	0	0	0	0	56	29-38	39
05:00	23	0	3	23	81	34	3	0	0	0	0	0	0	0	167	29-38	100
06:00	**46**	1	5	45	139	31	4	1	0	0	0	0	0	0	272	28-37	157
07:00	40	1	10	105	182	30	**6**	0	0	0	0	0	0	**1**	375	27-36	241
08:00	27	2	18	114	203	37	2	0	0	0	**1**	0	0	0	404	27-36	276
09:00	26	0	22	117	205	**38**	2	0	0	0	0	0	0	0	410	27-36	281
10:00	35	**3**	**26**	**178**	223	27	3	**3**	**1**	0	0	0	0	0	**499**	26-35	339
11:00	39	1	16	146	**227**	37	1	0	0	0	0	0	0	0	467	27-36	317
12 PM	34	0	21	159	256	41	2	**1**	0	**1**	0	**1**	0	0	516	27-36	358
13:00	28	1	27	191	293	32	1	0	0	0	0	0	0	0	573	27-36	418
14:00	132	33	72	243	276	34	0	0	0	0	0	0	**1**	0	791	26-35	407
15:00	161	51	**118**	347	263	14	0	0	0	0	0	0	0	0	954	25-34	484
16:00	**195**	**76**	71	**355**	280	18	0	0	0	0	0	0	0	0	**995**	25-34	478
17:00	29	1	21	319	**400**	**42**	2	1	0	0	0	0	0	0	815	26-35	622
18:00	15	1	5	136	262	35	0	0	0	0	0	0	0	**1**	455	27-36	354
19:00	8	0	8	122	172	32	1	0	0	0	0	0	0	0	343	27-36	261
20:00	9	0	5	74	103	12	**4**	0	0	0	0	0	0	0	207	27-36	153
21:00	0	0	0	30	47	21	2	0	0	0	0	0	0	1	101	28-37	73
22:00	1	0	4	29	47	7	1	0	0	0	0	0	0	0	89	27-36	68
23:00	2	0	2	21	23	1	0	0	0	0	0	0	0	0	49	26-35	38
Total	853	171	455	2780	3738	550	39	7	1	1	1	1	1	3	8601		
Percent	9.9%	2.0%	5.3%	32.3%	43.5%	6.4%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	06:00	10:00	10:00	10:00	11:00	09:00	07:00	10:00	10:00		08:00			07:00	10:00		
Vol.	46	3	26	178	227	38	6	3	1		1			1	499		
PM Peak	16:00	16:00	15:00	16:00	17:00	17:00	20:00	12:00		12:00		12:00	14:00	18:00	16:00		
Vol.	195	76	118	355	400	42	4	1		1		1	1	1	995		
Total	853	171	455	2780	3738	550	39	7	1	1	1	1	1	3	8601		
Percent	9.9%	2.0%	5.3%	32.3%	43.5%	6.4%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	12 MPH
50th Percentile :	29 MPH
85th Percentile :	34 MPH
95th Percentile :	36 MPH

Stats		
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	5377
	Percent in Pace :	62.5%
	Number of Vehicles > 30 MPH :	3878
	Percent of Vehicles > 30 MPH :	45.1%
	Mean Speed(Average) :	27 MPH

Montachusett Regional Planning Commission
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Community: Groton
Street: Main St (Rt. 119/225)
Location: S. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012442
Station ID:

Latitude: 0' 0.000 Undefined

South

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	0	0	0	2	5	3	0	0	0	0	0	0	0	0	10	29-38	8
01:00	0	0	0	1	6	3	1	0	0	0	0	0	0	0	11	31-40	8
02:00	0	0	0	6	7	13	0	0	0	0	0	0	0	0	26	32-41	18
03:00	0	0	0	3	58	59	6	0	0	0	0	0	0	0	126	31-40	104
04:00	5	0	1	31	330	249	**12**	**2**	0	0	0	0	0	0	630	31-40	511
05:00	18	1	4	90	**675**	**259**	10	0	0	0	0	0	0	0	**1057**	30-39	855
06:00	34	0	6	**263**	572	100	5	0	0	0	0	0	0	0	980	27-36	752
07:00	31	0	10	209	450	89	3	0	0	0	0	0	0	0	792	27-36	594
08:00	25	0	15	158	278	55	4	0	0	0	0	0	0	0	535	27-36	386
09:00	18	**2**	14	197	193	21	1	0	0	0	0	0	0	0	446	26-35	336
10:00	**40**	2	12	168	186	35	0	1	0	0	0	0	0	0	444	26-35	295
11:00	25	1	**27**	167	197	30	0	0	0	0	0	0	0	0	447	26-35	313
12 PM	24	0	20	**176**	187	23	0	0	0	0	0	0	0	0	**430**	26-35	311
13:00	25	0	8	145	**226**	21	2	0	0	0	0	0	0	0	427	27-36	318
14:00	44	0	**26**	157	175	20	0	**1**	0	0	0	0	0	0	423	26-35	275
15:00	39	0	13	129	188	28	1	0	0	0	0	0	0	0	398	27-36	265
16:00	**57**	**2**	14	82	130	39	1	0	0	0	0	0	0	0	325	27-36	172
17:00	20	2	2	47	138	**56**	5	0	0	0	0	0	0	0	270	29-38	179
18:00	17	0	3	44	152	38	3	1	**2**	0	0	0	0	0	260	28-37	184
19:00	9	0	2	33	88	42	**6**	0	0	0	0	0	0	0	180	29-38	122
20:00	2	1	3	29	48	33	3	0	0	0	0	0	0	0	119	29-38	78
21:00	1	0	0	7	38	13	2	0	0	0	0	0	0	0	61	29-38	48
22:00	1	0	0	5	15	8	0	1	0	0	0	0	0	0	30	30-39	21
23:00	0	0	0	2	8	3	2	0	0	0	0	0	0	0	15	29-38	11
Total	435	11	180	2151	4350	1240	67	6	2	0	0	0	0	0	8442		
Percent	5.2%	0.1%	2.1%	25.5%	51.5%	14.7%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	09:00	11:00	06:00	05:00	05:00	04:00	04:00							05:00		
Vol.	40	2	27	263	675	259	12	2							1057		
PM Peak	16:00	16:00	14:00	12:00	13:00	17:00	19:00	14:00	18:00						12:00		
Vol.	57	2	26	176	226	56	6	1	2						430		
Total	435	11	180	2151	4350	1240	67	6	2	0	0	0	0	0	8442		
Percent	5.2%	0.1%	2.1%	25.5%	51.5%	14.7%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	25 MPH
50th Percentile :	31 MPH
85th Percentile :	35 MPH
95th Percentile :	38 MPH

Stats

10 MPH Pace Speed :	28-37 MPH
Number in Pace :	5890
Percent in Pace :	69.8%
Number of Vehicles > 30 MPH :	5184
Percent of Vehicles > 30 MPH :	61.4%
Mean Speed(Average) :	30 MPH

Montachusett Regional Planning Commission
1427R Water Street
Fitchburg, MA 01420
Tel: (978) 345-7376 Email: mrpc@mrpc.org

Community: Groton
Street: Main St (Rt. 119/225)
Location: S. of Lowell Rd (Rt. 40)
Functional Class: U-3

Site Code: 1152012442
Station ID:

Latitude: 0' 0.000 Undefined

North, South

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/18/12	0	0	1	9	15	5	0	0	0	0	0	0	0	0	30	28-37	22
01:00	0	0	0	7	10	6	1	0	0	0	0	0	0	0	24	28-37	17
02:00	1	0	0	7	10	19	0	0	0	0	0	0	0	0	37	31-40	26
03:00	0	0	0	7	67	63	8	0	0	0	0	0	0	0	145	31-40	116
04:00	7	0	1	39	360	261	**15**	3	0	0	0	0	0	0	686	30-39	549
05:00	41	1	7	113	**756**	**293**	13	0	0	0	0	0	0	0	1224	29-38	951
06:00	**80**	1	11	308	711	131	9	1	0	0	0	0	0	0	**1252**	27-36	902
07:00	71	1	20	314	632	119	9	0	0	0	0	0	0	**1**	1167	27-36	834
08:00	52	2	33	272	481	92	6	0	0	0	**1**	0	0	0	939	27-36	662
09:00	44	2	36	314	398	59	3	0	0	0	0	0	0	0	856	26-35	612
10:00	75	**5**	38	**346**	409	62	3	**4**	**1**	0	0	0	0	0	943	26-35	634
11:00	64	2	**43**	313	424	67	1	0	0	0	0	0	0	0	914	27-36	627
12 PM	58	0	41	335	443	64	2	**1**	0	**1**	0	**1**	0	0	946	26-35	665
13:00	53	1	35	336	519	53	3	0	0	0	0	0	0	0	1000	27-36	736
14:00	176	33	98	400	451	54	0	1	0	0	0	0	**1**	0	1214	26-35	679
15:00	200	51	**131**	**476**	451	42	1	0	0	0	0	0	0	0	**1352**	26-35	736
16:00	**252**	**78**	85	437	410	57	1	0	0	0	0	0	0	0	1320	26-35	645
17:00	49	3	23	366	**538**	**98**	**7**	1	0	0	0	0	0	0	1085	27-36	789
18:00	32	1	8	180	414	73	3	1	**2**	0	0	0	0	**1**	715	27-36	533
19:00	17	0	10	155	260	74	7	0	0	0	0	0	0	0	523	27-36	376
20:00	11	1	8	103	151	45	7	0	0	0	0	0	0	0	326	27-36	228
21:00	1	0	0	37	85	34	4	0	0	0	0	0	0	1	162	28-37	120
22:00	2	0	4	34	62	15	1	1	0	0	0	0	0	0	119	27-36	88
23:00	2	0	2	23	31	4	2	0	0	0	0	0	0	0	64	27-36	47
Total	1288	182	635	4931	8088	1790	106	13	3	1	1	1	1	3	17043		
Percent	7.6%	1.1%	3.7%	28.9%	47.5%	10.5%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	06:00	10:00	11:00	10:00	05:00	05:00	04:00	10:00	10:00		08:00			07:00	06:00		
Vol.	80	5	43	346	756	293	15	4	1		1			1	1252		
PM Peak	16:00	16:00	15:00	15:00	17:00	17:00	17:00	12:00	18:00	12:00		12:00	14:00	18:00	15:00		
Vol.	252	78	131	476	538	98	7	1	2	1		1	1	1	1352		
Total	1288	182	635	4931	8088	1790	106	13	3	1	1	1	1	3	17043		
Percent	7.6%	1.1%	3.7%	28.9%	47.5%	10.5%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	20 MPH
50th Percentile :	30 MPH
85th Percentile :	34 MPH
95th Percentile :	37 MPH

Stats

10 MPH Pace Speed :	27-36 MPH
Number in Pace :	11228
Percent in Pace :	65.9%
Number of Vehicles > 30 MPH :	9031
Percent of Vehicles > 30 MPH :	53.0%
Mean Speed(Average) :	29 MPH