

FUNCTIONAL DESIGN REPORT

Resurfacing and Related Work on Route 9 Ware Town Line to Pierce Road

West Brookfield, Massachusetts

Project File No. 606517

Prepared for:



Mr. James P. Daley
Highway Superintendent
Town of West Brookfield
Town Hall-2 East Main Street
West Brookfield, MA 01585

Prepared by:



design/construction solutions
101 Accord Park Drive
Norwell, MA 02061-1685

(Formerly Coler & Colantonio, Inc.)

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Table of Contents

A.	Introduction.....	1
B.	Existing Conditions.....	2
1.	Study Area	2
2.	Existing Conditions.....	3
C.	Traffic Volumes	6
1.	Traffic Count Data	6
a.	ATR Counts.....	6
2.	Base Year Traffic Volumes	7
a.	Seasonal Factors.....	7
3.	Future Year Traffic Volumes.....	7
a.	Annual Background Growth Rate	7
b.	Other Specific Development	8
D.	Safety Analysis	9
1.	Crash Analysis	9
2.	Crash Rate Worksheets	10
3.	Initial Safety Review.....	10
4.	Road Safety Audit.....	11
5.	Post Road Safety Audit.....	105
E.	Proposed Design	166
1.	Modified Geometry.....	166
2.	Bicycle Accommodation.....	166
3.	Safety Enhancements	177
4.	Work By Others	177
F.	Traffic Management.....	177
1.	Construction Management Outline	177
a.	Traffic Count Data	17

Figures and Tables

	<u>Page</u>
Table 1 ~ Minimum Design Criteria	1
Figure 1 ~ Locus Map	3
Table 2 ~ Intersection Sight Distance	6
Table 3 ~ ATR Raw Traffic Count Data	6
Table 4 ~ Adjusted Traffic Count Data	7
Table 5 ~ CMRPC Historic Factored Traffic Count Data – Route 9, at Ware Town Line	8
Table 6 ~ 2032 Projected Traffic Volumes	8
Table 7 ~ Accident Summary 2007-2010	9
Table 8 ~ RSA Enhancement Summary - Shoulder/Visibility	11
Table 9 ~ RSA Enhancement Summary – Drainage	12
Table 10 ~ RSA Enhancement Summary – Signage/Striping	13
Table 11 ~ RSA Enhancement Summary – Miscellaneous	14
Table 12 ~ Accident Summary 2013-2015	15

Table of Contents (Continued)

Appendix A ~ Traffic Count Data

- 48 hour Automatic Traffic Recorder Counts
- 48 hour Automatic Traffic Recorder Counts with Speeds

Appendix B ~ Accident Data

- MassDOT Accident Reports
- Crash Rate Worksheets
- Collision Map

Appendix C ~ Road Safety Audit

- Road Safety Audit

A. Introduction

This Functional Design Report is prepared for the proposed resurfacing and related work on Route 9 (West Main Street) in the Town of West Brookfield. The purpose of this functional design report is to document the proposed project locus, the existing conditions of the roadway within the project area, and support design decisions for roadway conditions while enhancing safety for all roadway users. A safety review of the corridor, including a Road Safety Audit has been performed based on available accident data. Existing traffic volume data is presented in this report along with supporting documentation utilized to project current traffic volume data to future design year traffic volumes. These project evaluations were utilized to document the design decisions and recommendations for proposed improvements and traffic controls during construction.

In the analytical assessment of the geometric design criteria for this report, the controlling factors are the design speed and functional classification of the roadway. Land use and impacts to adjacent properties are other factors considered in the design development. The effects on roadside features have been strongly considered when recommending improvements to meet the minimum design requirements. The design criteria utilized in this project are defined in Table 1 below.

Table 1 – Minimum Design Criteria

<i>Reference</i>	<i>Design Element</i>	<i>Minimum Criteria</i>								
Exhibit 3-7	Design Speed	45 mph								
Exhibit 3-8	Stopping Sight Distance	331 ft (Upgrade), 400 ft (Downgrade)								
Exhibit 3-11	Intersection Sight Distance	500 ft								
Exhibit 4-26	Min. Rate Of Vertical Curvature (K) - Crest	61								
Exhibit 4-27	Min. Rate Of Vertical Curvature (K) - Sag	79								
Table 4-21	Max. Vertical Grade	7.0%								
Exhibit 4-9	Min. Horizontal Radius	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: left; border-bottom: none;"><u>Design Speed</u></td> <td style="text-align: left; border-bottom: none;">e = -2.0%</td> <td style="text-align: left; border-bottom: none;">e = 0%</td> <td style="text-align: left; border-bottom: none;">e = 2.0%</td> </tr> <tr> <td style="border-top: none;">45 mph</td> <td style="border-top: none;">1040'</td> <td style="border-top: none;">900'</td> <td style="border-top: none;">795'</td> </tr> </table>	<u>Design Speed</u>	e = -2.0%	e = 0%	e = 2.0%	45 mph	1040'	900'	795'
<u>Design Speed</u>	e = -2.0%	e = 0%	e = 2.0%							
45 mph	1040'	900'	795'							
Exhibits 5-12, 5-14	Minimum Roadway Width Travel Lane Shoulder	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-bottom: none;">11 to 12 ft</td> <td style="width: 50%; border-bottom: none;"></td> </tr> <tr> <td style="border-top: none;">4 to 12ft</td> <td style="border-top: none;"></td> </tr> </table>	11 to 12 ft		4 to 12ft					
11 to 12 ft										
4 to 12ft										
Exhibit 5-19	Clear Zone	12 ft - 18 ft (Backslope), 16 ft - 26 ft (Foreslope)								

Note: Unless otherwise noted, all references are to the Project Development & Design Guide

Recommendations are based on the analysis of existing traffic data and physical roadway conditions. The analysis includes the review of existing vertical and horizontal roadway alignment, traffic volumes, accident history, intersections, drainage, traffic signing and pavement conditions. The existing conditions of the road have been compared to the minimum design criteria outlined in the Massachusetts Department of Transportation-Highway Division's (MassDOT) Project Development & Design Guide (PDDG).

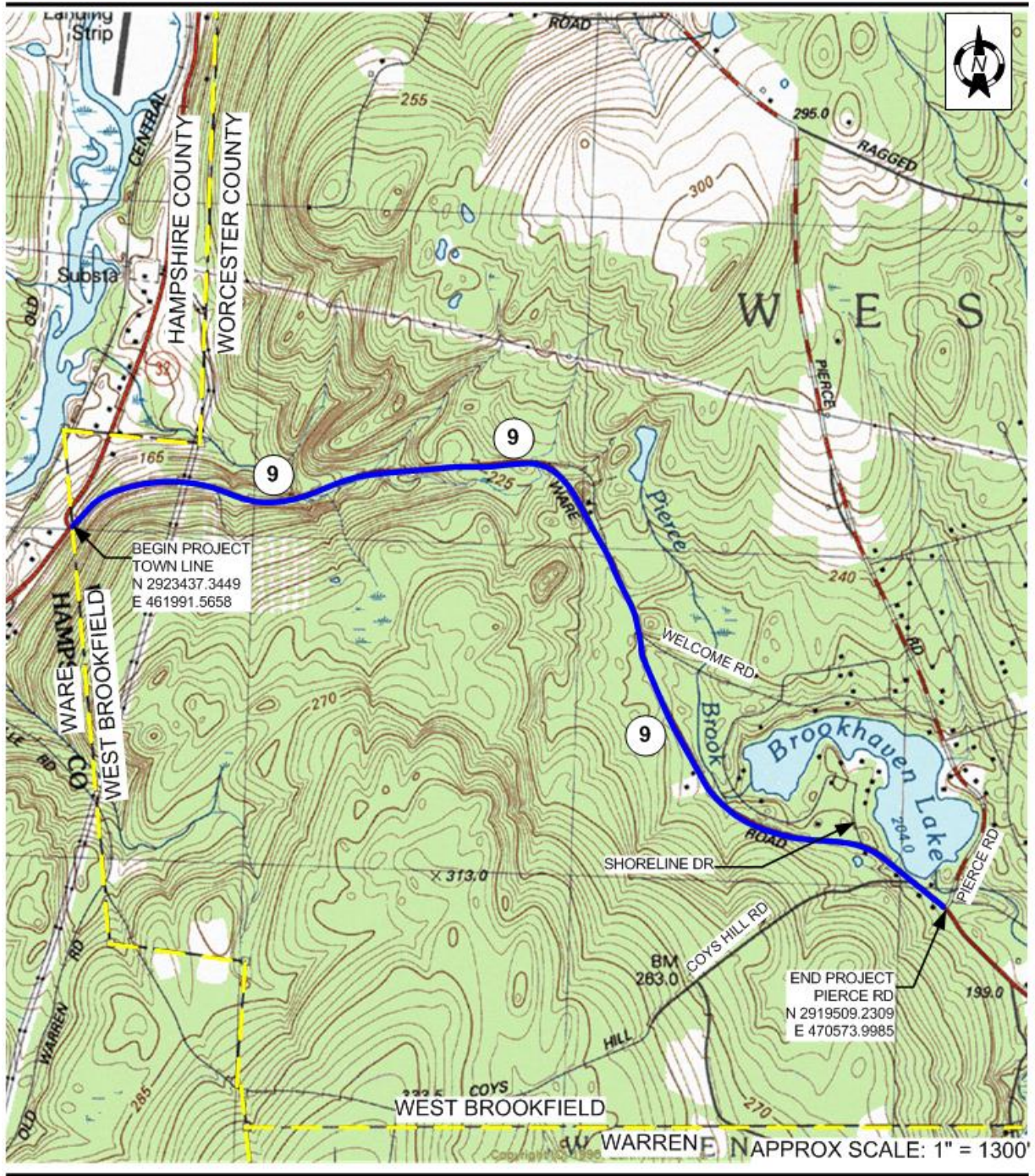
B. Existing Conditions

The intent of this section of the report is to document the existing features and current conditions surrounding the proposed project. Following is a detailed description of the project locus, existing deficiencies and issues found along the corridor.

1. Study Area

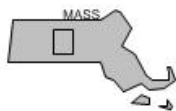
Beginning at the Ware Town Line and ending at Pierce Road, the Route 9 project in West Brookfield consists of resurfacing and related work, including widening, drainage improvements, and guardrail and signage replacement. Route 9 is a statewide road running East-West from across Massachusetts connecting town centers and major cities. This portion of Route 9 is a rural, wooded section of roadway that connects Ware and West Brookfield town centers. The project length is approximately 11,000 feet (2.1 miles). The project limits are graphically depicted in Figure 1. Beginning at the Ware Town Line, Route 9, also known as West Main Street, follows the natural mountainous terrain of West Brookfield. The road climbs to a high point near the midpoint of the project before sloping downward to Brookhaven Lake. Wooded areas abut the western half of the roadway with no intersections, residential property or businesses. On the eastern half of the project, Route 9 intersects three roadways; Shoreline Drive, Coys Hill Road, and Pierce Road. Along this portion of the project there are residential properties abutting the roadway. Brookhaven Lake is adjacent to the roadway at the east end of the project.

Figure 1 – Project Locus Map



COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

Town of West Brookfield
Route 9 Resurfacing and Related Work



Project Corridor
Town Line

Project Locus Map

Figure 1

2. Existing Conditions

As a typical old State Highway, Route 9 provides direct access to the heart of both cities and small town centers from Pittsfield to Boston. The 2.1 mile section of Route 9 that this project focuses on is approximately 5 miles north of and runs parallel to I-90. Designated as a Rural Principal Arterial, Route 9 is part of the National Highway System (NHS) and is a primary road within the Town of West Brookfield. This specific section of Route 9 is mostly undeveloped with wooded areas and steep grades at the edges of the roadway. At the easterly end of the project, there are some single family residential properties abutting the corridor as well as Brookhaven Lake.

The existing cross section of Route 9 consists of two travel lanes with narrow paved shoulders. Roadway widths vary between sections, typically 24'-26' wide with 11.5' lanes and 1'-2' paved shoulders. There are no sidewalks within the project limits. Passing along this portion of the corridor is prohibited. The roadway's narrow and winding alignment produces limited lines of sight, which can be dangerous for bicyclists. Most of the signage along the roadway is in fair to poor condition, with many of the signs needing to be replaced. Guardrail is provided where the roadway passes through forested land with significant topographic constraints, streams, and wetlands. The pavement on Route 9 is in fair condition. Along the roadway there are sections of light to moderate cracking including alligator, edge, longitudinal, and transverse. There is also shoulder deterioration where there is no edge treatment present.

The existing drainage system is primarily country drainage with paved waterways directing surface runoff to low-lying areas, many of which are wetland areas. The lack of drainage infrastructure results in storm water runoff sheet flowing across the roadway causing icy conditions during winter months.

Alignment

This project area has a winding alignment with 10 tangents connected by 17 horizontal curves. Curve radii range from about 600 feet to about 3,500 feet. Out of the 17 horizontal curves in the roadway, six are below the minimum radius of 1,040 feet for a roadway with a normal crown and a design speed of 45 mph. Each of these six curves are superelevated.

The existing vertical alignment of the roadway is characterized by having one high point with an elevation of approximately 780 feet near the midpoint of the project at STA 65+60. The west end is the lowest point of the project with an elevation of 530 ft. The road gradually slopes upward before briefly leveling off and rising with a more pronounced slope to the high point. The east side of the project is a series of small plateaus followed by gradual grades down to an elevation of 660 ft. The steepest grade is approximately 6.7% between stations 34+30 and 41+00.

Sight distances along the crest and sag curves were examined for conformance with the Design Criteria. Two sag curves did not meet the required 360 feet of sight distance and the

minimum design value of 79 for rate of vertical curvature (K). These curves are approximately located at stations 34+50, and 97+75.

Travel Speeds

A review of the traffic data indicates average travel speeds are consistently about 40 mph with downhill speeds along the project approximately 5 mph faster than uphill speeds. The 45 mph design speed chosen closely matches the 85th percentile speeds observed in two locations within the project limits. The traffic data was collected by Automated Traffic Recorders (ATR) along West Main Street, west of Rock House Reservation and west of Pierce Road. The ATRs were used for a duration of 48 hours February 1st and 2nd, 2012. The regulating 40 mph speed limit signs along the roadway are located at the west end of the project as you enter West Brookfield and beyond the east limit of the project near Cutler Road in West Brookfield.

Drainage

Much of the existing roadway has no drainage infrastructure. Where present, the existing drainage structures are a “country drainage” system with paved swales along the side of the road. The swales direct the surface runoff to low-lying areas, most of which are wetlands. There are also drop inlets with drainage pipes crossing underneath the roadway, discharging to wetlands.

Utilities

There are a limited number of utilities located along this roadway. Beyond drainage systems these include telephone, gas, and overhead electrical lines running between utility poles. All of the utility poles and most other utilities are found at the eastern end of the project between stations 93+00 and the easterly limit of work. There are very few utilities on the west side of the project where there are no residences.

Sight Distance

Sight distances at the intersections within the project limits were analyzed to determine what, if any, improvements were necessary. The intersections were assessed for sight distance, corner radii, and traffic signing.

Available sight distance was reviewed for each of the listed intersections. The minimum intersection sight distance for vehicles entering West Main Street from side streets was determined from procedures described in Chapter 3 in the PDDG and as a function of travel speeds. The minimum intersection sight distances and existing intersection sight distances are tabulated in Table 2, below.

Table 2 – Intersection Sight Distance

Street Name	Min. Required Sight Distance Onto Route 9	Recommended Sight Distance Onto Route 9	Existing Sight Distance Available		Obstruction
			Left	Right	
Shoreline Drive	378'	430' Lt., 500' Rt.	500'+	500'+	None
Coys Hill Road	378'	500' Lt., 430' Rt.	500'+	455'	Rt: Vertical Alignment of the road
Pierce Road	378'	430' Lt., 500' Rt.	462'	500'+	Lt: Vertical Alignment of the road

The available intersection sight distance found at all 3 intersections within the project limits exceeds the minimum required intersection sight distance as well as the recommended sight distance. Shoreline Drive, while being a private gravel road, was included in this sight distance observation and meets all standards.

C. Traffic Volumes

In order to determine base traffic volume conditions, automatic traffic recorder counts (ATRs) were performed. The traffic analyses performed included the determination of the ADT, an evaluation of travel speed, and the classification of vehicles. The traffic counts were performed by Innovative Data LLC in February 2012.

1. Traffic Count Data

a. ATR Counts

ATR counts were conducted at representative points along the project corridor during a 48 hour period. The locations are as follows: Route 9-West of Pierce Road and Route 9-West of Rock House Reservation. The ATR counts located on West Main Street also recorded vehicle classification and travel speeds. Copies of the ATR traffic counts are included in Appendix A.

Average Daily Traffic was computed from the traffic counts at the specified locations. A summary of raw traffic count data is presented in Table 3. The percentage of trucks was determined to be approximately 2% at both locations.

Table 3 –ATR Raw Traffic Count Data

<i>Location</i>	<i>2012 ADT</i>
Route 9 – West of Rock House Reservation:	4,471 vpd
Route 9 – West of Pierce Road:	4,534 vpd

2. *Base Year Traffic Volumes*

Traffic volume data collected during a single period may be influenced by a number of factors, including weather, time of year, construction detours, traffic delays, etc. In order to accurately assess traffic counts conducted during a specific period, record traffic data near the project area must be considered to predict annual average daily traffic conditions. One such factor that must be considered is seasonal variations to determine whether the traffic count data must be adjusted up or down to reflect average daily conditions.

a. **Seasonal Factors**

Based on a review of the monthly average daily traffic at nearby MassDOT continuous count stations, the average daily traffic in the month of February is much lower than the average annual daily traffic. At continuous count station #3329 located on Route 20 east of Holland Road in Brimfield, the average daily traffic volumes for the month of February were 19% below the average annual daily traffic volumes from 2007 to 2009. Therefore, the raw traffic count data was adjusted upwards by a factor of 1.19 to present the average annual daily traffic. This data is presented in Table 4 below.

Table 4 –Adjusted Traffic Count Data

<i>Location</i>	<i>2012 ADT</i>
Route 9 – West of Rock House Reservation:	5,300 vpd
Route 9 – West of Pierce Road:	5,400 vpd

3. *Future Year Traffic Volumes*

For the purposes of design, it is necessary to project present day traffic volume data to a future design year. It is common practice to project traffic volumes 20 years into the future for the construction of roadways. To project traffic volumes to a future design year it is necessary to consider factors that may result in increased traffic, such as population growth and proposed development. Population growth is considered to be a component of the annual background growth rate.

a. **Annual Background Growth Rate**

As part of the on-going work with MassDOT and the Executive Office of Transportation, the Central Massachusetts Regional Planning Commission (CMRPC) has conducted traffic counts in various years, shown on Table 5, along Route 9 at the Ware Town line. The traffic data available from CMRPC indicates that, although traffic may fluctuate on a short term basis, over a longer duration, traffic on Route 9 increased by approximately 0.5% per year. The data found is

shown in Table 5. Considering this data, an annual background growth rate of 0.5% has been assumed.

**Table 5 – CMRPC Historic Factored Traffic Count Data –
Route 9 at Ware Town Line**

<i>Location</i>	<i>1988</i>	<i>1998</i>	<i>2001</i>	<i>2004</i>	<i>2010</i>
Route 9 (West Main St.) – At Ware Town Line (vpd)	4,733	4,436	4,429	5,344	5,336

b. Other Specific Development

Coler & Colantonio, Inc. contacted the Town of West Brookfield Planning Board to determine if there are any proposed developments or improvements in the vicinity of West Main Street that would affect the current traffic volumes along Route 9 between Pierce Road and the Ware Town Line. At this time, there are no known proposed developments or improvements that will impact traffic volumes within the project area. An annual growth rate of 0.5% was applied to the adjusted traffic count data for a period of 20 years to obtain the projected design year traffic volumes as presented in Table 6.

Table 6 –2032 Projected Traffic Volumes

<i>Location</i>	<i>2032 ADT</i>
Route 9 – West of Rock House Reservation:	5,900 vpd
Route 9 – West of Pierce Road:	6,000 vpd

D. Safety Analysis

1. Crash Analysis

Accident data from 2007 to 2010 for the project roadways was compiled from MassDOT's accident records for the Town of West Brookfield and from the West Brookfield Police Department. Table 7 provides a summary of these accidents.

Table 7 – Accident Summary 2007-2010

	West Main Street Corridor	West Main Street at Shoreline Drive	West Main Street at Pierce Rd/ Mill Rd
Year			
2007	1	2	1
2008	2	1	1
2009	0	0	0
2010	1	0	0
<i>Total</i>	4	3	2
Type			
Angle	1	0	0
Head-on	0	0	0
Rear-end	0	0	0
Sideswipe	0	0	0
Single Vehicle Crash	3	2	2
Pedestrian	0	0	0
Unknown	0	1	0
<i>Total</i>	4	3	2
Severity			
Property Damage	2	2	2
Personal Injury	2	1	0
Fatality	0	0	0
Hit & Run	0	0	0
Unknown	0	0	0
Lighting			
Daylight	1	2	2
Dusk	1	0	0
Dark – Lighted Road	0	0	0
Dark – Unlit Road	2	1	0
Dawn	0	0	0
Unknown	0	0	0
Conditions			
Dry	2	0	1
Wet	0	0	0
Ice/snow	1	0	0
Slush	0	0	0
Unknown	1	3	1
Time of Day			
7:00 – 9:00 AM	0	1	1
4:00 – 6:00 PM	1	0	0
Remainder of day	3	2	1

During the 4 year study period, nine (9) incidents were reported along Route 9 within the project limits, five (5) of which were reported at intersections within the project area. Most of the incidents were single vehicle accidents. About one-third of the reported accidents had a personal injury with the other six resulting in property damage. About half of the accidents occurred during the day and a majority of the accidents had no conditions listed. Between 2007 and 2010 there were approximately 20 accidents reported somewhere along West Main Street (Route 9) that were not included in this crash summary. These accident reports did not indicate a specific location and therefore were not able to be confirmed to be within the project limits. Also, not in this analysis, in 2001 there was an accident resulting in a fatality that occurred along this stretch of Route 9.

2. Crash Rate Worksheets

A Crash Rate Worksheet has been prepared for the Route 9 corridor between the Ware town line and Pierce Road.

Since the characteristics of Route 9 are consistent along the 2.1 mile projects a segment crash rate worksheet has been prepared for the length of the project and is included in the appendix. Based on an average daily traffic volume compiled from two count locations on West Main Street within the project limits, a crash rate of 0.55 crashes per million vehicle miles traveled (MVMT) was calculated. MassDOT's statewide average segment crash rate is 0.41 for rural principal arterial roadway classification. This calculation indicates that this section of West Main Street is slightly above the average segment crash rate for rural principal arterial roadways.

3. Initial Safety Review

The safety review prompt list has been analyzed and discussions of topics applicable to this project have been included in their respective sections. Within the project limits there are three minor intersections. All are three-way intersections, with Shoreline Drive and Coys Hill Road intersecting Route 9 at skewed angles. Pierce Road intersects at a 90° angle. Five accidents occurred at these intersections; three at Shoreline Drive, which is a private road, two at Pierce Road and zero at Coys Hill Road. Four of the five accidents were single vehicle crashes suggesting that traffic volume and turning movements are not major issues along this project.

The remaining four accidents along this corridor occurred away from the intersections. Three of these accidents were single vehicle accidents. There are two possible reasons for these accidents; operator error or roadway conditions. At least one of the accidents along the corridor is known to be the result of operator error, where in this case the driver fell asleep behind the wheel. It is unclear whether operator error or roadway conditions were the primary factors in the other three incidents. Route 9 is a winding roadway with steep grades, a narrow width and no roadway lighting. Additionally, the lack of drainage infrastructure results in storm water runoff sheet flowing across the roadway causing icy conditions during winter months. All of these factors and the penchant for bicyclists to be riding along this route creates the need for a roadway widening and restructuring.

4. Road Safety Audit

A Road Safety Audit for Route 9 (West Main Street) between the Ware Town Line and Pierce Road was held on December 5, 2012 at the West Brookfield Town Hall in West Brookfield, MA. Audit participants were asked to discuss safety issues along the Route 9 corridor between the Ware Town Line and Pierce Road. Audit participants noted safety issues and contributing factors along the project corridor. A summary of those major safety considerations and how CHA has addressed each potential enhancement can be found on Tables 8~11:

Table 8 – Safety Enhancement Summary – Shoulder/Visibility

<i>Issue</i>	Shoulder/Visibility (including all secondary issues)
RSA Enhancement	Widen shoulders along Route 9 between the Ware Town Line and Pierce Road. The width of shoulders should be determined based in part on a cost/benefit analysis performed using the quantitative measures for determining crash reductions included in the Highway Safety Manuals.
CHA Response	12' Travel Lanes and 5' minimum shoulders are proposed throughout the Project Limits.
<i>Issue</i>	Shoulder/Visibility, Emergency Vehicles
RSA Enhancement	Consider gravel or grass clear areas off the roadway for vehicles to pull off.
CHA Response	12' wide gravel turn outs are currently proposed at 2 locations along project corridor. Throughout the project 1' minimum level area consisting of milling mulch is proposed along both edges of the roadway.
<i>Issue</i>	Shoulder/Visibility, Roadside Obstructions
RSA Enhancement	Increase the proposed guardrail setback in areas where guardrail may restrict visibility.
CHA Response	Proposed Road Widening with minimum 5' wide shoulders will increase setback distance and improve visibility.
<i>Issue</i>	Roadside Obstructions
RSA Enhancement	Consider reflectors along the proposed guardrail.
CHA Response	Proposed guardrail along project corridor will be equipped with Demountable reflectorized delineators
<i>Issue</i>	Shoulder/Visibility, Roadside Obstructions
RSA Enhancement	Implement selective ledge removal in the proposed project.
CHA Response	Ledge removal is proposed in order to achieve lane and shoulder widening requirements, which will result in improved sight distance and safety.

Table 9 – Safety Enhancement Summary – Drainage

<i>Issue</i>	Drainage, Snow/Ice
RSA Enhancement	Provide additional drainage basins along Route 9 and locate all basins in the roadway along the gutter line.
CHA Response	Additional Catch Basins are being proposed along West Main Street Corridor.
<i>Issue</i>	Drainage
RSA Enhancement	Verify adequate superelevation transitions in reverse curves in the proposed design, and confirm that drainage basins are placed to prevent cross-roadway sheet flow.
CHA Response	Superelevation transitions in reverse curves have been confirmed to have adequate transitions, drainage basins have been proposed at locations to prevent cross-roadway sheet flow.
<i>Issue</i>	Drainage
RSA Enhancement	Provide a shoulder break along the roadway to keep storm water flow in the roadway gutter.
CHA Response	Shoulder grade breaks have been proposed to keep storm water flow in the roadway gutters.

Table 10 – Safety Enhancement Summary – Signage/Striping

<i>Issue</i>	Signage, Snow/Ice
RSA Enhancement	Consider “Low Salt Area” signage. <i>(This improvement is not recommended at the current time by the audit team, but should be considered in the future if crashes persist.)</i>
CHA Response	Signage for low salt areas will be considered and implemented at the direction of the town and or MassDOT review sections.
<i>Issue</i>	Bicycle Accommodation, Signage
RSA Enhancement	Provide “Share The Road” signage at each end of the study corridor.
CHA Response	Share the road signs are proposed at each end of the project.
<i>Issue</i>	Signage
RSA Enhancement	Provide curve warning signs with advisory speeds and chevron arrows along Route 9 within the project limits.
CHA Response	Curve warning signs have been provided where warranted per the MUTCD guidelines.
<i>Issue</i>	Signage
RSA Enhancement	Provide a "Road Narrows" sign on Route 9 eastbound at the Ware town line.
CHA Response	“Road Narrows” signs have not been added as the proposed roadway width is transitioning by approximately 2 feet in this area.
<i>Issue</i>	Signage
RSA Enhancement	Replace the existing "Steep Downgrade" sign with a W7-1 Hill warning sign.
CHA Response	Proposed W7-1 is currently being proposed at station 64+49 LT
<i>Issue</i>	Signage
RSA Enhancement	Relocate the advance guide sign for Route 32 and consider adding a supplemental distance to the sign.
CHA Response	Signs D6-1 and D8-1 are currently proposed in the West bound direction.
<i>Issue</i>	Signage
RSA Enhancement	Provide intersection warning signs in advance of Shoreline Drive and Pierce Road.
CHA Response	Intersection warning signs have been added to the plans as required per MUTCD guidelines.
<i>Issue</i>	Signage
RSA Enhancement	Replace the existing street name sign for Pierce Road.
CHA Response	All Street Name Signs are proposed for replacement within MUTCD 2009 EDITION Guidelines
<i>Issue</i>	Signage
RSA Enhancement	Replace mile marker signage along the corridor.
CHA Response	Existing mile marker signs throughout the project have been proposed to be replaced.
<i>Issue</i>	Pavement Markings
RSA Enhancement	Reapply pavement markings.
CHA Response	Lanes are proposed to be striped according to their intended usage.

Table 11 – Safety Enhancement Summary – Miscellaneous

<i>Issue</i>	Speeding
RSA Enhancement	Increase enforcement for speeding along the corridor.
CHA Response	Speed Limit Signs are proposed along project corridor.
<i>Issue</i>	Driver Fatigue
RSA Enhancement	Provide a centerline rumble strip along the project corridor
CHA Response	Rumble Strips are not proposed due to maintenance concerns of West Brookfield Highway Department.
<i>Issue</i>	Trees
RSA Enhancement	Selectively trim trees along the roadway corridor.
CHA Response	Extensive clearing will be required to facilitate lane/shoulder widening requirements.
<i>Issue</i>	Truck Traffic
RSA Enhancement	Provide 12-foot lanes to accommodate truck traffic.
CHA Response	Proposed 12' Travel lanes with Minimum 5' Shoulders satisfy this condition.

5. Post Road Safety Audit Review 2013-2015

Accident data from 2013 to 2015 for the project roadways was compiled from the Town of West Brookfield's Police Department. Table 11 provides a summary of the additional nine accidents.

Table 12 – Accident Summary 2013-2015

	West Main Street Corridor	West Main Street at Shoreline Drive	West Main Street at Pierce Rd/ Mill Rd
Year			
2013	3	0	1
2014	3	0	0
2015	2	0	0
<i>Total</i>	8	0	1
Type			
Angle	0	0	1
Head-on	1	0	0
Rear-end	1	0	0
Sideswipe	0	0	0
Single Vehicle Crash	3	0	0
Pedestrian	0	0	0
Unknown	3	0	0
<i>Total</i>	8	0	1
Severity			
Property Damage	0	0	0
Personal Injury	4	0	1
Fatality	0	0	0
Hit & Run	0	0	0
Unknown	4	0	0
Lighting			
Daylight	6	0	0
Dusk	1	0	1
Dark – Lighted Road	0	0	0
Dark – Unlit Road	0	0	0
Dawn	1	0	0
Unknown	0	0	0
Conditions			
Dry	5	0	1
Wet	0	0	0
Ice/snow	2	0	0
Slush	0	0	0
Unknown	1	0	0
Time of Day			
7:00 – 9:00 AM	0	0	0
4:00 – 6:00 PM	1	0	1
Remainder of day	7	0	0

These recent accidents are consistent in nature with the accidents referenced for the road safety audit. Accidents include several single vehicle roadway departure crashes and a wildlife related collisions. A copy of the MassDOT accident reports for these collisions is included in the appendix.

E. Proposed Design

1. Modified Geometry

The proposed roadway closely follows the existing alignments in order to minimize impacts to adjacent properties and environmental resource areas. Vertically, only minor grade adjustments are proposed. Based on the large amount of ledge present, significant vertical alignment change would result in increased cost. The box widening proposed to provide a standard roadway width will be the greatest geometrical improvement.

Proposed Pavement Improvement Program

The existing pavement thickness on Route 9 is adequate and most of the pavement deficiencies are surficial. Therefore the proposed pavement rehabilitation technique is mill and overlay. The recommended pavement rehabilitation program includes variable depth pavement micromilling along the entire length of the corridor and resurfacing with 1.75 inches hot mix asphalt surface course over 1.75 inches of hot mix asphalt intermediate course. The proposed pavement structure for the box widening and isolated full depth reconstruction areas has been designed to meet MassDOT's minimum pavement section for arterial roadways including: 1.75 inches HMA surface course over 1.75 inches HMA intermediate course over 2.5 inches HMA base course over 12 inches of gravel borrow.

Proposed Cross Section

The proposed cross section for the 2.1 mile stretch of Route 9 from Ware town line to Pierce road is to be widened to maintain a minimum 34 foot roadway width for the entire length of the project. There will be a minimum 5-foot shoulder on each side of the roadway. Where superelevation is present there will be a high side break or "crown" one foot outside the travel lane to prevent snow or rain flow across the road. At the westerly limit of work, the roadway width will gradually transition to 40 feet to meet the existing pavement joint at the Ware town line. Also, near the westerly limit of work six double drainage inlets are to be moved into the shoulder of the roadway. HMA berm is proposed along both side of the roadway for most of the project. Guardrail is also proposed to be removed and reset or replaced where necessary for roadway safety.

2. Bicycle Accommodation

The proposed improvements for bicycle accommodation include widening the road to a minimum width of 34 feet for cyclist safety. A solid white edge line is proposed to define the outer edge of the travel lanes and delineate a zone for bicycle travel. The proposed shoulder is to be increased to 5 feet wide along both sides of the roadway. There are no sidewalks proposed along this stretch of Route 9 because there are no pedestrian destinations within the project limits nor are there pedestrian accommodations at either end of the project.

3. Safety Enhancements

The proposed roadway work will widen the existing pavement width by about 5 feet to accommodate vehicular and bicycle users. The wider width will permit a high side break line to be constructed on superelevated curve to prohibit snow melt from sheet flowing across the roadway and refreezing. Solid white edge lines will be painted to better define the 12 foot travelway and provide a minimum 5 foot wide zone for bicyclists at the edge of the roadway. All roadway striping will be reflectorized thermoplastic paint for traveler visibility. All signs will be replaced in accordance with MUTCD standards. Broken guardrail will be removed and guardrail will be installed where needed along the roadway for vehicle safety. Full depth reconstruction and box widening of the roadway will be graded to eliminate steep roadway and shoulder cross slopes.

4. Work By Others

There are overhead telephone, electrical and cable lines running between utility poles along the eastern most 3000 feet of the project. Utility poles will need to be relocated due to the proposed roadway widening. The work required to relocate utility poles and overhead wires is proposed to be done by the respective utility purveyors.

F. Traffic Management

1. Construction Management Outline

The traffic management plan most suitable for this project during construction is one lane with alternating traffic and a single lane closure. Neither of the other two common methods, use of a detour or a two lane shift is plausible for this project. A detour on this project would be a long diversion and add too much to travel time. Since there are routes for local traffic where a detour may be possible, traveling narrow residential roads, variable message boards may be used to alert knowledgeable drivers to take advantage of that option. A two lane shift is implausible due to the alignment of the narrow winding road.

The traffic volumes within the project limits support a one lane closure. As stated in chapter 17 (Exhibit 17-4) of MassDOT Project Development and Design Guide a single lane closure on a two lane roadway has an estimated capacity of up to 1,340 vehicles per hour. Route 9 in West Brookfield has a peak hour volume of approximately 450 vehicles per hour.

a. Traffic Count Data

ATR counts were conducted at two (2) locations along the project corridor during a 48 hour period during February 2012 as follows: West Main Street, west of Rock House Reservation and West Main Street, west of Pierce Road. A third count location on West Main Street at the Ware Town line was performed by the Central Massachusetts Regional Planning Commission during July 2010. The ATR counts located on West Main Street also recorded vehicle classification, travel speeds, and bikes. Copies of the ATR traffic counts are included in the Appendix.

Average Daily Traffic (ADT) was computed from the traffic counts at the specified locations. A summary of ADT's is presented in Table 4. Both ATR counts located on West Main Street exhibited a peak hour volume between 400-450 vehicles per hour. The percentage of trucks was determined to be about 2% for all locations and counts.

Appendix A ***Traffic Count Data***

- *48 Hour Automatic Traffic Recorder Counts*
- *48 Hour Automatic Traffic Recorder Counts with Speeds*

Traffic Count Data

48 Hour Automatic Traffic Recorder Counts

Innovative Data, LLC

Location: Route 9

Location: West of Pierce Road

City, State: West Brookfield, Massachusetts

Client: Coler & Colantonio / J. Morgan

50 Alden Avenue

Belchertown, MA 01007

413.668.5094 or www.datayourequested.com

Start Time	01-Feb-12		Westbound		Eastbound		Combined		02-Feb-		Westbound		Eastbound		Combined	
	Wed		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			1	30	2	40	3	70			3	36	4	43	7	79
12:15			1	26	3	34	4	60			2	25	3	43	5	68
12:30			1	32	3	33	4	65			2	37	2	36	4	73
12:45			1	51	0	33	1	84			2	30	2	40	4	70
01:00			1	27	1	35	2	62			4	30	0	39	4	69
01:15			2	33	0	30	2	63			4	40	1	41	5	81
01:30			1	38	1	42	2	80			1	39	1	28	2	67
01:45			2	15	0	33	2	48			0	35	0	44	0	79
02:00			1	35	2	27	3	62			1	24	0	31	1	55
02:15			0	43	0	41	0	84			3	47	0	44	3	91
02:30			3	33	0	43	3	76			1	34	1	46	2	80
02:45			3	43	1	46	4	89			0	43	1	46	1	89
03:00			2	50	2	41	4	91			1	52	1	35	2	87
03:15			1	50	1	44	2	94			1	50	3	48	4	98
03:30			0	72	0	45	0	117			2	50	0	50	2	100
03:45			1	33	3	40	4	73			3	48	1	42	4	90
04:00			2	44	1	53	3	97			4	45	2	58	6	103
04:15			3	53	3	65	6	118			3	51	2	49	5	100
04:30			0	45	8	49	8	94			2	42	8	55	10	97
04:45			2	50	4	58	6	108			5	68	2	59	7	127
05:00			4	47	5	50	9	97			5	52	9	40	14	92
05:15			10	46	13	37	23	83			4	45	12	48	16	93
05:30			6	49	23	51	29	100			6	46	25	43	31	89
05:45			14	30	23	31	37	61			13	39	18	46	31	85
06:00			22	32	20	43	42	75			16	49	18	41	34	90
06:15			27	44	22	33	49	77			29	51	19	36	48	87
06:30			23	27	34	29	57	56			29	32	30	27	59	59
06:45			28	27	35	28	63	55			28	28	31	29	59	57
07:00			39	25	29	29	68	54			31	23	49	30	80	53
07:15			29	18	37	47	66	65			30	20	29	17	59	37
07:30			45	15	34	22	79	37			47	15	35	25	82	40
07:45			51	10	30	16	81	26			36	18	31	23	67	41
08:00			53	15	28	24	81	39			40	12	35	16	75	28
08:15			37	18	22	22	59	40			50	15	27	20	77	35
08:30			26	11	33	17	59	28			30	13	39	20	69	33
08:45			34	15	28	18	62	33			36	13	22	15	58	28
09:00			24	11	23	17	47	28			36	12	29	14	65	26
09:15			26	10	24	13	50	23			40	8	30	10	70	18
09:30			36	9	29	8	65	17			39	12	29	14	68	26
09:45			41	13	28	20	69	33			41	17	37	17	78	34
10:00			34	10	29	11	63	21			35	5	34	12	69	17
10:15			37	7	33	9	70	16			45	12	24	23	69	35
10:30			28	6	35	4	63	10			32	2	29	12	61	14
10:45			30	3	39	6	69	9			36	4	32	6	68	10
11:00			32	14	26	6	58	20			31	9	27	3	58	12
11:15			32	6	28	5	60	11			37	3	35	2	72	5
11:30			42	2	31	7	73	9			45	8	34	6	79	14
11:45			29	5	29	3	58	8			31	7	34	5	65	12
Total			867	1328	805	1438	1672	2766			922	1396	837	1477	1759	2873
Day Total			2195		2243		4438				2318		2314		4632	
% Total			19.5%	29.9%	18.1%	32.4%					19.9%	30.1%	18.1%	31.9%		
Peak			07:30	02:45	10:00	04:00	07:15	04:00			07:30	04:15	06:45	04:00	07:30	04:00
Vol.			186	215	136	225	307	417			173	213	144	221	301	427
P.H.F.			0.877	0.747	0.872	0.865	0.948	0.883			0.865	0.783	0.735	0.936	0.918	0.841

ADT

ADT 4,534

AADT 4,534

Innovative Data, LLC

Location: Route 9
 Location: West of Pierce Road
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Westbound															
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
02/01/12	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	4	1	0	0	0	0	0	1	0	0	0	0	0	6
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
05:00	0	21	12	0	1	0	0	0	0	0	0	0	0	0	34
06:00	0	78	18	1	1	1	0	0	0	0	0	0	0	1	100
07:00	0	132	21	0	3	1	0	0	4	0	0	0	0	3	164
08:00	0	115	26	2	3	0	0	0	0	1	0	0	0	3	150
09:00	0	98	15	1	4	1	0	0	5	0	0	0	0	3	127
10:00	1	97	23	1	4	1	0	0	0	0	0	0	0	2	129
11:00	1	108	13	0	4	1	0	0	5	1	0	0	0	2	135
12 PM	0	107	21	0	6	0	0	0	0	0	0	0	0	5	139
13:00	0	88	12	0	3	1	0	3	3	0	0	0	0	3	113
14:00	0	128	17	1	2	0	0	0	1	0	0	0	0	5	154
15:00	0	164	29	1	3	0	0	0	0	1	0	0	0	7	205
16:00	2	150	24	1	5	3	0	2	1	0	0	0	0	4	192
17:00	0	126	38	0	1	0	0	1	1	0	0	0	0	5	172
18:00	0	106	16	0	3	0	0	1	1	0	0	0	0	3	130
19:00	2	56	8	0	0	0	0	0	0	0	0	0	0	2	68
20:00	0	47	11	0	0	1	0	0	0	0	0	0	0	0	59
21:00	0	36	4	0	2	1	0	0	0	0	0	0	0	0	43
22:00	0	21	5	0	0	0	0	0	0	0	0	0	0	0	26
23:00	0	22	4	0	0	0	0	0	0	0	0	0	0	1	27
Total	6	1722	322	8	45	11	0	7	22	3	0	0	0	49	2195
Percent	0.3%	78.5%	14.7%	0.4%	2.1%	0.5%	0.0%	0.3%	1.0%	0.1%	0.0%	0.0%	0.0%	2.2%	
AM Peak	10:00	07:00	08:00	08:00	09:00	06:00			09:00	08:00				07:00	
Vol.	1	132	26	2	4	1			5	1				3	
PM Peak	16:00	15:00	17:00	14:00	12:00	16:00		13:00	13:00	15:00				15:00	
Vol.	2	164	38	1	6	3		3	3	1				7	

Innovative Data, LLC

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Westbound															
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
02/02/12	0	7	0	1	0	0	0	0	0	0	0	0	0	1	9
01:00	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
02:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	5	1	0	0	0	0	0	1	0	0	0	0	0	7
04:00	0	12	2	0	0	0	0	0	0	0	0	0	0	0	14
05:00	0	14	13	0	0	0	0	1	0	0	0	0	0	0	28
06:00	0	75	18	1	3	3	0	1	0	0	0	0	0	1	102
07:00	0	116	16	0	4	2	0	0	5	0	0	0	0	1	144
08:00	1	126	21	0	3	2	0	1	1	0	0	0	0	1	156
09:00	0	114	26	0	3	3	0	0	5	0	0	0	0	5	156
10:00	0	123	16	1	3	1	0	0	2	1	0	0	0	1	148
11:00	1	113	19	0	4	0	0	2	3	0	0	0	0	2	144
12 PM	1	104	15	1	4	1	0	2	0	0	0	0	0	0	128
13:00	0	113	23	0	2	1	0	1	3	0	0	0	0	1	144
14:00	0	117	22	3	3	1	0	0	1	0	0	0	0	1	148
15:00	0	150	30	3	7	0	0	1	1	0	0	0	0	8	200
16:00	2	168	30	0	3	0	0	0	0	0	0	0	0	3	206
17:00	0	145	30	0	2	0	0	0	0	0	0	0	0	5	182
18:00	2	136	19	0	1	0	0	0	0	0	0	0	0	2	160
19:00	0	66	7	1	0	0	0	0	1	0	0	0	0	1	76
20:00	0	49	3	0	0	0	0	0	0	0	0	0	0	1	53
21:00	2	39	7	0	1	0	0	0	0	0	0	0	0	0	49
22:00	0	15	6	0	2	0	0	0	0	0	0	0	0	0	23
23:00	0	23	3	1	0	0	0	0	0	0	0	0	0	0	27
Total	9	1841	330	12	45	14	0	9	23	1	0	0	0	34	2318
Percent	0.4%	79.4%	14.2%	0.5%	1.9%	0.6%	0.0%	0.4%	1.0%	0.0%	0.0%	0.0%	0.0%	1.5%	
AM Peak	08:00	08:00	09:00	00:00	07:00	06:00		11:00	07:00	10:00				09:00	
Vol.	1	126	26	1	4	3		2	5	1				5	
PM Peak	16:00	16:00	15:00	14:00	15:00	12:00		12:00	13:00					15:00	
Vol.	2	168	30	3	7	1		2	3					8	
Grand Total	15	3563	652	20	90	25	0	16	45	4	0	0	0	83	4513
Percent	0.3%	78.9%	14.4%	0.4%	2.0%	0.6%	0.0%	0.4%	1.0%	0.1%	0.0%	0.0%	0.0%	1.8%	

Innovative Data, LLC

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 City, State: West Brookfield, Massachusetts
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Eastbound

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
02/01/12	0	6	1	0	0	0	0	0	1	0	0	0	0	0	8
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	3	2	0	0	0	0	0	1	0	0	0	0	0	6
04:00	0	11	3	0	2	0	0	0	0	0	0	0	0	0	16
05:00	0	44	15	1	3	0	0	0	1	0	0	0	0	0	64
06:00	0	73	24	0	11	0	0	1	2	0	0	0	0	0	111
07:00	0	83	28	1	12	0	0	1	2	0	0	0	0	3	130
08:00	0	69	27	0	8	0	1	0	5	0	0	0	0	1	111
09:00	0	72	23	2	5	0	0	0	1	0	0	0	0	1	104
10:00	0	81	30	2	14	0	0	0	3	0	0	0	0	6	136
11:00	1	70	27	2	6	0	0	2	2	0	0	0	0	4	114
12 PM	0	87	33	3	9	3	0	0	2	1	0	0	0	2	140
13:00	0	86	39	1	13	0	0	0	0	0	0	0	0	1	140
14:00	1	98	34	3	11	1	1	3	4	0	0	0	0	1	157
15:00	1	104	47	2	11	1	0	1	1	0	0	0	0	2	170
16:00	2	149	43	0	21	0	0	4	0	0	0	0	0	6	225
17:00	0	122	30	0	9	0	0	2	1	0	0	0	0	5	169
18:00	2	80	40	0	7	0	0	0	1	0	0	0	0	3	133
19:00	0	72	35	0	5	0	0	0	0	0	0	0	0	2	114
20:00	0	57	16	0	6	1	0	0	0	0	0	0	0	1	81
21:00	0	43	14	0	1	0	0	0	0	0	0	0	0	0	58
22:00	0	25	5	0	0	0	0	0	0	0	0	0	0	0	30
23:00	0	14	5	1	0	0	0	0	0	0	0	0	0	1	21
Total	7	1451	524	18	154	6	2	14	27	1	0	0	0	39	2243
Percent	0.3%	64.7%	23.4%	0.8%	6.9%	0.3%	0.1%	0.6%	1.2%	0.0%	0.0%	0.0%	0.0%	1.7%	
AM Peak	11:00	07:00	10:00	09:00	10:00		08:00	11:00	08:00					10:00	
Vol.	1	83	30	2	14		1	2	5					6	
PM Peak	16:00	16:00	15:00	12:00	16:00	12:00	14:00	16:00	14:00	12:00				16:00	
Vol.	2	149	47	3	21	3	1	4	4	1				6	

Innovative Data, LLC

Location: Route 9
 Location: West of Pierce Road
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Eastbound

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
02/02/12	0	8	1	0	1	0	0	0	1	0	0	0	0	0	11
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	2	2	0	1	0	0	0	0	0	0	0	0	0	5
04:00	0	10	2	0	2	0	0	0	0	0	0	0	0	0	14
05:00	0	46	8	1	7	0	0	0	2	0	0	0	0	0	64
06:00	0	61	22	1	13	0	0	0	0	0	0	0	0	1	98
07:00	0	92	37	0	10	0	0	1	0	0	0	0	0	4	144
08:00	0	65	35	2	12	0	0	1	5	0	0	0	0	3	123
09:00	1	75	28	0	16	1	0	1	1	0	0	0	0	2	125
10:00	0	74	30	1	8	0	0	1	4	0	0	0	0	1	119
11:00	0	73	40	1	11	1	0	0	2	0	0	0	0	2	130
12 PM	0	108	38	0	9	1	0	2	3	0	0	0	0	1	162
13:00	0	96	37	1	15	0	0	2	0	0	0	0	0	1	152
14:00	0	112	35	3	9	1	0	0	4	0	0	0	0	3	167
15:00	0	99	47	3	18	2	0	1	1	0	0	0	0	4	175
16:00	0	153	44	2	15	0	0	1	1	0	0	0	0	5	221
17:00	0	129	35	0	10	0	0	0	0	0	0	0	0	3	177
18:00	0	95	22	1	10	1	0	0	0	0	0	0	0	4	133
19:00	0	67	23	1	3	0	0	0	0	0	0	0	0	1	95
20:00	0	51	14	0	5	0	0	0	1	0	0	0	0	0	71
21:00	0	41	11	0	3	0	0	0	0	0	0	0	0	0	55
22:00	0	40	12	0	1	0	0	0	0	0	0	0	0	0	53
23:00	0	11	2	0	2	0	0	0	1	0	0	0	0	0	16
Total	1	1511	526	17	181	7	0	10	26	0	0	0	0	35	2314
Percent	0.0%	65.3%	22.7%	0.7%	7.8%	0.3%	0.0%	0.4%	1.1%	0.0%	0.0%	0.0%	0.0%	1.5%	
AM Peak	09:00	07:00	11:00	08:00	09:00	09:00		07:00	08:00					07:00	
Vol.	1	92	40	2	16	1		1	5					4	
PM Peak		16:00	15:00	14:00	15:00	15:00		12:00	14:00					16:00	
Vol.		153	47	3	18	2		2	4					5	
Grand Total	8	2962	1050	35	335	13	2	24	53	1	0	0	0	74	4557
Percent	0.2%	65.0%	23.0%	0.8%	7.4%	0.3%	0.0%	0.5%	1.2%	0.0%	0.0%	0.0%	0.0%	1.6%	

Innovative Data, LLC

Location: Route 9
 Location: West of Pierce Road
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Westbound, Eastbound

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
02/01/12	0	10	1	0	0	0	0	0	1	0	0	0	0	0	12
01:00	0	6	1	0	0	0	0	0	1	0	0	0	0	0	8
02:00	0	6	4	0	0	0	0	0	0	0	0	0	0	0	10
03:00	0	6	3	0	0	0	0	0	1	0	0	0	0	0	10
04:00	0	16	5	0	2	0	0	0	0	0	0	0	0	0	23
05:00	0	65	27	1	4	0	0	0	1	0	0	0	0	0	98
06:00	0	151	42	1	12	1	0	1	2	0	0	0	0	1	211
07:00	0	215	49	1	15	1	0	1	6	0	0	0	0	6	294
08:00	0	184	53	2	11	0	1	0	5	1	0	0	0	4	261
09:00	0	170	38	3	9	1	0	0	6	0	0	0	0	4	231
10:00	1	178	53	3	18	1	0	0	3	0	0	0	0	8	265
11:00	2	178	40	2	10	1	0	2	7	1	0	0	0	6	249
12 PM	0	194	54	3	15	3	0	0	2	1	0	0	0	7	279
13:00	0	174	51	1	16	1	0	3	3	0	0	0	0	4	253
14:00	1	226	51	4	13	1	1	3	5	0	0	0	0	6	311
15:00	1	268	76	3	14	1	0	1	1	1	0	0	0	9	375
16:00	4	299	67	1	26	3	0	6	1	0	0	0	0	10	417
17:00	0	248	68	0	10	0	0	3	2	0	0	0	0	10	341
18:00	2	186	56	0	10	0	0	1	2	0	0	0	0	6	263
19:00	2	128	43	0	5	0	0	0	0	0	0	0	0	4	182
20:00	0	104	27	0	6	2	0	0	0	0	0	0	0	1	140
21:00	0	79	18	0	3	1	0	0	0	0	0	0	0	0	101
22:00	0	46	10	0	0	0	0	0	0	0	0	0	0	0	56
23:00	0	36	9	1	0	0	0	0	0	0	0	0	0	2	48
Total	13	3173	846	26	199	17	2	21	49	4	0	0	0	88	4438
Percent	0.3%	71.5%	19.1%	0.6%	4.5%	0.4%	0.0%	0.5%	1.1%	0.1%	0.0%	0.0%	0.0%	2.0%	
AM Peak	11:00	07:00	08:00	09:00	10:00	06:00	08:00	11:00	11:00	08:00				10:00	
Vol.	2	215	53	3	18	1	1	2	7	1				8	
PM Peak	16:00	16:00	15:00	14:00	16:00	12:00	14:00	16:00	14:00	12:00				16:00	
Vol.	4	299	76	4	26	3	1	6	5	1				10	

Innovative Data, LLC

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 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
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Westbound, Eastbound

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
02/02/12	0	15	1	1	1	0	0	0	1	0	0	0	0	1	20
01:00	0	8	3	0	0	0	0	0	0	0	0	0	0	0	11
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
03:00	0	7	3	0	1	0	0	0	1	0	0	0	0	0	12
04:00	0	22	4	0	2	0	0	0	0	0	0	0	0	0	28
05:00	0	60	21	1	7	0	0	1	2	0	0	0	0	0	92
06:00	0	136	40	2	16	3	0	1	0	0	0	0	0	2	200
07:00	0	208	53	0	14	2	0	1	5	0	0	0	0	5	288
08:00	1	191	56	2	15	2	0	2	6	0	0	0	0	4	279
09:00	1	189	54	0	19	4	0	1	6	0	0	0	0	7	281
10:00	0	197	46	2	11	1	0	1	6	1	0	0	0	2	267
11:00	1	186	59	1	15	1	0	2	5	0	0	0	0	4	274
12 PM	1	212	53	1	13	2	0	4	3	0	0	0	0	1	290
13:00	0	209	60	1	17	1	0	3	3	0	0	0	0	2	296
14:00	0	229	57	6	12	2	0	0	5	0	0	0	0	4	315
15:00	0	249	77	6	25	2	0	2	2	0	0	0	0	12	375
16:00	2	321	74	2	18	0	0	1	1	0	0	0	0	8	427
17:00	0	274	65	0	12	0	0	0	0	0	0	0	0	8	359
18:00	2	231	41	1	11	1	0	0	0	0	0	0	0	6	293
19:00	0	133	30	2	3	0	0	0	1	0	0	0	0	2	171
20:00	0	100	17	0	5	0	0	0	1	0	0	0	0	1	124
21:00	2	80	18	0	4	0	0	0	0	0	0	0	0	0	104
22:00	0	55	18	0	3	0	0	0	0	0	0	0	0	0	76
23:00	0	34	5	1	2	0	0	0	1	0	0	0	0	0	43
Total	10	3352	856	29	226	21	0	19	49	1	0	0	0	69	4632
Percent	0.2%	72.4%	18.5%	0.6%	4.9%	0.5%	0.0%	0.4%	1.1%	0.0%	0.0%	0.0%	0.0%	1.5%	
AM Peak	08:00	07:00	11:00	06:00	09:00	09:00		08:00	08:00	10:00				09:00	
Vol.	1	208	59	2	19	4		2	6	1				7	
PM Peak	16:00	16:00	15:00	14:00	15:00	12:00		12:00	14:00					15:00	
Vol.	2	321	77	6	25	2		4	5					12	
Grand Total	23	6525	1702	55	425	38	2	40	98	5	0	0	0	157	9070
Percent	0.3%	71.9%	18.8%	0.6%	4.7%	0.4%	0.0%	0.4%	1.1%	0.1%	0.0%	0.0%	0.0%	1.7%	

Innovative Data, LLC

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 Client: Coler & Colantonio / J. Morgan

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Westbound

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	85th Percent	95th Percent	
02/01/12	0	0	0	0	0	2	1	1	0	0	0	0	0	0	4	*	*	
01:00	0	0	0	0	1	0	1	4	0	0	0	0	0	0	6	48	48	
02:00	0	0	0	0	0	2	3	1	0	1	0	0	0	0	7	43	43	
03:00	0	0	0	0	1	1	1	1	0	0	0	0	0	0	4	*	*	
04:00	0	0	0	0	0	1	3	3	0	0	0	0	0	0	7	46	47	
05:00	0	1	0	0	1	5	18	9	0	0	0	0	0	0	34	47	49	
06:00	1	0	0	1	7	39	41	8	3	0	0	0	0	0	100	44	48	
07:00	3	0	0	2	6	42	91	19	1	0	0	0	0	0	164	45	48	
08:00	3	1	0	1	4	45	74	21	1	0	0	0	0	0	150	45	48	
09:00	4	0	1	1	7	32	56	25	0	1	0	0	0	0	127	46	48	
10:00	2	1	0	4	4	46	59	13	0	0	0	0	0	0	129	45	47	
11:00	2	0	1	1	4	38	73	15	1	0	0	0	0	0	135	45	47	
12 PM	5	0	0	1	9	42	63	18	1	0	0	0	0	0	139	45	48	
13:00	3	0	0	2	5	30	61	11	1	0	0	0	0	0	113	45	47	
14:00	4	1	1	1	5	42	71	28	1	0	0	0	0	0	154	45	48	
15:00	7	0	0	1	8	59	117	13	0	0	0	0	0	0	205	44	46	
16:00	5	4	2	1	4	61	101	14	0	0	0	0	0	0	192	44	46	
17:00	6	3	0	3	13	69	70	8	0	0	0	0	0	0	172	43	46	
18:00	3	0	0	1	8	58	54	6	0	0	0	0	0	0	130	43	45	
19:00	2	0	0	1	2	26	29	7	1	0	0	0	0	0	68	45	48	
20:00	1	0	0	0	4	22	29	2	1	0	0	0	0	0	59	43	45	
21:00	1	0	0	1	1	14	22	4	0	0	0	0	0	0	43	44	47	
22:00	0	0	0	0	2	9	9	4	0	2	0	0	0	0	26	45	47	
23:00	2	0	0	1	0	6	14	4	0	0	0	0	0	0	27	45	47	
Total	54	11	5	23	96	691	1061	239	11	4	0	0	0	0	2195			
Percent	2.5%	0.5%	0.2%	1.0%	4.4%	31.5%	48.3%	10.9%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%				
AM Peak	09:00	05:00	09:00	10:00	06:00	10:00	07:00	09:00	06:00	02:00						07:00		
Vol.	4	1	1	4	7	46	91	25	3	1						164		
PM Peak	15:00	16:00	16:00	17:00	17:00	17:00	15:00	14:00	12:00	22:00						15:00		
Vol.	7	4	2	3	13	69	117	28	1	2						205		

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Westbound																85th	95th
Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Percent	Percent
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
02/02/12	1	0	0	0	0	3	4	1	0	0	0	0	0	0	9	43	44
01:00	0	0	0	0	0	2	5	2	0	0	0	0	0	0	9	45	46
02:00	0	0	0	0	0	2	3	0	0	0	0	0	0	0	5	42	42
03:00	0	0	0	0	1	1	3	1	1	0	0	0	0	0	7	43	43
04:00	0	0	0	0	0	1	9	2	1	1	0	0	0	0	14	45	46
05:00	0	0	0	0	0	11	12	5	0	0	0	0	0	0	28	46	48
06:00	1	0	0	1	4	37	49	8	2	0	0	0	0	0	102	44	47
07:00	1	0	0	1	5	34	84	16	3	0	0	0	0	0	144	45	48
08:00	2	0	0	1	3	40	84	26	0	0	0	0	0	0	156	45	48
09:00	5	0	2	0	5	52	73	17	2	0	0	0	0	0	156	45	48
10:00	1	0	0	3	7	54	63	18	1	1	0	0	0	0	148	45	48
11:00	2	1	1	0	4	45	70	21	0	0	0	0	0	0	144	45	48
12 PM	0	0	0	1	9	47	53	17	0	1	0	0	0	0	128	45	48
13:00	2	0	0	3	6	38	73	21	1	0	0	0	0	0	144	45	48
14:00	1	0	1	0	4	54	75	12	1	0	0	0	0	0	148	44	47
15:00	9	1	0	0	9	57	105	18	1	0	0	0	0	0	200	44	47
16:00	3	2	1	1	3	80	93	22	1	0	0	0	0	0	206	45	47
17:00	4	1	0	1	11	71	79	15	0	0	0	0	0	0	182	44	47
18:00	3	1	1	0	13	70	64	6	1	1	0	0	0	0	160	43	45
19:00	1	0	0	0	7	27	37	3	1	0	0	0	0	0	76	44	46
20:00	1	0	0	0	2	18	24	5	3	0	0	0	0	0	53	46	50
21:00	0	2	0	0	2	18	20	6	1	0	0	0	0	0	49	45	48
22:00	0	0	0	0	4	9	9	1	0	0	0	0	0	0	23	43	45
23:00	0	0	0	0	2	10	11	4	0	0	0	0	0	0	27	45	47
Total	37	8	6	12	101	781	1102	247	20	4	0	0	0	0	2318		
Percent	1.6%	0.3%	0.3%	0.5%	4.4%	33.7%	47.5%	10.7%	0.9%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	11:00	09:00	10:00	10:00	10:00	07:00	08:00	07:00	04:00					08:00		
Vol.	5	1	2	3	7	54	84	26	3	1					156		
PM Peak	15:00	16:00	14:00	13:00	18:00	16:00	15:00	16:00	20:00	12:00					16:00		
Vol.	9	2	1	3	13	80	105	22	3	1					206		
Grand Total	91	19	11	35	197	1472	2163	486	31	8	0	0	0	0	4513		
Percent	2.0%	0.4%	0.2%	0.8%	4.4%	32.6%	47.9%	10.8%	0.7%	0.2%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 35 MPH
 50th Percentile : 40 MPH
 85th Percentile : 45 MPH
 95th Percentile : 48 MPH

Statistics
 10 MPH Pace Speed : 37-46 MPH
 Number in Pace : 3260
 Percent in Pace : 72.2%
 Number of Vehicles > 50 MPH : 92
 Percent of Vehicles > 50 MPH : 2.0%
 Mean Speed(Average) : 40 MPH

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Eastbound

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	85th Percent	95th Percent
02/01/12	0	0	0	0	0	0	2	3	3	0	0	0	0	0	8	51	52
01:00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	*	*
02:00	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3	*	*
03:00	0	0	0	0	1	1	4	0	0	0	0	0	0	0	6	43	43
04:00	0	0	0	0	0	1	8	4	3	0	0	0	0	0	16	50	52
05:00	0	0	0	0	2	4	20	29	8	1	0	0	0	0	64	50	52
06:00	1	0	0	0	0	8	38	54	5	5	0	0	0	0	111	49	54
07:00	6	1	0	0	0	7	36	60	19	0	1	0	0	0	130	50	53
08:00	2	0	1	1	0	6	41	37	22	1	0	0	0	0	111	51	54
09:00	1	0	0	0	1	3	31	48	20	0	0	0	0	0	104	51	53
10:00	6	0	0	0	0	6	50	57	16	1	0	0	0	0	136	50	53
11:00	4	0	0	0	2	17	47	34	9	1	0	0	0	0	114	49	52
12 PM	2	0	1	0	0	16	60	49	8	4	0	0	0	0	140	49	52
13:00	2	1	0	0	4	16	41	62	14	0	0	0	0	0	140	50	52
14:00	3	0	0	0	3	16	58	60	16	1	0	0	0	0	157	49	52
15:00	3	1	0	2	3	17	68	56	19	1	0	0	0	0	170	49	52
16:00	7	0	0	0	0	29	73	88	26	2	0	0	0	0	225	49	52
17:00	6	1	0	0	0	31	72	48	9	2	0	0	0	0	169	48	51
18:00	3	0	0	4	4	20	46	48	7	1	0	0	0	0	133	48	51
19:00	2	0	0	0	0	16	54	31	10	1	0	0	0	0	114	49	52
20:00	1	0	0	0	1	6	35	30	6	1	1	0	0	0	81	49	52
21:00	0	0	0	0	2	12	22	15	5	1	1	0	0	0	58	49	53
22:00	0	0	0	0	1	1	14	12	2	0	0	0	0	0	30	48	50
23:00	1	0	0	0	0	1	6	9	4	0	0	0	0	0	21	51	53
Total	50	4	2	7	24	235	827	837	231	23	3	0	0	0	2243		
Percent	2.2%	0.2%	0.1%	0.3%	1.1%	10.5%	36.9%	37.3%	10.3%	1.0%	0.1%	0.0%	0.0%	0.0%			
AM Peak	07:00	07:00	08:00	08:00	05:00	11:00	10:00	07:00	08:00	06:00	07:00				10:00		
Vol.	6	1	1	1	2	17	50	60	22	5	1				136		
PM Peak	16:00	13:00	12:00	18:00	13:00	17:00	16:00	16:00	16:00	12:00	20:00				16:00		
Vol.	7	1	1	4	4	31	73	88	26	4	1				225		

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Eastbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
02/02/12	1	0	0	0	0	0	5	4	1	0	0	0	0	0	11	48	49
01:00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	*	*
02:00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	*	*
03:00	0	0	0	1	0	0	3	1	0	0	0	0	0	0	5	43	43
04:00	0	0	0	0	0	3	4	4	2	1	0	0	0	0	14	48	50
05:00	0	1	0	0	4	2	21	26	8	1	1	0	0	0	64	50	53
06:00	1	0	0	0	0	1	38	35	17	6	0	0	0	0	98	52	56
07:00	5	0	0	0	0	3	40	71	19	6	0	0	0	0	144	51	54
08:00	4	0	1	1	0	4	32	58	19	4	0	0	0	0	123	51	54
09:00	3	0	0	0	2	5	38	66	10	1	0	0	0	0	125	49	52
10:00	1	0	0	0	3	6	45	50	14	0	0	0	0	0	119	50	53
11:00	2	0	0	0	1	7	49	48	21	2	0	0	0	0	130	50	53
12 PM	1	0	0	0	0	7	68	67	17	1	1	0	0	0	162	49	52
13:00	1	0	0	0	5	6	62	63	14	1	0	0	0	0	152	49	52
14:00	4	0	0	1	1	10	56	78	15	1	1	0	0	0	167	49	52
15:00	4	1	1	0	1	9	69	76	12	2	0	0	0	0	175	49	51
16:00	5	0	0	0	3	25	105	73	10	0	0	0	0	0	221	48	50
17:00	3	1	0	0	5	14	83	57	12	2	0	0	0	0	177	49	51
18:00	4	0	0	0	0	15	54	53	7	0	0	0	0	0	133	48	51
19:00	1	0	0	0	0	10	33	46	5	0	0	0	0	0	95	49	51
20:00	0	0	0	0	1	7	21	36	6	0	0	0	0	0	71	49	51
21:00	0	1	0	0	1	8	15	22	8	0	0	0	0	0	55	50	53
22:00	0	0	0	0	1	5	12	29	3	2	0	0	0	1	53	50	52
23:00	0	0	0	0	0	2	4	5	3	2	0	0	0	0	16	52	54
Total	40	4	2	3	28	149	857	970	225	32	3	0	0	1	2314		
Percent	1.7%	0.2%	0.1%	0.1%	1.2%	6.4%	37.0%	41.9%	9.7%	1.4%	0.1%	0.0%	0.0%	0.0%			
AM Peak	07:00	05:00	08:00	03:00	05:00	11:00	11:00	07:00	11:00	06:00	05:00						07:00
Vol.	5	1	1	1	4	7	49	71	21	6	1				144		
PM Peak	16:00	15:00	15:00	14:00	13:00	16:00	16:00	14:00	12:00	15:00	12:00			22:00			16:00
Vol.	5	1	1	1	5	25	105	78	17	2	1			1	221		
Grand Total	90	8	4	10	52	384	1684	1807	456	55	6	0	0	1	4557		
Percent	2.0%	0.2%	0.1%	0.2%	1.1%	8.4%	37.0%	39.7%	10.0%	1.2%	0.1%	0.0%	0.0%	0.0%			

15th Percentile : 39 MPH
 50th Percentile : 44 MPH
 85th Percentile : 49 MPH
 95th Percentile : 53 MPH

Statistics
 10 MPH Pace Speed : 41-50 MPH
 Number in Pace : 3121
 Percent in Pace : 68.5%
 Number of Vehicles > 50 MPH : 668
 Percent of Vehicles > 50 MPH : 14.7%
 Mean Speed(Average) : 44 MPH

Innovative Data, LLC

Location: Route 9
 Location: West of Pierce Road
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Westbound, Eastbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
02/01/12	0	0	0	0	0	2	3	4	3	0	0	0	0	0	12	51	52
01:00	0	0	0	0	1	0	1	6	0	0	0	0	0	0	8	49	49
02:00	0	0	0	0	0	3	4	2	0	1	0	0	0	0	10	44	45
03:00	0	0	0	0	2	2	5	1	0	0	0	0	0	0	10	44	45
04:00	0	0	0	0	0	2	11	7	3	0	0	0	0	0	23	49	51
05:00	0	1	0	0	3	9	38	38	8	1	0	0	0	0	98	49	52
06:00	2	0	0	1	7	47	79	62	8	5	0	0	0	0	211	48	51
07:00	9	1	0	2	6	49	127	79	20	0	1	0	0	0	294	48	51
08:00	5	1	1	2	4	51	115	58	23	1	0	0	0	0	261	48	52
09:00	5	0	1	1	8	35	87	73	20	1	0	0	0	0	231	49	52
10:00	8	1	0	4	4	52	109	70	16	1	0	0	0	0	265	48	51
11:00	6	0	1	1	6	55	120	49	10	1	0	0	0	0	249	47	50
12 PM	7	0	1	1	9	58	123	67	9	4	0	0	0	0	279	47	50
13:00	5	1	0	2	9	46	102	73	15	0	0	0	0	0	253	48	51
14:00	7	1	1	1	8	58	129	88	17	1	0	0	0	0	311	48	51
15:00	10	1	0	3	11	76	185	69	19	1	0	0	0	0	375	47	50
16:00	12	4	2	1	4	90	174	102	26	2	0	0	0	0	417	48	51
17:00	12	4	0	3	13	100	142	56	9	2	0	0	0	0	341	46	49
18:00	6	0	0	5	12	78	100	54	7	1	0	0	0	0	263	46	49
19:00	4	0	0	1	2	42	83	38	11	1	0	0	0	0	182	47	51
20:00	2	0	0	0	5	28	64	32	7	1	1	0	0	0	140	47	50
21:00	1	0	0	1	3	26	44	19	5	1	1	0	0	0	101	47	51
22:00	0	0	0	0	3	10	23	16	2	2	0	0	0	0	56	48	50
23:00	3	0	0	1	0	7	20	13	4	0	0	0	0	0	48	48	51
Total	104	15	7	30	120	926	1888	1076	242	27	3	0	0	0	4438		
Percent	2.3%	0.3%	0.2%	0.7%	2.7%	20.9%	42.5%	24.2%	5.5%	0.6%	0.1%	0.0%	0.0%	0.0%			
AM Peak	07:00	05:00	08:00	10:00	09:00	11:00	07:00	07:00	08:00	06:00	07:00				07:00		
Vol.	9	1	1	4	8	55	127	79	23	5	1				294		
PM Peak	16:00	16:00	16:00	18:00	17:00	17:00	15:00	16:00	16:00	12:00	20:00				16:00		
Vol.	12	4	2	5	13	100	185	102	26	4	1				417		

Innovative Data, LLC

Location: Route 9
 Location: West of Pierce Road
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Westbound, Eastbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
02/02/12	2	0	0	0	0	3	9	5	1	0	0	0	0	0	20	47	49
01:00	0	0	0	0	0	2	5	3	1	0	0	0	0	0	11	47	48
02:00	0	0	0	0	0	2	3	1	1	0	0	0	0	0	7	43	43
03:00	0	0	0	1	1	1	6	2	1	0	0	0	0	0	12	45	46
04:00	0	0	0	0	0	4	13	6	3	2	0	0	0	0	28	50	53
05:00	0	1	0	0	4	13	33	31	8	1	1	0	0	0	92	49	52
06:00	2	0	0	1	4	38	87	43	19	6	0	0	0	0	200	49	54
07:00	6	0	0	1	5	37	124	87	22	6	0	0	0	0	288	49	52
08:00	6	0	1	2	3	44	116	84	19	4	0	0	0	0	279	48	52
09:00	8	0	2	0	7	57	111	83	12	1	0	0	0	0	281	48	50
10:00	2	0	0	3	10	60	108	68	15	1	0	0	0	0	267	48	51
11:00	4	1	1	0	5	52	119	69	21	2	0	0	0	0	274	48	51
12 PM	1	0	0	1	9	54	121	84	17	2	1	0	0	0	290	48	51
13:00	3	0	0	3	11	44	135	84	15	1	0	0	0	0	296	48	51
14:00	5	0	1	1	5	64	131	90	16	1	1	0	0	0	315	48	51
15:00	13	2	1	0	10	66	174	94	13	2	0	0	0	0	375	47	50
16:00	8	2	1	1	6	105	198	95	11	0	0	0	0	0	427	47	49
17:00	7	2	0	1	16	85	162	72	12	2	0	0	0	0	359	47	50
18:00	7	1	1	0	13	85	118	59	8	1	0	0	0	0	293	47	50
19:00	2	0	0	0	7	37	70	49	6	0	0	0	0	0	171	47	50
20:00	1	0	0	0	3	25	45	41	9	0	0	0	0	0	124	49	51
21:00	0	3	0	0	3	26	35	28	9	0	0	0	0	0	104	49	52
22:00	0	0	0	0	5	14	21	30	3	2	0	0	0	1	76	49	51
23:00	0	0	0	0	2	12	15	9	3	2	0	0	0	0	43	48	52
Total	77	12	8	15	129	930	1959	1217	245	36	3	0	0	1	4632		
Percent	1.7%	0.3%	0.2%	0.3%	2.8%	20.1%	42.3%	26.3%	5.3%	0.8%	0.1%	0.0%	0.0%	0.0%			
AM Peak	09:00	05:00	09:00	10:00	10:00	10:00	07:00	07:00	07:00	06:00	05:00				07:00		
Vol.	8	1	2	3	10	60	124	87	22	6	1				288		
PM Peak	15:00	21:00	14:00	13:00	17:00	16:00	16:00	16:00	12:00	12:00	12:00			22:00	16:00		
Vol.	13	3	1	3	16	105	198	95	17	2	1			1	427		
Grand Total	181	27	15	45	249	1856	3847	2293	487	63	6	0	0	1	9070		
Percent	2.0%	0.3%	0.2%	0.5%	2.7%	20.5%	42.4%	25.3%	5.4%	0.7%	0.1%	0.0%	0.0%	0.0%			

15th Percentile : 36 MPH
 50th Percentile : 42 MPH
 85th Percentile : 48 MPH
 95th Percentile : 51 MPH

Statistics
 10 MPH Pace Speed : 39-48 MPH
 Number in Pace : 5863
 Percent in Pace : 64.6%
 Number of Vehicles > 50 MPH : 759
 Percent of Vehicles > 50 MPH : 8.4%
 Mean Speed(Average) : 42 MPH

Innovative Data, LLC

Location: Route 9

Location: West of Rock House Reservation

City, State: West Brookfield, Massachusetts

Client: Coler & Colantonio / J. Morgan

50 Alden Avenue

Belchertown, MA 01007

413.668.5094 or www.datayourequested.com

Start Time	01-Feb-12		Westbound		Eastbound		Combined		02-Feb-		Westbound		Eastbound		Combined	
	Wed		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			1	28	3	35	4	63			4	30	5	42	9	72
12:15			1	25	3	42	4	67			2	27	2	46	4	73
12:30			1	36	2	30	3	66			2	37	2	34	4	71
12:45			1	48	0	31	1	79			1	29	1	40	2	69
01:00			1	27	1	33	2	60			4	34	0	40	4	74
01:15			1	30	1	36	2	66			4	37	1	39	5	76
01:30			2	36	0	38	2	74			1	40	1	32	2	72
01:45			2	20	0	36	2	56			0	32	0	38	0	70
02:00			1	33	2	26	3	59			1	25	0	33	1	58
02:15			0	37	0	39	0	76			2	47	0	44	2	91
02:30			3	35	1	40	4	75			2	31	1	46	3	77
02:45			4	35	0	45	4	80			0	39	1	38	1	77
03:00			2	51	3	37	5	88			1	55	1	41	2	96
03:15			1	42	1	44	2	86			1	43	3	44	4	87
03:30			0	72	0	44	0	116			2	49	0	52	2	101
03:45			1	34	3	42	4	76			3	47	2	37	5	84
04:00			2	42	1	57	3	99			1	47	1	62	2	109
04:15			3	50	4	65	7	115			6	48	4	52	10	100
04:30			0	38	7	50	7	88			2	43	6	50	8	93
04:45			2	50	4	53	6	103			5	62	3	64	8	126
05:00			3	43	7	47	10	90			3	52	9	32	12	84
05:15			8	49	14	41	22	90			5	47	11	50	16	97
05:30			9	40	23	43	32	83			6	45	25	40	31	85
05:45			12	39	22	38	34	77			12	37	19	47	31	84
06:00			22	29	23	39	45	68			16	50	19	40	35	90
06:15			25	48	16	30	41	78			28	48	18	37	46	85
06:30			27	23	34	30	61	53			26	33	30	24	56	57
06:45			29	26	36	28	65	54			35	29	38	31	73	60
07:00			35	25	27	31	62	56			29	23	40	29	69	52
07:15			30	16	35	43	65	59			32	18	32	20	64	38
07:30			47	19	29	25	76	44			41	15	31	23	72	38
07:45			51	9	30	16	81	25			46	20	30	23	76	43
08:00			46	16	31	27	77	43			34	10	30	17	64	27
08:15			44	17	23	18	67	35			47	16	31	26	78	42
08:30			23	11	34	17	57	28			36	13	37	19	73	32
08:45			36	16	28	17	64	33			39	12	25	11	64	23
09:00			26	9	20	16	46	25			31	9	30	13	61	22
09:15			23	11	26	15	49	26			39	10	29	12	68	22
09:30			34	8	31	7	65	15			40	11	31	16	71	27
09:45			38	10	27	20	65	30			40	17	35	13	75	30
10:00			38	11	27	12	65	23			31	5	34	13	65	18
10:15			30	9	35	8	65	17			49	10	24	22	73	32
10:30			32	6	34	4	66	10			27	4	31	11	58	15
10:45			30	3	37	6	67	9			34	3	28	6	62	9
11:00			33	11	24	6	57	17			35	9	34	4	69	13
11:15			35	8	31	5	66	13			34	3	31	2	65	5
11:30			36	2	29	8	65	10			41	8	32	6	73	14
11:45			31	3	33	1	64	4			35	6	33	5	68	11
Total			862	1286	802	1421	1664	2707			915	1365	831	1466	1746	2831
Day Total			2148		2223		4371				2280		2297		4577	
% Total			19.7%	29.4%	18.3%	32.5%					20.0%	29.8%	18.2%	32.0%		
Peak			07:30	02:45	10:00	04:00	07:30	03:30			07:30	04:45	06:45	04:00	07:45	04:00
Vol.			188	200	133	225	301	406			168	206	141	228	291	428
P.H.F.			0.922	0.694	0.899	0.865	0.929	0.875			0.894	0.831	0.881	0.891	0.933	0.849

ADT

ADT 4,471

AADT 4,471

Innovative Data, LLC

Location: Route 9
 Location: West of Rock House Reservation
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Westbound															
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
02/01/12	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	4	1	0	0	0	0	0	1	0	0	0	0	0	6
02:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
05:00	0	21	10	0	1	0	0	0	0	0	0	0	0	0	32
06:00	1	80	19	1	1	1	0	0	0	0	0	0	0	0	103
07:00	0	132	23	0	1	1	0	0	4	0	0	0	0	2	163
08:00	0	113	27	2	2	0	0	0	0	1	0	0	0	4	149
09:00	1	100	12	1	2	0	0	0	4	0	0	0	0	1	121
10:00	1	102	19	0	4	1	0	0	2	0	0	0	0	1	130
11:00	0	111	13	1	2	2	0	0	5	1	0	0	0	0	135
12 PM	0	107	22	0	5	1	0	0	0	0	0	0	0	2	137
13:00	0	92	13	0	1	1	0	3	2	0	0	0	0	1	113
14:00	0	119	17	0	1	0	0	0	1	0	0	0	0	2	140
15:00	0	165	27	0	4	0	0	0	0	1	0	0	0	2	199
16:00	1	144	28	1	1	1	0	2	1	0	0	0	0	1	180
17:00	0	128	36	0	0	0	0	1	2	0	0	0	0	4	171
18:00	0	103	19	0	1	0	0	0	1	0	0	0	0	2	126
19:00	1	60	7	0	1	0	0	0	0	0	0	0	0	0	69
20:00	0	49	10	0	0	0	0	0	0	0	0	0	0	1	60
21:00	0	32	4	0	2	0	0	0	0	0	0	0	0	0	38
22:00	0	24	5	0	0	0	0	0	0	0	0	0	0	0	29
23:00	0	20	4	0	0	0	0	0	0	0	0	0	0	0	24
Total	5	1727	318	6	29	8	0	6	23	3	0	0	0	23	2148
Percent	0.2%	80.4%	14.8%	0.3%	1.4%	0.4%	0.0%	0.3%	1.1%	0.1%	0.0%	0.0%	0.0%	1.1%	
AM Peak	06:00	07:00	08:00	08:00	10:00	11:00			11:00	08:00				08:00	
Vol.	1	132	27	2	4	2			5	1				4	
PM Peak	16:00	15:00	17:00	16:00	12:00	12:00		13:00	13:00	15:00				17:00	
Vol.	1	165	36	1	5	1		3	2	1				4	

Innovative Data, LLC

Location: Route 9
 Location: West of Rock House Reservation
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Westbound															
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
02/02/12	0	8	0	1	0	0	0	0	0	0	0	0	0	0	9
01:00	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
02:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	6	0	0	0	0	0	0	1	0	0	0	0	0	7
04:00	0	11	2	0	0	0	0	0	0	0	0	0	0	1	14
05:00	0	14	11	0	0	0	0	1	0	0	0	0	0	0	26
06:00	0	75	21	1	3	2	0	1	0	0	0	0	0	2	105
07:00	1	118	15	0	4	3	0	0	5	0	0	0	0	2	148
08:00	1	126	21	0	2	2	0	1	1	0	0	1	0	1	156
09:00	0	112	26	0	3	3	0	0	5	0	0	0	0	1	150
10:00	0	116	15	1	2	1	0	1	2	0	0	0	0	3	141
11:00	1	116	17	0	3	0	0	1	3	1	0	0	0	3	145
12 PM	0	100	15	1	4	0	0	2	1	0	0	0	0	0	123
13:00	0	110	24	0	2	0	1	0	4	0	0	0	0	2	143
14:00	0	116	17	3	3	1	0	0	1	0	0	0	0	1	142
15:00	0	148	33	2	4	0	0	1	1	0	0	0	0	5	194
16:00	0	166	29	0	2	0	0	0	0	0	0	0	0	3	200
17:00	1	150	28	0	2	0	0	0	0	0	0	0	0	0	181
18:00	0	139	19	0	1	0	0	0	0	0	0	0	0	1	160
19:00	0	66	6	1	0	1	0	0	0	0	0	0	0	2	76
20:00	0	48	3	0	0	0	0	0	0	0	0	0	0	0	51
21:00	0	39	7	0	1	0	0	0	0	0	0	0	0	0	47
22:00	0	15	5	0	2	0	0	0	0	0	0	0	0	0	22
23:00	0	22	3	1	0	0	0	0	0	0	0	0	0	0	26
Total	4	1832	320	11	38	13	1	8	24	1	0	1	0	27	2280
Percent	0.2%	80.4%	14.0%	0.5%	1.7%	0.6%	0.0%	0.4%	1.1%	0.0%	0.0%	0.0%	0.0%	1.2%	
AM Peak	07:00	08:00	09:00	00:00	07:00	07:00		05:00	07:00	11:00		08:00		10:00	
Vol.	1	126	26	1	4	3		1	5	1		1		3	
PM Peak	17:00	16:00	15:00	14:00	12:00	14:00	13:00	12:00	13:00					15:00	
Vol.	1	166	33	3	4	1	1	2	4					5	
Grand Total	9	3559	638	17	67	21	1	14	47	4	0	1	0	50	4428
Percent	0.2%	80.4%	14.4%	0.4%	1.5%	0.5%	0.0%	0.3%	1.1%	0.1%	0.0%	0.0%	0.0%	1.1%	

Innovative Data, LLC

Location: Route 9
 Location: West of Rock House Reservation
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Eastbound

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
02/01/12	0	6	1	0	0	0	0	0	1	0	0	0	0	0	8
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	4	2	0	0	0	0	0	1	0	0	0	0	0	7
04:00	0	11	5	0	0	0	0	0	0	0	0	0	0	0	16
05:00	0	48	13	1	3	0	0	0	1	0	0	0	0	0	66
06:00	0	78	18	0	9	0	0	1	2	0	0	0	0	1	109
07:00	0	82	26	0	7	0	0	1	2	0	0	0	0	3	121
08:00	0	74	26	1	8	0	0	0	4	0	0	0	0	3	116
09:00	0	75	20	1	3	0	0	0	1	0	0	0	0	4	104
10:00	0	89	26	2	11	0	0	0	4	0	0	0	0	1	133
11:00	1	83	23	3	3	0	0	2	1	0	0	0	0	1	117
12 PM	0	90	30	2	8	3	0	0	3	1	0	0	0	1	138
13:00	0	100	34	1	6	0	0	0	1	0	0	0	0	1	143
14:00	1	103	27	2	7	1	1	3	3	0	0	0	0	2	150
15:00	1	112	37	2	10	1	0	1	1	0	0	0	0	2	167
16:00	2	152	46	0	12	0	0	3	2	0	0	0	0	8	225
17:00	0	134	25	0	5	0	0	1	1	0	0	0	0	3	169
18:00	1	84	37	0	3	0	0	0	1	0	0	0	0	1	127
19:00	0	76	35	0	4	0	0	0	0	0	0	0	0	0	115
20:00	1	57	17	0	3	1	0	0	0	0	0	0	0	0	79
21:00	0	45	13	0	0	0	0	0	0	0	0	0	0	0	58
22:00	0	27	3	0	0	0	0	0	0	0	0	0	0	0	30
23:00	0	14	5	0	0	0	0	0	1	0	0	0	0	0	20
Total	7	1547	471	15	102	6	1	12	30	1	0	0	0	31	2223
Percent	0.3%	69.6%	21.2%	0.7%	4.6%	0.3%	0.0%	0.5%	1.3%	0.0%	0.0%	0.0%	0.0%	1.4%	
AM Peak	11:00	10:00	07:00	11:00	10:00			11:00	08:00					09:00	
Vol.	1	89	26	3	11			2	4					4	
PM Peak	16:00	16:00	16:00	12:00	16:00	12:00	14:00	14:00	12:00	12:00				16:00	
Vol.	2	152	46	2	12	3	1	3	3	1				8	

Innovative Data, LLC

Location: Route 9
 Location: West of Rock House Reservation
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Eastbound

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
02/02/12	0	7	1	0	1	0	0	0	1	0	0	0	0	0	10
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	2	3	0	1	0	0	0	0	0	0	0	0	0	6
04:00	0	9	2	0	2	0	0	0	0	0	0	0	0	1	14
05:00	0	48	10	1	3	0	0	0	2	0	0	0	0	0	64
06:00	1	73	19	0	11	0	0	0	0	0	0	0	0	1	105
07:00	0	93	31	1	7	0	0	1	0	0	0	0	0	0	133
08:00	0	77	27	2	9	1	0	0	4	0	0	0	0	3	123
09:00	0	84	24	1	12	1	0	1	1	0	0	0	0	1	125
10:00	1	76	25	1	4	0	0	1	3	0	0	0	0	6	117
11:00	0	83	35	1	5	1	0	0	2	0	0	0	0	3	130
12 PM	0	122	27	0	7	1	0	2	3	0	0	0	0	0	162
13:00	0	98	37	1	7	0	0	2	0	0	0	0	0	4	149
14:00	0	116	27	3	6	1	0	0	4	0	0	0	0	4	161
15:00	1	110	45	2	10	2	0	1	1	0	0	0	0	2	174
16:00	1	174	35	1	13	0	0	1	1	0	0	0	0	2	228
17:00	1	123	35	0	7	0	0	0	0	0	0	0	0	3	169
18:00	0	100	22	1	6	0	0	0	0	0	0	0	0	3	132
19:00	0	70	21	1	0	0	0	0	1	0	0	0	0	2	95
20:00	0	55	15	0	3	0	0	0	0	0	0	0	0	0	73
21:00	0	42	9	0	3	0	0	0	0	0	0	0	0	0	54
22:00	0	42	10	0	0	0	0	0	0	0	0	0	0	0	52
23:00	0	12	3	0	1	0	0	0	1	0	0	0	0	0	17
Total	5	1619	464	16	118	7	0	9	24	0	0	0	0	35	2297
Percent	0.2%	70.5%	20.2%	0.7%	5.1%	0.3%	0.0%	0.4%	1.0%	0.0%	0.0%	0.0%	0.0%	1.5%	
AM Peak	06:00	07:00	11:00	08:00	09:00	08:00		07:00	08:00					10:00	
Vol.	1	93	35	2	12	1		1	4					6	
PM Peak	15:00	16:00	15:00	14:00	16:00	15:00		12:00	14:00					13:00	
Vol.	1	174	45	3	13	2		2	4					4	
Grand Total	12	3166	935	31	220	13	1	21	54	1	0	0	0	66	4520
Percent	0.3%	70.0%	20.7%	0.7%	4.9%	0.3%	0.0%	0.5%	1.2%	0.0%	0.0%	0.0%	0.0%	1.5%	

Innovative Data, LLC

Location: Route 9
 Location: West of Rock House Reservation
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Westbound, Eastbound

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
02/01/12	0	10	1	0	0	0	0	0	1	0	0	0	0	0	12
01:00	0	6	1	0	0	0	0	0	1	0	0	0	0	0	8
02:00	0	8	3	0	0	0	0	0	0	0	0	0	0	0	11
03:00	0	8	2	0	0	0	0	0	1	0	0	0	0	0	11
04:00	0	17	6	0	0	0	0	0	0	0	0	0	0	0	23
05:00	0	69	23	1	4	0	0	0	1	0	0	0	0	0	98
06:00	1	158	37	1	10	1	0	1	2	0	0	0	0	1	212
07:00	0	214	49	0	8	1	0	1	6	0	0	0	0	5	284
08:00	0	187	53	3	10	0	0	0	4	1	0	0	0	7	265
09:00	1	175	32	2	5	0	0	0	5	0	0	0	0	5	225
10:00	1	191	45	2	15	1	0	0	6	0	0	0	0	2	263
11:00	1	194	36	4	5	2	0	2	6	1	0	0	0	1	252
12 PM	0	197	52	2	13	4	0	0	3	1	0	0	0	3	275
13:00	0	192	47	1	7	1	0	3	3	0	0	0	0	2	256
14:00	1	222	44	2	8	1	1	3	4	0	0	0	0	4	290
15:00	1	277	64	2	14	1	0	1	1	1	0	0	0	4	366
16:00	3	296	74	1	13	1	0	5	3	0	0	0	0	9	405
17:00	0	262	61	0	5	0	0	2	3	0	0	0	0	7	340
18:00	1	187	56	0	4	0	0	0	2	0	0	0	0	3	253
19:00	1	136	42	0	5	0	0	0	0	0	0	0	0	0	184
20:00	1	106	27	0	3	1	0	0	0	0	0	0	0	1	139
21:00	0	77	17	0	2	0	0	0	0	0	0	0	0	0	96
22:00	0	51	8	0	0	0	0	0	0	0	0	0	0	0	59
23:00	0	34	9	0	0	0	0	0	1	0	0	0	0	0	44
Total	12	3274	789	21	131	14	1	18	53	4	0	0	0	54	4371
Percent	0.3%	74.9%	18.1%	0.5%	3.0%	0.3%	0.0%	0.4%	1.2%	0.1%	0.0%	0.0%	0.0%	1.2%	
AM Peak	06:00	07:00	08:00	11:00	10:00	11:00		11:00	07:00	08:00				08:00	
Vol.	1	214	53	4	15	2		2	6	1				7	
PM Peak	16:00	16:00	16:00	12:00	15:00	12:00	14:00	16:00	14:00	12:00				16:00	
Vol.	3	296	74	2	14	4	1	5	4	1				9	

Innovative Data, LLC

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50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Westbound, Eastbound

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
02/02/12	0	15	1	1	1	0	0	0	1	0	0	0	0	0	19
01:00	0	8	3	0	0	0	0	0	0	0	0	0	0	0	11
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
03:00	0	8	3	0	1	0	0	0	1	0	0	0	0	0	13
04:00	0	20	4	0	2	0	0	0	0	0	0	0	0	2	28
05:00	0	62	21	1	3	0	0	1	2	0	0	0	0	0	90
06:00	1	148	40	1	14	2	0	1	0	0	0	0	0	3	210
07:00	1	211	46	1	11	3	0	1	5	0	0	0	0	2	281
08:00	1	203	48	2	11	3	0	1	5	0	0	1	0	4	279
09:00	0	196	50	1	15	4	0	1	6	0	0	0	0	2	275
10:00	1	192	40	2	6	1	0	2	5	0	0	0	0	9	258
11:00	1	199	52	1	8	1	0	1	5	1	0	0	0	6	275
12 PM	0	222	42	1	11	1	0	4	4	0	0	0	0	0	285
13:00	0	208	61	1	9	0	1	2	4	0	0	0	0	6	292
14:00	0	232	44	6	9	2	0	0	5	0	0	0	0	5	303
15:00	1	258	78	4	14	2	0	2	2	0	0	0	0	7	368
16:00	1	340	64	1	15	0	0	1	1	0	0	0	0	5	428
17:00	2	273	63	0	9	0	0	0	0	0	0	0	0	3	350
18:00	0	239	41	1	7	0	0	0	0	0	0	0	0	4	292
19:00	0	136	27	2	0	1	0	0	1	0	0	0	0	4	171
20:00	0	103	18	0	3	0	0	0	0	0	0	0	0	0	124
21:00	0	81	16	0	4	0	0	0	0	0	0	0	0	0	101
22:00	0	57	15	0	2	0	0	0	0	0	0	0	0	0	74
23:00	0	34	6	1	1	0	0	0	1	0	0	0	0	0	43
Total	9	3451	784	27	156	20	1	17	48	1	0	1	0	62	4577
Percent	0.2%	75.4%	17.1%	0.6%	3.4%	0.4%	0.0%	0.4%	1.0%	0.0%	0.0%	0.0%	0.0%	1.4%	
AM Peak	06:00	07:00	11:00	08:00	09:00	09:00		10:00	09:00	11:00		08:00		10:00	
Vol.	1	211	52	2	15	4		2	6	1		1		9	
PM Peak	17:00	16:00	15:00	14:00	16:00	14:00	13:00	12:00	14:00					15:00	
Vol.	2	340	78	6	15	2	1	4	5					7	
Grand Total	21	6725	1573	48	287	34	2	35	101	5	0	1	0	116	8948
Percent	0.2%	75.2%	17.6%	0.5%	3.2%	0.4%	0.0%	0.4%	1.1%	0.1%	0.0%	0.0%	0.0%	1.3%	

Traffic Count Data

48 Hour Automatic Traffic Recorder Counts with Speeds

Innovative Data, LLC

Location: Route 9
 Location: West of Rock House Reservation
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
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Westbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
02/01/12	0	0	0	0	1	1	2	0	0	0	0	0	0	0	4	*	*
01:00	0	0	0	0	1	2	1	2	0	0	0	0	0	0	6	*	*
02:00	0	0	0	0	1	4	1	2	0	0	0	0	0	0	8	39	39
03:00	0	0	0	0	1	2	1	0	0	0	0	0	0	0	4	*	*
04:00	0	0	0	0	1	2	2	2	0	0	0	0	0	0	7	*	*
05:00	0	0	0	0	0	8	15	8	1	0	0	0	0	0	32	47	49
06:00	0	0	0	0	6	59	35	3	0	0	0	0	0	0	103	43	45
07:00	2	0	0	0	6	60	88	7	0	0	0	0	0	0	163	44	46
08:00	4	0	0	0	2	68	63	12	0	0	0	0	0	0	149	44	46
09:00	1	0	0	0	2	52	58	8	0	0	0	0	0	0	121	44	46
10:00	1	0	0	0	10	71	43	5	0	0	0	0	0	0	130	43	45
11:00	0	0	0	0	3	70	55	6	1	0	0	0	0	0	135	43	46
12 PM	2	0	0	2	10	65	54	4	0	0	0	0	0	0	137	43	45
13:00	1	0	0	0	1	63	45	3	0	0	0	0	0	0	113	43	45
14:00	2	0	0	0	13	60	59	6	0	0	0	0	0	0	140	43	45
15:00	2	0	0	0	6	102	83	6	0	0	0	0	0	0	199	43	45
16:00	1	0	0	1	15	82	70	11	0	0	0	0	0	0	180	44	46
17:00	4	0	0	2	7	81	75	2	0	0	0	0	0	0	171	43	45
18:00	2	0	0	0	8	61	47	8	0	0	0	0	0	0	126	44	46
19:00	0	0	0	1	3	30	29	6	0	0	0	0	0	0	69	44	46
20:00	1	0	0	1	2	31	24	1	0	0	0	0	0	0	60	43	45
21:00	0	0	0	0	2	21	13	2	0	0	0	0	0	0	38	43	45
22:00	0	0	0	0	3	12	9	3	2	0	0	0	0	0	29	45	48
23:00	0	0	0	0	1	14	7	2	0	0	0	0	0	0	24	43	45
Total	23	0	0	7	105	1021	879	109	4	0	0	0	0	0	2148		
Percent	1.1%	0.0%	0.0%	0.3%	4.9%	47.5%	40.9%	5.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00				10:00	10:00	07:00	08:00	05:00						07:00		
Vol.	4				10	71	88	12	1						163		
PM Peak	17:00			12:00	16:00	15:00	15:00	16:00	22:00						15:00		
Vol.	4			2	15	102	83	11	2						199		

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Westbound																	
Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
02/02/12	0	0	0	0	0	2	4	3	0	0	0	0	0	0	9	46	47
01:00	0	0	0	0	1	3	5	0	0	0	0	0	0	0	9	43	44
02:00	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5	39	39
03:00	0	0	0	0	2	1	1	3	0	0	0	0	0	0	7	47	47
04:00	1	0	0	0	1	3	6	3	0	0	0	0	0	0	14	46	47
05:00	0	0	0	0	3	7	13	2	1	0	0	0	0	0	26	44	45
06:00	2	0	0	0	4	63	29	6	1	0	0	0	0	0	105	43	46
07:00	2	0	0	0	1	54	82	9	0	0	0	0	0	0	148	44	46
08:00	1	0	0	0	2	55	83	15	0	0	0	0	0	0	156	44	47
09:00	1	0	0	0	6	51	85	7	0	0	0	0	0	0	150	44	46
10:00	3	0	0	0	3	65	60	9	1	0	0	0	0	0	141	44	46
11:00	4	0	0	0	7	66	61	7	0	0	0	0	0	0	145	43	45
12 PM	0	0	0	0	5	51	60	6	0	1	0	0	0	0	123	44	45
13:00	2	0	0	0	5	53	76	6	1	0	0	0	0	0	143	44	46
14:00	1	0	0	0	3	59	71	8	0	0	0	0	0	0	142	44	46
15:00	5	0	0	2	9	73	96	9	0	0	0	0	0	0	194	44	46
16:00	3	0	0	0	3	89	93	12	0	0	0	0	0	0	200	44	46
17:00	0	0	0	1	26	74	69	8	3	0	0	0	0	0	181	43	46
18:00	1	0	0	0	7	86	64	2	0	0	0	0	0	0	160	43	45
19:00	2	0	0	0	4	41	27	2	0	0	0	0	0	0	76	42	44
20:00	0	0	0	0	0	26	20	3	2	0	0	0	0	0	51	44	47
21:00	0	0	0	0	2	24	18	3	0	0	0	0	0	0	47	43	45
22:00	0	0	0	0	3	14	5	0	0	0	0	0	0	0	22	42	44
23:00	0	0	0	0	4	12	9	1	0	0	0	0	0	0	26	43	45
Total	28	0	0	3	101	977	1037	124	9	1	0	0	0	0	2280		
Percent	1.2%	0.0%	0.0%	0.1%	4.4%	42.9%	45.5%	5.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00				11:00	11:00	09:00	08:00	05:00							08:00	
Vol.	4				7	66	85	15	1							156	
PM Peak	15:00			15:00	17:00	16:00	15:00	16:00	17:00	12:00						16:00	
Vol.	5			2	26	89	96	12	3	1						200	
Grand Total	51	0	0	10	206	1998	1916	233	13	1	0	0	0	0	4428		
Percent	1.2%	0.0%	0.0%	0.2%	4.7%	45.1%	43.3%	5.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 35 MPH
 50th Percentile : 39 MPH
 85th Percentile : 44 MPH
 95th Percentile : 46 MPH

Statistics
 10 MPH Pace Speed : 36-45 MPH
 Number in Pace : 3465
 Percent in Pace : 78.3%
 Number of Vehicles > 50 MPH : 40
 Percent of Vehicles > 50 MPH : 0.9%
 Mean Speed(Average) : 40 MPH

Innovative Data, LLC

Location: Route 9
 Location: West of Rock House Reservation
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Eastbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
02/01/12	0	0	0	0	0	2	4	1	1	0	0	0	0	0	8	44	44
01:00	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	*	*
02:00	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3	*	*
03:00	0	0	0	0	1	3	3	0	0	0	0	0	0	0	7	41	42
04:00	0	0	0	1	0	2	9	4	0	0	0	0	0	0	16	46	48
05:00	0	0	0	0	3	7	35	17	4	0	0	0	0	0	66	48	50
06:00	1	0	0	3	0	23	49	22	11	0	0	0	0	0	109	48	52
07:00	3	0	0	0	3	11	51	43	9	1	0	0	0	0	121	49	52
08:00	3	0	0	9	1	16	45	34	8	0	0	0	0	0	116	48	51
09:00	4	0	0	1	3	9	46	37	4	0	0	0	0	0	104	48	50
10:00	1	0	0	7	2	13	72	32	6	0	0	0	0	0	133	47	50
11:00	1	0	0	4	6	23	57	23	3	0	0	0	0	0	117	46	49
12 PM	1	2	5	6	3	34	56	29	1	1	0	0	0	0	138	46	49
13:00	1	0	0	0	7	22	76	35	2	0	0	0	0	0	143	47	49
14:00	2	0	0	8	2	24	67	43	2	2	0	0	0	0	150	47	49
15:00	2	0	3	3	2	36	80	36	5	0	0	0	0	0	167	47	49
16:00	8	0	0	2	0	52	114	43	4	2	0	0	0	0	225	46	49
17:00	3	0	0	0	7	35	89	32	3	0	0	0	0	0	169	46	49
18:00	1	0	0	0	1	20	68	34	3	0	0	0	0	0	127	47	49
19:00	0	0	0	3	3	32	50	21	5	1	0	0	0	0	115	47	51
20:00	0	0	0	0	1	16	44	17	1	0	0	0	0	0	79	46	49
21:00	0	0	0	0	5	23	17	11	2	0	0	0	0	0	58	46	49
22:00	0	0	0	0	2	8	14	5	1	0	0	0	0	0	30	46	49
23:00	0	0	0	0	0	3	10	6	1	0	0	0	0	0	20	48	50
Total	31	2	8	47	52	415	1059	525	77	7	0	0	0	0	2223		
Percent	1.4%	0.1%	0.4%	2.1%	2.3%	18.7%	47.6%	23.6%	3.5%	0.3%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00			08:00	11:00	06:00	10:00	07:00	06:00	07:00					10:00		
Vol.	4			9	6	23	72	43	11	1					133		
PM Peak	16:00	12:00	12:00	14:00	13:00	16:00	16:00	14:00	15:00	14:00					16:00		
Vol.	8	2	5	8	7	52	114	43	5	2					225		

Innovative Data, LLC

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 413.668.5094 or www.datayourequested.com

Eastbound

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	85th Percent	95th Percent
02/02/12	0	0	0	0	0	3	6	1	0	0	0	0	0	0	10	44	45
01:00	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	*	*
02:00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	*	*
03:00	0	0	0	0	1	1	4	0	0	0	0	0	0	0	6	43	43
04:00	1	0	0	0	1	4	3	5	0	0	0	0	0	0	14	47	49
05:00	0	0	0	2	0	6	37	13	4	1	1	0	0	0	64	48	52
06:00	1	0	0	0	0	9	57	32	5	1	0	0	0	0	105	48	51
07:00	0	0	0	0	1	13	61	45	12	1	0	0	0	0	133	49	52
08:00	3	0	0	9	1	18	57	26	9	0	0	0	0	0	123	47	51
09:00	1	0	0	0	0	25	54	37	8	0	0	0	0	0	125	48	51
10:00	6	0	1	7	2	15	59	19	8	0	0	0	0	0	117	47	51
11:00	3	0	0	0	2	16	58	45	5	1	0	0	0	0	130	48	51
12 PM	0	0	0	6	5	34	63	46	7	1	0	0	0	0	162	48	50
13:00	4	0	0	0	5	26	72	38	4	0	0	0	0	0	149	47	49
14:00	4	0	3	7	4	22	68	35	16	1	1	0	0	0	161	49	52
15:00	2	0	0	2	4	23	82	49	11	1	0	0	0	0	174	48	51
16:00	2	0	0	2	12	43	122	43	3	1	0	0	0	0	228	46	49
17:00	3	0	0	0	1	41	90	29	5	0	0	0	0	0	169	46	49
18:00	3	0	0	0	3	27	72	21	6	0	0	0	0	0	132	46	50
19:00	2	0	0	0	2	20	50	18	3	0	0	0	0	0	95	46	49
20:00	0	0	1	0	2	13	35	17	5	0	0	0	0	0	73	48	51
21:00	0	0	0	0	1	13	30	8	2	0	0	0	0	0	54	46	49
22:00	0	0	0	0	3	13	24	10	1	0	0	0	1	0	52	46	49
23:00	0	0	0	0	0	3	8	4	2	0	0	0	0	0	17	48	50
Total	35	0	5	35	50	388	1115	541	117	8	2	0	1	0	2297		
Percent	1.5%	0.0%	0.2%	1.5%	2.2%	16.9%	48.5%	23.6%	5.1%	0.3%	0.1%	0.0%	0.0%	0.0%			
AM Peak	10:00		10:00	08:00	10:00	09:00	07:00	07:00	07:00	05:00	05:00						07:00
Vol.	6		1	9	2	25	61	45	12	1	1						133
PM Peak	13:00		14:00	14:00	16:00	16:00	16:00	15:00	14:00	12:00	14:00		22:00				16:00
Vol.	4		3	7	12	43	122	49	16	1	1		1				228
Grand Total	66	2	13	82	102	803	2174	1066	194	15	2	0	1	0	4520		
Percent	1.5%	0.0%	0.3%	1.8%	2.3%	17.8%	48.1%	23.6%	4.3%	0.3%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 37 MPH
 50th Percentile : 42 MPH
 85th Percentile : 47 MPH
 95th Percentile : 50 MPH

Statistics
 10 MPH Pace Speed : 39-48 MPH
 Number in Pace : 3098
 Percent in Pace : 68.5%
 Number of Vehicles > 50 MPH : 313
 Percent of Vehicles > 50 MPH : 6.9%
 Mean Speed(Average) : 42 MPH

Innovative Data, LLC

Location: Route 9
 Location: West of Rock House Reservation
 City, State: West Brookfield, Massachusetts
 Client: Coler & Colantonio / J. Morgan

50 Alden Avenue
 Belchertown, MA 01007
 413.668.5094 or www.datayourequested.com

Westbound, Eastbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
02/01/12	0	0	0	0	1	3	6	1	1	0	0	0	0	0	12	44	45
01:00	0	0	0	0	1	2	2	2	1	0	0	0	0	0	8	*	*
02:00	0	0	0	0	1	5	3	2	0	0	0	0	0	0	11	43	44
03:00	0	0	0	0	2	5	4	0	0	0	0	0	0	0	11	42	43
04:00	0	0	0	1	1	4	11	6	0	0	0	0	0	0	23	46	48
05:00	0	0	0	0	3	15	50	25	5	0	0	0	0	0	98	48	51
06:00	1	0	0	3	6	82	84	25	11	0	0	0	0	0	212	46	50
07:00	5	0	0	0	9	71	139	50	9	1	0	0	0	0	284	46	49
08:00	7	0	0	9	3	84	108	46	8	0	0	0	0	0	265	46	49
09:00	5	0	0	1	5	61	104	45	4	0	0	0	0	0	225	46	49
10:00	2	0	0	7	12	84	115	37	6	0	0	0	0	0	263	45	49
11:00	1	0	0	4	9	93	112	29	4	0	0	0	0	0	252	45	48
12 PM	3	2	5	8	13	99	110	33	1	1	0	0	0	0	275	45	47
13:00	2	0	0	0	8	85	121	38	2	0	0	0	0	0	256	45	48
14:00	4	0	0	8	15	84	126	49	2	2	0	0	0	0	290	45	48
15:00	4	0	3	3	8	138	163	42	5	0	0	0	0	0	366	45	48
16:00	9	0	0	3	15	134	184	54	4	2	0	0	0	0	405	45	48
17:00	7	0	0	2	14	116	164	34	3	0	0	0	0	0	340	45	47
18:00	3	0	0	0	9	81	115	42	3	0	0	0	0	0	253	46	48
19:00	0	0	0	4	6	62	79	27	5	1	0	0	0	0	184	46	49
20:00	1	0	0	1	3	47	68	18	1	0	0	0	0	0	139	45	48
21:00	0	0	0	0	7	44	30	13	2	0	0	0	0	0	96	45	48
22:00	0	0	0	0	5	20	23	8	3	0	0	0	0	0	59	46	50
23:00	0	0	0	0	1	17	17	8	1	0	0	0	0	0	44	46	49
Total	54	2	8	54	157	1436	1938	634	81	7	0	0	0	0	4371		
Percent	1.2%	0.0%	0.2%	1.2%	3.6%	32.9%	44.3%	14.5%	1.9%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00			08:00	10:00	11:00	07:00	07:00	06:00	07:00					07:00		
Vol.	7			9	12	93	139	50	11	1					284		
PM Peak	16:00	12:00	12:00	12:00	14:00	15:00	16:00	16:00	15:00	14:00					16:00		
Vol.	9	2	5	8	15	138	184	54	5	2					405		

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Westbound, Eastbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent	
	15	20	25	30	35	40	45	50	55	60	65	70	75	999				
02/02/12	0	0	0	0	0	5	10	4	0	0	0	0	0	0	19	46	48	
01:00	0	0	0	0	1	3	6	0	1	0	0	0	0	0	11	43	44	
02:00	0	0	0	0	0	5	2	0	0	0	0	0	0	0	7	40	41	
03:00	0	0	0	0	3	2	5	3	0	0	0	0	0	0	13	46	47	
04:00	2	0	0	0	2	7	9	8	0	0	0	0	0	0	28	47	49	
05:00	0	0	0	2	3	13	50	15	5	1	1	0	0	0	90	47	51	
06:00	3	0	0	0	4	72	86	38	6	1	0	0	0	0	210	46	49	
07:00	2	0	0	0	2	67	143	54	12	1	0	0	0	0	281	47	50	
08:00	4	0	0	9	3	73	140	41	9	0	0	0	0	0	279	46	49	
09:00	2	0	0	0	6	76	139	44	8	0	0	0	0	0	275	46	49	
10:00	9	0	1	7	5	80	119	28	9	0	0	0	0	0	258	45	49	
11:00	7	0	0	0	9	82	119	52	5	1	0	0	0	0	275	46	49	
12 PM	0	0	0	6	10	85	123	52	7	2	0	0	0	0	285	46	49	
13:00	6	0	0	0	10	79	148	44	5	0	0	0	0	0	292	46	49	
14:00	5	0	3	7	7	81	139	43	16	1	1	0	0	0	303	46	50	
15:00	7	0	0	4	13	96	178	58	11	1	0	0	0	0	368	46	49	
16:00	5	0	0	2	15	132	215	55	3	1	0	0	0	0	428	45	48	
17:00	3	0	0	1	27	115	159	37	8	0	0	0	0	0	350	45	48	
18:00	4	0	0	0	10	113	136	23	6	0	0	0	0	0	292	44	48	
19:00	4	0	0	0	6	61	77	20	3	0	0	0	0	0	171	45	48	
20:00	0	0	1	0	2	39	55	20	7	0	0	0	0	0	124	47	51	
21:00	0	0	0	0	3	37	48	11	2	0	0	0	0	0	101	45	48	
22:00	0	0	0	0	6	27	29	10	1	0	0	0	1	0	74	45	48	
23:00	0	0	0	0	4	15	17	5	2	0	0	0	0	0	43	45	49	
Total	63	0	5	38	151	1365	2152	665	126	9	2	0	1	0	4577			
Percent	1.4%	0.0%	0.1%	0.8%	3.3%	29.8%	47.0%	14.5%	2.8%	0.2%	0.0%	0.0%	0.0%	0.0%				
AM Peak	10:00		10:00		08:00		11:00		11:00		07:00		07:00		07:00		07:00	
Vol.	9		1		9		9		82		143		54		12		1	
PM Peak	15:00		14:00		14:00		17:00		16:00		16:00		15:00		14:00		22:00	
Vol.	7		3		7		27		132		215		58		16		1	
Grand Total	117	2	13	92	308	2801	4090	1299	207	16	2	0	1	0	8948			
Percent	1.3%	0.0%	0.1%	1.0%	3.4%	31.3%	45.7%	14.5%	2.3%	0.2%	0.0%	0.0%	0.0%	0.0%				

15th Percentile : 36 MPH
 50th Percentile : 41 MPH
 85th Percentile : 46 MPH
 95th Percentile : 49 MPH

Statistics
 10 MPH Pace Speed : 37-46 MPH
 Number in Pace : 6313
 Percent in Pace : 70.6%
 Number of Vehicles > 50 MPH : 353
 Percent of Vehicles > 50 MPH : 3.9%
 Mean Speed(Average) : 41 MPH

Appendix B
Accident Data

- *Accident Reports*
- *Crash Rate Worksheets*
 - *Collision Map*

Accident Data

MassDOT and Town of West Brookfield Police Accident Reports



MassDOT Crash Reports for West Brookfield between Pierce Road and Ware T.L.2007

Crash Number #REF!	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicle Action Prior to Crash	Vehicle Travel Directions	Most Harmful Events	Vehicle Configuration	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
2168174	WEST BROOKFIELD	12-Mar-2007	10:17 AM	Non-fatal injury	2	4	0	Angle	V1: Unknown / V2: Travelling straight ahead	V1: Eastbound / V2: Westbound	V1: Overturn/rollover / V2: Collision with tree	V1: Passenger car / V2: Not reported	Dry	Daylight	Clear		500 feet W from Intersection MAIN STREET Rte 9 W / SHORELINE DRIVE				
2217325	WEST BROOKFIELD	15-Aug-2007	8:26 AM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1: Travelling straight ahead	V1: Eastbound	V1: Collision with utility pole	V1: Not reported	Dry	Daylight	Clear	MILL ROAD / MAIN STREET / PIERCE ROAD					



MassDOT Crash Reports for West Brookfield between Pierce Road and Ware T.L. 2008

Crash Number #REF!	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicle Action Prior to Crash	Vehicle Travel Directions	Most Harmful Events	Vehicle Configuration	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
2345373	WEST BROOKFIELD	11-Jun-2008	9:45 PM	Non-fatal injury	1	1	0	Single vehicle crash	V1: Turning left	V1:Westbound	V1: Collision with guardrail V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic / V3: Collision with motor vehicle in traffic	V1: Passenger car	Dry	Dark - roadway not lighted	Clear		Rte 9 W / Rte 9			NEAR WARE LINE	
2366285	WEST BROOKFIELD	12-Jun-2008	3:40 PM	Non-fatal injury	3	5	0	Head-on	V1: Travelling straight ahead / V2:Travelling straight ahead / V3:Travelling straight ahead	V1:Westbound / V2:Eastbound / V3:Eastbound		V1: Passenger car / V2:Passenger car / V3:Passenger car	Dry	Daylight	Clear		315 MAIN STREET				

Accident Status Report

From: 01/01/2005 Thru: 01/01/2010

09/23/2010

Vehicle Owner> [REDACTED] Veh# 1
Operator> [REDACTED] Veh# 1

06-55-AC

Officer State Rpt/Acc. Date & Time Location / Street Names
WFL Yes 12/05/2006 1205 LONG HILL RD
Vehicle Owner> [REDACTED] Veh# 1
Operator> [REDACTED] Veh# 1
Passenger> [REDACTED] Veh# 1

07-2-AC

Officer State Rpt/Acc. Date & Time Location / Street Names
WFL Yes 12/30/2006 1347 W MAIN ST
Vehicle Owner> [REDACTED] Veh# 1
Operator> [REDACTED] Veh# 1

07-3-AC

Officer State Rpt/Acc. Date & Time Location / Street Names
HAP Yes 01/01/2007 0110 NEW BRAINTREE RD
Vehicle Owner> [REDACTED] Veh# 1 Injured
Operator> [REDACTED] Veh# 1 Injured
Witness> [REDACTED]

07-3-AC

Officer State Rpt/Acc. Date & Time Location / Street Names
BIL Yes 01/06/2007 1245 W MAIN ST @ SHORELINE DR
Vehicle Owner> [REDACTED] Veh# 1 Injured
Operator> [REDACTED] Veh# 1 Injured
Operator> [REDACTED] Veh# 2
Vehicle Owner> [REDACTED] Veh# 2

07-4-AC

Officer State Rpt/Acc. Date & Time Location / Street Names
BIL Yes 01/07/2007 0830 BOSTON POST RD @ W MAIN ST
Vehicle Owner> [REDACTED] Veh# 1
Operator> [REDACTED] Veh# 1
Passenger> [REDACTED] Veh# 1
Passenger> [REDACTED] Veh# 1
Passenger> [REDACTED] Veh# 1
Operator> [REDACTED] Veh# 2
Vehicle Owner> [REDACTED] Veh# 2

07-5-AC

Officer State Rpt/Acc. Date & Time Location / Street Names
HAP Yes 01/14/2007 1215 W MAIN ST @ BOSTON POST RD
Vehicle Owner> [REDACTED] Veh# 1
Operator> [REDACTED] Veh# 1
Operator> [REDACTED] Veh# 2
Vehicle Owner> [REDACTED] Veh# 2

07-6-AC

Officer State Rpt/Acc. Date & Time Location / Street Names
CHL Yes 01/15/2007 1530 CHURCH ST @ LAKE ST
Vehicle Owner> [REDACTED] Veh# 1 Injured
Operator> [REDACTED] Veh# 1 Injured
Vehicle Owner> [REDACTED] Veh# 2
Operator> [REDACTED] Veh# 2

07-7-AC

Officer State Rpt/Acc. Date & Time Location / Street Names
HAP Yes 01/22/2007 1753 FOSTER HILL RD
Vehicle Owner> [REDACTED] Veh# 1
Operator> [REDACTED] Veh# 1
Passenger> [REDACTED] Veh# 1

07-8-AC

Officer State Rpt/Acc. Date & Time Location / Street Names
BIL Yes 01/27/2007 1430 IN FRONT OF SACRED HEART / W MAIN ST @ MILK ST
Vehicle Owner> [REDACTED] Veh# 1
Operator> [REDACTED] Veh# 1

Accident Status Report

From: 01/01/2005 Thru: 01/01/2010

09/23/2010

Operator> LEAS JOSEPH

Veh# 2

07-26-AC

Officer BIL State Rpt/Acc. Date & Time Yes 07/01/2007 1115
Vehicle Owner>
Operator>
Operator>
Vehicle Owner>

Location / Street Names W MAIN ST @ SHORELINE DR
Veh# 1
Veh# 1
Veh# 2
Veh# 2

07-27-AC

Officer HAP State Rpt/Acc. Date & Time Yes 07/12/2007 2026
Operator>
Vehicle Owner>
Passenger>

Location / Street Names LONG HILL RD
Veh# 1 Injured
Veh# 1
Veh# 1 Injured

07-28-AC

Officer SPS State Rpt/Acc. Date & Time Yes 07/19/2007 2313
Vehicle Owner>
Operator>

Location / Street Names WICKABOAG VALLEY RD
Veh# 1 Injured
Veh# 1 Injured

07-29-AC

Officer BJA State Rpt/Acc. Date & Time Yes 07/22/2007 0010
Operator>
Vehicle Owner>

Location / Street Names W MAIN / W MAIN ST
Veh# 1
Veh# 1

07-30-AC

Officer HAP State Rpt/Acc. Date & Time Yes 07/22/2007 1517
Vehicle Owner>
Operator>
Operator>
Vehicle Owner>

Location / Street Names W MAIN ST @ BOSTON POST RD
Veh# 1
Veh# 1
Veh# 2
Veh# 2

07-31-AC

Officer CHL State Rpt/Acc. Date & Time Yes 07/23/2007 1025
Vehicle Owner>
Operator>
Vehicle Owner>
Operator>

Location / Street Names NEAR WALSH INSURANCE / CENTRAL ST
Veh# 1
Veh# 1
Veh# 2
Veh# 2

07-32-AC

Officer CHL State Rpt/Acc. Date & Time Yes 07/23/2007 1815
Vehicle Owner>
Operator>

Location / Street Names CHURCH ST
Veh# 1
Veh# 1

07-33-AC

Officer CHL State Rpt/Acc. Date & Time Yes 07/27/2007 1024
Vehicle Owner>
Operator>
Vehicle Owner>
Operator>

Location / Street Names DUNKIN DONUTS / W MAIN ST
Veh# 1
Veh# 1
Veh# 2 Injured
Veh# 2 Injured

07-34-AC

Officer WFL State Rpt/Acc. Date & Time No 08/15/2007 0826
Vehicle Owner>
Operator>

Location / Street Names MILL RD @ W MAIN ST
Veh# 1
Veh# 1

07-35-AC

Officer BIL State Rpt/Acc. Date & Time Yes 08/22/2007 1400
Vehicle Owner>
Operator>

Location / Street Names E MAIN ST @ RIDGE RD
Veh# 1
Veh# 1

Accident Status Report

From: 01/01/2005 Thru: 01/01/2010

09/23/2010

EFW Yes 09/04/2008 0530
Operator> [REDACTED]
Vehicle Owner> [REDACTED]

E MAIN ST
Veh# 1 Injured
Veh# 1

08-47-AC

Officer State Rpt/Acc. Date & Time
HAP Yes 09/05/2008 2125
Operator> [REDACTED]
Vehicle Owner> [REDACTED]
Passenger> [REDACTED]
Passenger> [REDACTED]
Passenger> [REDACTED]
Passenger> [REDACTED]

Location / Street Names
W MAIN ST @ PIERCE RD
Veh# 1
Veh# 1
Veh# 1
Veh# 1
Veh# 1
Veh# 1

08-49-AC

Officer State Rpt/Acc. Date & Time
WFL Yes 09/13/2008 1234
Operator> [REDACTED]
Vehicle Owner> [REDACTED]
Vehicle Owner> [REDACTED]
Operator> [REDACTED]
Witness> [REDACTED]
Witness> [REDACTED]

Location / Street Names
CENTRAL ST
Veh# 1
Veh# 1
Veh# 2
Veh# 2

08-50-AC

Officer State Rpt/Acc. Date & Time
EFW Yes 09/14/2008 0244
Operator> [REDACTED]
Vehicle Owner> [REDACTED]

Location / Street Names
W MAIN ST
Veh# 1
Veh# 1

08-51-AC

Officer State Rpt/Acc. Date & Time
SPS Yes 10/01/2008 1759
Vehicle Owner> [REDACTED]
Operator> [REDACTED]
Operator> [REDACTED]
Vehicle Owner> [REDACTED]
Passenger> [REDACTED]
Passenger> [REDACTED]

Location / Street Names
LONG HILL RD @ RICHARDSON RD
Veh# 1
Veh# 1
Veh# 2
Veh# 2
Veh# 2
Veh# 2

08-52-AC

Officer State Rpt/Acc. Date & Time
HAP No 10/06/2008 1505
Vehicle Owner> [REDACTED]
Vehicle Owner> [REDACTED]
Operator> [REDACTED]
Operator> [REDACTED]

Location / Street Names
COUNCIL GROVE AVE
Veh# 1
Veh# 2
Veh# 2
Veh# 1

08-53-AC

Officer State Rpt/Acc. Date & Time
WFL No 10/18/2008 0902
Operator> [REDACTED]
Vehicle Owner> [REDACTED]
Witness> [REDACTED]
Witness> [REDACTED]

Location / Street Names
DUNKIN DONUTS / W MAIN ST
Veh# 1
Veh# 1

08-54-AC

Officer State Rpt/Acc. Date & Time
HAP No 10/22/2008 1310
Vehicle Owner> [REDACTED]
Operator> [REDACTED]
Vehicle Owner> [REDACTED]
Operator> [REDACTED]

Location / Street Names
N MAIN ST
Veh# 1
Veh# 1
Veh# 2
Veh# 2

08-55-AC

Officer State Rpt/Acc. Date & Time
HAP No 10/24/2008 0100
Vehicle Owner> [REDACTED]
Operator> [REDACTED]

Location / Street Names
LONG HILL RD
Veh# 1
Veh# 1

Accident Status Report

From: 01/01/2005 Thru: 01/01/2010

09/23/2010

Case ID	Officer	State Rpt/Acc. Date & Time	Location / Street Names
08-56-AC	EJI	No 10/26/2008 0050	COTTAGE ST
	Vehicle Owner>	[REDACTED]	Veh# 1
	Operator>	[REDACTED]	Veh# 1
	Operator>	[REDACTED]	Veh# 2
	Vehicle Owner>	[REDACTED]	Veh# 2
08-57-AC	WFL	Yes 11/07/2008 0839	W MAIN ST @ SHORELINE DR
	Vehicle Owner>	[REDACTED]	Veh# 1
	Operator>	[REDACTED]	Veh# 1
	Witness>	[REDACTED]	
08-58-AC	HAP	Yes 11/09/2008 1237	WICKABOAG VALLEY RD / WICKABOAG VALLEY RD
	Vehicle Owner>	[REDACTED]	Veh# 1
	Operator>	[REDACTED]	Veh# 1
	Vehicle Owner>	[REDACTED]	Veh# 2
	Operator>	[REDACTED]	Veh# 2
	Witness>	[REDACTED]	
08-59-AC	EFW	Yes 11/14/2008 0616	PIERCE RD
	Vehicle Owner>	[REDACTED]	Veh# 1
	Operator>	[REDACTED]	Veh# 1
08-60-AC	WFL	Yes 11/27/2008 2044	RAGGED HILL RD @ PIERCE RD
	Vehicle Owner>	[REDACTED]	Veh# 1
	Operator>	[REDACTED]	Veh# 1
	Passenger>	[REDACTED]	Veh# 1
08-62-AC	HAP	Yes 11/28/2008 0100	HIGH ST
	Vehicle Owner>	[REDACTED]	Veh# 1
	Operator>	[REDACTED]	Veh# 1
08-61-AC	KLH	Yes 11/29/2008 1222	E MAIN ST
	Vehicle Owner>	[REDACTED]	Veh# 1
	Operator>	[REDACTED]	Veh# 1
	Vehicle Owner>	[REDACTED]	Veh# 2 Injured
	Operator>	[REDACTED]	Veh# 2 Injured
08-63-AC	SPS	Yes 12/12/2008 1817	WOK INN / W MAIN ST
	Vehicle Owner>	[REDACTED]	Veh# 1 Injured
	Operator>	[REDACTED]	Veh# 1 Injured
	Vehicle Owner>	[REDACTED]	Veh# 2
	Operator>	[REDACTED]	Veh# 2
	Passenger>	[REDACTED]	Veh# 2
	Passenger>	[REDACTED]	Veh# 2
	Witness>	[REDACTED]	
	Witness>	[REDACTED]	
08-64-AC	EFW	Yes 12/13/2008 0100	LONG HILL RD
	Vehicle Owner>	[REDACTED]	Veh# 1 Injured
	Operator>	[REDACTED]	Veh# 1 Injured
	Witness>	[REDACTED]	
	Witness>	[REDACTED]	

Commonwealth of Massachusetts

Date of Crash 01/12/2010 Time of Crash 2130 24HR City/Town West Brookfield

Motor Vehicle Crash Police Report

Number Vehicles 1 Number Injured 0 Speed Limit 40 State Police Local Police MBTA Police Other

AT INTERSECTION:

LOCATION

NOT AT INTERSECTION:

Route# Direction Name of Roadway/Street At Route# Direction Name of Intersecting Roadway/Street Also at Intersection with

Route# Direction Address # Name of Roadway/Street 315 W MAIN ST Feet NSEW of Mile Marker Exit Number

Please Select One of the Following: [X] Vehicle 1 #Occupants [] Hit/Run [] Moped

10-4-AC

License # Sex Lic. Class 18 18 M Lic. Restrictions 19 CDL Endorsement Operator Address City State Zip Insurance Company

Reg # Reg Type Reg State Veh Year Veh Make Veh Config 1 20 Owner Address City State Zip Vehicle Action Prior to Crash 1 21 Damaged Area Code: (Circle Up to Three)

Table with 13 columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility

Please Select One of the Following: [] Vehicle 2 #Occupants [] Non-Motorist A Type 14 Action 15 Location 16 Condition 17 [] Hit/Run [] Moped

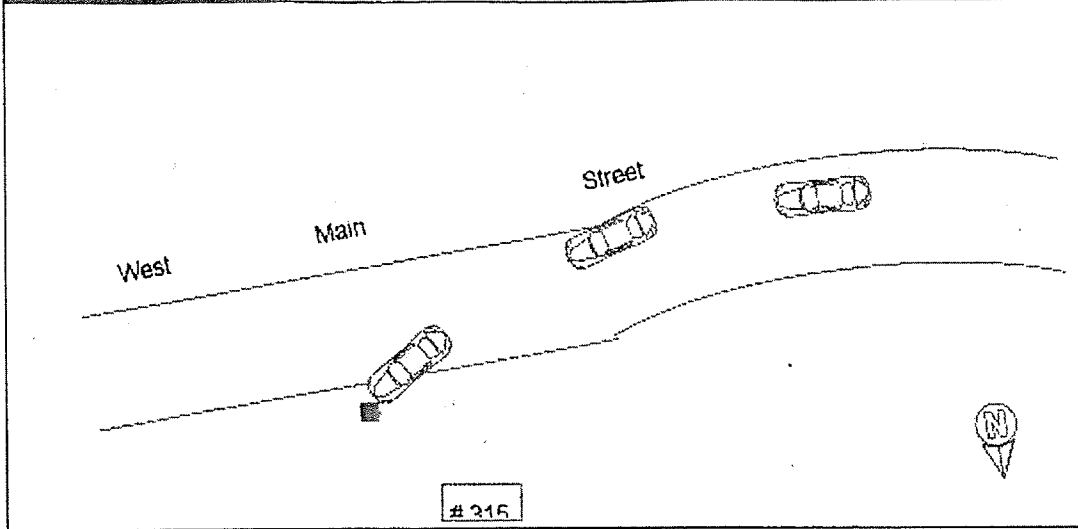
License # Sex Lic. Class 18 18 M Lic. Restrictions 19 CDL Endorsement Operator Address City State Zip Insurance Company

Reg # Reg Type Reg State Veh Year Veh Make Veh Config 20 Owner Address City State Zip Vehicle Action Prior to Crash 21 Damaged Area Code: (Circle Up to Three)

Table with 13 columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility

→ = Direction 1 = Vehicle 1 2 = Vehicle 2 O X O X = Pedestrian

Crash Diagram:



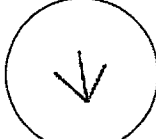
If Crash Did Not Occur on a Public Way:

Off-Street Parking Lot

Garage

Mall/Shopping Center

Other Private Way


 North

Crash Narrative:

Vehicle 1, a [redacted] bearing Massachusetts registration [redacted] was operated by [redacted]. According to Rene, his vehicle began sliding when it hit sand at the edge of the roadway. Rene stated he lost control of the vehicle and hit a large rock on the side of the roadway and then an embankment of snow.

Witnesses:

Name (Last,First,Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last,First,Middle)	Address	Phone #	34-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Carrier Issuing Authority Code

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ ICC #: _____ Interstate

Cargo Body Type Code Gross Vehicle Weight

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length

Hazmat Information:

Placard Material 1 digit # Material Name _____ Material 4 digit # _____ Release code

Police Officer Name (Please Print) _____ Signature _____ ID/Badge # _____ Department _____ Precinct/Barracks _____ Date 01/13/2010

Commonwealth of Massachusetts

Date of Crash 03/11/2013 Time of Crash 1605 24HR City/Town West Brookfield

Motor Vehicle Crash Police Report

Number Vehicles 3 Number Injured 3 Speed Limit 40 State Police Local Police MBTA Police Other

AT INTERSECTION:

LOCATION

NOT AT INTERSECTION:

W MAIN ST

Route# Direction Name of Roadway/Street

Route# Direction Address # Name of Roadway/Street

PIERCE RD

Route# Direction Name of Intersecting Roadway/Street

Feet NSEW of Mile Marker Exit Number

Route# Direction Name of Intersecting Roadway/Street

Feet NSEW of Route# Intersecting Roadway/Street

Landmark

Please Select One of the Following: Vehicle 1 Occupants Hit/Run Moped

13-11-AC

License # Sex Lic. Class Lic. Restrictions CDL Endorsement

Reg # Reg Type Reg State Veh Year Veh Make Veh Config

Operator Last First Middle Address

Owner Last First Middle Address

City State Zip

City State Zip

Insurance Company Vehicle Travel Direction: NSXW Responding to Emergency? 2

Vehicle Action Prior to Crash 2 Event Sequence 1 22 22 22 22

Citation # (If Issued)

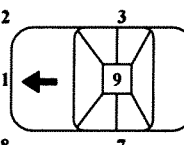
Most Harmful Event 1 23

Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub

Driver Contributing Code 1 24 24

Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Underride/Override 99 25 Towed 2



- 0 None
10 Undercarriage
11 Totaled
97 Other
99 Unknown

Please fill out for operator and all occupants involved

Table with columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility

Please Select One of the Following: Vehicle 2 Occupants Non-Motorist A Type Action Location Condition Hit/Run Moped

License # Sex Lic. Class Lic. Restrictions CDL Endorsement

Reg # Reg Type Reg State Veh Year Veh Make Veh Config

Operator Last First Middle Address

Owner Last First Middle Address

City State Zip

City State Zip

Insurance Company Vehicle Travel Direction: NSXW Responding to Emergency? 2

Vehicle Action Prior to Crash 1 Event Sequence 1 22 22 22 22

Citation # (If Issued)

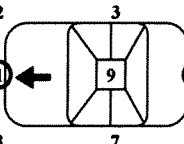
Most Harmful Event 1 23

Viol. 1: Ch/Sec/Sub 720CMR9 /B Viol. 2: Ch/Sec/Sub

Driver Contributing Code 5 24 24

Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Underride/Override 99 25 Towed 2



- 0 None
10 Undercarriage
11 Totaled
97 Other
99 Unknown

Please fill out for operator/non-motorist and all occupants involved

Table with columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility

Commonwealth of Massachusetts

Date of Crash 03/11/2013

Time of Crash 1605 24HR

City/Town West Brookfield

Motor Vehicle Crash Police Report

Number Vehicles 3

Number Injured 3

Speed Limit 40 Lat. Lon.

State Police Local Police MBTA Police Other.

AT INTERSECTION:

LOCATION

NOT AT INTERSECTION:

W MAIN ST

Route# Direction Name of Roadway/Street

At

PIERCE RD

Route# Direction Name of Intersecting Roadway/Street

Also at Intersection with

Route# Direction Name of Intersecting Roadway/Street

Route# Direction Address # Name of Roadway/Street

Feet N S E W of Mile Marker Exit Number

Feet N S E W of Route# Intersecting Roadway/Street

Feet N S E W of Landmark

Please Select One of the Following: Vehicle 31 #Occupants Hit/Run Moped

13-11-AC

License # 21 St DOB/Age Sex Lic. Class Lic. Restrictions CDL Endorsement

Reg # 3 Reg Type Reg State Veh Year Veh Make Veh Config 20

Operator Last First Middle

Owner Last First Middle

Address RD

Address

City N State Zip 0

City State Zip

Insurance Company

Vehicle Action Prior to Crash 1 21 Damaged Area Code: (Circle Up to Three)

Vehicle Travel Direction: N S X W Responding to Emergency? 2

Event Sequence 1 22 22 22 22 Most Harmful Event 1 23

Citation # (If Issued)

Driver Contributing Code 1 24 24 Underride/Override 99 25 Towed 1

Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub

Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Please fill out for operator and all occupants involved

Table with columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility. Row 1: Operator, See Above, 1, 4, 99, 0, 0, 5, 1.

Please Select One of the Following: Vehicle 4 #Occupants Non-Motorist A Type 14 Action 15 Location 16 Condition 17 Hit/Run Moped

License # St DOB/Age Sex Lic. Class Lic. Restrictions CDL Endorsement

Reg # Reg Type Reg State Veh Year Veh Make Veh Config 20

Operator Last First Middle

Owner Last First Middle

Address

Address

City State Zip

City State Zip

Insurance Company

Vehicle Action Prior to Crash 21 Damaged Area Code: (Circle Up to Three)

Vehicle Travel Direction: N S E W Responding to Emergency?

Event Sequence 22 22 22 22 Most Harmful Event 23

Citation # (If Issued)

Driver Contributing Code 24 24 Underride/Override 25 Towed

Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub

Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

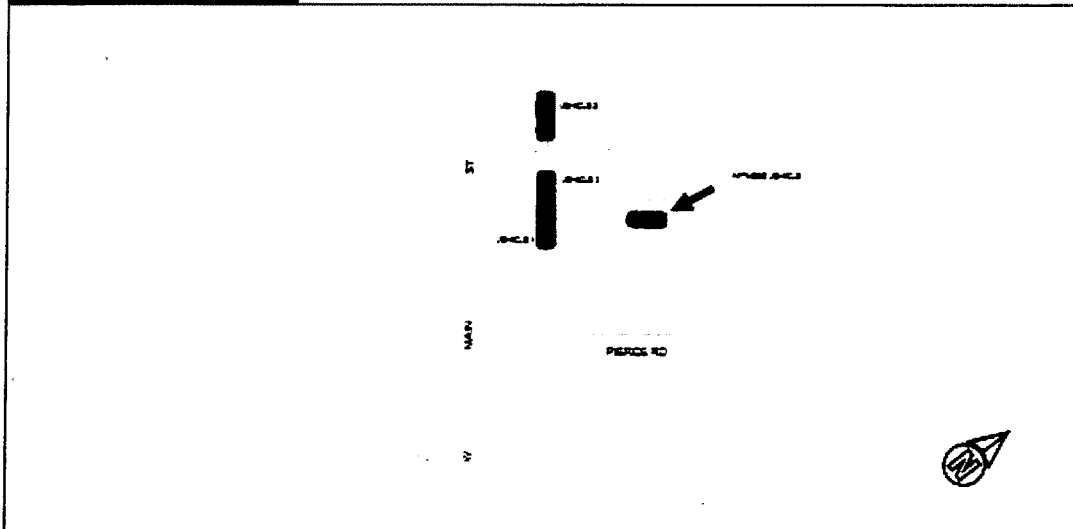
Please fill out for operator/non-motorist and all occupants involved

Table with columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility. Row 1: Operator/Non-Motorist, See Above.

→ = Direction 1 = Vehicle 1 2 = Vehicle 2 ○X○X = Pedestrian

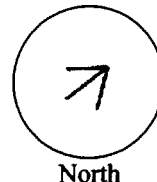
Crash Diagram:

ie: → 1 → 2 → ○X○X



If Crash Did Not Occur on a Public Way:

- Off-Street Parking Lot
- Garage
- Mall/Shopping Center
- Other Private Way



Crash Narrative:

Vehicle 1, [redacted], operated by [redacted] was stopped in attempt to make a left handed turn from West Main Street onto Pierce Road. Vehicle 2, a [redacted] 2 [redacted], operated by [redacted] 1, struck vehicle 1 from behind. Vehicle 3, a [redacted] bearing Massachusetts R [redacted] d, operated by [redacted], struck vehicle 2 after vehicle 1 was struck.

Witnesses:

Name (Last,First,Middle)	Address	Phone #	Statement
[redacted] E	[redacted] 037		

Property Damage:

Owner (Last,First,Middle)	Address	Phone #	34-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Carrier Issuing Authority Code

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ ICC #: _____ Interstate

Cargo Body Type Code Gross Vehicle Weight

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length

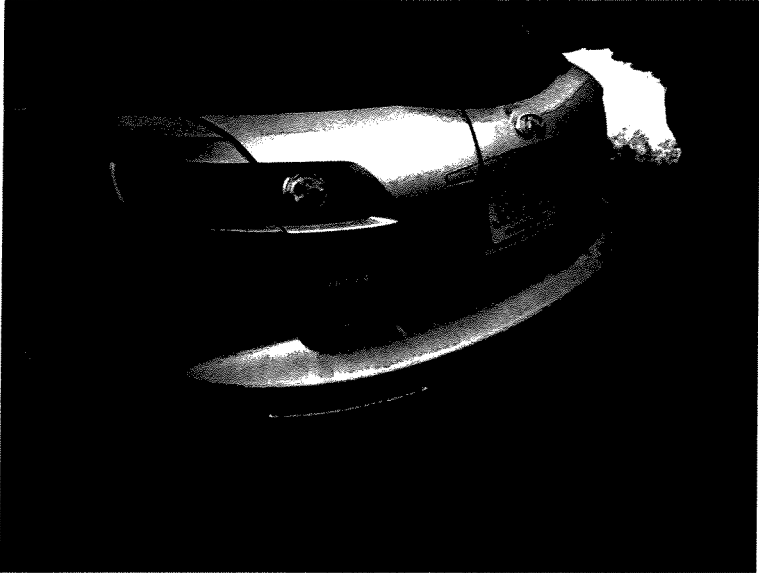
Hazmat Information:

Placard Material 1 digit # Material Name _____ Material 4 digit # _____ Release code

[redacted] Police **[redacted] ent** **[redacted]**

Police Officer Name (Please Print) Signature ID/Badge # Department Precinct/Barracks Date

West Brookfield Police Department
Images Associated with 13-11-AC



Commonwealth of Massachusetts

Date of Crash 04/30/2013 Time of Crash 1500 City/Town West Brookfield

Motor Vehicle Crash Police Report

Number Vehicles 2 Number Injured 0 Speed Limit 40 State Police Local Police MBTA Police Other

AT INTERSECTION:

LOCATION

NOT AT INTERSECTION:

1

9 E W MAIN ST Route# Direction Name of Roadway/Street At COY HILL RD

Route# Direction Address # Name of Roadway/Street Mile Marker Exit Number

2

Route# Direction Name of Intersecting Roadway/Street Also at Intersection with

Feet N S E W of Route# Intersecting Roadway/Street

3

Please Select One of the Following: Vehicle 1 Occupants Hit/Run Moped

13-16-AC

4

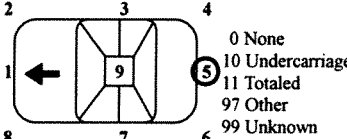
License # 0 St DOB/Age Operator K Last First Middle Address City State Zip Insurance Company SAFETY INSURANCE

Reg # Reg Type Reg State Veh Year Veh Make Veh Config 1 Owner Last First Middle Address City State Zip

5

Vehicle Travel Direction: N S X W Responding to Emergency? 2 Citation # (If Issued) Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Vehicle Action Prior to Crash 1 21 Event Sequence 1 22 22 22 22 Most Harmful Event 1 23 Driver Contributing Code 1 24 24 Underride/Override 1 25 Towed 2



6

Please fill out for operator and all occupants involved

DOB/Age Sex Seat Pos Safety System Airbag Status Airbag Switch Eject Code Trap Code Injury Status Transp Code Medical Facility

Table with 13 columns for operator and occupants: Name, Address, DOB/Age, Sex, Seat Pos, Safety System, Airbag Status, Airbag Switch, Eject Code, Trap Code, Injury Status, Transp Code, Medical Facility.

7

Please Select One of the Following: Vehicle 2 Occupants Non-Motorist A Type 14 Action 15 Location 16 Condition 17 Hit/Run Moped

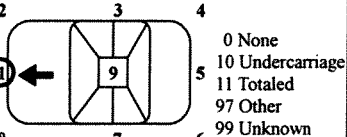
8

License # 6 St DOB/Age Operator F Last First Middle Address City State Zip Insurance Company LIBERTY MUTUAL INS

Reg # Reg Type Reg State Veh Year Veh Make Veh Config 1 Owner Last First Middle Address City State Zip

Vehicle Travel Direction: N S X W Responding to Emergency? 2 Citation # (If Issued) Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Vehicle Action Prior to Crash 1 21 Event Sequence 1 22 22 22 22 Most Harmful Event 1 23 Driver Contributing Code 1 24 24 Underride/Override 1 25 Towed 2



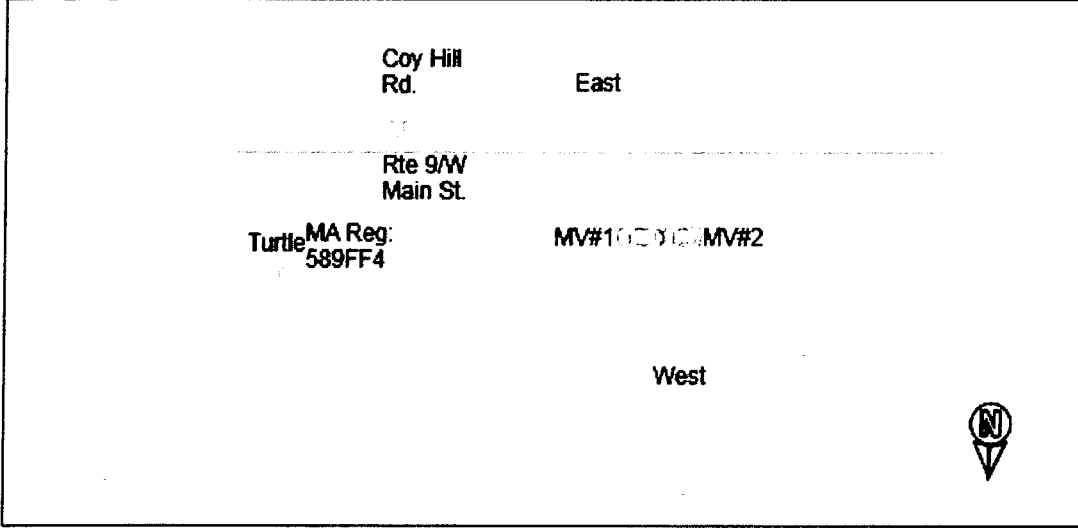
Please fill out for operator/non-motorist and all occupants involved

DOB/Age Sex Seat Pos Safety System Airbag Status Airbag Switch Eject Code Trap Code Injury Status Transp Code Medical Facility

Table with 13 columns for operator and occupants: Name, Address, DOB/Age, Sex, Seat Pos, Safety System, Airbag Status, Airbag Switch, Eject Code, Trap Code, Injury Status, Transp Code, Medical Facility.

→ Direction 1 = Vehicle 1 2 = Vehicle 2 ○ = Pedestrian
 ie: → 1 → 2 → ○

Crash Diagram:



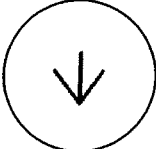
If Crash Did Not Occur on a Public Way:

Off-Street Parking Lot

Garage

Mall/Shopping Center

Other Private Way


 North

Crash Narrative:

Operator of MV#1 stopped due to a motorist operating [redacted] stopping for Turtle crossing roadway. Operator of MV#2 could not stop his MV in time and rear ended MV#1.

Witnesses:

Name (Last,First,Middle)	Address	Phone #	Statement
W [redacted] OK	[redacted] 5	[redacted] 6	
F [redacted]	[redacted] 35	[redacted]	

Property Damage:

Owner (Last,First,Middle)	Address	Phone #	34-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Carrier Issuing Authority Code

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ ICC #: _____ Interstate

Cargo Body Type Code Gross Vehicle Weight

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length

Hazmat Information:

Placard Material 1 digit # Material Name _____ Material 4 digit # _____ Release code

Police Officer Name (Please Print) _____ Signature _____ ID/Badge # _____ Department _____ Precinct/Barracks _____ Date _____

Commonwealth of Massachusetts

Date of Crash 06/30/2013 Time of Crash 1230 24HR City/Town West Brookfield Motor Vehicle Crash Police Report Number Vehicles 1 Number Injured 1 Speed Limit 40 State Police Local Police MBTA Police Other

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

1 Route# Direction Name of Roadway/Street At Route# Direction Name of Intersecting Roadway/Street Also at Intersection with 2 1 Route# Direction Name of Intersecting Roadway/Street

9 E W MAIN ST Route# Direction Address # Name of Roadway/Street Feet NSEW of Mile Marker Exit Number 50 Feet NSEW of PIERCE RD Route# Intersecting Roadway/Street Feet NSEW of Landmark

3 Please Select One of the Following: [X] Vehicle 1 Occupants [] Hit/Run [] Moped

13-21-AC

4 1 License # 4 St DOB/Age 1 Sex Lic. Class 18 18 Lic. Restrictions 19 CDL Endorsement Operator Last First Middle Address City State Zip Insurance Company COMMERCE INSURANCE Vehicle Travel Direction: NSEW Responding to Emergency? 2 Citation # (If Issued) Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Reg # 2 Reg Type Reg State Veh Year Veh Make Veh Config. 20 Owner Last First Middle Address City State Zip Vehicle Action Prior to Crash 1 21 Event Sequence 51 22 22 22 22 2 D Damaged Area Code: (Circle Up to Three) 1 2 3 4 5 6 7 8 9 10 Undercarriage 11 Totaled 97 Other 99 Unknown Most Harmful Event 97 23 Driver Contributing Code 99 24 24 Underride/Override 25 Towed 1

Table with 13 columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility. Row 1: Operator, See Above, ---, ---, ---, 5, 5, 3, 3, 0, 3, 1, ---

7 1 Please Select One of the Following: [] Vehicle 2 Occupants [] Non-Motorist A Type 14 Action 15 Location 16 Condition 17 [] Hit/Run [] Moped

8 1 License # St DOB/Age Sex Lic. Class 18 18 Lic. Restrictions 19 CDL Endorsement Operator Last First Middle Address City State Zip Insurance Company Vehicle Travel Direction: NSEW Responding to Emergency? Citation # (If Issued) Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

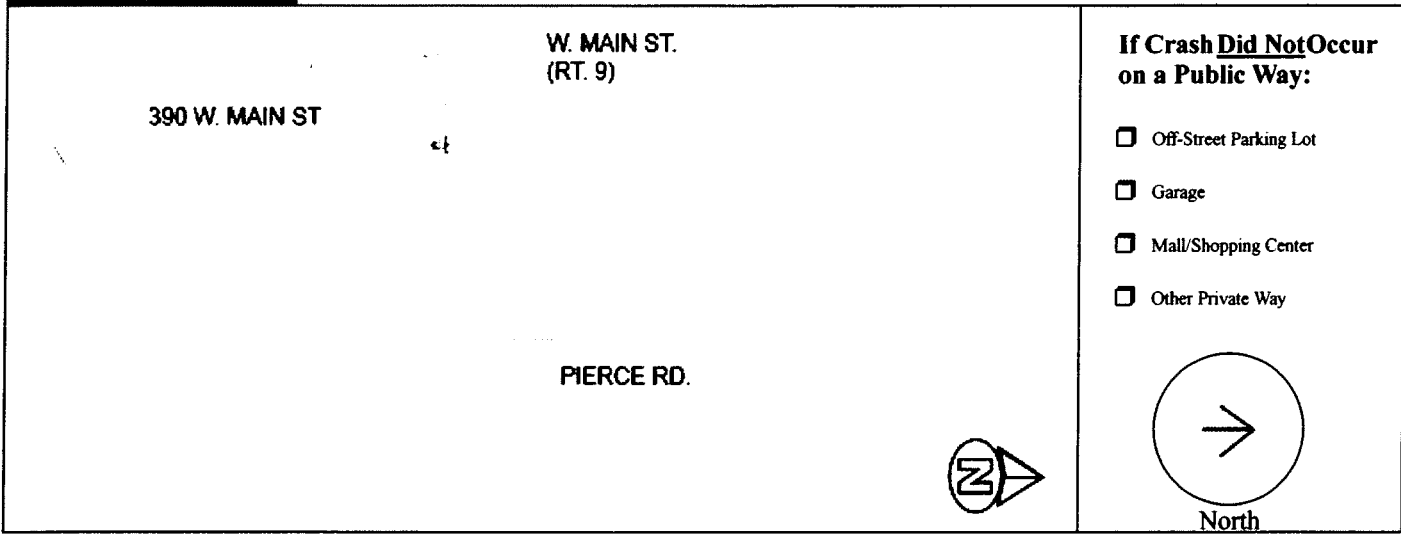
Reg # Reg Type Reg State Veh Year Veh Make Veh Config. 20 Owner Last First Middle Address City State Zip Vehicle Action Prior to Crash 21 Event Sequence 22 22 22 22 2 D Damaged Area Code: (Circle Up to Three) 1 2 3 4 5 6 7 8 9 10 Undercarriage 11 Totaled 97 Other 99 Unknown Most Harmful Event 23 Driver Contributing Code 24 24 Underride/Override 25 Towed

Table with 13 columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility. Row 1: Operator/Non-Motorist, See Above, ---, ---, ---, ---, ---, ---, ---, ---, ---, ---, ---

→ = Direction 1 = Vehicle 1 2 = Vehicle 2 ○ = Pedestrian

Crash Diagram:

ie: → 1 → 2 → ○



If Crash Did Not Occur on a Public Way:

- Off-Street Parking Lot
- Garage
- Mall/Shopping Center
- Other Private Way

Crash Narrative:

Vehicle one was operating e/b on Route 9 (W. Main ST) when op attempted to break for vehicles ahead. Stated that his rear end began to sway and the m/c began to slide along roadway on its side, coming to rest ifo 390 W. Main st. Officer observed approximately 60' of scrape marks.

Witnesses:

Name (Last,First,Middle)	Address	Phone #	Statement
[REDACTED]	[REDACTED]	[REDACTED]	

Property Damage:

Owner (Last,First,Middle)	Address	Phone #	34-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Carrier Issuing Authority Code

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ ICC #: _____ Interstate

Cargo Body Type Code Gross Vehicle Weight

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length

Hazmat Information:

Placard Material 1 digit # Material Name _____ Material 4 digit # _____ Release code

Police Officer Name (Please Print) _____ Signature _____ ID/Badge # _____ Department _____ Precinct/Barracks _____ Date _____

Commonwealth of Massachusetts

Date of Crash 12/26/2013 Time of Crash 0929 City/Town West Brookfield

Motor Vehicle Crash Police Report

Number Vehicles 1 Number Injured 1 Speed Limit 40 State Police Local Police MBTA Police Other:

AT INTERSECTION:

LOCATION

NOT AT INTERSECTION:

1 Route# Direction Name of Roadway/Street At Route# Direction Name of Intersecting Roadway/Street Also at Intersection with 2 4 Route# Direction Name of Intersecting Roadway/Street

9 W W MAIN ST Route# Direction Address # Name of Roadway/Street Feet N S E W of Mile Marker Exit Number Feet N S E W of Route# Intersecting Roadway/Street Feet N S E W of Landmark

Please Select One of the Following: Vehicle 1 #Occupants Hit/Run Moped

13-35-AC

License # Sex Lic. Class 18 18 Lic. Restrictions 19 CDL Endorsement Operator Address City State Zip Insurance Company Vehicle Travel Direction: N S E X Responding to Emergency? 2 Citation # (If Issued) Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Reg # Reg Type Reg State Veh Year Veh Make Veh Config. 1 20 Owner Address City State Zip Vehicle Action Prior to Crash 1 21 Event Sequence 26 22 22 22 22 2 Most Harmful Event 26 23 Driver Contributing Code 1 24 24 Underide/Override 1 25 Towed 1 Damaged Area Code: (Circle Up to Three) 0 None 10 Undercarriage 11 Totaled 97 Other 99 Unknown

Table with 13 columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility. Row 1: Operator, See Above, Mary Lane Hospital.

Please Select One of the Following: Vehicle 2 #Occupants Non-Motorist A Type 14 Action 15 Location 16 Condition 17 Hit/Run Moped

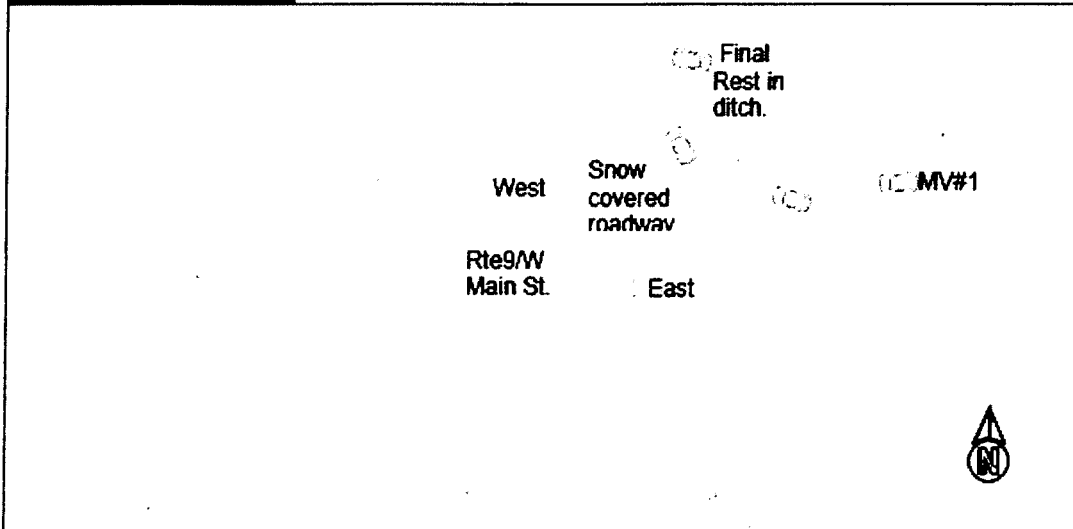
8 1 License # Sex Lic. Class 18 18 Lic. Restrictions 19 CDL Endorsement Operator Address City State Zip Insurance Company Vehicle Travel Direction: N S E W Responding to Emergency? Citation # (If Issued) Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Reg # Reg Type Reg State Veh Year Veh Make Veh Config. 20 Owner Address City State Zip Vehicle Action Prior to Crash 21 Event Sequence 22 22 22 22 2 Most Harmful Event 23 Driver Contributing Code 24 24 Underide/Override 25 Towed Damaged Area Code: (Circle Up to Three) 0 None 10 Undercarriage 11 Totaled 97 Other 99 Unknown

Table with 13 columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility. Row 1: Operator/Non-Motorist, See Above.

→ = Direction 1 = Vehicle 1 2 = Vehicle 2 X = Pedestrian
 ie: → 1 → 2 → X

Crash Diagram:



If Crash Did Not Occur on a Public Way:

Off-Street Parking Lot

Garage

Mall/Shopping Center

Other Private Way

North

Crash Narrative:

Operator of MV#1 stated she was traveling westbound on Rte 9/W Main St. towards Ware when her MV spun out of control due to the slippery road conditions.

Witnesses:

Name (Last,First,Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last,First,Middle)	Address	Phone #	34-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Carrier Issuing Authority Code

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ ICC #: _____ Interstate

Cargo Body Type Code Gross Vehicle Weight

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length

Hazmat Information:

Placard Material 1 digit # Material Name _____ Material 4 digit # _____ Release code

Police Officer Name (Please Print) _____ Signature _____ ID/Badge # _____ Department _____ Precinct/Barracks _____ Date _____

Commonwealth of Massachusetts

Date of Crash 01/12/2014 Time of Crash 1100 24HR City/Town West Brookfield

Motor Vehicle Crash Police Report

Number Vehicles 1 Number Injured 0 Speed Limit 40 State Police Local Police MBTA Police Other:

AT INTERSECTION:

LOCATION

NOT AT INTERSECTION:

W MAIN ST

Route# Direction Name of Roadway/Street
At
Route# Direction Name of Intersecting Roadway/Street
Also at Intersection with
Route# Direction Name of Intersecting Roadway/Street

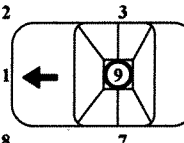
Route# Direction Address # Name of Roadway/Street
Feet N S E W of Mile Marker Exit Number
100 Feet N X E W of COY HILL RD
Route# Intersecting Roadway/Street
Feet N S E W of
Landmark

Please Select One of the Following: Vehicle 1 #Occupants Hit/Run Moped

14-2-AC

License # St DOB/Age
Sex Lic. Class 18 18 Lic. Restrictions 19 CDL Endorsement
Operator Last First Middle
Address
City State Zip
Insurance Company PLYMOUTH ROCK
Vehicle Travel Direction: N X E W Responding to Emergency? 2
Citation # (If Issued)
Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub
Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Reg # Reg Type Reg State
Veh Year Veh Make Veh Config. 1 20
Owner Last First Middle
Address
City State Zip
Vehicle Action Prior to Crash 1 21
Event Sequence 97 22 22 22 22
Most Harmful Event 97 23
Driver Contributing Code 1 24 24
Underride/Override 99 25 Towed 2
Damaged Area Code: (Circle Up to Three)
0 None
10 Undercarriage
11 Toted
97 Other
99 Unknown



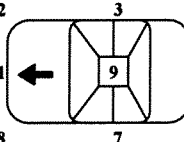
Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	26 Seat Pos	27 Safety System	28 Airbag Status	29 Airbag Switch	30 Eject Code	31 Trap Code	32 Injury Status	33 Transp Code	Medical Facility
Operator	See Above	-----	---	---	1	5	99	0	0	5	1	

Please Select One of the Following: Vehicle 2 #Occupants Non-Motorist A Type 14 Action 15 Location 16 Condition 17 Hit/Run Moped

License # St DOB/Age
Sex Lic. Class 18 18 Lic. Restrictions 19 CDL Endorsement
Operator Last First Middle
Address
City State Zip
Insurance Company
Vehicle Travel Direction: N S E W Responding to Emergency?
Citation # (If Issued)
Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub
Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Reg # Reg Type Reg State
Veh Year Veh Make Veh Config. 20
Owner Last First Middle
Address
City State Zip
Vehicle Action Prior to Crash 21
Event Sequence 22 22 22 22
Most Harmful Event 23
Driver Contributing Code 24 24
Underride/Override 25 Towed
Damaged Area Code: (Circle Up to Three)
0 None
10 Undercarriage
11 Toted
97 Other
99 Unknown

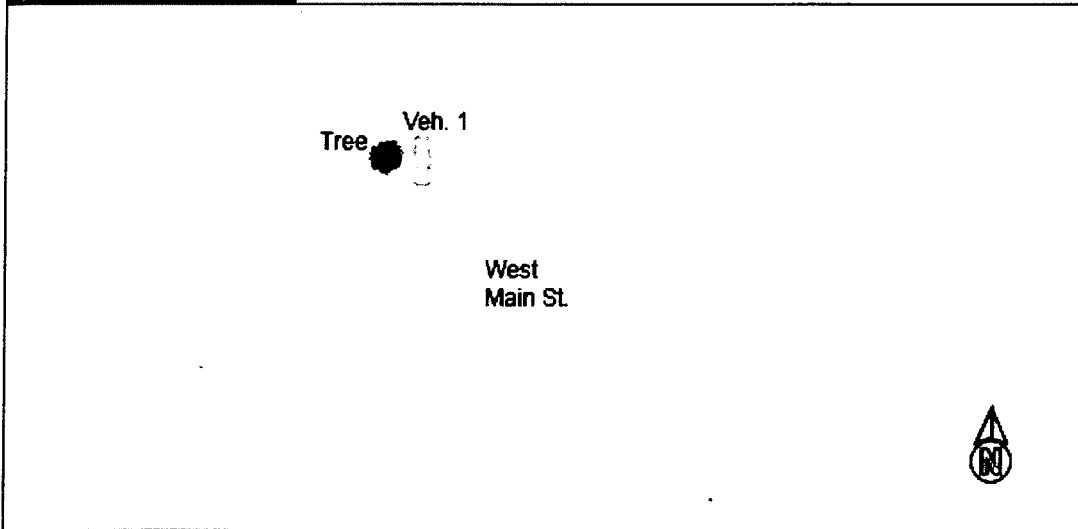


Please fill out for operator/non-motorist and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	26 Seat Pos	27 Safety System	28 Airbag Status	29 Airbag Switch	30 Eject Code	31 Trap Code	32 Injury Status	33 Transp Code	Medical Facility
Operator/Non-Motorist	See Above	-----	---	---								

→ = Direction 1 = Vehicle 1 2 = Vehicle 2 ○ = Pedestrian
 ie: → 1 → 2 → ○

Crash Diagram:



If Crash Did Not Occur on a Public Way:

Off-Street Parking Lot

Garage

Mall/Shopping Center

Other Private Way

North

Crash Narrative:

Vehicle 1 was traveling on West Main Street when, due to the windy weather conditions, a branch from one of the trees along the roadway dropped a large branch onto the operators truck causing extensive damage to the bed and cab of the truck.

Witnesses:

Name (Last,First,Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last,First,Middle)	Address	Phone #	34-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Carrier Issuing Authority Code

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ ICC #: _____ Interstate

Cargo Body Type Code Gross Vehicle Weight

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length

Hazmat Information:

Placard Material 1 digit # Material Name _____ Material 4 digit # _____ Release code

Police Officer Name (Please Print) _____ Signature _____ ID/Badge # _____ Department _____ Precinct/Barracks _____ Date _____

Commonwealth of Massachusetts

Motor Vehicle Crash Police Report

Date of Crash: 02/14/2014
Time of Crash: 1128
City/Town: West Brookfield

Number Vehicles: 2
Number Injured: 3
Speed Limit: 40
State Police:
Local Police:
MBTA Police:
Other:

AT INTERSECTION:

LOCATION

NOT AT INTERSECTION:

1
Route# Direction Name of Roadway/Street
At
Route# Direction Name of Intersecting Roadway/Street
Also at Intersection with
2
Route# Direction Name of Intersecting Roadway/Street

9 W W MAIN ST
Route# Direction Address # Name of Roadway/Street
0 Feet N S E W of 7 1 . 5 or Exit Number
Mile Marker
Route# Intersecting Roadway/Street
Feet N S E W of
Landmark

3 Please Select One of the Following: Vehicle 1 #Occupants Hit/Run Moped

14-11-AC

4
1 License # [redacted] Sex [redacted] Lic. Class D 18 18 Lic. Restrictions 2 19 CDL [redacted] Endorsement
Operator [redacted] Address [redacted] City [redacted] State [redacted] Zip [redacted]
Insurance Company PLYMOUTH ROCK ASSURANCE
5 Vehicle Travel Direction: N S E W Responding to Emergency? 2
Citation # (If Issued) [redacted]
6
7 Viol. 1: Ch/Sec/Sub 90 /17 Viol. 2: Ch/Sec/Sub / /
Viol. 3: Ch/Sec/Sub / / Viol. 4: Ch/Sec/Sub / /

Reg # [redacted] Reg Type [redacted] Reg State [redacted]
Veh Year [redacted] Veh Make [redacted] Veh Config. 1 20
Owner [redacted] Address [redacted] City [redacted] State [redacted] Zip [redacted]
Vehicle Action Prior to Crash 1 21
Event Sequence 1 22 22 22 22
Most Harmful Event 1 23
Driver Contributing Code 7 24 24
Underride/Override 99 25 Towed 1
Damaged Area Code: (Circle Up to Three)
0 None
10 Undercarriage
11 Totaled
97 Other
99 Unknown

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	26 Seat Pos	27 Safety System	28 Airbag Status	29 Airbag Switch	30 Eject Code	31 Trap Code	32 Injury Status	33 Transp Code	Medical Facility
Operator	See Above	-----	---	---	1	1	4	0	0	4	2	BAY STATE HOSPITAL

7
1 Please Select One of the Following: Vehicle 2 #Occupants Non-Motorist A Type 14 Action 15 Location 16 Condition 17 Hit/Run Moped

Reg # [redacted] Reg Type [redacted] Reg State [redacted]
Veh Year [redacted] Veh Make [redacted] Veh Config. 20
Owner [redacted] Address [redacted] City [redacted] State [redacted] Zip 0
Vehicle Action Prior to Crash 1 21
Event Sequence 1 22 22 22 22
Most Harmful Event 1 23
Driver Contributing Code 1 24 24
Underride/Override 99 25 Towed [redacted]
Damaged Area Code: (Circle Up to Three)
0 None
10 Undercarriage
11 Totaled
97 Other
99 Unknown

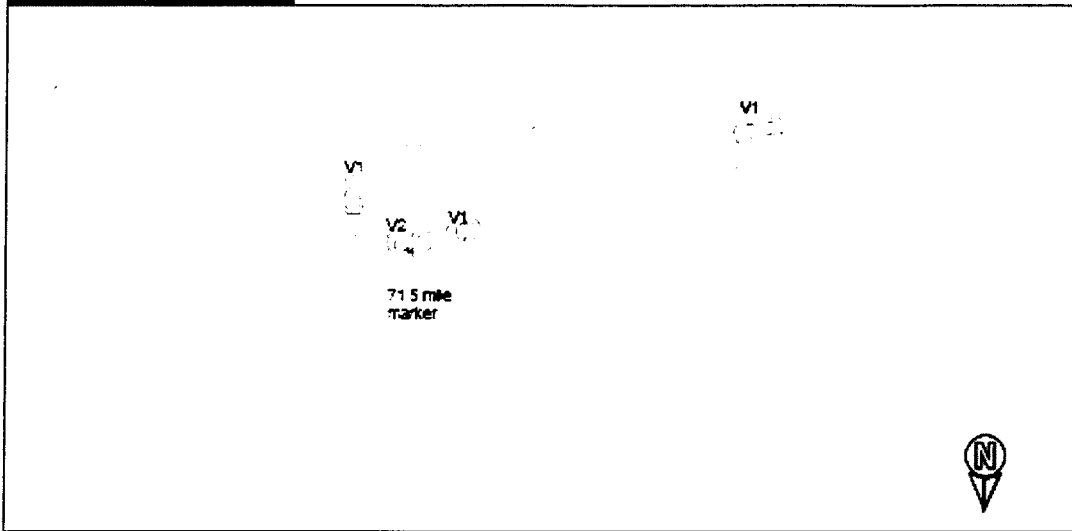
Please fill out for operator/non-motorist and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	26 Seat Pos	27 Safety System	28 Airbag Status	29 Airbag Switch	30 Eject Code	31 Trap Code	32 Injury Status	33 Transp Code	Medical Facility
Operator/Non-Motorist	See Above	-----	---	---	1	1	4	0	0	4	2	Mary Lane Hospital
[redacted]	[redacted]	[redacted]	3	1	1	4	0	0	4	2		Mary Lane Hospital

→ = Direction 1 = Vehicle 1 2 = Vehicle 2 X = Pedestrian

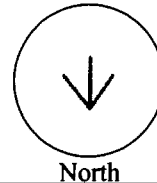
Crash Diagram:

ie: → 1 → 2 → X



If Crash Did Not Occur on a Public Way:

- Off-Street Parking Lot
- Garage
- Mall/Shopping Center
- Other Private Way



Crash Narrative:

V1 was traveling west on West Main St., Rt 9, a publicway in West Brookfield. As she approached the 71.5 mile marker, she was headed down hill, with a curve to the left. Due to her speed (she stated to a officer at the scene that she was going fast as she was late for work.) and the slushy/sandy condition of the road, she lost control of her vehicle and crossed into the east bound lane. The operator of V2 observed this, tried to pull as far to the right as possible and stopped. V1 struck V2 head on, the proceeded to come to rest across the west bound lane. O1, O2 and P2 were all treated for possible injuries and transported from the scene. APR from Ware towed both vehicles. O1, Corish, was issued citation warning [redacted] for Speed too fast for conditions.

Witnesses:

Name (Last,First,Middle)	Address	Phone #	Statement
[redacted]	[redacted]	[redacted]	

Property Damage:

Owner (Last,First,Middle)	Address	Phone #	34-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Carrier Issuing Authority Code

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ ICC #: _____ Interstate

Cargo Body Type Code Gross Vehicle Weight

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length

Hazmat Information:

Placard Material 1 digit # Material Name _____ Material 4 digit # _____ Release code

Police Officer Name (Please Print) _____

Signature _____

ID/Badge # _____

Department _____

Precinct/Barracks _____

Date _____

Commonwealth of Massachusetts

Date of Crash 02/27/2014 Time of Crash 1050 24HR City/Town West Brookfield

Motor Vehicle Crash Police Report

Number Vehicles 1 Number Injured 3 Speed Limit 40 State Police Local Police MBTA Police Other

AT INTERSECTION:

LOCATION

NOT AT INTERSECTION:

Route# Direction Name of Roadway/Street At Route# Direction Name of Intersecting Roadway/Street Also at Intersection with

W MAIN ST Route# Direction Address # Name of Roadway/Street Feet NSE of Mile Marker Exit Number WELCOME RD Route# Intersecting Roadway/Street Feet NSEW of Landmark

Please Select One of the Following: Vehicle 13 #Occupants Hit/Run Moped

14-13-AC

License # S DOB/Age Lic. Class 18 18 Lic. Restrictions 19 CDL Endorsement

Reg # 3 Reg Type Reg State Veh Year Veh Make Veh Config 1 20

Operator Last First Middle Address City State Zip Insurance Company CAB EAST LLC

Owner Last First Middle Address City State Zip Vehicle Action Prior to Crash 1 21 Damaged Area Code: (Circle Up to Three)

Vehicle Travel Direction: NSE Responding to Emergency? 2 Citation # (If Issued) Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Event Sequence 21 22 22 22 22 Most Harmful Event 21 23 Driver Contributing Code 1 24 24 Underride/Override 1 25 Towed 1

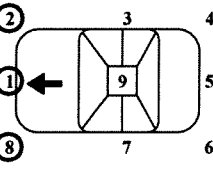


Table with columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility. Rows include Operator and two other individuals, all with Mary Lane Hospital as the medical facility.

Please Select One of the Following: Vehicle 2 #Occupants Non-Motorist A Type 14 Action 15 Location 16 Condition 17 Hit/Run Moped

License # S DOB/Age Lic. Class 18 18 Lic. Restrictions 19 CDL Endorsement

Reg # Reg Type Reg State Veh Year Veh Make Veh Config 20

Operator Last First Middle Address City State Zip Insurance Company

Owner Last First Middle Address City State Zip Vehicle Action Prior to Crash 21 Damaged Area Code: (Circle Up to Three)

Vehicle Travel Direction: NSEW Responding to Emergency? Citation # (If Issued) Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Event Sequence 22 22 22 22 Most Harmful Event 23 Driver Contributing Code 24 24 Underride/Override 25 Towed

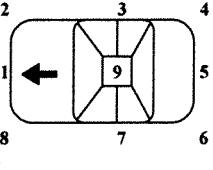
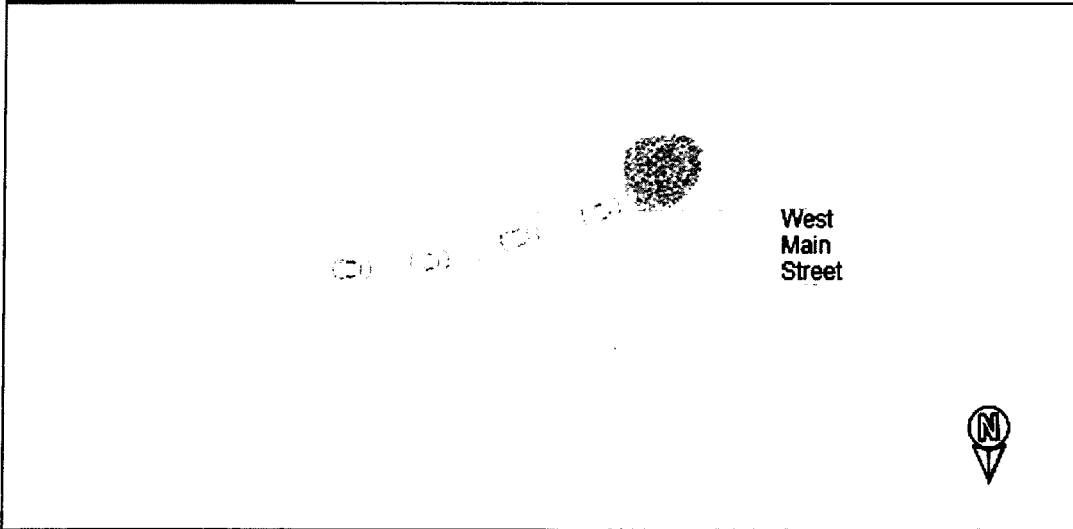


Table with columns: Name (Last First Middle), Address, DOB/Age, Sex, 26 Seat Pos, 27 Safety System, 28 Airbag Status, 29 Airbag Switch, 30 Eject Code, 31 Trap Code, 32 Injury Status, 33 Transp Code, Medical Facility. Rows include Operator/Non-Motorist and two other individuals.

→ = Direction 1 = Vehicle 1 2 = Vehicle 2 ○ = Pedestrian

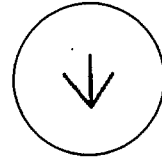
Crash Diagram:

ie: → 1 → 2 → ○



If Crash Did Not Occur on a Public Way:

- Off-Street Parking Lot
- Garage
- Mall/Shopping Center
- Other Private Way



North

Crash Narrative:

Vehicle 1 [redacted] operated by a [redacted] was traveling West on West Main Street a public way in the town of West Brookfield, when [redacted] drove into the opposite travel lane and struck a tree. [redacted] advised me he did not remember what had happened. [redacted] who was in the passenger seat and [redacted] who was sitting in the back seat behind the driver seat were transported to Mary Lane hospital by ambulance for their injuries. Hucks towing arrived on scene a short time later and took possession of the vehicle.

Witnesses:

Name (Last,First,Middle)	Address	Phone #	Statement
[redacted]	[redacted]	[redacted]	

Property Damage:

Owner (Last,First,Middle)	Address	Phone #	34-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Carrier Issuing Authority Code

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ ICC #: _____ Interstate

Cargo Body Type Code Gross Vehicle Weight

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length

Hazmat Information:

Placard Material 1 digit # Material Name _____ Material 4 digit # _____ Release code

Police Officer Name (Please Print) _____ Signature _____ ID/Badge # _____ Department _____ Precinct/Barracks _____ Date _____

West Brookfield Police Department
Images Associated with 14-13-AC



Commonwealth of Massachusetts

Date of Crash 01/18/2015 Time of Crash 0940 24HR City/Town West Brookfield

Motor Vehicle Crash Police Report

Number Vehicles 2 Number Injured 2 Speed Limit 40 State Police Local Police MBTA Police Other

AT INTERSECTION:

LOCATION

NOT AT INTERSECTION:

1 Route# Direction Name of Roadway/Street At
Route# Direction Name of Intersecting Roadway/Street Also at Intersection with
2 5 Route# Direction Name of Intersecting Roadway/Street

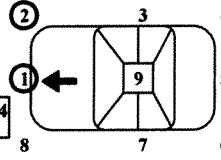
9 E 500 W MAIN ST
Route# Direction Address # Name of Roadway/Street
Feet N S E W of Mile Marker Exit Number
Feet N S E W of Route# Intersecting Roadway/Street
6 11 Landmark

3 2 Please Select One of the Following: Vehicle 1 #Occupants Hit/Run Moped

15-6-AC

4 1 License # St DOB/Age Reg # Reg Type Reg Sta
Lic. Class 18 18 Lic. Restrictions 19 CDL Endorsement
Operator Last First Middle Address City State Zip
Insurance Company QUINCY MUTUAL FIRE
5 Vehicle Travel Direction: N S X W Responding to Emergency? 2
Citation # (If Issued)
6 4 Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub
Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Veh Year Veh Make Veh Config. 1 20
Owner Last First Middle Address City State Zip
Vehicle Action Prior to Crash 1 21 Damaged Area Code: (Circle Up to Three)
Event Sequence 1 22 22 22 22 2
Most Harmful Event 1 23
Driver Contributing Code 12 24 24
Underride/Override 1 25 Towed 1
8 7 6
0 None
10 Undercarriage
11 Toted
97 Other
99 Unknown



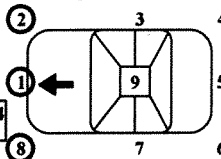
Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	26 Seat Pos	27 Safety System	28 Airbag Status	29 Airbag Switch	30 Eject Code	31 Trap Code	32 Injury Status	33 Transp. Code	Medical Facility
Operator	See Above	-----	---	---	1	1	4	0	0	3	2	Mary Lane Hospital

7 1 Please Select One of the Following: Vehicle 2 #Occupants Non-Motorist A Type 14 Action 15 Location 16 Condition 17 Hit/Run Moped

8 1 License # St DOB/Age Reg # Reg Type Reg Sta
Lic. Class 18 18 Lic. Restrictions 19 CDL Endorsement
Operator Last First Middle Address City State Zip
Insurance Company ARBELLA INS
Vehicle Travel Direction: N S E X Responding to Emergency? 2
Citation # (If Issued)
Viol. 1: Ch/Sec/Sub Viol. 2: Ch/Sec/Sub
Viol. 3: Ch/Sec/Sub Viol. 4: Ch/Sec/Sub

Veh Year Veh Make Veh Config. 1 20
Owner Last First Middle Address City State Zip
Vehicle Action Prior to Crash 1 21 Damaged Area Code: (Circle Up to Three)
Event Sequence 1 22 22 22 22 2
Most Harmful Event 1 23
Driver Contributing Code 1 24 24
Underride/Override 1 25 Towed 1
8 7 6
0 None
10 Undercarriage
11 Toted
97 Other
99 Unknown

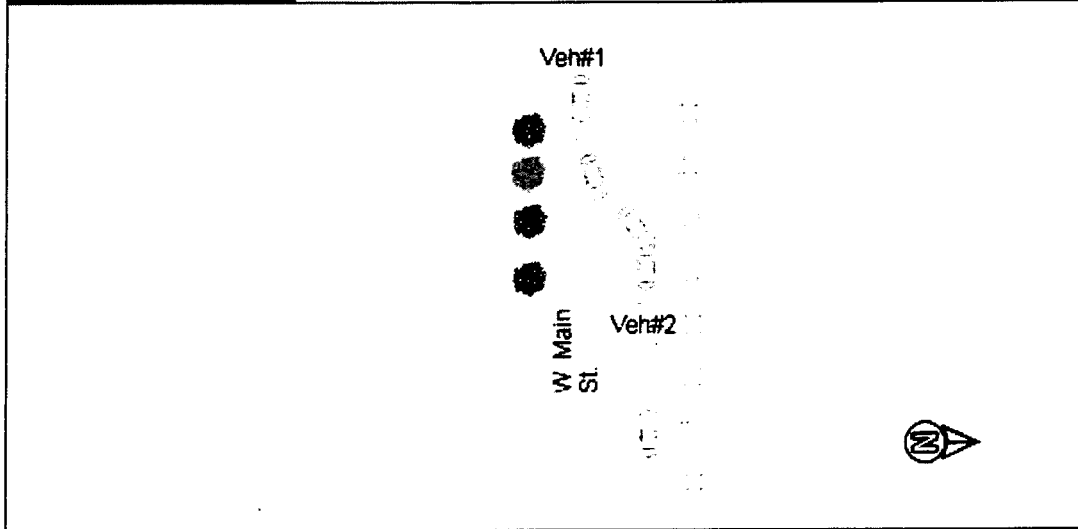


Please fill out for operator/non-motorist and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	26 Seat Pos	27 Safety System	28 Airbag Status	29 Airbag Switch	30 Eject Code	31 Trap Code	32 Injury Status	33 Transp. Code	Medical Facility
Operator/Non-Motorist	See Above	-----	---	---	1	3	4	0	1	2	2	BAYSTATE TRAUMA CENTER

→ = Direction 1 = Vehicle 1 2 = Vehicle 2 X = Pedestrian
 ie: → 1 → 2 → X

Crash Diagram:



If Crash Did Not Occur on a Public Way:

Off-Street Parking Lot

Garage

Mall/Shopping Center

Other Private Way

North

Crash Narrative:

On 01/18/15 at approximately 0940hrs, I Officer [redacted] was dispatched to a two car MVA with PI near 494 West Main St. Enroute to the scene, I contacted dispatch and requested immediate response from the DPW for treacherous road conditions. Upon arrival, I observed two vehicles attached by the front ends blocking passage in both directions. Veh#1, a blue in color Jeep Wrangler had been operated by a female party who was out of the vehicle and now seated in a witness vehicle. She claimed injury from the impact as well as the air bag deployment. The OP of Veh#2 was located inside the driver seat, with visible severe injury to his head and face. The OP of Veh#1 was transported by WBRS to Mary Lane Hospital for evaluation. The Op of Veh#2 needed extrication from the vehicle. Warren and W. Brookfield FD on scene to assist. Ware ALS transported the OP to Baystate Trauma Center for evaluation. Life Flight was unavailable due to weather

Witnesses:

Name (Last,First,Middle)	Address	Phone #	Statement
[redacted]	[redacted]		

Property Damage:

Owner (Last,First,Middle)	Address	Phone #	34-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Carrier Issuing Authority Code 35

Address _____ City _____ St _____ Zip _____

US DOT # _____ State Number _____ Issuing State _____ ICC # _____ Interstate 36

Cargo Body Type Code 37 Gross Vehicle Weight 38

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length 39

Hazmat Information:

Placard 40 Material 1 digit # 41 Material Name _____ Material 4 digit # _____ Release code 42

Police Officer Name (Please Print) _____ Signature _____ ID/Badge # _____ Department _____ Precinct/Barracks _____ Date _____

Commonwealth of Massachusetts

Motor Vehicle Crash Exchange Form

Date of Crash 01/18/2015	Time of Crash 0940 24HR	City/Town West Brookfield
-----------------------------	-------------------------------	------------------------------

State Police <input type="checkbox"/>
Local Police <input type="checkbox"/>
MBTA Police <input type="checkbox"/>
Other: _____ <input type="checkbox"/>

AT INTERSECTION:			LOCATION	NOT AT INTERSECTION:				
Route#	Direction	Name of Roadway/Street		Route#	Direction	Address #	Name of Roadway/Street	
At				Feet	N S E W	of	_____ or _____	
				Mile Marker				Exit Number
Route#	Direction	Name of Intersecting Roadway/Street		Feet	N S E W	of	Route# Intersecting Roadway/Street	
Also at Intersection with				Feet	N S E W	of	_____	
Route#	Direction	Name of Intersecting Roadway/Street						Landmark

Please Select One of the Following: Vehicle 1 Occupants Hit/Run Moped

15-6-AC

License # _____	DOB/Age _____	Reg _____	Reg Type _____	Reg Stat _____
Sex _____	Lic. Class <input type="checkbox"/> 18 <input type="checkbox"/> 18	Lic. Restrictions <input type="checkbox"/> 19	CDL _____	Veh Year _____ Veh Make _____ Veh Config. <input type="checkbox"/> 1 <input type="checkbox"/> 20
Operator _____			Owner _____	
Address _____			Address _____	
City _____ State _____			City _____ State _____	
Insurance Company QUINCY MUTUAL FIRE				

According to Massachusetts General Law, Chapter 90, Section 26: If the damage to any one vehicle or property is over \$1,000 or if there is an injury to any person, you are required to complete a crash report within 5 days of the date of the crash.

Please obtain a copy of the operator crash report from your local police department, Registry branch office or from the RMV Website WWW.MASSRMV.COM and submit the original to:

Registry of Motor Vehicles
P.O. Box 55889
Boston, MA 02205-5889
Attn: Accident Records

Also, be sure to forward a copy to your insurance agency, the local police department where the crash occurred, and retain a copy for yourself.

If you would like to obtain a copy of the police report or another operator report, please send a letter to the address above with a check for \$10 for each requested report made payable to: RMV. Please specify which report you are requesting and list the date and time of the crash and city/town where it occurred along with your name, address and the registration number of at least one vehicle involved.

Please Select One of the Following: Vehicle 2 Occupants Non-Motorist A Type 14 Action 15 Location 16 Condition 17 Hit/Run Moped

License # _____	DOB/Age _____	Reg _____	Reg Type _____	Reg Stat _____
Sex _____	Lic. Class <input type="checkbox"/> 18 <input type="checkbox"/> 18	Lic. Restrictions <input type="checkbox"/> 19	CDL _____	Veh Year _____ Veh Make _____ Veh Config. <input type="checkbox"/> 1 <input type="checkbox"/> 20
Operator _____			Owner _____	
Address _____			Address _____	
City _____ State _____			City _____ State _____	
Insurance Company _____				

According to Massachusetts General Law, Chapter 90, Section 26: If the damage to any one vehicle or property is over \$1,000 or if there is an injury to any person, you are required to complete a crash report within 5 days of the date of the crash.

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West Brookfield Police Department
Images Associated with 15-6-AC



Date of Crash **07/28/2015** Time of Crash **0640** City/Town **West Brookfield** **Motor Vehicle Crash** Number Vehicles **1** Number Injured **1** Speed Limit **40** State Police
 24HR **Police Report** Latitude _____ Local Police
 Longitude _____ Other: _____

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

<p>1 Route# _____ Direction _____ Name of Roadway/Street _____</p> <p style="text-align: center;">At _____</p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p> <p style="text-align: center;">Also at Intersection with _____</p> <p>2 Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p>	<p>9 W 441 W MAIN ST</p> <p>Route# Direction Address # Name of Roadway/Street</p> <p>_____ Feet N S E W of _____ or _____</p> <p style="text-align: center;">Mile Marker _____ Exit Number _____</p> <p>_____ Feet N S E W of _____</p> <p>_____ Feet N S E W of _____</p> <p style="text-align: center;">Route# Intersecting Roadway/Street</p> <p style="text-align: center;">Landmark _____</p>
---	---

3 Please Select One of the Following: Vehicle **1** #Occupants Hit/Run Moped Crash Report ID# **15-31-AC**

<p>4 License # _____ St _____ DOB/Age _____</p> <p>Sex _____ Lic. Class 19 19 Lic. Restrictions 20 CDL _____</p> <p>1 Operator _____ Last First Middle</p> <p>Address _____</p> <p>City _____ State _____ Zip _____</p> <p>Insurance Company GEICO GENERAL INS</p> <p>5 Vehicle Travel Direction: N S E W Responding to Emergency? 2</p> <p>Citation # (If Issued) _____</p> <p>Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____</p> <p>6 Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____</p>	<p>Reg # _____ Reg Type _____ Reg State _____</p> <p>Veh Year _____ Veh Make _____ Veh Config. 1 21</p> <p>1 Owner _____ Last First Middle</p> <p>Address _____</p> <p>City _____ State _____ Zip _____</p> <p>Vehicle Action Prior to Crash 1 22 Damaged Area Code: 7 27 8 27 6 27</p> <p>Event Sequence 41 23 23 23 23 Test Status: 28</p> <p>Most Harmful Event 43 24 Type of Test: 29</p> <p>Driver Contributing Code 12 25 25 BAC Test Result: 30</p> <p>Driver Distracted by 99 26 Susp. Alcohol: 31 Susp. Drug: 32</p> <p>Towed from scene? 1 33</p>
---	---

Please fill out for operator and all occupants involved											
Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp Code	Medical Facility
Operator	See Above			1	99	1	0	2	2	2	Mary Lane Hospital

7 Please Select One of the Following: Vehicle **2** #Occupants Non-Motorist A Type **15** Action **16** Location **17** Condition **18** Hit/Run Moped

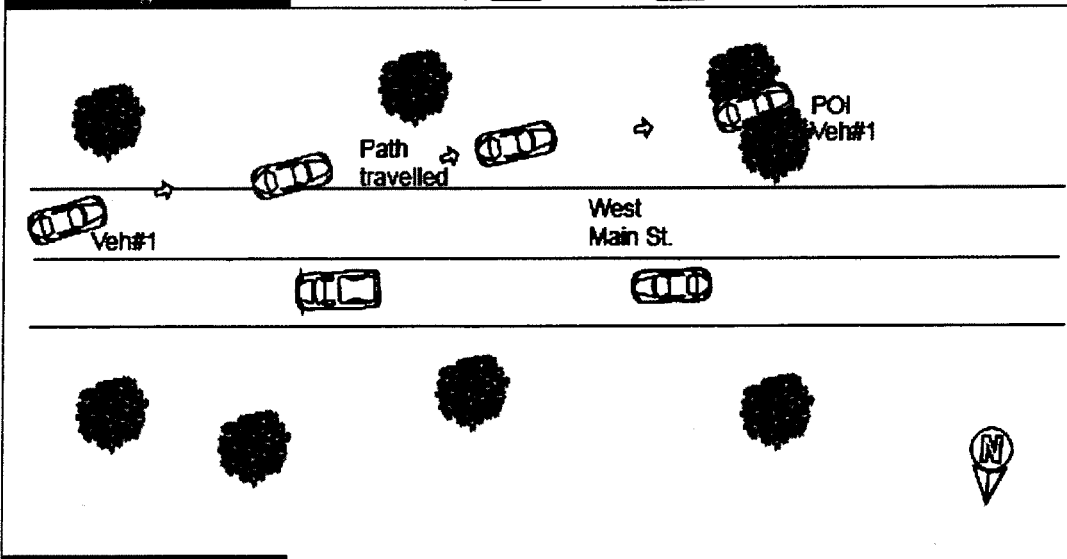
<p>8 License # _____ St _____ DOB/Age _____</p> <p>Sex _____ Lic. Class 19 19 Lic. Restrictions 20 CDL _____</p> <p>1 Operator _____ Last First Middle</p> <p>Address _____</p> <p>City _____ State _____ Zip _____</p> <p>Insurance Company _____</p> <p>Vehicle Travel Direction: N S E W Responding to Emergency? _____</p> <p>Citation # (If Issued) _____</p> <p>Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____</p> <p>9 Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____</p>	<p>Reg # _____ Reg Type _____ Reg State _____</p> <p>Veh Year _____ Veh Make _____ Veh Config. 21</p> <p>1 Owner _____ Last First Middle</p> <p>Address _____</p> <p>City _____ State _____ Zip _____</p> <p>Vehicle Action Prior to Crash 22 Damaged Area Code: 27 27 27</p> <p>Event Sequence 23 23 23 23 Test Status: 28</p> <p>Most Harmful Event 24 Type of Test: 29</p> <p>Driver Contributing Code 25 25 BAC Test Result: 30</p> <p>Driver Distracted by 26 Susp. Alcohol: 31 Susp. Drug: 32</p> <p>Towed from scene? 33</p>
--	---

Please fill out for operator/non-motorist and all occupants involved											
Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp Code	Medical Facility
Operator/Non-Motorist	See Above			1							

→ = Direction 1 = Vehicle 1 2 = Vehicle 2 ○ = Pedestrian ⚡ = Bicycle

Crash Diagram:

ie: → 1 → 2 → ○ → ⚡



If Crash Did Not Occur on a Public Way:

- Off-Street Parking Lot
- Garage
- Mall/Shopping Center
- Other Private Way

Indicate North by Arrow



Crash Narrative:

On 07/28/15 at approximately 0642hrs, I Officer [redacted] along with Officer [redacted] was dispatched to a reported MVA single car roll over at 441 W. main St. Upon arrival, Officers met bystander who were assisting the victim (RO/OP) [redacted]. She was visibly injured and entrapped inside the vehicle which was resting on its side. ALS was requested along with WBFD for extrication. [redacted] suffered severe head injury during the crash with excessive bleeding. She was able to speak and complained of dizziness and weakness. Martinez was extracted from the vehicle by Officer [redacted] WBFD and WBRB/BRS. Brookfield ALS transported [redacted] to Mary Lane Hospital for evaluation. Woodard's Garage arrived and towed the vehicle from the wooded area along the south side of West Main St. The vehicle apparently left the roadway approx. 50+ yds from the point of impact. No skid marks were apparent on the road surface. Photos

Witnesses:

Name (Last,First,Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last,First,Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use 42

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate 43 Cargo Body Type Code 44 GVWR/GCWR 45

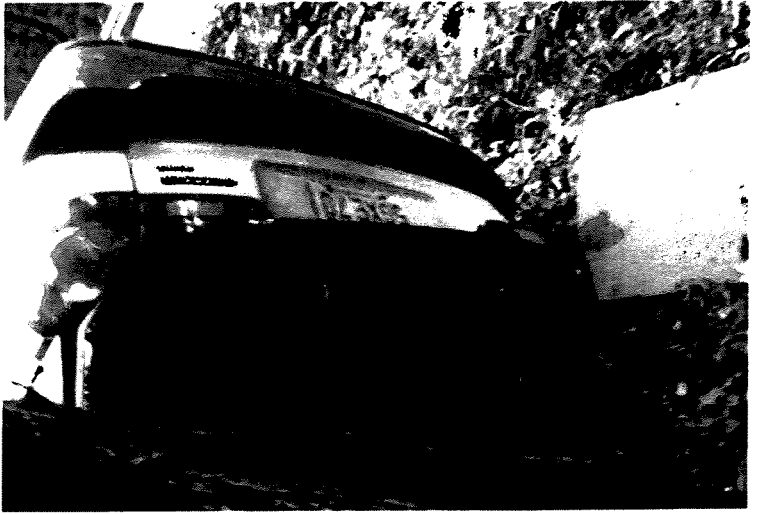
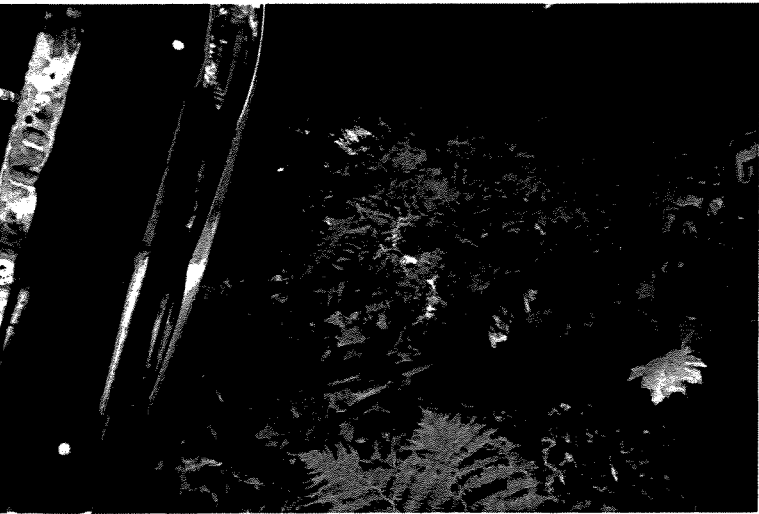
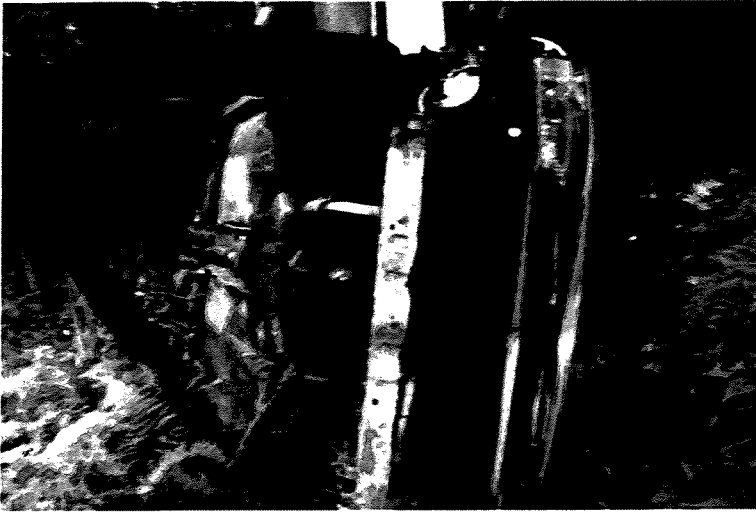
Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length 46

Hazmat Information:

Placard 47 Material 1 digit # 48 Material Name _____ Material 4 digit # _____ Release code 49

Police Officer Name (Please Print) _____ Signature _____ ID/Badge # _____ Department _____ Precinct/Barracks _____ Date _____

West Brookfield Police Department
Images Associated with 15-31-AC



West Brookfield Police Department
Images Associated with 15-31-AC



West Brookfield Police Department
Images Associated with 15-31-AC



Accident Data

- *Crash Rate Worksheets*
- *Collision Map*

SEGMENT CRASH RATE WORKSHEET

CITY/TOWN : West Brookfield COUNT DATE : 2/1/2012

DISTRICT : 2

~ SEGMENT DATA ~

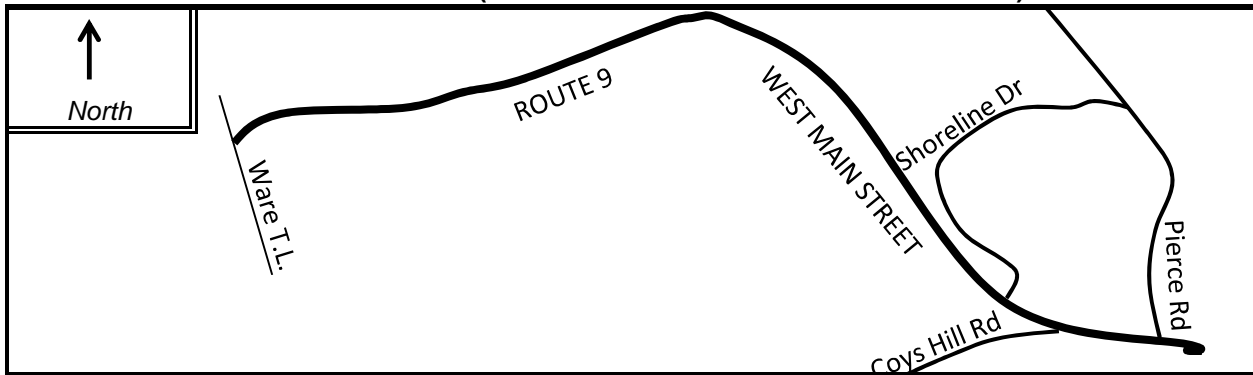
ROADWAY NAME: West Main Street (Route 9)

START POINT: Ware Town Line

END POINT: Pierce Road

FUNCTIONAL CLASSIFICATION OF ROADWAY: Principal Rural Arterial

ROADWAY DIAGRAM (LABEL ROADWAY AND CROSS STREETS)



AVERAGE DAILY TRAFFIC

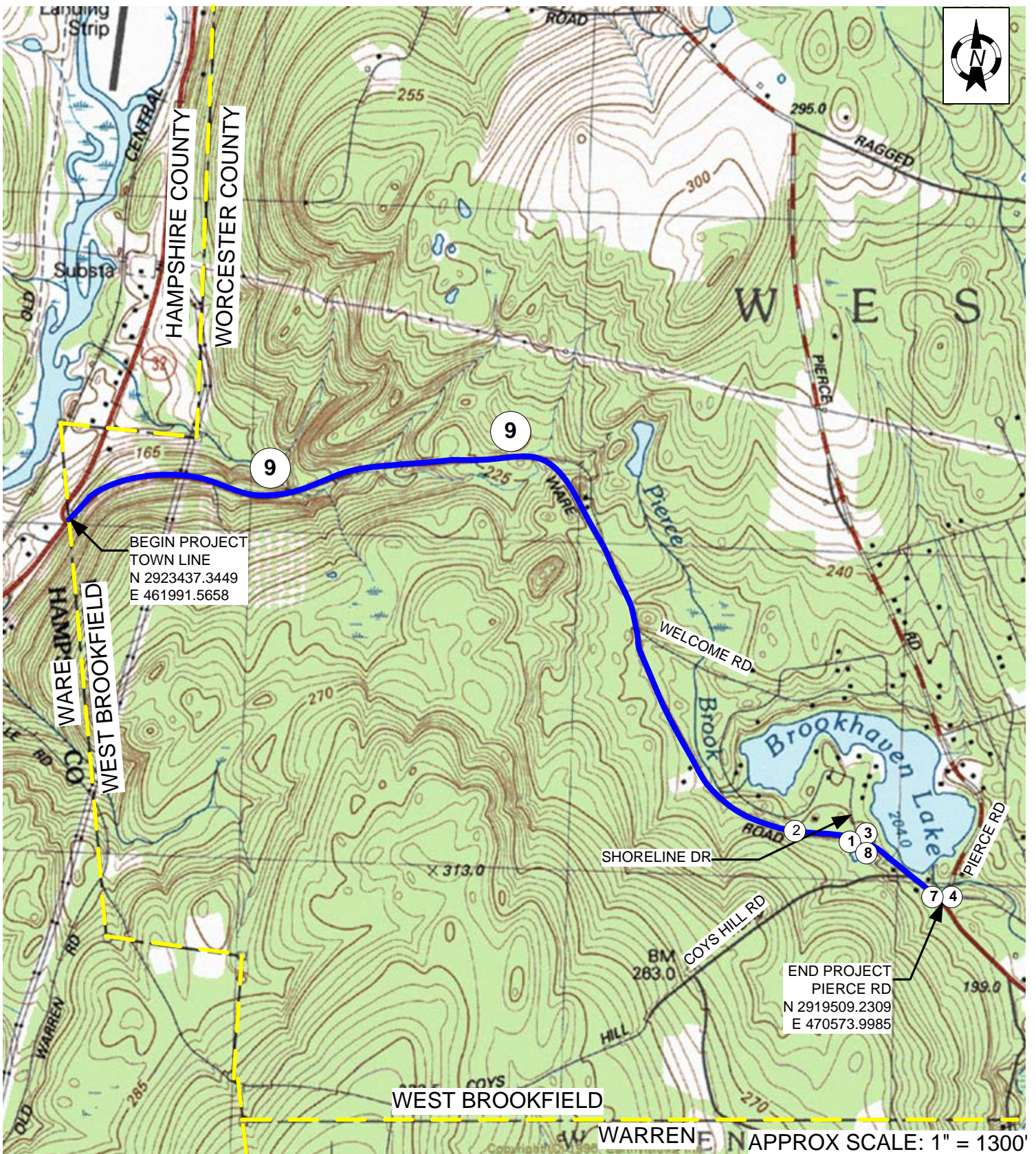
SEGMENT LENGTH IN MILES (L):	2.1
AVERAGE DAILY TRAFFIC VOLUME (V):	5,350

TOTAL # OF CRASHES:	9	# OF YEARS:	4	AVERAGE # OF CRASHES PER YEAR (A):	2.25
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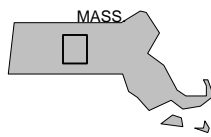
CRASH RATE CALCULATION : **0.55** RATE = $\frac{(A * 1,000,000)}{(L * V * 365)}$

Comments : Crash rate on Route 9 approximately 3.5 times normal crash rate of 0.41

Project Title & Date: Route 9 Resurfacing and Related Work (606517) - Construction Spring 2016



Town of West Brookfield
 Route 9 Resurfacing and Related Work



- Project Corridor
- - - Town Line
- ① Crash Number

Collision Map

*Accidents 5,6 and 9 could not be pinpointed on a map from the data given

Appendix C
Road Safety Audit
• *Road Safety Audit*

ROAD SAFETY AUDIT

Route 9 (East Main Street)
Ware Town Line to Pierce Road

Town of West Brookfield

December 14, 2012
DRAFT

Prepared For:
MassDOT Highway Division



Prepared By:
BETA Group, Inc.



ENGINEERING SUCCESS TOGETHER

Table of Contents

Project Data	1
Background	2
Project Description	2
Audit Observations	5
Potential Safety Enhancements	9
Summary of Road Safety Audit	12

List of Appendices

Appendix A.	RSA Meeting Agenda
Appendix B.	RSA Audit Team Contact List
Appendix C.	Detailed Crash Data
Appendix D.	Highway Safety Manual Analysis

List of Figures

Figure 1.	Location Map	3
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List of Tables

Table 1.	Participating Audit Team Members	1
Table 2.	Estimated Time Frame and Costs Breakdown	9
Table 3.	Potential Safety Enhancement Summary	13

Project Data

A Road Safety Audit for Route 9 (West Main Street) between the Ware Town Line and Pierce Road was held on December 5, 2012 at the West Brookfield Town Hall in West Brookfield, MA. As indicated in Table 1, the audit team consisted of representatives from State, Regional and Local agencies and included a cross-section of engineering, planning and emergency response expertise.

Table 1. Participating Audit Team Members

Audit Team Member	Agency/Affiliation
Lisa Schletzbaum	MassDOT Highway Division – Safety Section
Doug White	MassDOT Highway Division – District 2
Laurie Scarbrough	MassDOT Highway Division – District 2
Sujatha Mohanakrishnan	CMRPC
Dan Daniska	CMRPC
Kevin Krasnecky	CMRPC
Johanna Barry	Town of West Brookfield – Selectmen’s Office
John Morgan	Coler & Colantonio (Designer)
Paul Guertin	Coler & Colantonio (Designer)
Chris Chambers	MassDOT Highway Division – District 6
Barry Nadon Jr.	Town of West Brookfield – Selectmen
Tom O’Donnell	Town of West Brookfield – Police Chief
Jim Daley	Town of West Brookfield – Highway Superintendent
Greg Lucas	BETA Group, Inc.
Justin Curewitz	BETA Group, Inc.

Background

The Federal Highway Administration defines a Road Safety Audit (RSA) as *the formal safety examination* of an existing or future road or intersection by an *independent, multidisciplinary team*. The purpose of an RSA is to *identify potential safety issues and possible opportunities for safety improvements* considering all roadway users. A Road Safety Audit was scheduled for Route 9 (West Main Street) in West Brookfield from the Ware Town Line to Pierce Road, a length of approximately 2.1 miles, because the crash history of the roadway segment shows a number of lane departure crashes. The roadway segment is scheduled to be reconstructed by the MassDOT Highway Division under the statewide Transportation Improvement Plan (TIP). The RSA is intended to identify potential short and long term safety improvements that can be made along the Route 9 corridor, which can then be implemented through general maintenance for short term low cost improvements or incorporated into the planned reconstruction project to the greatest extent practicable.

Project Description

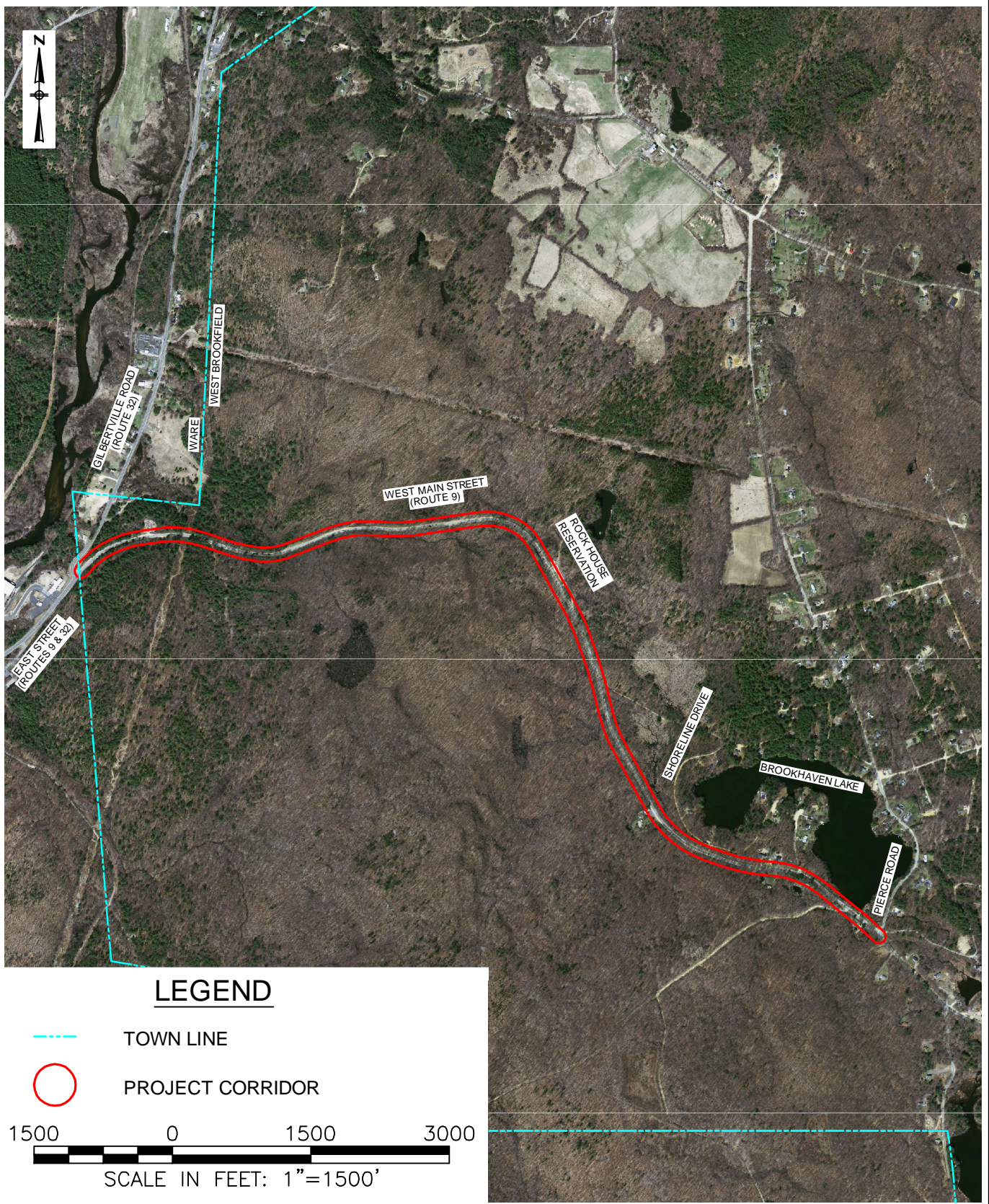
Route 9 (West Main Street), shown in Figure 1, is a Principal Arterial providing direct access between the town centers of West Brookfield and Ware. Route 9 is the primary route for residents of West Brookfield traveling to more developed retail areas in Ware, and serves as an important regional connector. Route 9 within the study area is under Town of West Brookfield jurisdiction, but is State Highway west of the Ware Town Line. Route 9 is a National Highway System roadway in West Brookfield and along its entire length statewide.

The project corridor is mostly undeveloped with wooded areas and steep slopes or rock ledge outcroppings at the edge of roadway. The Rock House Reservation is a 196-acre open space preserve on the north side of Route 9 within the project limits, and some residential properties are found at the eastern end of the project. Route 9 provides a single travel lane in each direction separated by a double yellow



Route 9 Eastbound – Typical Roadway Cross Section

centerline. A solid white edge line is provided in each direction with an edge offset varying between one and two feet, although the edge line and offset are often covered with sand or other runoff debris at the roadway edge. Guardrail is provided along much of the project corridor due to the steep side slopes. The total roadway width varies but is as narrow as 23 feet at certain points. This narrow cross section provides little recovery area for errant vehicles, and provides no room for vehicles to pull over to allow an emergency vehicle to pass. It was noted that this segment of Route 9 is the primary access route from West Brookfield to Baystate Mary Lane Hospital in Ware.



LEGEND

- TOWN LINE
- PROJECT CORRIDOR



Road Safety Audit
Route 9
(West Main Street)
 West Brookfield, MA

Figure 1
 Location Map

A 40 mph speed limit is posted for Route 9 within the project area. Speed data collected by the project design engineer at two locations along Route 9 show 85th percentile speeds varying between 44 and 49 mph along the corridor, with higher speeds eastbound at both locations. The state highway segment of Route 9 in Ware west of the project limits provides wider shoulders, a 45 mph speed limit and a generally flatter, straighter alignment; the resultant effect for eastbound vehicles is a noticeable change in roadway character as they climb the hill from the Ware Town Line into West Brookfield. The western end of the project corridor is characterized by a continuous downhill westbound grade, and it was noted that the majority of crashes occur in this segment.

Crash data provided by the West Brookfield Police Department and summarized by MassDOT show twelve crashes between September 2008 and August 2011. It was noted that due to the lack of adjacent houses or intersecting streets, it is difficult to pinpoint crashes along the corridor, and that additional crashes may have occurred within the project limits. Town personnel noted that the roadway grade, vehicle speed and a reduction of salt use in West Brookfield compared with the segment of Route 9 under State jurisdiction contribute towards a number of crashes in wintry conditions, and that emergency vehicles responding to crashes have at times seen additional crashes occur while responding to a single crash. Only one of the twelve crashes reported were identified as having occurred under winter conditions and no crashes occurred subsequent to other crashes, supporting the claim that the crash history of the roadway is more significant than the twelve crashes report.

The twelve reported crashes include eight single vehicle crashes, two sideswipe crashes, and two rear-end crashes. It should be noted that one of the rear-end crashes involved a mechanical failure of a vehicle, and two single vehicle crashes involved a tree or branch in the roadway. It was noted that the tree canopy was cleared recently to provide more sunlight on the roadway to help with snow and ice melt, but that trees and branches falling on the roadway is a common problem, and that guardrail is damaged in several locations from tree branches striking it from above.

Seven of the twelve crashes involve a vehicle leaving the roadway or striking a roadway obstruction such as a tree, utility pole or guardrail. Six of the twelve crashes occurred at night, when the lack of roadway lighting and lack of adjacent homes or businesses result in a dark roadway which has limited curve warning signage.

Audit Observations

Following a brief introduction to the RSA process and a summary of existing crash information, the audit participants were asked to discuss safety issues along the Route 9 corridor between the Ware Town Line and Pierce Road. Audit participants then viewed a video recording of the corridor in each direction, and noted safety issues and contributing factors both during and following the video. A summary of those major safety considerations is as follows:

- Drainage – Drainage is provided by means of berm openings allowing runoff under the guardrail as well as drop inlets with grates located off the roadway throughout the western half of the study area. A number of issues related to drainage were discussed and are detailed below.
 - The spacing between basins is too great, which creates significant sheet and gutter flow during heavy rain events. The velocity of gutter runoff during heavy rain may cause it to bypass a specific inlet, creating greater flow at the downstream inlet and the possibility of sheet flow across the roadway through superelevated reverse curves.
 - The accumulation of sand from winter roadway treatment and leaves from the abundant trees frequently blocks drainage inlets and requires maintenance, which in itself creates a safety issue due to limited roadway width to operate maintenance vehicles.
 - Ponding is evident in some areas during heavy rain, as is sheet flow across the roadway. Both are evidence of potentially inadequate existing drainage, and both present icing concerns during cold weather.
 - The lack of a shoulder slope break prevents runoff from being contained along the roadway edge.
- Snow/Ice – A number of safety issues related to snow, ice, snow removal and treatment of wintry road conditions were discussed.
 - As previously discussed, drainage inlets are located off the roadway throughout the western half of the study area, and accumulation of sand and leaves can block these inlets. This is also true of snow during plowing operations, which must be cleared from the roadside basins after being cleared from the roadway.
 - Town personnel reported that it is common for snow melt to lead to drainage runoff, which then causes icing conditions and requires further treatment. Sand from this roadway treatment can potentially block drainage inlets as described above. It was noted that the tree canopy over Route 9 was selectively thinned, which has helped with snow melt by allowing more sunlight onto the roadway.
 - It was noted that the state uses salt for treatment of its roadways, but the Town of West Brookfield typically uses a three to one sand to salt mixture due to cost concerns. This can create a notable difference in roadway conditions for eastbound vehicles traveling

from the state highway section of Route 9 in Ware into West Brookfield, especially during the early stages of winter events, and may be a contributing factor along with speed in crashes known to occur in wintry conditions.

- **Shoulder/Visibility** – The lack of shoulder was noted as a safety concern, both directly and specifically as it relates to other safety issues. The lack of shoulders provides little offset to roadside obstructions, which create visibility concerns. Safety concerns related to both the lack of shoulder and limited visibility are summarized below.
 - **Maintenance Vehicles** – As previously noted, the existing width of the roadway provides no opportunity for maintenance vehicles to occupy the roadway without impacting traffic in both directions. This complicates the Town’s ability to provide ongoing maintenance, including tree trimming and clearing of drainage inlets. It was noted that maintenance operations require two police detail officers to maintain traffic flow due to visibility restrictions created by the existing roadway geometry. This creates an added cost to the town and allocates police resources away from other departmental needs.
 - **Roadside Obstructions** – Rock ledge outcroppings and guardrails are close to the roadway edge, which may cause drivers to shy away from the roadway edge and encroach on the opposite lane. This increases the possibility of more severe encroachment due to driver error or excessive speed. This may be a factor in the history of lane departure crashes along the corridor.
 - **Emergency Vehicles** – The lack of shoulder provides no room for a vehicle to pull over in case of emergency, or to allow passage by an ambulance or other emergency vehicle.
 - **Bicycle Accommodation** – Existing lane and shoulder widths do not effectively accommodate bicycles, which are known to travel the roadway due to its regional connectivity and connection to recreational trail areas.
 - **Truck Traffic** – It was noted that there is significant truck traffic along the corridor due to the roadway’s regional connectivity. The lack of shoulders and frequent horizontal curves increase the likelihood of a truck encroaching on the opposite travel lane. It should be noted that none of the twelve identified crashes involved trucks.
- **Trees** – Two crashes along the corridor involved trees or tree branches falling on the roadway, and guardrail damage along the corridor appears to be the result of tree branches falling from above. Town personnel noted that they cleared the tree canopy above the roadway, which helped with snow melt and also reduces the chance of limbs falling on the roadway.
- **Speeding** – Speeding was noted as a safety concern along the corridor, and was specifically cited as a factor in three of the twelve reported crashes. Speed data collected for the corridor show that 85th percentile speeds exceed the posted 40 mph speed limit. Vehicle speed also exacerbates concerns about snow and ice, as drivers traveling eastbound from Ware may be traveling at speeds that are appropriate for roadway conditions in the state highway segment but unsafe for roadway conditions in West Brookfield. It was also noted that little to no room exists for police vehicles to park during

speed enforcement operations, and that they typically use private driveways, or use the Rock House Reservation driveway when the reservation is closed.

- Driver Fatigue – Two crashes involved a driver that was fatigued or asleep. One struck a utility pole; the other crossed the double yellow centerline and sideswiped a vehicle traveling in the opposite direction.
- Signage – Several issues related to signage were discussed by the audit team.

- There is limited existing advance signage for curves and grades along the roadway, and what is provided appears to be older, faded and is not likely reflective at night.
- No chevron signage is provided on curves along the corridor. Town personnel noted that chevron signs have been posted but quickly get knocked down or stolen.



Substandard existing sign

- No intersection warning signs are posted along Route 9 in advance of Pierce Road or Shoreline Drive. Crash data collected by the designer in support of a Design Exception Report noted three crashes at the intersection of Shoreline Drive and two at Pierce Road.
- Mile marker signage is sporadically located along the corridor. It was noted that increased mile marker signage would assist in emergency response by providing a reference point both for incident reporting and crash record keeping.
- A private No U-Turn sign posted at a business on the north side of Route 9 in Ware immediately west of Route 32 may indicate a deficiency in advance signage westbound for Route 32. It was suggested that signage may not be located far enough in advance of the intersection, and that drivers may as a result miss the intersection and need to turn around.

- Pavement Markings – Pavement markings are faded and are assumed to not be reflective at night. It was noted that centerline markings are typically repainted each year in the spring. Edge lines are faded and covered in sand, dirt and debris in many areas.
- Animals – It was noted that four recent crashes that are not included in the twelve reported crashes involved animal strikes (three deer and one moose).



Edge Lines obstructed by sand

- Lighting – The lack of lighting along the corridor was noted as a safety issue, especially in combination with the lack of reflectivity of existing pavement markings and the lack of reflective signage. It was noted that much of the corridor does not have access to power lines, and that lighting may be impractical and inappropriate given the roadway character.
- Seasonal Traffic – Traffic increases from mid-September to mid-October coinciding with the fall foliage season. This reinforces the need for appropriate warning and directional signage along the corridor. It was noted that crashes typically involve drivers from West Brookfield and the immediately surrounding communities.

Potential Safety Enhancements

Audit participants identified safety issues and recommended potential improvements to address these issues. Audit participants were encouraged to consider both short and long term improvements for each issue. Each improvement considered has been categorized as short-term, mid-term, or long-term based on the definitions shown in Table 2. Additionally, a cost category has been assigned to each improvement based on the parameters set forth in Table 2.

Table 2. Estimated Time Frame and Costs Breakdown

Time Frame		Costs	
Short-term	<1 year	Low	<\$10,000
Mid-term	1–3 years	Medium	\$10,000–\$50,000
Long-term	>3 years	High	>\$50,000

- Widen shoulders along Route 9 between the Ware Town Line and Pierce Road. A number of safety issues discussed can be addressed by widening Route 9 to provide shoulders. The current design plans provide an 11-foot travel lane a 4-foot shoulder along the length of Route 9 within the project limits. This meets minimum standards as established by MassDOT’s Project Development and Design Guide (PDDG) for an arterial roadway, but does not meet minimum standards for a National Highway System roadway, which calls for 12-foot lanes and 8-foot shoulders. The existing topography of the project area prevents the ability to do significant widening without significant cut and fill work including extensive rock excavation.

AASHTO’s 2010 Highway Safety Manual (HSM) provides tools for conducting quantitative safety analyses, allowing for safety to be quantitatively evaluated alongside other transportation performance measures such as traffic operations, environmental impacts, and construction costs. A preliminary HSM analysis done for the project area shows that widening to a 4-foot shoulder results in an expected decrease of 0.3 crashes/year. Further widening to provide an 8-foot shoulder would result in an expected decrease of 0.9 crashes/year. This is based on the twelve reported crashes in a three year period; the analysis would show a more substantial decrease if additional crashes were included. A summary of HSM analysis for the corridor is included in the Appendix.

The HSM analysis allows for a quantitative cost-benefit analysis comparing the expected reduction in crashes to the added cost of wider shoulders. The project designer may also consider selectively widening shoulders beyond the proposed 4-foot width in areas where widening impacts will be minimized. This would provide additional locations along the corridor for emergency vehicle passage, would provide additional room for correction of errant vehicles, and would facilitate maintenance operations along the corridor. Widening shoulders is a long-term, high cost improvement assumed to be included in the proposed project.

- Consider gravel or grass clear areas off the roadway for vehicles to pull off the roadway. These clear areas should be essentially level with the widened shoulder and will provide areas where vehicles can pull completely off the roadway in an emergency. These areas can also be used by police for

enforcement efforts. This is a long-term, high cost improvement that should be assessed for inclusion in the proposed project.

- Increase the proposed guardrail setback in areas where guardrail may restrict visibility. Guardrail to be replaced as part of the proposed project should be set further back from the roadway at areas where sight distance is limited. This is a long-term, low cost improvement that should be incorporated into the proposed design.
- Provide additional drainage basins along Route 9 and locate all basins in the roadway along the gutter line. Keeping basins in the roadway will allow them to be cleared along with the roadway surface during snow events, and reduce the likelihood of the basins getting blocked by sand, leaves or other debris. Providing additional basins will promote positive drainage and prevent excessive runoff or sheet flow. This is a long-term, high cost improvement assumed to be included in the proposed project.
- Verify adequate superelevation transitions in reverse curves in the proposed design, and confirm that drainage basins are placed to prevent cross-roadway sheet flow. Inadequate superelevation in combination with inadequate drainage is the likely cause of sheet flow across the roadway during heavy rain events. Verification of design techniques is a short-term, low cost improvement; implementation of the design is a long-term, high cost improvement assumed to be included in the proposed project.
- Provide a shoulder break along the roadway to keep stormwater flow in the roadway gutter. This long-term, high cost improvement is included in the proposed design and will also help prevent sheet flow across the roadway.
- Selectively trim trees along the roadway corridor. Consistent selective trimming done as an ongoing maintenance operation will remove dead or damaged limbs before they have a chance to impact the roadway and the traveling public. This is a short-term (and ongoing) low cost improvement.
- Consider “Low Salt Area” signage. A discussion was raised regarding placement of “Low Salt Area” signage eastbound to warn drivers that Route 9 in West Brookfield is not treated with as much salt as Route 9 in Ware. It was noted that these signs are typically used in areas where the water supply is protected. Ultimately it was determined to not erect signs to avoid sign clutter. This improvement should be considered by the Town if crashes persist in the eastbound direction just over the town line in wintry conditions.
- Implement selective ledge removal in the proposed project. Existing ledge outcroppings are located very close to the roadway edge and may cause drivers to shy away from them and encroach on the opposing travel lane. It was noted that removal of some ledge areas is required as part of widening proposed for the project. Additional ledge removal should be included on a spot-treatment basis in areas where ledge to remain will be located closed to the roadway, and/or where ledge has the most significant impact on visibility. This is a long-term, high cost improvement that should be included in the proposed project. Specific areas of ledge removal should be determined by the designer and MassDOT District 2 personnel.

- Provide 12-foot lanes to accommodate truck traffic. 11-foot lanes have been proposed for the project meeting minimum MassDOT PDDG requirements. 12-foot lanes should be considered to meet requirements for a National Highway System roadway. This will provide additional width for trucks, which are known to encroach on the opposing travel lane when navigating the many curves along the project corridor. This is a long-term, high cost improvement that should be included in the proposed project.

- Provide “Share The Road” signage. W11-1 Bicycle signs with W16-1 “Share The Road” supplemental plaques should be provided at each end of the study corridor to alert motorists that they may encounter bicycles along the roadway. This is a short-term, low cost improvement.



- Provide curve warning signs with advisory speeds and chevron arrows along Route 9 within the project limits. Existing signage is sporadic and does not meet current retroreflectivity standards. New signs should be erected where appropriate to alert drivers to the roadway geometry. This is a long-term, low cost improvement assumed to be included in the proposed project.

- Provide a “Road Narrows” sign on Route 9 eastbound at the Ware town line. This sign will alert drivers of the change in roadway width as they enter West Brookfield. This is a short-term, low cost improvement.



- Replace the existing “Steep Downgrade” sign with a W7-1 Hill warning sign. The existing sign is substandard and is missing letters. The proposed improvement will more clearly warn drivers of the westbound downgrade. This is a short-term, low cost improvement.



- Relocate the advance guide sign for Route 32 and consider adding a supplemental distance to the sign. The sign can be relocated further east into the clear area in advance of the horizontal curve, which will allow greater visibility for approaching vehicles. Although the existing sign meets MassDOT guidelines for D6/D8 series signs, it was suggested that adding a supplemental distance to the sign would provide additional awareness for approaching vehicles. This is a short-term, low cost improvement.

- Increase enforcement for speeding along the corridor. Additional enforcement is a short-term improvement with no cost, except for the cost of potential reduced enforcement elsewhere. Widened shoulders in the proposed design should increase the officers’ ability to pull over speeders in the future.

- Provide intersection warning signs in advance of Shoreline Drive and Pierce Road. Since both intersections are T-intersections, W2-2 warning signs as shown at right are appropriate. Signs should be posted in each direction in advance of each street. This is a short-term, low cost improvement.



- Replace the existing street name sign for Pierce Road. Town personnel noted that they have begun replacing street name signs town-wide with signs meeting new Manual on Uniform Traffic Control

Devices (MUTCD) requirements for Title Case legends on street name signs. It was noted that the sign at Shoreline Drive has been replaced with a newer, larger sign. The sign at Pierce Road should be similarly replaced as a short-term, low cost improvement.

- Replace mile marker signage along the corridor. Existing mile marker signage is sporadically located. Signage should be updated so that it is consistently located along the corridor, which will help with incident reporting and crash record keeping. This is a long-term, low cost improvement that can be included in the proposed project.
- Reapply pavement markings. It is assumed that centerline markings will continue to be repainted each year by the Town of West Brookfield. Markings included in the proposed project should be six inches wide and should be reflective thermoplastic. This is a long-term, low cost improvement assumed to be included in the proposed project.
- Provide a centerline rumble strip along the project corridor. Centerline rumble strips are being considered by MassDOT in areas showing a history of lane departure crashes. Rumble strips will alert the driver through vibration and noise when they cross the center line, and would address the two crashes attributed to fatigue and one additional crash attributed to inattention. This is a long-term, medium cost improvement that can be included in the proposed project.
- Consider reflectors along the proposed guardrail. Reflectors will help delineate the edge of roadway obstructions at night. It should be noted that two of the reported crashes involved vehicles striking the existing guardrail. This is a long-term, low cost improvement that can be incorporated into the proposed project.

Summary of Road Safety Audit

Table 3 summarizes potential recommendations discussed by the audit team. The recommendations are categorized based on the potential safety payoff, as well as by time frame and cost. The safety payoff is a qualitative judgment of the effectiveness of the potential safety improvements. Each recommendation has a responsibility assigned to it stating whether MassDOT or the Town of West Brookfield would be responsible for implementing the recommended improvement. The term “Project” refers to improvements that are assumed to be included or could reasonably be accommodated as part of planned improvements. Project improvements have a cost category assigned to them; short-term and ongoing maintenance improvements have an order of magnitude cost assigned.

Table 3. Potential Safety Enhancement Summary

Safety Issue	Safety Enhancement	Responsibility	Safety Payoff	Time Frame	Cost
All Locations					
Shoulder/Visibility (including all secondary issues)	Widen shoulders along Route 9 between the Ware Town Line and Pierce Road. The width of shoulders should be determined based in part on a cost/benefit analysis performed using the quantitative measures for determining crash reductions included in the Highway Safety Manuals.	Project	High	Long-term	High**
Shoulder/Visibility, Emergency Vehicles	Consider gravel or grass clear areas off the roadway for vehicles to pull off.	Project	High	Long-term	High*
Shoulder/Visibility, Roadside Obstructions	Increase the proposed guardrail setback in areas where guardrail may restrict visibility.	Project	High	Long-term	Low*
Drainage, Snow/Ice	Provide additional drainage basins along Route 9 and located all basins in the roadway along the gutter line.	Project	Medium	Long-term	High**
Drainage	Verify adequate superelevation transitions in reverse curves in the proposed design, and confirm that drainage basins are placed to prevent cross-roadway sheet flow.	Project	Medium	Short-term (Design)	Low*
Drainage	Provide a shoulder break along the roadway to keep stormwater flow in the roadway gutter.	Project	Medium	Long-term	High**
Trees	Selectively trim trees along the roadway corridor.	Town	Medium	Short-term	\$5,000
Signage, Snow/Ice	Consider “Low Salt Area” signage. (This improvement is not recommended at the current time by the audit team, but should be considered in the future if crashes persist.)	Town	Medium	Mid-term	\$1,000
Shoulder/Visibility, Roadside Obstructions	Implement selective ledge removal in the proposed project.	Project	High	Long-term	High*
Truck Traffic	Provide 12-foot lanes to accommodate truck traffic.	Project	High	Long-term	High*
Bicycle Accommodation, Signage	Provide “Share The Road” signage at each end of the study corridor.	Town	Medium	Short-term	\$1,000
Signage	Provide curve warning signs with advisory speeds and chevron arrows along Route 9 within the project limits.	Project	High	Long-term	Low**

Table 3. Potential Safety Enhancement Summary

Safety Issue	Safety Enhancement	Responsibility	Safety Payoff	Time Frame	Cost
Signage	Provide a “Road Narrows” sign on Route 9 eastbound at the Ware town line.	Town	Medium	Short-term	\$250
Signage	Replace the existing “Steep Downgrade” sign with a W7-1 Hill warning sign.	Town	Medium	Short-term	\$250
Signage	Relocate the advance guide sign for Route 32 and consider adding a supplemental distance to the sign.	MassDOT	Medium	Short-term	\$1,000
Speeding	Increase enforcement for speeding along the corridor.	Town	High	Short-term	Use of police resources
Signage	Provide intersection warning signs in advance of Shoreline Drive and Pierce Road.	Town	Medium	Short-term	\$1,000
Signage	Replace the existing street name sign for Pierce Road.	Town	Medium	Short-term	\$250
Signage	Replace mile marker signage along the corridor.	Project	Medium	Long-term	Low*
Pavement Markings	Reapply pavement markings.	Project	High	Long-term	Low**
Driver Fatigue	Provide a centerline rumble strip along the project corridor.	Project	High	Long-term	Medium*
Roadside Obstructions	Consider reflectors along the proposed guardrail.	Project	High	Long-term	Low*

* These improvements were not part of the proposed project as described and should be included in the next submission. All other “Project” safety enhancements are assumed to already be included in the proposed improvements.

** Improvements to be incorporated into the proposed project are assumed to be included as part of the overall project cost.

Appendix A. RSA Meeting Agenda

Agenda

Road Safety Audit

West Brookfield

Route 9 – Ware Town Line to Pierce Road

Meeting Location: Lower Level Conference Room

West Brookfield Town Hall

2 East Main Street, West Brookfield, MA

Friday, December 7, 2012

10:00 AM – 12:00 noon

Type of meeting:	Road Safety Audit
Attendees:	Invited Participants to Comprise a Multidisciplinary Team
Please bring:	Thoughts and Enthusiasm!!

10:00 AM Welcome and Introductions

10:15 AM Discussion of Safety Issues

- Crash history – provided in advance
- Existing Geometries and Conditions

11:00 AM Site Visit

- Drive to Route 9 between Ware Town Line and Pierce Road
- As a group, identify areas for improvement

11:30 AM Discussion of Potential Improvements

- Discuss observations and finalize safety issue areas
- Discuss potential improvements and finalize recommendations

12:00 noon Adjourn for the Day – but the RSA has not ended

Instructions for Participants:

- Before attending the RSA on December 7th, participants are encouraged to drive through the corridor and complete/consider elements on the RSA Prompt List with a focus on safety.
- All participants will be actively involved in the process throughout. Participants are encouraged to come with thoughts and ideas, but are reminded that the synergy that develops and respect for others' opinions are key elements to the success of the overall RSA process.
- After the RSA meeting, participants will be asked to comment and respond to the document materials to assure it is reflective of the RSA completed by the multidisciplinary team.

Appendix B. RSA Audit Team Contact List

Participating Audit Team Members

Date: December 7, 2012

Location: West Brookfield - Route 9

Audit Team Member	Agency/Affiliation	Email Address	Phone Number
Greg Lucas	BETA Group	GLUCAS@BETA-INC.COM	781-255-1982
Justin Cerasitz	BETA Group	JCerasitz@BETA-INC.COM	781-255-1982
DOUG WHITE	MASSDOT - DIST. 2	Douglas.M.White@DOT.STATE.MA.US	413 582-0557
LAWRIE SCARBROUGH	MASSDOT D2	lawrie.scarbrough@DOT.STATE.MA.US	413-582-0591
Sujatha Mohanakrishnan	CMRPC	sujaatha@cmrpc.org	508.459.3335
DANI DANISKA	CHRPC	ddaniska@chrpc.org	508.459.3331
JOHANNA BARRY	selectmens office	jbarry@wbrookfield.com	508-867-1421 X300
John Morgan	Coler-Folantonio	jmorgan@col-col.com	781-982-5437
Chris Chambers	MassDOT-D6	Christopher.Chambers@DOT.STATE.MA.US	978-395-1080
Tom O'Donnell	WBPD	ctodonne11@wbrookfield.com	508-867-1405
Kevin KRASUECKY	CMRPC	KKRASUECKY@CMRPC.ORG	508-459-3314
Barry Nadon Jr.	Selectmen	bear69vette@charter.net	413-355-4606
Paul D Guertin	C & C Engrs	pguertin@col-col.com	(617) 510-6081
Jim Daley	Hwy Superintendent	jdaley@wbrookfield.com	508-867-1917
Lisa Schlettzbaur	MassDOT - Safety	Lisa.Schlettzbaur@state.ma.us	857-388-9634

Appendix C. Detailed Crash Data

Crash Data Summary Table

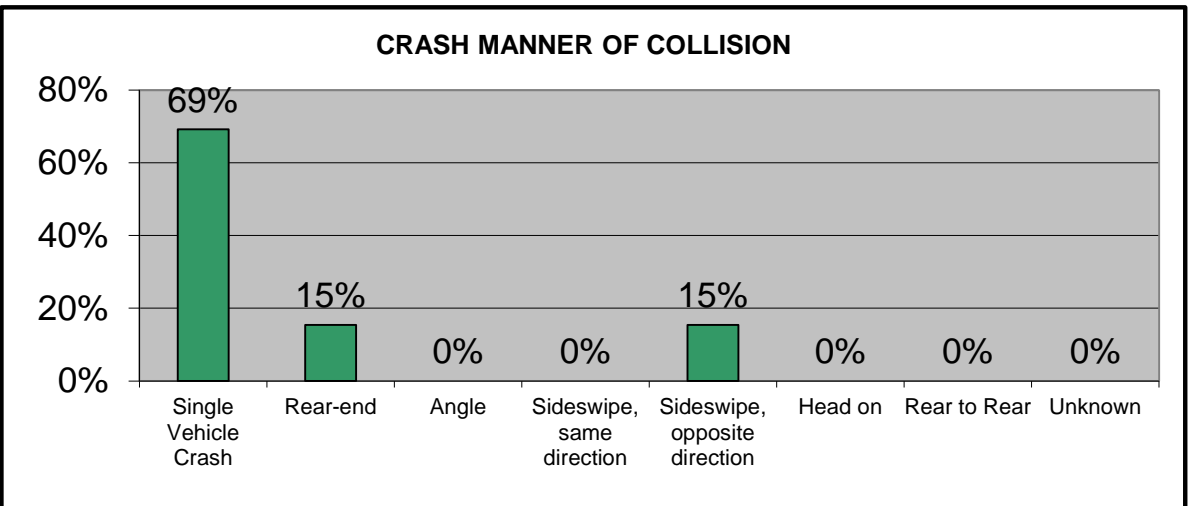
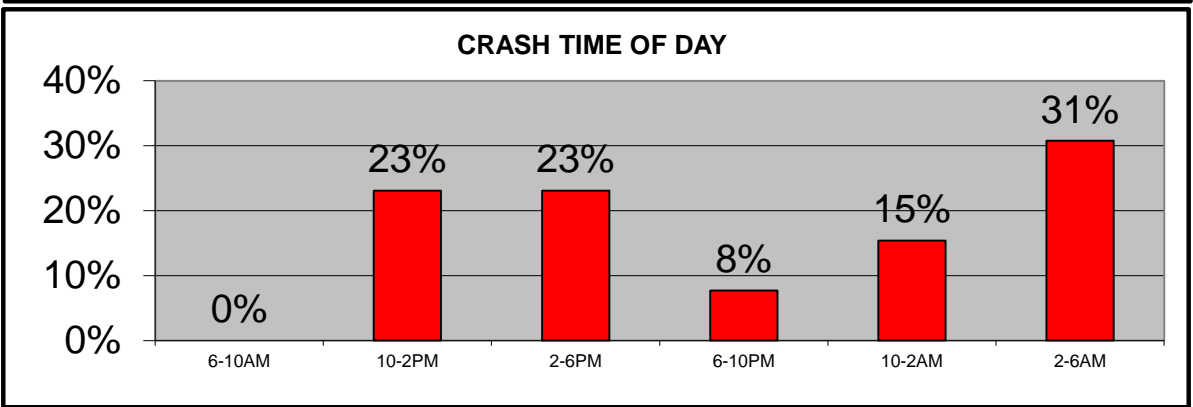
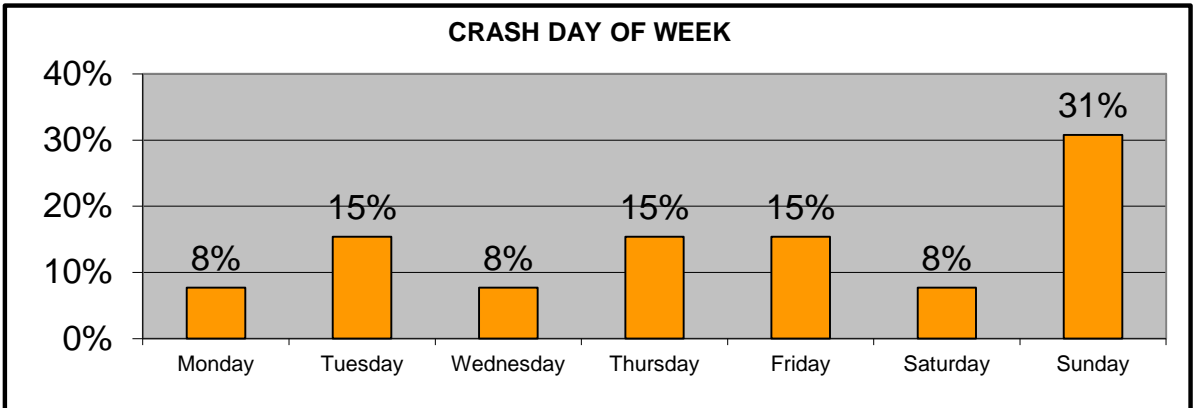
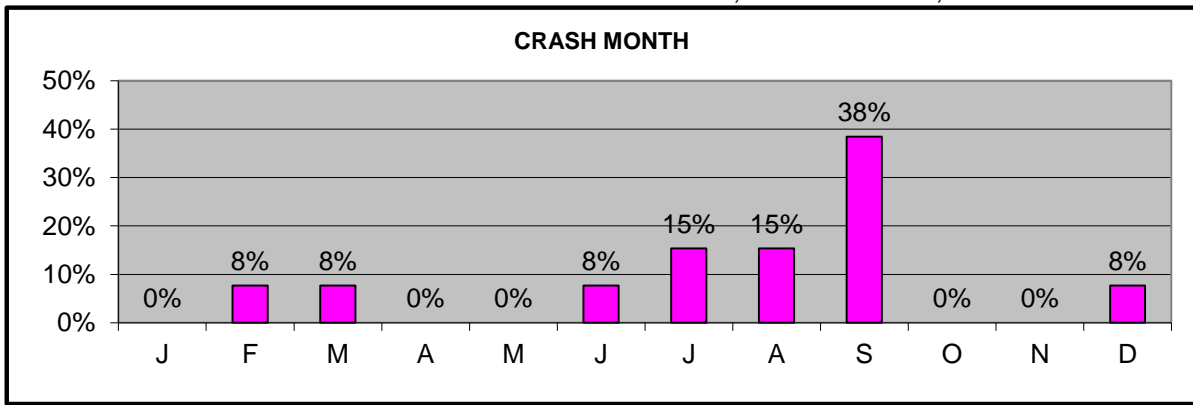
West Main Street (Rt 9); West Brookfield, MA

9/1/2008 - 8/1/2011

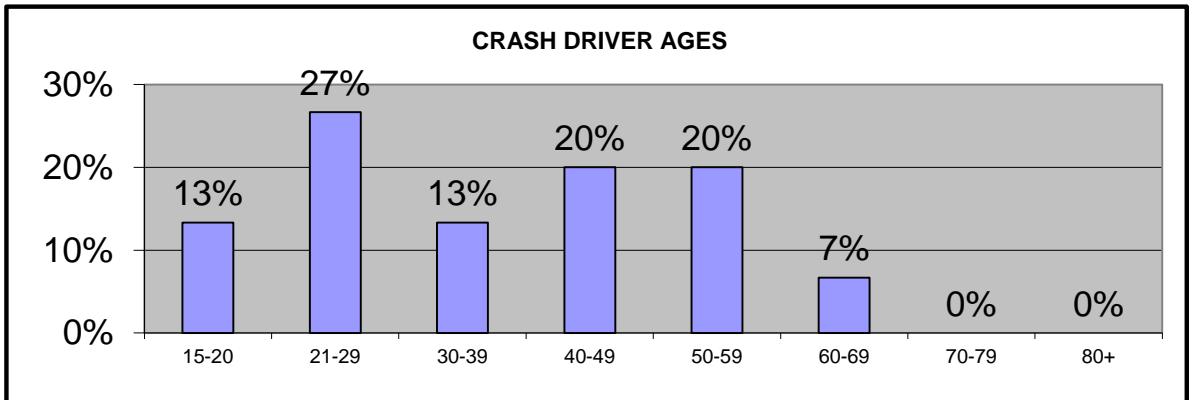
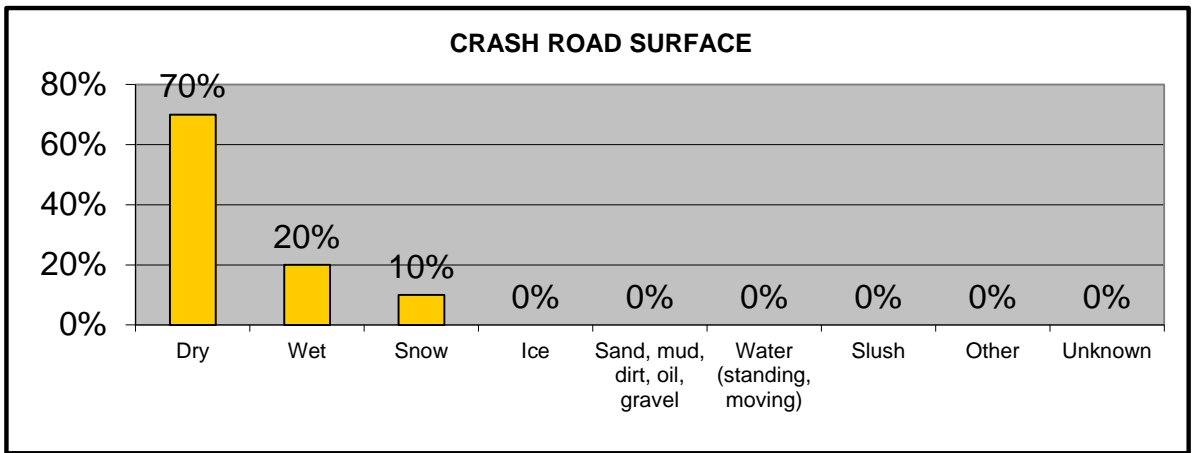
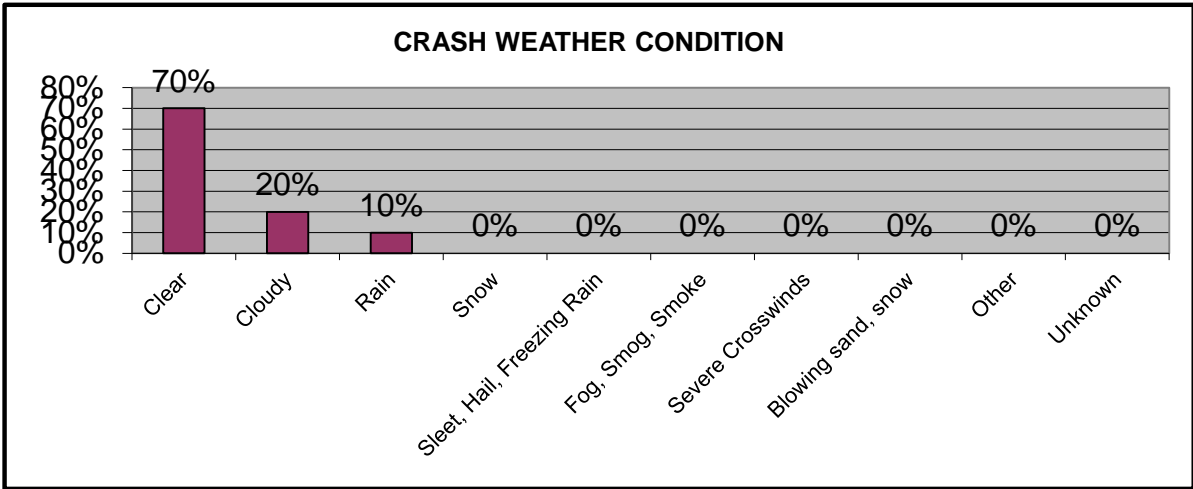
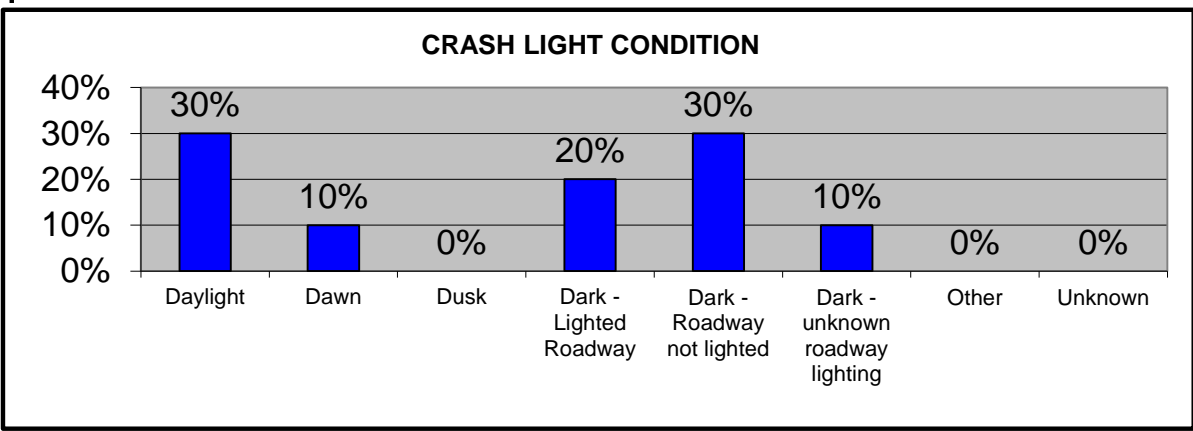
#	Crash Date	Time of Day	Manner of Collision	Light Condition	Weather Condition	Road Surface	Driver Contributing Code	Ages		Comments
	m/d/y		Type	Type	Type	Type	Type	D1	D2	
1	9/5/08	9:25 PM	Single Vehicle Crash	Dark - roadway not lighted	Clear	Dry	Operating Vehicle in erratic, reckless, careless, negligent, or aggressive manner	22		Operator was traveling down Pierce Rd. too fast, ran through stop sign, crossed W Main St and came to rest in a ditch.
2	9/14/08	2:44 AM	Single Vehicle Crash	Dark - lighted roadway	Cloudy	Wet	Fatigued/asleep	36		Operator fell asleep and struck utility pole #58
3	6/7/09	2:58 PM	Sideswipe, opposite direction	Daylight	Clear	Dry	Exceeded authorized speed limit	18	32	Operator came around corner, went over double yellow line, side-swiped Veh 2, ran off right side of road up hill, then back across road into guardrail.
4	9/22/09	5:29 AM	Single Vehicle Crash	Dark, unknown roadway lighting	Clear	Dry	Operating Vehicle in erratic, reckless, careless, negligent, or aggressive manner	27		Vehicle veered across road and hit guard rail on opposite side of road
5	7/12/10	3:42 PM	Single Vehicle Crash							**INCIDENT REPORT Branch fell on Veh 1 (motorcycle) at 494 W Main St.
6	8/6/10	12:25 AM	Single Vehicle Crash	Dark - roadway not lighted	Clear	Dry	No Improper Driving	17		Vehicle struck guardrail then crossed roadway and hit tree
7	8/17/10	11:04 AM	Rear-end	Daylight	Clear	Dry	No Improper Driving	48	unk	Veh 1's wheel came off while driving and it rolled into Veh 2 which was parked in #389 W Main St.
8	9/22/10	11:56 AM	Rear-end					58	56	**INCIDENT REPORT Police veh was stopped to turn left into #342 W Main St., Veh 1, which was behind police veh, was rear-ended by Veh 2.
9	9/30/10	12:40 PM	Single Vehicle Crash	Daylight	Rain	Wet	No Improper Driving	47		Vehicle struck a small tree in roadway
10	12/23/10	3:31 PM	Sideswipe, opposite direction	Dawn	Cloudy	Dry	Fatigued/asleep	25	52	Vehicle 1 crossed double yellow center line at curves in road and side-swiped vehicle 2
11	2/6/11	11:20 PM	Single Vehicle Crash	Dark - lighted roadway	Clear	Snow	Driving too fast for conditions	43		Vehicle traveled off roadway into embankment
12	7/3/11	3:19 AM	Single Vehicle Crash	Dark - roadway not lighted	Clear	Dry	Inattention	20		Vehicle left roadway and struck tree on opposite side of road

Summary based on Crash Reports obtained from the West Brookfield Police Department

Crash Data Summary Tables and Charts
Route 9 from Ware Town Line to Pierce Road; West Brookfield, MA



Crash Data Summary Tables and Charts
Route 9 from Ware Town Line to Pierce Road; West Brookfield, MA



Appendix D. Highway Safety Manual Analysis

Road Segment Element Treatment

Shoulder Width Treatment

2012 AADT =	5400	from FDR, June 2012
2032 AADT =	6000	from FDR, June 2012
Related Crashes* (crash/yr) =	2.3	From West Brookfield PD records, 9/1/2008 - 8-1-2011
Total Crashes (crash/yr) =	4	From West Brookfield PD records, 9/1/2008 - 8-1-2011
p_{ra} =	0.58	

*Related crashes are crashes that are single-vehicle run-off-road, multiple-vehicle head on, opposite-direction sideswipe, and same-direction sideswipe as stated in Figure 13-5.

Crash Modification Factors

Width of shoulder	2 ft (current)	4 ft	8 ft	
CMF_{ra}	1.3	1.15	0.87	from figure 13-5
$CMF_{ra\ treatment}$	1	0.88	0.67	

CMF_{total}	1.18	1.09	0.92	from equation 13-3
$CMF_{total\ treatment}$	1	0.93	0.79	

Expected Number of Crashes

Width of shoulder	2 ft (current)	4 ft	8 ft
Related Crashes (crash/yr)	2.3	2.1	1.6
Crash Reduction (crash/yr)	0	0.3	0.8
Total Crashes (crash/yr)	4	3.7	3.1
Crash Reduction (crash/yr)	0	0.3	0.9