Route 9 Enhancement Study and Plan

Inventory and Assessment of Existing Conditions

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Prepared by
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Table of Contents

Figures

Tables

Appendices

Introduction

The main objective of this report is to provide information about existing conditions along the Route 9 corridor. The Existing Conditions report summarizes previous planning initiatives which have identified goals and concerns for the corridor. An overview of commuter rail and bus service, an analysis of recent crash data, and a discussion of pedestrian and bicycle activity are contained as well. The Existing Conditions report concludes with a synopsis of physical conditions that include travel lanes, medians, sidewalks, driveways and curbcuts, stormwater facilities, signage, pavement markings, lighting, landscaping, historic features, and guardrails. Intended to serve as a baseline of information, the Existing Conditions report is anticipated to allow informed judgments regarding future recommendations for the Route 9 corridor. It is imperative that any future recommendations address safety for all modes of transportation, minimize accidents, and enhance traffic flow.

Traversing through twenty-eight cities and towns, Route 9 is an east-west state highway providing a direct connection between Boston and Worcester. Its eastern terminus is in Boston and its western terminus is in Pittsfield. Route 9 crosses through the middle of Wellesley for a total of 4.8 miles.

The extent of Route 9 in Wellesley, a mature suburban community, is primarily residential with single- and multi-family homes but "bookended" by various types of office and retail land uses to the east and west. To the east, the concentrations of office and retail are primarily at the intersections of Route 9 with Route 16, Cedar Street, and I-95 (Route 128). The western side of Route 9, at the town boundary, is a continuation of the office and retail development which continues further west into Natick. Additionally, higher educational institutions are prominent uses in the corridor, as MassBay Community College has direct frontage on the south side of Route 9 between Oakland Street and Standish Road, while both Babson College and Wellesley College are within a mile of Route 9.

Under Massachusetts Department of Transportation (MassDOT) jurisdiction, Route 9 is a major component of Wellesley's complex roadway network. Numerous abutter sites (residential, office, and retail) with driveways have direct access onto Route 9. The majority of these driveways are the only access points to these sites and allow right turn movements only. While many roads accessing Route 9 are local roads serving residential areas, there are several roadways of higher functional class that also intersect with or cross over this roadway. These roadways include:

- I-95 - Interstate
- Route 16/Washington Street - Urban Principal Arterial
- Weston Road, Kingsbury Street, and Cedar Street - Urban Minor Arterials
- Standish Road, Oakland Street, Cliff Road, and Oak Street - Urban Collectors

Route 9 in Wellesley is a divided highway with two travel lanes in each direction and 8- to 10- foot shoulders along most of its length. There are approximately 300 parcels of land bordering the corridor. Distinctive stone walls along the corridor and a segment with a grass median spanning approximately 1,500 feet between Upway and Sprague Roads are unique features along Route 9 in Wellesley.

While Route 9 serves both as a major highway for commuters and non-local traffic, it is also a critical link for local travel needs. For many, Route 9 provides an alternate route to both Interstate 95 and the Mass Pike. Locally, Route 9 is perceived as separating, rather than integrating the Town both from a functional and a geographical point of view. Route 9 and key transportation facilities are shown in Appendix A.

State Transportation Projects

There is one ongoing and two planned MassDOT roadway projects that include Route 9 in Wellesley. The ongoing Needham-Wellesley I-95 Add-a-Lane project and the planned resurfacing and reconstruction projects are described below.

Current

Needham-Wellesley I-95 Add-a-Lane - 603711

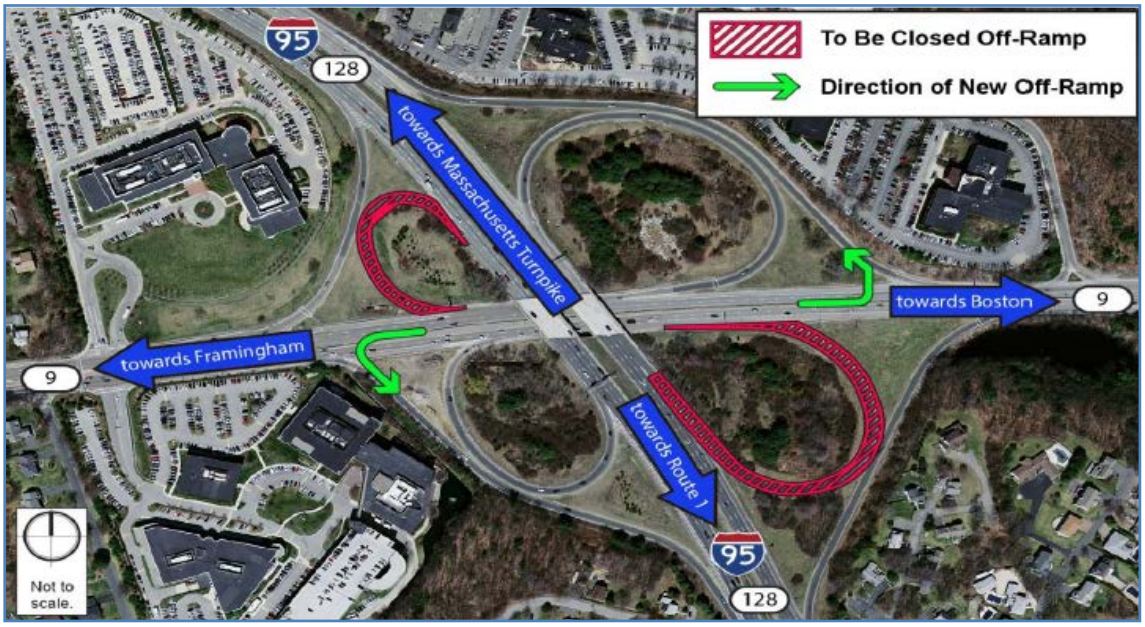
This project is the sixth and final contract to provide an additional travel lane and shoulder toward the median on I-95 from approximately Route 24 in Randolph to Route 9 in Wellesley. This widening includes restoring the breakdown lanes for their intended use. This sixth contract is a 3.8-mile segment of I-95 from just north of the Needham Branch railroad bridge in Needham to about 5,000 feet north of Route 9 in Wellesley.

As shown in Figure 1, the new traffic pattern at the Route 9/I-95 Interchange will include:

- Drivers traveling eastbound (towards Boston) on Route 9 and seeking to access I-95 northbound (towards the Massachusetts Turnpike) will exit Route 9 via a new signalized left-turn lane connecting them to the ramp formerly used for this purpose by westbound traffic.

- Drivers traveling westbound (towards Natick) on Route 9 and seeking to access I-95 southbound (towards Route 1) will exit Route 9 via a new signalized left-turn lane connecting them to the ramp formerly used for this purpose by eastbound traffic.

Figure 1: New Traffic Pattern at the Route 9/I-95 Interchange



Source: Howard/Stein-Hudson.

The signalization at the Route 9/I-95 interchange is permanent, but the ramps are not yet fully complete. When complete, the on-ramps will provide greater merging distances to allow traffic from Route 9 west and eastbound to come together smoothly and safely as drivers access I-95. Both on-ramps, to I-95 northbound and I-95 southbound, will provide two lanes for most of their length when the project is completed. Construction is currently underway and the project is expected to be finalized in spring 2019.

Planned

MassDOT has two distinct roadway projects planned for the full extent of the Route 9 corridor in Wellesley. One is an interim project for pavement resurfacing (MassDOT number 608180) and the other is a roadway reconstruction project (MassDOT number 607340). Both projects cover the entire span of Route 9 in Wellesley. Below is a description and status for each project:

Resurfacing of Route 9 - 608180

This project will resurface Route 9 using NHS (National Highway System) funds and will focus on pavement resurfacing only (also referred to as curb-to-curb). It is anticipated the project will be advertised by MassDOT in winter 2016 and pavement resurfacing work is expected to commence approximately three months later. The Town of Wellesley has started to collaborate with MassDOT to include improvements to reconfigure the Kingsbury Street intersection (e.g., establish a fully signalized T intersection and remove existing turnarounds). The estimated project cost is $5 million.

Route 9 Reconstruction - 607340

The project involves the resurfacing of Route 9 from Dearborn Street to the Natick town line, an approximate project length of 4.8 center miles. The roadway work will include milling and resurfacing (with saw-cut and seal of the underlying concrete joints), wheelchair ramp upgrades, sidewalk repairs and improvements, signal improvements, new reflectorized lines, and recessed roadway deflectors. The estimated cost for this project is $16.5 million. Funds to either bring this project to 25 percent design or for construction have not yet been identified by MassDOT.

Previous Planning Initiatives

Over the years, several planning initiatives have been undertaken by the Town that encompass the Route 9 area. Below, in chronological order, is a summary of the key planning studies and site-specific plans which have identified concerns and goals for the corridor.

Key Planning Studies

Route 9 – Wellesley Reconstruction, Natick to I-95 (July 14, 2015)
This technical memorandum prepared for MassDOT by Greenman-Pedersen Inc. details enhancements along the Route 9 corridor including major project components. Kingsbury Street, Route 16 (Washington Street), and Westgate Road are identified as three critical intersections in need of additional upgrades and enhancements to improve and capacity.

Parking Regulations Report (2014)
Howard/Stein-Hudson Associates (HSH) conducted field observations of the off-street and on-street parking supplies (both public and private) for five targeted parking districts: Wellesley Square, Lower Falls, Linden Square, State Street, and Wellesley Hills. Data evaluation included on-site observations of access, capacity, occupancy, turnover, and distribution. HSH then compared the existing parking characteristics to the current parking bylaw requirements as well as the potential reuse, rehabilitation, and redevelopment in the districts based on use and dimensional standards as well as general market opportunities.

Route 9 Smart Growth Plan (2013)
The MWRC and MAPC worked with Southborough, Framingham, Natick, and Wellesley on the *Route 9 Smart Growth Plan* that further develops the recommendations outlined in the Route 9 Corridor Analysis (2011). The *Route 9 Smart Growth Plan* includes alternative designs and land uses for several smart growth opportunity areas along with computer visualizations, traffic analysis, design guidelines and zoning recommendations. By advancing the recommendations of the *Route 9 Corridor Analysis*, the *Route 9 Smart Growth Plan* focuses on the potential for compact, mixed-use (housing, office, and commercial) developments that are pedestrian and bicycle friendly.

The *Route 9 Smart Growth Plan* developed the notion of creating denser Smart Growth Opportunity Areas that would be better served by public transportation and generate fewer automobile trips than current development patterns. Alternative designs and land uses for three Smart Growth Opportunity Areas are included along with, traffic analysis, design guidelines, and zoning recommendations. The intersection of Route 9 and Overbrook Drive in Wellesley was considered as a candidate Smart Growth Opportunity Area. This location was specifically viewed as an opportunity for mixed-use development in need of enhanced landscaping design. The *Route 9 Smart Growth Plan* is intended to be used as a benchmark for implementing smart growth-related action steps not only at each Smart Growth Opportunity Area, but also along the corridor as a whole.

Open Space Residential Design (ORSD) Study (2010-2013)
The Town of Wellesley enacted a Natural Resources Protection (NRP) Development Bylaw following a study by Horsley Witten and Dodson Associates. The study used the Wellesley North 40 parcel and the St. James parcel among others to illustrate cluster-style development scenarios. This bylaw applies to subdivisions of five or more lots and concentrates development on a site, while preserving open space. Building denser mixed-use cluster-style developments can also foster fewer single-occupancy vehicle trips, thus leading to decreased levels of traffic and greenhouse gas emissions, and overall Vehicle Miles Traveled (VMT).

Route 9 Corridor Analysis (2011)

MAPC studied the potential for growth along the Route 9 Corridor between Route 128 and I-495, comparing two different development scenarios in order to better understand how land use changes could achieve growth but also mitigate traffic congestion along this section of Route 9.

The *Route 9 Corridor Analysis* determined that the current build-out potential could result in an 88 percent increase in the building square footage and a 41 percent increase in vehicular trips that would significantly exceed capacity and overwhelm Route 9. Alternatively, the projected Smart Growth build-out scenario would yield a 61 percent increase in commercial building square footage plus over 3,000 new housing units compared to existing conditions along Route 9 but only result in a 20 percent increase in vehicular trips. Under the current regulations, there is potential for redevelopment in Wellesley, but little potential for net new growth because the majority of the corridor is zoned for single-family residential development, and much of the existing commercial development is already built to or over the current zoning limit.

The *Route 9 Corridor Analysis* recommended that future development on Route 9 entail more mixed use (residential, commercial, retail, etc.) and compact walkable developments (e.g., parcel connectivity) as well as an improved pedestrian, transit, and bicycle friendly environment. Denser areas of development along Route 9 have the potential to be better served by public transportation. As a result, fewer automobile trips would be generated as compared to growth using conventional development patterns.

Developing Fixed-Route Bus Service in the Town of Wellesley (2011)

A Public Transportation Working Group (PTWG) was convened to address the Selectmen's objectives to determine how best to achieve policy goals supporting expanded public transit services and address public demand for a broader array of transportation alternatives. Specific recommendations regarding public transportation included providing more focused attention to transportation issues in town government, renewing participation in regional transportation planning, exploring the possibility of an intra-town transit system, and implementing stronger transportation development management strategies.

The minimum provision of a fixed route service along a single route was determined to be a central component in the development of a broader, more effective system in which coordination with other public and privately financed linkages and services can be integrated over time. This core service should provide transit opportunities at least initially to populations with the greatest ridership potential.

Wellesley Walks – A Comprehensive Pedestrian Program (2009)

Commissioned by the Planning Board and authored by Nelson/Nygaard, this report details numerous short- and long-term goals and strategies for enhancing the pedestrian experience throughout Wellesley, with special attention given to commercial districts and areas around schools.

Specifically, one of the stated objectives under Goal 8: Expand Community Access through All Forms of Transportation is to improve walking connections to transit and parking. Another strategy suggests a shuttle or trolley in commercial districts. No specific crash or traffic data were detailed, but input from the community noted that traffic and speeding drivers were barriers to creating a pedestrian-friendly environment.

This report has a very detailed listing of school access, sidewalk, and crossing needs throughout the Town. Within the Route 9 corridor, specific problems listed are access to Wellesley Middle School and Sprague Elementary (due to "treacherous" Route 9 crossings); inconsistent sidewalks on Route 9; and problem crossings and intersections at Kingsbury Street, Oakland Street, Dearborn Street, and the interchange at Weston Road.

Wellesley West Gateway Study (2008)

Authored by Donna Jacobs of the MetroWest Growth Management Committee, this report examined how the commercial area at the town border with Natick could be redeveloped using various smart growth strategies including mixed-use zoning and traditional neighborhood development, based in part on community preferences expressed at two public forums. The report includes a detailed photographic inventory of commercial properties on Route 9.

An issue discussed was the incidence of rear-end crashes within the study area, with the implication that bad driveways to businesses are causing queuing and leading to rear-end crashes. Additionally, based on feedback received at a public forum, the second-greatest concern was problematic Route 9 intersections, including Overbrook Drive, Weston Road, and Oak Street.

Final Comprehensive Plan (2007-2017) (2007)

The Final Comprehensive Plan is Wellesley's fourth Comprehensive Plan. Phase One was undertaken in 2004-2005 and Phase Two from 2005-2006. Part of the Phase One planning process was to develop goals and policies for all the plan elements, including some that were to be pursued in depth during Phase Two.

The Plan refers to Route 9 as a "critical high-volume/high hazard corridor that should be critiqued for improvements." The Plan further states that improvement projects should separate pedestrian and bicycle traffic from peak hour traffic congestion, indicates the need to improve traffic safety and correct hazardous locations, and supports strengthening public transit.

Cedar Street Land Use and Neighborhood Design Plan (2001)

This report was commissioned by the Planning Board and authored by The Cecil Group with Abend Associates, building on a Phase I report from 1999. One of the goals of the report is to help foster neighborhood character and identity at several intersections along the length of Cedar Street. While the report addresses the length of Cedar Street Corridor, particular attention is given to the Cedar Street/Route 9 interchange and the notion of a "Cedar Center" using adjacent redevelopment parcels.

Much attention is given to land use and zoning changes to promote neighborhood nodes with character. Associated with that, some emphasis is also given to streetscape design for sections of the corridor. Particular focus was given to various reconfigurations of the Cedar Street/Route 9 intersection, which has subsequently been reconfigured, based on a configuration other than the expressed preference.

Crash and traffic data were not specifically addressed, but notions of traffic calming, improving the pedestrian and bicycling experience and improved signalization are incorporated within. Additionally, the report notes that existing bus routes do not stop at the Cedar/Route 9 intersection and existing bus shelters need upgrading, on both the eastbound and westbound sides.

Route 9 Corridor Study in Wellesley (July 2001)

This study, authored by the Central Transportation Planning Staff (CTPS), evaluated the intersections and interchanges along Route 9 in Wellesley and provided development improvement options for addressing congestion, safety, and accessibility problems in the corridor. This study aimed to present sufficient information about conditions along the Route 9 corridor to allow informed judgments about the most desirable strategies to advance. Such strategies may become future projects, to be designed and implemented by MassDOT, the Town, and/or others. The key intersections identified were Overbrook Drive, Weston Road, Oak and Westgate Road, Kingsbury Street, Grantland Road, Oakland Street, Cedar Street, and William Street.

Route 9 Corridor Planning Study – Short-Range Element (1986)
Prepared by CTPS, this report analyzed levels of use in the Route 9 corridor and identified short-range solution projects such as pavement re-striping, signal retiming/phasing, and purchasing of new equipment. The report identified the following intersections with existing traffic problems: Route 128, Cedar Street, Emerson Road, Oakland Road, Route 16, Worcester Street, Cliff Road, Westgate Road, Weston Road, and Overbrook Drive.

Site-Specific Plans

Below are summaries of ongoing site-specific projects along the Route 9 corridor. Of note, these projects are all concentrated to the west on the south side of Route 9.

900 Worcester Street Committee/St. James Church Site
There has been a lot of attention given to this location in recent years, which is currently owned by the Town. The former St. James the Great Church stood on the site until its demolition in September 2015. In May 2010, Concord Square Planning and Development issued the "Saint James the Great Alternative Land Use Study" which analyzed recreation, residential, and retail/office redevelopment scenarios. The Town has issued a Request for Proposal seeking private development of the site for a multi-use recreational facility. In July 2015, ColnsultEcon, Inc. and Isaac Sports Group issued a "Wellesley Aquatic Facility - Final Report" on a proposed aquatic facility for the site. Also in July 2015, Gale Associates, Inc. issued a Stormwater and Transportation Study of the 900 Worcester Street site. The study evaluated three potential recreational facility developments and concluded that the scenarios are feasible provided that best stormwater management practices are incorporated and that a flood study of the site is performed prior to final design.

Wellesley North 40 Parcel
In December 2014, the Town completed the purchase of this site just south of Route 9 west of Weston Road, formerly owned by Wellesley College. At least half of the 46 acres will remain open space. The Town had established a North 40 Visioning Committee to evaluate the potential acquisition of the site. The Wellesley Comprehensive Plan envisions cluster overlay zoning at this site, but the Town has committed to conducting a complete planning evaluation for the property before determining its future use.

Traffic Impact and Access Study for Proposed CVS at 980 Worcester Turnpike
In August 2009, Vanasse Hangen Brustlin, Inc. (VHB) completed a detailed Traffic Impact and Access Study to evaluate the traffic impacts associated with a proposed CVS Pharmacy at the intersection of Route 9 and Overbrook Drive. The study concluded that there would be no significant traffic impacts in the area as a result of the proposed project. CVS has since been constructed and occupied.

978 Worcester Road – Former Wellesley Travel Inn Site
In 2008, the Design Review Board reviewed a proposed two-story 24,000 square foot commercial structure and a 36-unit residential unit development at the site of the former Wellesley Travel Inn. The commercial structure has been developed along Route 9, and the residential component appears to be under construction behind that site.

Traffic Impact and Access Study for Proposed Wellesley DPW/MLP Building Project - DRAFT
In February 2006, Vanasse & Associates, Inc. completed a draft Traffic Impact and Access Study to analyze traffic impacts of renovating the Wellesley Department of Public Works (DPW) and Municipal Light Plant (MLP). Review of the proposed development and access plan show that in relation to roadway capacity, traffic safety, and traffic impacts upon the surrounding roadway network, the proposed project will have a minimal impact on existing traffic conditions. Recommendations for site access included improved and illuminated signage, pavement markings, and upgraded sidewalk quality.

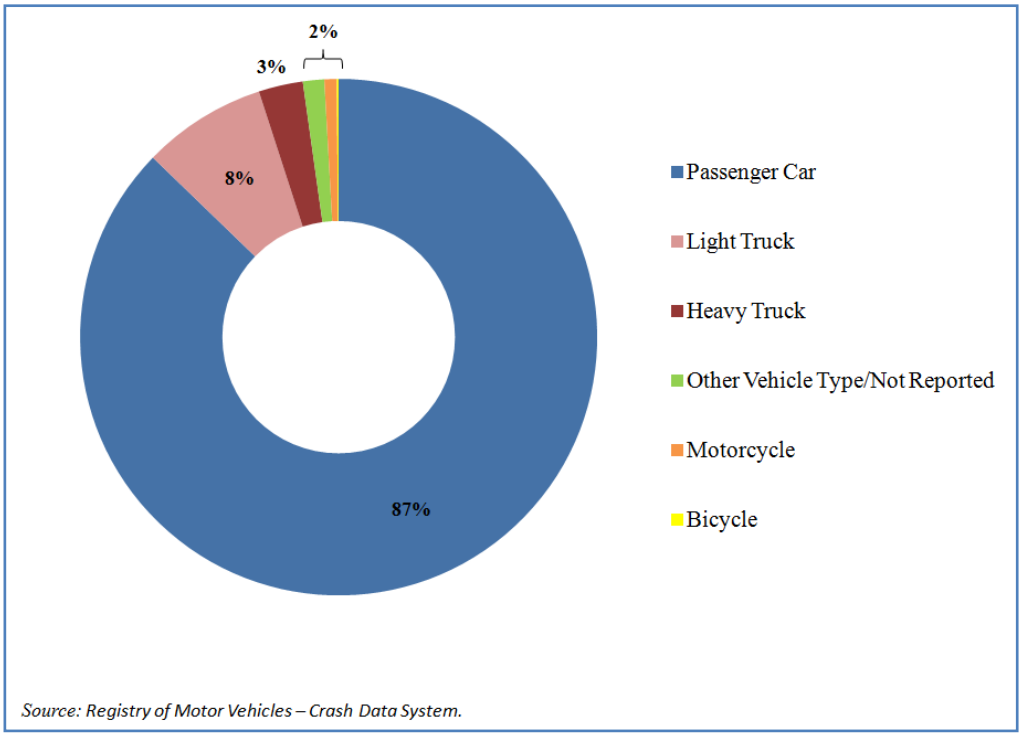
Traffic Impact and Access Study for Proposed Wellesley Manor Residential Community

In June 2005, Vanasse & Associates, Inc. completed a detailed Traffic Impact and Access Study to analyze traffic impacts associated with the development of a 32-unit condominium complex, referred to as Wellesley Manor, marketed toward retirees (age 55+). The traffic impacts of the planned development were determined to be minimal. The project has since been constructed and occupied.

Vehicular Activity

Route 9 is a high- volume corridor with a significant number of crashes. For the three years between 2011 and 2013[1], there were 901 reported crashes along Route 9 in Wellesley. As shown in Figure 2, of these crashes, 786 or 87 percent were passenger cars and 11 percent involved trucks. During this three year period, there were no reported crashes involving pedestrians and one crash involved a bicycle at Kingsbury Street. There were two fatalities at Route 9 and Route 16. One fatality involved a passenger car and the other a motorcyclist. Both fatalities were crashes with fixed objects (e.g., median barrier) not other vehicles.

Figure 2: Crash Data by Vehicle Type along Route 9



Source: Registry of Motor Vehicles – Crash Data System.

Overall, the pattern of truck crashes is consistent with that of vehicular crashes. The majority of truck crashes occurred at the I-95 interchange, followed by Kingsbury Street, Weston Road, and Route 16. Of the truck crashes, 74 and 26 percent were light and heavy trucks respectively[2].

The total number of crashes along the Route 9 corridor has remained relatively consistent. According to Wellesley's Comprehensive Plan Update (2007-2017), there were 883 crashes during the three-year period from 2002-2004. CTPS' Route 9 Corridor Study in Wellesley (2001) reported there were 954 crashes between1994 through 1996.

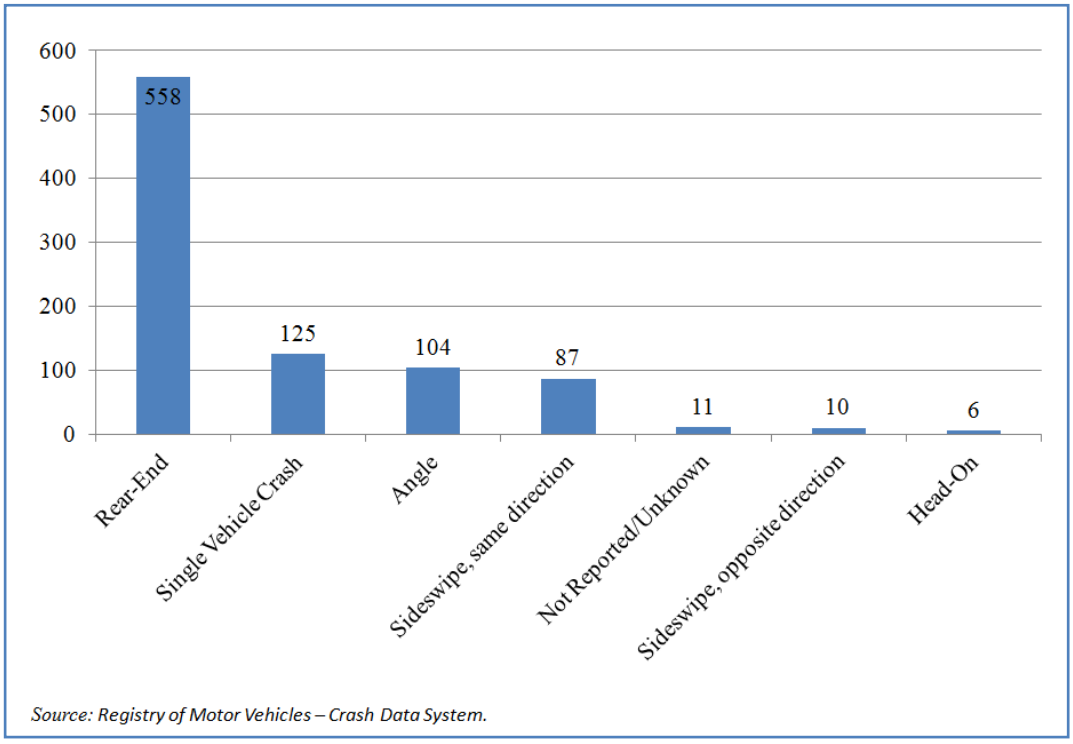
[1] The three most recent years of available data from the Registry of Motor Vehicles. The data represents a comprehensive source of information on reported crashes.

[2] Light truck - van, mini-van, panel, or pickup sport utility with only four tires.
Heavy truck - single-unit truck with 2 or more axels or a tractor-trailer.

As depicted in Figure 3 and the Crash Data maps in Appendix B, the highest concentration of crashes along the Route 9 corridor are at the I-95 interchange, Route 16, Kingsbury Street, Weston Road, and Overbrook Drive. The Crash Data maps in Appendix B are a graphical depiction of the 901 reported crashes along the Route 9 corridor in Wellesley for the 2011-2013 time period.
Of the total number of crashes, 62 percent or 558 were rear-end. Of the rear end crashes in which both vehicles were traveling in one direction, 56 percent were traveling eastbound and 44 percent were traveling westbound. The frequency and types of crashes can serve as indicators for the types of improvements that may be needed at particular roadway locations. Locations characterized by rear-end collisions could mean a need for improved sight lines and advanced warning of signals. Crashes can also be indicators of poor signage and roadway geometry.

The next most frequent crash types are single vehicle followed by angle crashes at 14 and 12 percent respectively. Locations where angle-type collisions are recurrent may indicate poor sight distances, need for improved signal timings, or exclusive turning phases. Table 1 contains the full crash profile of the 901 crashes along Route 9 for the three year period between 2011 and 2013. An interesting observation is that the majority (54 percent) of all crashes that occurred along Route 9 were during the weekday and times other than the morning peak (7-9am) or evening peak (4-6pm).

Figure 3: Types of Crashes along Route 9



Source: Registry of Motor Vehicles – Crash Data System.

Table 1: Profile of Crash Data between 2011 and 2013

	2011	2012	2013	Total	Annual Average
Collision Type					
Angle	24	36	44	104	35
Head-On	1	2	3	6	2
Rear-End	177	192	189	558	186
Sideswipe, opposite direction	4	5	1	10	3
Sideswipe, same direction	25	23	39	87	29
Single Vehicle Crash	35	49	41	125	42
Not Reported/Unknown	5	5	1	11	4
TOTAL	271	312	318	901	300
Crash Severity					
Fatal Injury	0	1[a]	1[b]	2	1
Non-Fatal Injury	56	57	62	175	58
Property Damage Only (none injured)	209	243	251	703	234
Not Reported/Unknown	6	11	4	21	7
Time of Day					
Weekday, 7:00AM-9:00AM	42	49	44	135	45
Weekday, 4:00PM-6:00PM	38	48	49	135	45
Saturday, 11:00AM-2:00PM	11	6	8	25	8
Weekday, Other Time	142	172	173	487	162
Weekend, Other Time	38	37	44	119	40
Pavement Conditions					
Dry	200	249	260	709	236
Wet	51	49	45	145	48
Snow	16	10	11	37	12
Ice	2	2	2	6	2
Other	2	2	0	4	1
Lighting Conditions					
Daylight	222	256	255	733	244
Dawn/Dusk	6	10	10	26	9
Dark-Lighted Roadway	35	39	42	116	39
Dark-Roadway Not Lighted	7	7	11	25	8
Not Recorded	1	0	0	1	0
Non Motorist					
Bicyclist	1	0	0	1	0
Pedestrian	0	0	0	0	0

[a] 2012 fatality was a motorcycle crash with a median barrier.
[b] 2013 fatality was a single vehicle crash with a fixed object (wall, building, tunnel, etc.).

Source: Registry of Motor Vehicles – Crash Data System.

Top High Crash Intersection Location – Route 9/Route 16 Interchange

For the past several years, the Route 9/Route 16 (Washington Street) interchange has consistently met the criteria of MassDOT's "Top High Crash Intersection Locations." MassDOT's "Top High Crash Intersection Locations" are based on a clustering of crashes that have been submitted to the statewide crash system at the Registry of Motor Vehicles and are located to a geographical point for all vehicle types. These crashes have been ranked based on the weighting of the number and severity of crashes. Rankings are based on 200 intersection locations throughout the Commonwealth and include all vehicle types. Crash Intersection Locations do not include roadways with grade separations, ramps, or rotaries. Table 2 outlines the details of how the Route 9/Route 16 interchange has ranked as a "Top High Crash Intersection Location" for the 2010-2012, 2009-2011, and 2008-2010 time bands.

Table 2: Top High Crash Intersection Location – Route 9/Route 16 (Washington Street) Interchange

Location	2008-2010	2009-2011	2010-2012
Route 9/Route 16 (Washington Street) Interchange	Rank 38 with 111 Crashes (10 injuries)	Rank 25 with 116 Crashes (11 injuries)	Rank 39 with 95 Crashes (11 injuries)

Source: MassDOT's interactive website, Top Crash Locations.
http://services.massdot.state.ma.us/maptemplate/TopCrashLocations/

Highway Safety Improvement Program (HSIP) Clusters

Table 3 summarizes the number of Highway Safety Improvement Program (HSIP) Clusters along the Route 9 corridor between 2010 and 2012, the most recent timeframe for which data is available. Unlike the Top High Crash Intersection Location Table, HSIP Clusters do include roadways with grade separations, ramps, or rotaries. The locations with the highest number of crashes are at the I-95 Interchange, the Route 9 and Route 16 (Washington Street) intersection, and at the Oakland Street intersection. This information is best used as an initial screening tool to identify locations that may need to have roadway modifications.

Table 3: Highway Safety Improvement Program (HSIP) Clusters

Location	2010-2012
At Overbrook Drive	37 crashes in 1 area cluster (8 injuries & 1 fatality)[a]
Access Ramps East of Weston Road	33 crashes in 1 area cluster (6 injuries)[a]
At Kingsbury Street	35 crashes in 1 area cluster (10 injuries) [a,b]
At Audubon Road	26 crashes in 1 area cluster (8 injuries)[a]
At Route 9 and Route 16 (Washington Street)	95 crashes in 1 area cluster (11 injuries) [a,b]
At Oakland Street Intersection	69 crashes in 2 area clusters (7 injuries)[a]
At Cedar Street Intersection	19 crashes in1 area cluster (6 injuries)
Between Dearborn Street and Access Ramps East of I-95	69 crashes in 2 area clusters (7 injuries)[a,b]
At I-95 Interchange	150 crashes in 2 area clusters (41 injuries) [a,b]

a Location was identified as a HSIP Cluster for the 2009-2011 time band.
b Location was identified as a HSIP Cluster for the 2008-2010 time band.

A Highway Safety Improvement Program (HSIP) eligible cluster is one in which the total number of "equivalent property damage only" (EPDO) crashes in the cluster is within the top 5 percent of all clusters of each Regional Planning Agency in the Commonwealth. EPDO is a method of combining the number of crashes with the severity of crashes based on a weighted scale. HSIP clusters are used to identify safety projects by a data-driven process and are determined by grouping crashes within a 25 meter (82 ft,) fixed search distance around each crash.

Source: MassDOT's interactive website, *Top Crash Locations*.
http://services.massdot.state.ma.us/maptemplate/TopCrashLocations/

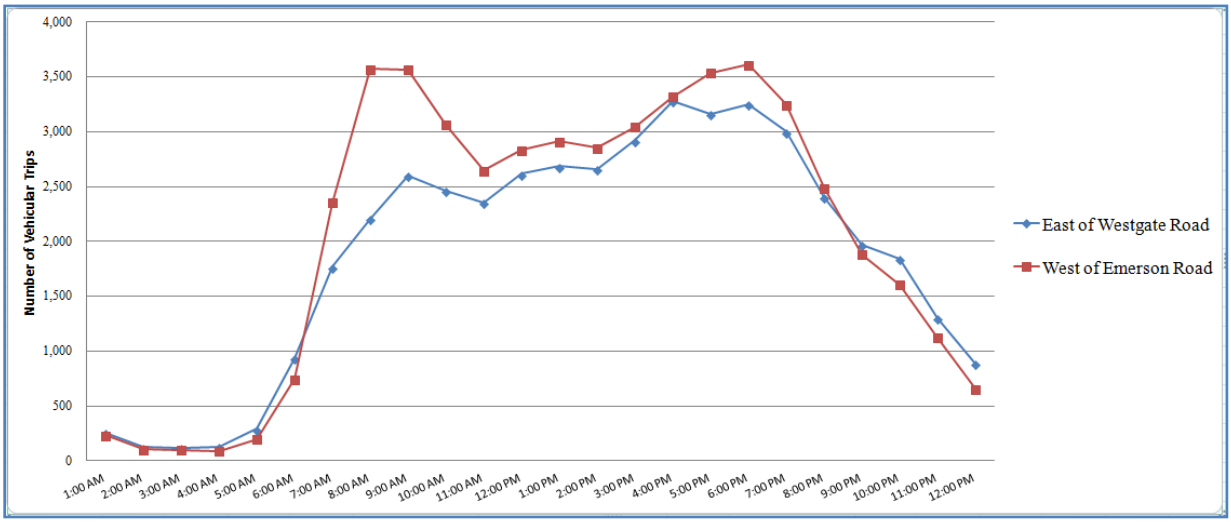
Traffic Count Data

Automatic Traffic Recorder (ATR) counts were collected by hour and direction of travel by Greenman-Pedersen, Inc. (GPI) in October 2013 at Route 9 east of Westgate Road and west of Emerson Road. This report summarizes ATR counts only for these two intersections since it is the most recent data available for the Route 9 corridor.

The Average Daily Traffic (ADT) for Route 9 east of Westgate Road is 41,600 and 45,800 at Route 9 west of Emerson Road. ADT is a measurement of the daily number of vehicles on a specific point along a roadway in both directions. This measurement indicates how busy a specific location along a roadway is. Both ADT counts show that Route 9 has high volumes of traffic.

ADT at Emerson Road was significantly higher during the morning peak period at slightly over 3,500 trips compared to approximately 2,500 for the ADT collected east of Westgate Road. Vehicular trips during the evening peak period are closer for both count locations, with ADT ranging between 3,250 to slightly over 3,500. It is interesting to note that the evening peak traffic period is not as sharp compared to the morning peak traffic period for both traffic count locations. For both locations, the peak morning traffic period spans between 6:30am-10:30am and 4:30pm-7:00pm in the evenings. While the amount of eastbound and westbound traffic along Route 9 west of Emerson Road was relatively even in both directions, Route 9 east of Westgate Road recorded about 10 percent more trips traveling westbound. Figure 4 shows the pattern of the weekday ADT at these two intersections over a 24-hour period.

Figure 4: Weekday Average Daily Traffic (ADT) for Route 9 at Westgate Road and Emerson Road



Source: Data collected by Greenman-Pedersen, Inc. in October 2013 and provided by MassDOT.

Level of Service (LOS)

Level-of-service (LOS) is the term used to denote the different operating conditions that occur on a specific roadway segment or intersection. It is a qualitative measure of the effect of a number of factors including roadway geometry, speed, travel delay, freedom to maneuver, and safety. LOS serves as an index to the operational qualities of a roadway segment or intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions.

According to LOS analysis conducted at Route 9 at Kingsbury Street and at Route 16 (Washington Street), the Route 9 corridor fluctuates in free flow to approaching unstable flow throughout the day. Table 4 depicts the fluctuating LOS. This report summarizes LOS data only for these two intersections since it is the most recent data available for the Route 9 corridor.

Table 4: Level of Service Summary – Route 9 at Kingsbury Street and Route 9 at Route 16

Route 9 at Kingsbury Street

Approach	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Route 9 EB	C	B	C
Route 9 WB	B	B	B
Kingsbury Street NB	D	D	D
Overall	**C**	**B**	**B**

Route 9 at Route 16 (Washington Street)

Approach	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Route 9 EB	D	B	C
Route 9 WB	A	A	D
Washington St NB	B	D	C
Municipal/Fire SB	B	B	B
Overall	**C**	**A**	**D**

Source: Greenman-Pedersen, Inc. Technical Memorandum to MassDOT re Route 9 – Wellesley Reconstruction – Natick to I-95, July 14, 2015.

It is worth noting that Route 9 was once an at-grade intersection with Route 16. The widening and lowering of Route 9 and the addition of on/off ramps has resulted in the current awkward configuration of the Route 16/Route 9 interchange.

Speed Limits

Special Speed Regulation No. 7480, dated June 11, 1990, applies to the section of Route 9 from Brookline to Framingham which includes Wellesley. In Wellesley, the designated speed limit is either 40MPH or 50MPH depending on the section of roadway. Chapter 90, Section 18 of the Massachusetts General Laws (MGL) requires posted speed limits to be established through the issuance of special speed regulations.

Intersections of Concern

Table 5 summarizes Route 9 intersections that were identified by either previous studies or feedback from the Stakeholders Group as deficient or problematic. Consistent with the identification of these intersections, the Crash Data maps in Appendix B show that the highest concentration of crashes along the Route 9 corridor are at the I-95 interchange, Route 16, Kingsbury Street, Weston Road, and Overbrook Drive.

It is interesting to note that all of the eight problematic intersections identified Route 9 Corridor Study in Wellesley prepared by CTPS in 2001 were also identified by the Stakeholders. The intersections identified in the CTPS study were Route 9 with Overbrook Drive, Weston Road, Oak/Westgate Streets, Kingsbury Street, Grantland Road, Oakland Street, Cedar Street, and William Street. The same report also identified the Route 9/Route 16 (Washington Street) interchange area as the highest crash location in the study area, followed by the I-95 (Route 128) interchange area and the Weston Road interchange.

Table 5: Intersections of Concern along the Route 9 Corridor

Route 9 Intersection (EB)	Issues/Opportunities
Overbrook Drive	Queuing to/from Oak Street in Natick.
900 Worcester Street	Old traffic signal and signage for former church site access; median break; redevelopment of site as a recreation facility is in process
Weston Road	Modernize interchange; improve pedestrian access to Hardy School.
Oak Street/Westgate Road	Need protected lefts; median break issues; confusing signage.
Kingsbury Street	Improved signalization needed; Wellesley Middle School is nearby; concerns about student safety.
Audubon Road	Safety issues with nearby U-Turn.
Cliff Road	There have been recent observations of an increase in truck turning movements from Cliff Road southbound to Route 9 westbound "running afoul of the signs and bridge parapet." (GPI meeting minutes 1/21/14)
Route 16/Washington Street	Traffic queuing; overall pedestrian access, roadways are at different grades; roadway flooding.
Grantland Road	Complex and confusing roadway geometry and merging; vegetation affecting visibility.
Oakland Street	Speeding; signalization; potential redevelopment of Mass Bay Community College property.
Cedar Street	Narrow sidewalks limit pedestrian access; short acceleration lanes.
Sun Life/ Harvard Pilgrim Driveways	Business campus with high concentration of jobs with separate single driveway entry north and south of Route 9. Dearborn Street on eastbound side of Route 9 before driveways is affected.
Route I-95/128	Construction related to MassDOT Add-a-Lane project (ID number 603711) that includes upgrading interchange at Route 9 and replacing/rehabbing bridge at I-95 over Route 9.
William Street	Business campus (Wellesley Office Park) with high concentration of jobs with single roadway entry/exit.

Public Transportation

Commuter rail and bus service in Wellesley provides both regional and local access. The following is a detailed description of the Framingham/Worcester commuter rail and MetroWest Regional Transit Authority bus service provided in Wellesley along and proximate to Route 9.

Framingham/Worcester Commuter Rail

Wellesley has MBTA commuter rail service at three rail stations on the Worcester/Framingham Line. The stations, which serve both commuters from Wellesley and surrounding communities, are located at Wellesley Square, Wellesley Hills and Wellesley Farms and are all near Route 9. At approximately 820 feet away, Wellesley Hills is the closest to Route 9 while Wellesley Square and Wellesley Farms are both slightly more than three-quarters of a mile from the highway. In 2012, there were a combined 2,010 daily inbound and outbound trips at all three stations on one weekday. At 978 riders, Wellesley Square has the highest ridership. Wellesley Hills and Wellesley Farms have similar ridership levels with 519 and 513 daily riders respectively.

The number of parking spaces varies at each of the commuter rail stations. There are 224 parking spaces at Wellesley Square, 51 parking spaces at Wellesley Hills, and 199 parking spaces at Wellesley Farms. The Town of Wellesley is responsible for parking lot snow removal, maintenance, and fee collection at all three locations. The parking fee at the lots for all three stations is $4.50 per day. Commuter rail ridership is limited since these and adjacent parking lots are observed to be full during the weekdays.

Of the commuter rail lines in the Boston metro area, the Framingham/Worcester has the third most frequent ridership at approximately 12,790 riders. The three stations in Wellesley comprise an estimated 16 percent of the total daily ridership on the Worcester/Framingham line[3]. On weekdays, 20 inbound trips depart from the three Wellesley Stations to South Station, Boston. There are 19 outbound trips departing from the three Wellesley Stations. Of the 19 outbound departures, 16 have final station stops in Worcester and three are in Framingham. Each station is served by 9 inbound and outbound trips on Saturday and Sunday. The train takes between 30 to 40 minutes to travel from the three Wellesley Stations to Boston and between 60 to 80 minutes to reach Worcester. The MBTA commuter rail schedule for the Framingham/Worcester Line is attached as Appendix C.

MWRTA (MetroWest Regional Transit Authority) Bus Service

The MetroWest Regional Transit Authority (MWRTA) bus Route 1 (Woodland Shuttle) traverses Route 9 in Wellesley and Bus Route 8 (Wellesley Line) operates proximate to Route 9 and crosses the highway in three locations. With the intent to give riders more transfer options as well as frequent and continuous service, Route 1 was recently restructured. Since June 2014, MWRTA's Route 1 traverses Route 9 from the Natick Mall to the Woodland MBTA Station on the Green Line D Branch in Newton. Running Monday through Friday, this bus route has scheduled permanent stops at Natick Mall and MathWorks in Natick as well as Woodland Station in Wellesley. The first Route 1 departure is at 5:30am and the last departure is at 8:32pm. There are 32 daily westbound and eastbound trips along the Route 9 corridor with frequent headways throughout the day.

[3] MBTA Framingham/Worcester Line – Weekday Boardings, Alightings, and Loads by Train and Station, CTPS Commuter Rail Passenger Counts, Winter/Spring 2012.

Since the restructuring of Route 1, ridership has been strong. Approximately 37,000 boardings occurred between September 2014-August 2015 and monthly ridership trends are steadily increasing. Significantly more passengers (65 percent) board the Route 1 shuttle traveling eastbound, an indication that many passengers are accessing employment areas along the Route 9 corridor. In spite of high ridership, there are currently no permanent stops along the Route 9 corridor in Wellesley to service Route 1. However, bus shelters were observed along the corridor but it was unclear as to whether they are active. For example, the image below is an example of a well-proportioned and maintained sidewalk with a bench. The signage is that of a mile marker, not a bus stop, and the bench is not weather-protected.

Bus waiting area with room for enhancements east of Weston Road on Route 9 eastbound.

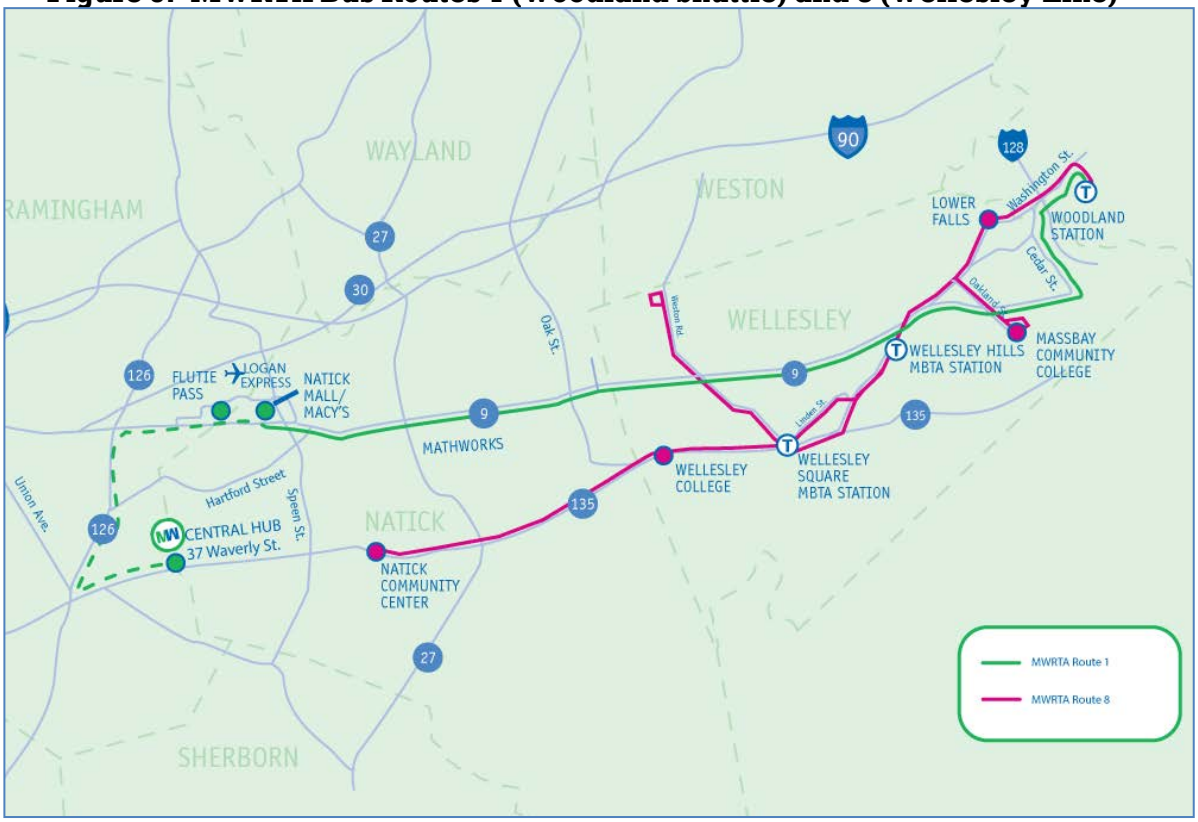
Bus shelters were observed along the corridor but it was unclear as to whether they were still active as shown in the images below:

Former bus shelters on Route 9 eastbound at Cedar Street (left) and east of Weston Road (right).

In addition to having permanent stops, MWRTA also operates as a 'Flag Down' system where buses can be accessed either at designated areas or waved down along its route. It is at the driver's discretion to stop the vehicle to either pick-up or drop-off a passenger. Drivers currently do not pick up "Flag Down" passengers along Route 9 in Wellesley. It is important to note that the MWRTA plans to designate permanent and protected pick-up/drop-off locations for passengers along the Route 9 corridor.

Fares are reduced if riders use Charlie Cards instead of cash. For example, the cost for a single adult ride is $1.10 with a Charlie Card and $1.50 if cash is used. Almost 90 percent of the riders on MWRTA Bus Route 1 use Charlie Cards. Although the MWRTA offers transfer coupons, transfers are good within the MWRTA system only and are not compatible within the MBTA system. It should be noted that MBTA bus routes do not service the Town of Wellesley. The closest bus routes are Route 59 in Needham and Route 558 in Newton.

Figure 5: MWRTA Bus Routes 1 (Woodland Shuttle) and 8 (Wellesley Line)



Source: MWRTA

MWRTA Bus Route 8 (Wellesley Line), which started service in November 2013, runs Monday through Friday between Natick Community Center and Woodland Station and provides access to Wellesley Square, Wellesley Hills, and Woodland MBTA Station. Bus Route 8 crosses Route 9 and accesses Weston Road/Manor Avenue north of Route 9 eight times daily Monday through Friday. Bus Route 8 primarily serves as a commuter route in the morning and evening and a local route during the midday. In 2014, Route 8 had 8,162 riders. There were 300 boardings and alightings at Weston Road/Manor Avenue in August 2015, an increase from 239 in August 2014. It is important to note that this location is used by many seniors who reside at a nearby housing complex. MWRTA Bus Route 8 also crosses over Route 9 at Route 16 (Washington Street) and at Oakland Street. MWRTA Bus Routes 1 and 8 are shown in Figure 5 and their schedules are in Appendix D.

Walking and Bicycling

Activity and Access

During the three year period for which crash data was collected, there was only one recorded crash involving a bicyclist and none involving pedestrians. Consistent with the crash profile for pedestrians and bicyclists, the Route 9 corridor has a low level of pedestrian and bicycle activity. Accordingly, pedestrian and bicycle data collected for intersections in October 2013, the most recent available data, recorded low counts for pedestrians and bicyclists during the morning and evening peak periods as well as during the day Saturday. As shown in Table 6, with 36 counts, the Kingsbury Street intersection had the most pedestrian activity during the weekday morning peak and during the day Saturday. The intersection of Route 9 and Municipal Way had the second highest level of pedestrian counts.

Table 6: Pedestrian and Bicycle Activity at Key Intersections along Route 9

	Weekday AM Peak (7am-9am)		Weekday PM Peak (4pm-6am)		Saturday (10am-2pm)	
	Pedestrians	Bicyclists	Pedestrians	Bicyclists	Pedestrians	Bicyclists
Westgate Road and Oak Street	2	7	0	17	9	3
Kingsbury Street	36	0	3	1	36	4
Weston Road[a]	5	3	2	2	5	7
Route 9 @ Fire Station/Municipal Way	1	0	6	15	8	1
Route 9 @ Municipal Way & Washington Street[b]	17	6	19	5	18	3

Counts are for intersections at all approaches.
[a] includes Cleveland Road and Route 9 WB on/off ramp
[b] includes Municipal Way at Washington Street to WB Ramp

Dates of data collection:
Westgate Road and Oak Street – Thursday, 10/3/13 and Saturday, 10/19/13
Kingsbury Street – Wednesday, 10/30/13 and Saturday, 11/2/13
Weston Road – Thursday, 10/3/13 and Saturday, 10/5/13
Route 9 @ Fire Station/Municipal Way – Thursday, 10/3/13 and Saturday, 10/5/13
Route 9 @ Municipal Way & Washington Street – Thursday, 10/3/13 and Saturday, 10/5/13

Source: Data collected by Greenman-Pedersen, Inc. in October and November 2013 and provided by MassDOT.

Inconsistent signage and striping along the Route 9 corridor does not promote bicycle and pedestrian use. Since there are minimal designated pedestrian and bicycle crossings, Route 9 acts as more of a barrier than a conduit facilitating these transportation modes.

Recreational Trails

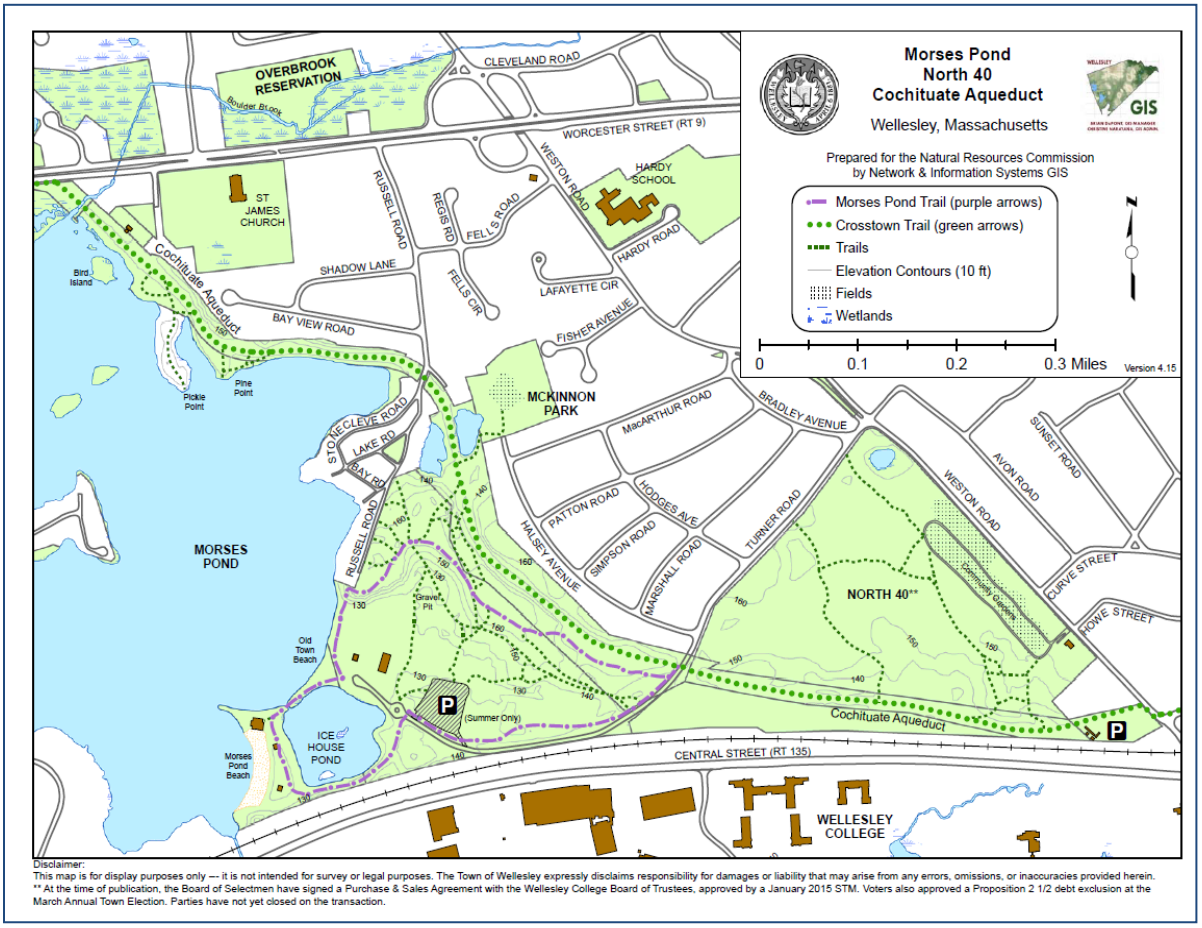
The Crosstown Trail and the Charles River Path are two trails in Wellesley's Trails network that traverse Route 9 and connect to open space destinations in Wellesley and beyond. The Transportation Facilities Map (Appendix A), shows both the Crosstown Trail and the Charles River Path in relation to the entire Route 9 Corridor, whereas Figures 6 and 7 depict the Crosstown Trail and the Charles River Path in closer detail.

Running roughly west-east through Wellesley, the Crosstown Trail starts at the Wellesley/Natick town line, accesses the Morses Pond Area, and then follows the Cochituate Aqueduct. Further to the east, the Crosstown Trail crosses over Route 9 on Washington Street and ends at the Charles River Reservation at the Wellesley/Newton town line.

The Charles River Path, running roughly north-south through Wellesley, provides access to the banks of the Charles River, the Town Forest and Sudbury Aqueduct. From the Town Forest, the Charles River Path accesses Route 9 east of Hastings Street and runs along Route 9 for a short distance until crossing over Route 9 at Cedar Street before continuing north.

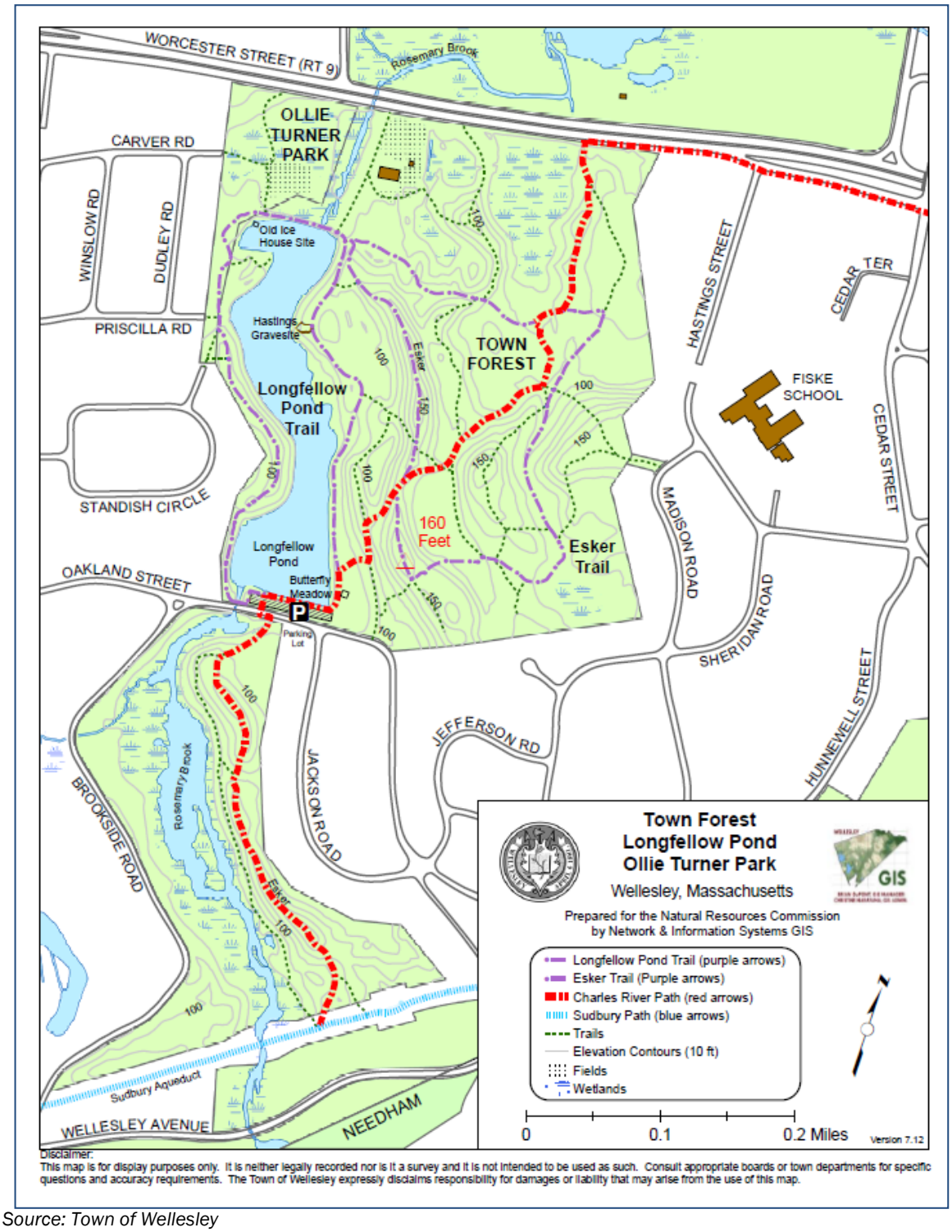
Used by both pedestrians and bicyclists, both the Crosstown Trail and the Charles River Path are part of the Charles River Link, a 16-mile regional trail system that provides a connection between the Bay Circuit Trail in Medfield and downtown Boston.

Figure 6: Crosstown Trail (western section)



Source: Town of Wellesley

Figure 7: Charles River Path (southern section)



Source: Town of Wellesley

Elementary, Middle, and High School Students

Pedestrian safety is a major concern along the Route 9 corridor and this especially holds true for elementary, middle, and high school students who walk to school. There are seven elementary schools in Wellesley (Katharine Lee Bates, Joseph E. Fiske, John D. Hardy, Hunnewell, Schofield, Sprague and Ernest F. Upham) in addition to the Wellesley Middle School and Wellesley High School.

According to data provided by the Town of Wellesley, there were 4,775 elementary, middle, and high school students residing in Wellesley for the 2014-2015 school year. Of this total, 50 percent live north of and 50 percent live south of Route 9. It is interesting to note that while most of the elementary school populations are grouped more or less geographically whether north or south of Route 9, one school in particular –Hardy Elementary – has a balanced distribution of students living both north and south of Route 9. Appendix D depicts the distribution of elementary school students. The even distribution of middle and high school students living north and south of Route 9 is shown in Appendix E. Table 7 summarizes the location of schools and students in relation to Route 9.

Table 7: Location of Schools and Students in Relation to Route 9

School	Address	Approximate Walking Distance from Route 9 (feet)	Total Students	Where Students Reside	
				North of Route 9 (%)	South of Route 9 (%)
Elementary					
Katharine Lee Bates	116 Elmwood Road	5,280 feet north of Route 9	372	98	2
Joseph E. Fiske	45 Hastings Street	2,640 feet south of Route 9	339	14	86
John D. Hardy	293 Weston Road	500 feet south of Route 9	304	50	50
Hunnewell	28 Cameron Street	9,000 feet south of Route 9	278	3	97
Schofield	27 Cedar Street	2,640 feet north of Route 9	332	97	3
Sprague	401 School Street	420 feet south of Route 9	387	15	85
Ernest F. Upham	35 Wynnewood Road	3,170 feet north of Route 9	224	91	9
Middle					
Wellesley Middle School	50 Kingsbury Street	1,060 feet south of Route 9	1,410	47	53
High					
Wellesley High School	50 Rice Street	3,170 feet south of Route 9	1,129	48	52
All Schools			4,775	50	50

Walksheds, or demarcated areas accessible within a specific walking distance, are illustrated in Appendices D and E. Appendix D shows a 0.5 mile walkshed and Appendix E depicts walksheds for 0.5 and 1 mile. The percentage of elementary, middle, and high school students within 0.5 mile, 1 mile and 1.5 mile walksheds are shown in Figure 8.

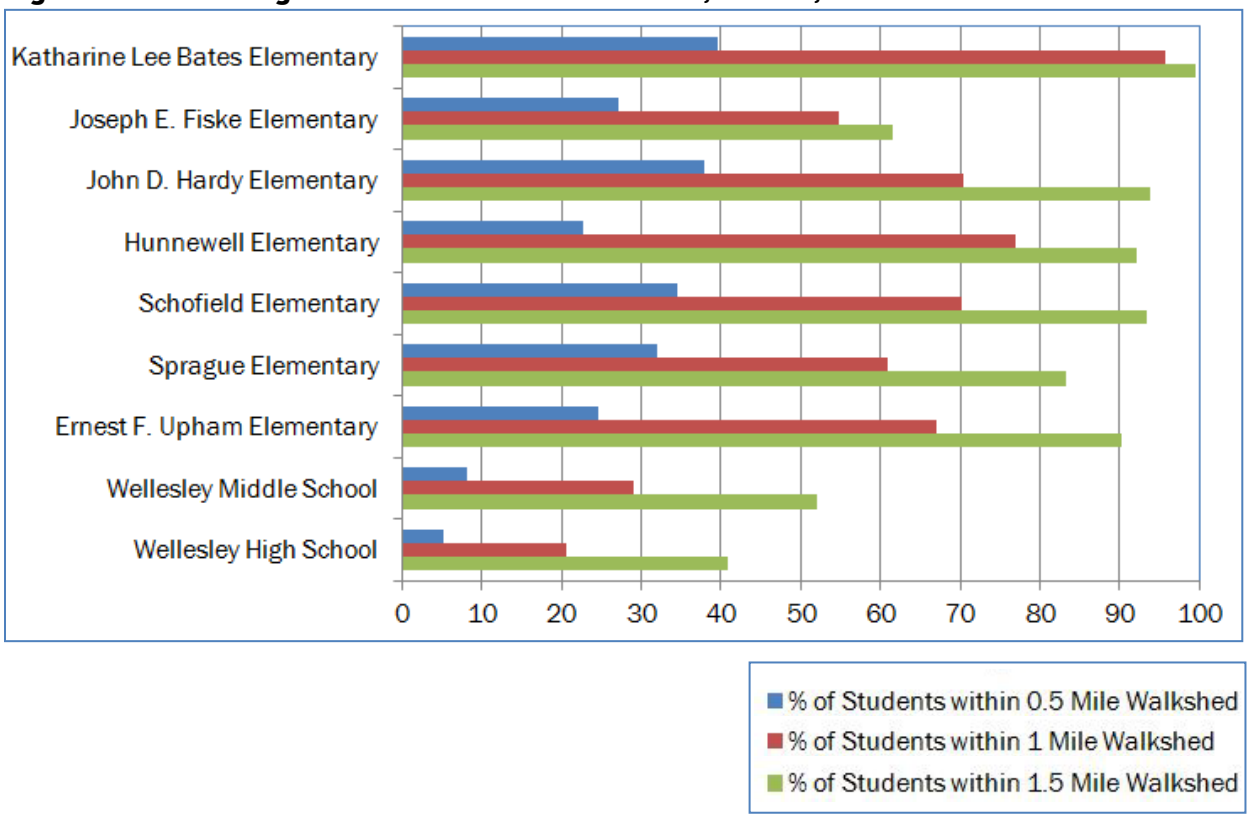
The percent of elementary school students residing within 0.5 miles of the school they are enrolled in ranges from 23 percent to 40 percent with Hunnewell Elementary at the lowest end of the range and Bates Elementary at the highest.

The number of students enrolled at Bates Elementary significantly increases to 96 percent within the 1 mile walkshed whereas the percent of students enrolled at Fiske Elementary is the lowest at 55 percent. The percent of students enrolled at the other elementary schools ranges between 61 to 77 percent within the 1 mile walkshed. Within the 1.5 mile walkshed, the number of enrolled students at Bates Elementary reaches almost 100 percent while the percent of students enrolled at the Fiske Elementary increases moderately to 62 percent. The percent of students enrolled at the other elementary schools increases between 83 to 94 percent for students residing within the 1.5 mile walkshed.

The percent of middle and high school students ranges between 8 and 5 percent respectively within the 0.5 mile walkshed. This percentage increases to 29 and 21 percent within the 1.0 mile walkshed and to 52 and 41 percent within the 1.5 mile walkshed.

It is important to note that within the 1.0 mile walkshed for the Hardy Elementary School, 28 percent of the enrolled students reside north of Route 9. Additionally, approximately 14 percent and 10 percent of middle and high school students respectively live within the 1.5 mile walkshed north of Route 9. These are strong indicators of the need to provide safe crossings across Route 9, as the Hardy Elementary, middle, and high schools are all located south of Route 9.

Figure 8: Percentage of Students within 0.5 Mile, 1 Mile, and 1.5 Mile Walksheds



Physical Conditions

In order to begin assessing the physical characteristics within the corridor, the project team conducted a field survey on August 6, 2015 at selected locations along the Route 9 corridor. While by no means a complete or exhaustive inventory, the following descriptions and photographs are meant to be representative of the key issues found in multiple locations throughout the corridor. This section identifies the following characteristics: Travel Lanes, Medians, Sidewalks, Driveways and Curbcuts, Stormwater Facilities, Signage, Pavement Markings, Lighting, Landscaping, Historic Features, and Guardrails. Since Route 9 is a State road, overall maintenance of the roadway and its right-of-way is the responsibility of the State[4]. These maintenance responsibilities include sidewalks, signage, pavement markings, landscaping, guardrails, grass medians, and snow removal. However, the Town of Wellesley is responsible for maintaining streetlights along the Route 9 corridor.

Travel Lanes

Route 9 in Wellesley has two travel lanes in each direction, with 8- to 10-foot shoulders along most of its length. It operates as a divided highway, with median guardrail-type barriers along its entire length except for a short section at Kingsbury Street where a grass median is provided (former carriage road).

Although Route 9 in Wellesley is a divided highway, it is not a limited access highway. Many abutter sites, both office/commercial and residential, have driveways with direct access on to Route 9, which in many cases is the only access available for these sites (although most of these allow right turns only).

Medians

Route 9 operates as a divided highway with median guardrails along its entire length with the exception of a short section at Kingsbury Street, where there is a grass median. Openings along Route 9 medians occur at intervals, to allow left turns and U-turns. Additional turning lanes are provided at locations where there are median barrier breaks and at most signalized intersections where turns are permitted.

Openings in the median occur at intervals to allow left turns and U-turns. At the locations where these median breaks occur and at signalized intersections where turns are permitted, additional turning lanes are provided. The longest span without opportunities to make left turns or U-turns occurs between Route16 and Cedar Street (almost 1.5 miles in the eastbound direction). The second-longest segment occurs between Kingsbury Street and Grantland Road (about 0.8 miles in the eastbound direction). Table 8 outlines the distances between successive opportunities to cross Route 9 medians.

[4] Massachusetts General Law, Chapter 6C, Section 3, Subsection 5.

Table 8: Distances between Successive Opportunities to Cross Route 9 Medians

Cross Street	Distance between Opportunities (feet)	Left Turn or U-Turn Possible?	
		Eastbound Direction	Westbound Direction
Oak Street (Natick)	1,750	Yes	Yes
Overbrook Drive	1,660	Yes	Yes
St. James' Church	1,570	---	Yes
Weston Road	3,030	Yes	Yes
Oak/Westgate Street	2,230	Yes	Yes
WB to EB U-turn/Kingsbury Street	870	---	Yes
EB to WB U-turn/Kingsbury Street	3,810	Yes	---
Cliff Road	490	---	---
Route 16/Fire Station	1,460	Yes	---
Grantland Road/WB off	730	---	Yes
Oakland Street	5,450	---	---
Cedar Street	2,180	Yes	Yes
Harvard Pilgrim	3,200	Yes	Yes
Chestnut Street (Newton)		Yes	Yes

Source: Route 9 Corridor Study in Wellesley, Table 2-9

Example of break in median encouraging unsafe crossings for pedestrians and bicyclists across Route 9 east of Cedar Street.

Route 9 and Kingsbury Street

There are median U-turn openings east and west of the Kingsbury Street intersection and a pedestrian refuge area within the median. As there is no median break for vehicles at Kingsbury Street, they are required to turn right to access Route 9 and travel eastbound.

The Wellesley Middle School is located on Kingsbury Street south of the intersection and is a frequent destination for vehicles, pedestrians, and bicyclists. As discussed earlier, this intersection has the highest number of walking and bicycling counts along the Route 9 corridor and has a high number of accidents. It can be surmised that the majority of pedestrians and bicyclists are school-age. There should be particular attention to making this intersection safe for the use of all modes of travel.

Source: Google Street View

Source: Wellesley Historical Commission

Intersection of Route 9 and Kingsbury Street (northbound from Kingsbury Street) (left) and median east of Kingsbury Street (right).

Sidewalks

There are sidewalks along corridor, although not at all locations. In some locations, sidewalks are missing and in other locations they are narrow. Sidewalks along Route 9 provide little separation from vehicular traffic. Repair and maintenance of current sidewalk facilities is uneven and maintenance responsibility is unclear in many locations.

Examples of narrow sidewalks with significant vegetative overgrowth east of Cedar Street (left) and east of Audubon Road (right) on Route 9 westbound.

Narrow sidewalk adjacent to fence in state of disrepair.

Discontinued sidewalk on north side of Route 9 looking east near Cedar Street (left) and no sidewalk on south side of Route 9 west of the Oak Street intersection (right).

Driveways and Curb Cuts

There are numerous driveways and curbcuts providing access to abutting residential homes, retail establishments, office buildings, and gas stations along the Route 9 corridor. For many, these are the only access points to the sites and allow right turn movements only. However, many of the driveways and curbcuts do not clearly distinguish between the sidewalk and the roadway. This characteristic especially pertains to the retail and office uses on the east and west sides of the corridor. Inadequately designed driveways and curbcuts promote unsafe vehicular access, pedestrian, and bicycle access and crossings, and can contribute to poor drainage.

Example of a curbcut not providing access to a driveway or a street north side of Route 9 west of Oakland Street.

Source: Google Street View

Example of unclear distinction between curb cut, sidewalk, and site on north side of Route 9 near Overbrook Drive.

Stormwater Facilities

According to a map from the 2011 Open Space and Recreation Plan, Route 9 crosses through a number of watershed drainage basins including: Waban Brook Basin, Fuller Brook Basin, Cold Stream Brook Basin, Rosemary Brook Basin, Charles River-East Basin, and Hurd Brook Basin.

The Wellesley Comprehensive Plan has identified non-point source pollution from stormwater runoff as the greatest threat to water quality in Wellesley. In particular, ponds, wells and vernal ponds are threatened by stormwater runoff and require additional management. Much of Route 9 is located within a Water Supply Protection District. Sensitive wetlands or waterways within or adjacent to the Route 9 Corridor include Morse's Pond, Boulder Brook, as well as the Town Forest.

A number of areas along Route 9 are susceptible to roadway flooding due to inadequate culverts or other issues. Areas identified by Stakeholders and existing reports include:

- Near Natick town line; Boulder Brook culvert passing under the Cochituate Aqueduct creates a hydrologic bottleneck
- The properties at 888 and 900 Worcester Street cannot connect to the town system due to their locations south of Route 9, nor can they connect to MassDOT infrastructure, contributing to roadway flooding.
- Kirkland Circle/Shaw Road; grade sag in this area has created several pooling areas.
- Route 16 Intersection (ramps and roadway); the sinking of Route 9 below the grade of Route 16 has created drainage issues and there are additional constraints due to proximity the Cochituate Aqueduct.

Cold Stream Brook Sanctuary at Oak Street.

The following partially blocked storm drains were also observed during the team's field visit.

Signage

There does not appear to be a cohesive signage program throughout the corridor, whether with local street signs, traffic control signs, or highway directional signs. Signage in many places along the corridor is confusing or inadequate. Additionally, signage in many places does not include information about key destinations in Wellesley such as commuter rail stations, Town Forest, Linden Square, or Wellesley Square. There is no overall branding of signage to reinforce placemaking.

An access permit from MassDOT is required if the Town of Wellesley wants to post signs within the state's right-of-way. Signage design needs to adhere to MassDOT standards. In general, the Town does not pursue adding signage within the right-of-way.

Signage conveying confusing and unclear messages
at Maple Street and Route 9 (left) and Oak Street and Route 9 (right).

A common occurrence is signage obscured by vegetation, Such as this sign located near the Route 16 intersection.

Outdated directional sign east of Cedar Street

Long-term 'temporary' signage informing drivers of access to Route 16 from Route 9.

Signage directing drivers to locations outside of Wellesley as opposed to destinations within the Town.

Exceptional example of branding/ wayfinding signage in Wellesley Hills.

Source: Google Street View

Outdated signage informing drivers of nonexistent traffic signal on Route 9 westbound east of the former St. James Church. Note mast arm with no traffic signals. The same condition was observed across the street on Route 9 eastbound.

Pavement Markings

Pavement markings are generally visible throughout the length of the corridor although there are some areas that have been recently paved or patched and have more distinctly visible markings.

It should be noted that MassDOT is planning a roadway resurfacing project (ID number 608180) for the entire span of Route 9 in Wellesley. Using NHS (National Highway System) funds, this project will focus on pavement resurfacing only (also referred to as curb-to-curb). It is anticipated that the project will be advertised in winter 2016 and pavement resurfacing work is expected to commence approximately three months later. The estimated project cost is $5 million. Roadway restriping is anticipated to be part of this project.

Example of confusing pavement markings near Wellesley Library - Hills Branch near Route 9/Route 16 intersection.

Recent roadwork at Cedar Street has not yet been painted with travel lane markings or crosswalks.

Example of clear pavement markings on Route 9 westbound near Oakland Street.

Example of roadway segment with faded markings on Route 9 eastbound east of Weston Road.

Lighting

Good street lighting contributes to the overall safety of drivers and pedestrians. All of the approximately 250 streetlights along the Route 9 Corridor in Wellesley are owned and operated by the Wellesley Municipal Light Plant (WMLP). Traffic signal lights are under the jurisdiction of MassDOT. All of the lights are high-pressure sodium ranging from 150-400 watts. WMLP is currently seeking funding to replace these with LED bulbs. According to WMLP, tree branches around streetlights were last trimmed in the fall of 2014 and will be inspected again for potential trimming in November 2015. Additionally, there are overhead wires on wooden utility poles along the corridor used by WMLP, Verizon, and Comcast. Aluminum poles are for WMLP streetlights and fed underground. It should be noted, however, that Verizon is the only utility on wooden poles on the eastbound side of Route 9.

Lighting in some locations is obscured by tree branches and vegetation.

Landscaping

While good landscaping features can often enhance the overall appearance and character of a location, there is no unified landscaping theme or program along the Route 9 corridor. In some locations, overgrown landscaping affects driver and pedestrian sightlines as well as the visibility of street signs and directional signs, thus potentially affecting overall safety.

Overgrown landscaping at the corner of Grantland Road and Route 9 discourages pedestrian and bicycle access.

Source: Wellesley Historical Commission

Overgrown median near underpass at Washington Street.

Historic Features

As noted by the Wellesley Historical Commission, there are several examples of 1930s public works engineering projects that are part of Route 9 today. These components include stone walls, retaining walls, bridges, staircases, and grassy medians. Many of these engineering components are either overlooked, in poor condition, or are at risk.

Source: Wellesley Historical Commission

Stone wall from the 1920s on Route 9 eastbound west of Rockland Street.

Source: Wellesley Historical Commission

Streetcar waiting station at Kingsbury

Source: Wellesley Historical Commission

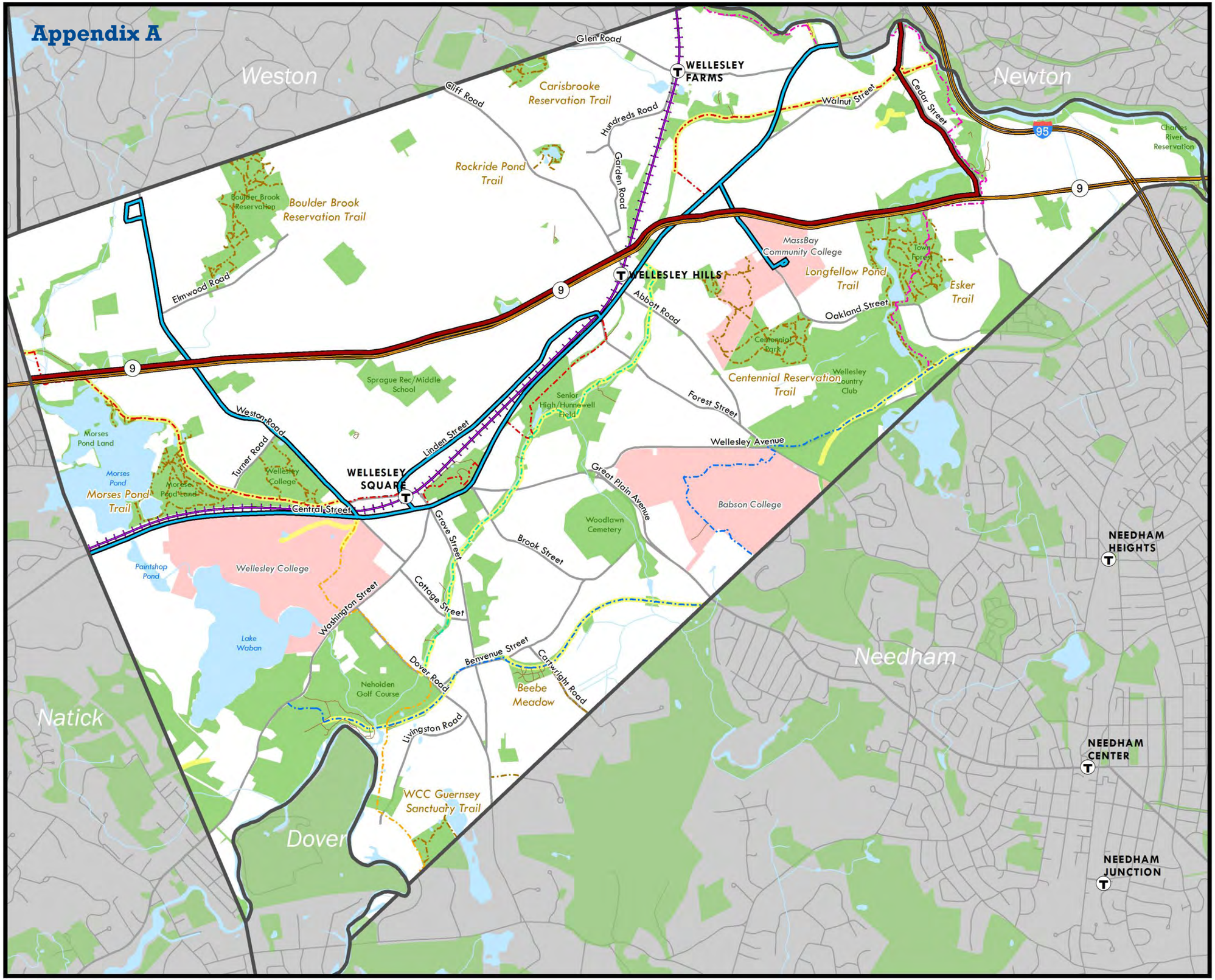
Damaged metal railing near Rice House (Unitarian Church) east of Cliff Road.

Guardrails

While guardrails can promote safety of pedestrians, bicyclists, property, and vehicles along a roadway, there is no consistent placement of guardrails within the study corridor. In many locations, guardrails are not located between the sidewalk and the roadway to protect pedestrians and bicyclists, rather they are sited on the private side of the sidewalk.

Examples of guardrail placement on the 'private side' of the sidewalk.

Appendix A



Town of Wellesley

Transportation Facilities

Commuter Rail

- Commuter Rail Line
- Commuter Rail Station

MWRTA Bus Routes

- Route 1
- Route 8

Paths and Trails

- Shared-Use Path
- Guernsey Path
- Charles River Path
- Brook Path
- Sudbury Path
- Crosstown Trail
- Woodland Trails

Open Space

0 0.175 0.35 0.7 Miles

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Produced by:
Metropolitan Area Planning Council
60 Temple Place, Boston, MA 02111 | (617) 933-0700

Data Sources:
Metropolitan Area Planning Council (MAPC)
Massachusetts Geographic Information System (MassGIS)
Massachusetts Department of Transportation (MassDOT)

November, 2015

MAPC

Document Path: K:\DataServices\Projects\Current_Projects\Route9\Project_Files\Route9OpenSpace_Transportation.mxd

Appendix B

Wellesley
Route 9 Corridor Study
2011-2013 MassDOT
Crash Data

Concentration of Crashes

1 20 > 70

0 0.05 0.1 0.2 Miles

Crashes by Vehicle Type

Total Crashes Along Route 9 Corridor: **901**

Passenger Car	786
Light Truck	70
Heavy Truck	25
Motorcycle	7
Bicycle	1
Pedestrian	0
Other Vehicle Type/Not Reported	12

Crashes With Fatal Injuries

Car 1

Motorcyle 1

Non-Fatal Bicycle Crash

Bicycle 1

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Produced by:
Metropolitan Area Planning Council
60 Temple Place, Boston, MA 02111
(617) 933-0700

Data Sources:
Metropolitan Area Planning Council (MAPC)
MassGIS
MassDOT
Registry of Motor Vehicle Crash Data System (RMV)

November, 2015

MAPC

Map Extent 1 of 3: Natick to Kingsbury St.

Document Path: K:\DataServices\Projects\Current_Projects\Route9\Project_Files\Route9CrashStudy1_NatticktoKingsbury.mxd

Appendix B

Wellesley
Route 9 Corridor Study
2011-2013 MassDOT Crash Data

Concentration of Crashes

1 20 > 70

Crashes by Vehicle Type

Total Crashes Along Route 9 Corridor: **901**

Passenger Car	786
Light Truck	70
Heavy Truck	25
Motorcycle	7
Bicycle	1
Pedestrian	0
Other Vehicle Type/Not Reported	12

Crashes With Fatal Injuries

Car 1

Motorcyle 1

Non-Fatal Bicycle Crash

Bicycle 1

0 0.05 0.1 0.2 Miles

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Produced by:
Metropolitan Area Planning Council
60 Temple Place, Boston, MA 02111
(617) 933-0700

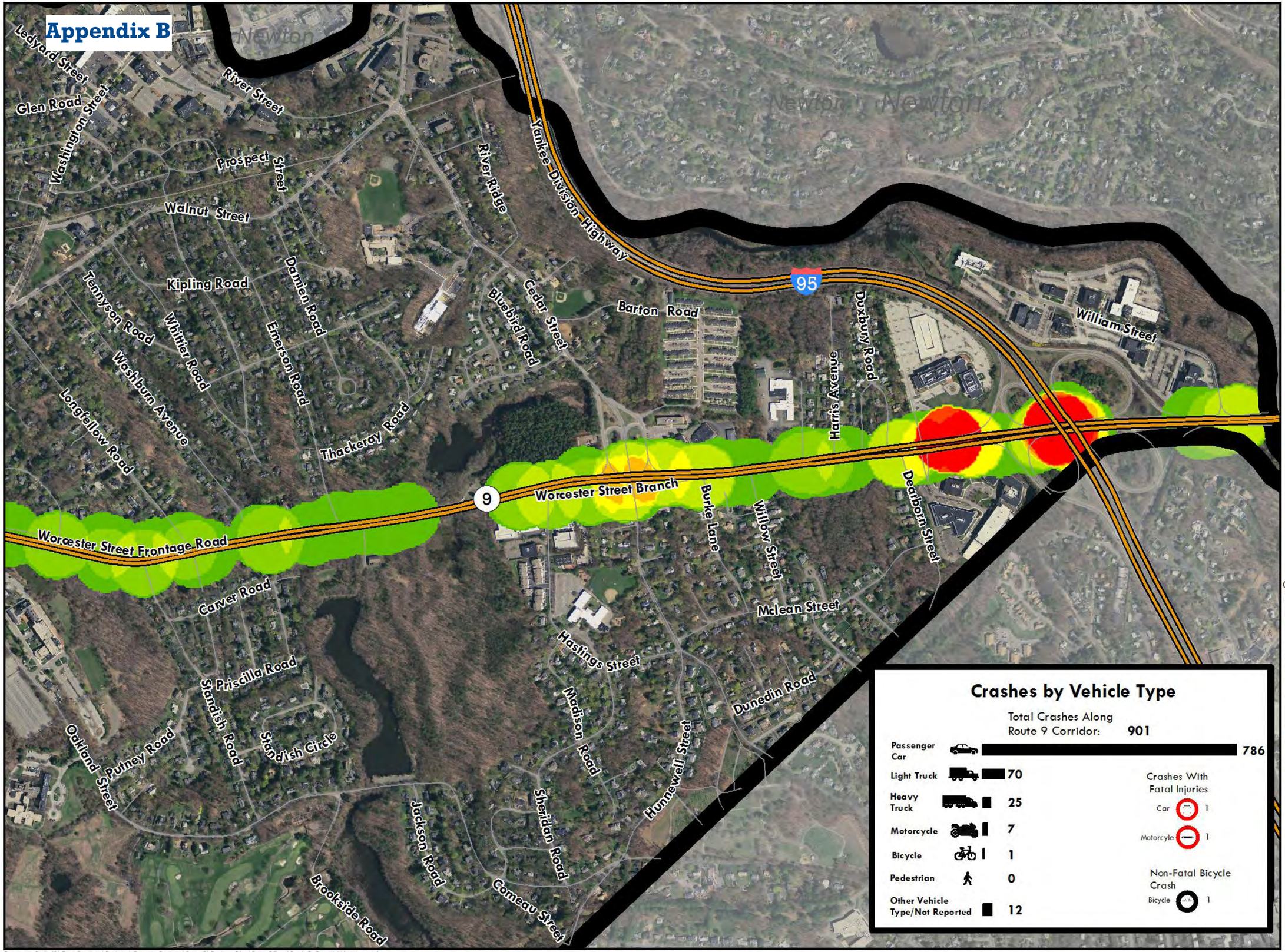
Data Sources:
Metropolitan Area Planning Council (MAPC)
MassGIS
MassDOT
Registry of Motor Vehicle Crash Data System (RMV)

November, 2015

Document Path: K:\DataServices\Projects\Current_Projects\Route9\Wellesley_CrashStudy\Route9CrashStudy2_KingsburytoStandish.mxd

Appendix B

Wellesley Route 9 Corridor Study 2011-2013 MassDOT Crash Data



Concentration of Crashes

1 20 > 70

Crashes by Vehicle Type

Total Crashes Along Route 9 Corridor: **901**

Passenger Car	786
Light Truck	70
Heavy Truck	25
Motorcycle	7
Bicycle	1
Pedestrian	0
Other Vehicle Type/Not Reported	12

Crashes With Fatal Injuries

Car 1

Motorcyle 1

Non-Fatal Bicycle Crash

Bicycle 1

0 0.05 0.1 0.2 Miles

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Produced by:
Metropolitan Area Planning Council
60 Temple Place, Boston, MA 02111
(617) 933-0700

Data Sources:
Metropolitan Area Planning Council (MAPC)
MassGIS
MassDOT
Registry of Motor Vehicle Crash Data System (RMV)

November, 2015

MAPC

Map Extent 3 of 3: Stadish Rd. to Newton

Document Path: K:\DataServices\Projects\Current_Projects\Route9\Project_Files\Route9CrashStudy3_StandishNewton.mxd

Appendix C

NEEDHAM LINE Train Schedule Effective December 27, 2014

Massachusetts Bay Transportation Authority

Keolis

Monday to Friday

Inbound to Boston

ZONE	STATION	TRAIN #	600	602	604	606	608	610	612	614	616	618	620	622	626	628	630	632
	Bikes Allowed																	
2	Needham Heights		6:05	6:45	7:30	8:02	8:32	9:40	10:55	12:55	2:50	3:55	5:02	5:37	7:20	8:02	9:02	10:10
2	Needham Center		6:09	6:49	7:34	8:06	8:36	9:44	10:59	12:59	2:54	3:59	5:06	5:41	7:24	8:06	9:06	10:14
2	Needham Junction		6:14	6:54	7:39	8:11	8:41	9:48	11:03	1:03	2:57	4:02	5:09	5:44	7:27	8:09	9:09	10:17
2	Hersey		6:17	6:57	7:43	8:15	8:45	9:52	11:06	1:06	3:01	4:06	5:18	5:48	7:30	8:13	9:12	10:20
1	West Roxbury		6:23	7:03	7:49	8:21	8:51	9:57	11:11	1:11	3:06	4:11	5:23	5:58	7:41	8:18	9:17	10:25
1	Highland		6:26	7:06	7:52	8:24	8:54	9:59	11:13	1:13	3:08	4:13	5:25	-	7:43	-	9:19	10:27
1	Bellevue		6:31	7:11	7:54	8:26	8:56	10:02	11:15	1:15	3:10	4:15	5:27	-	7:45	-	9:21	10:29
1	Roslindale Village		6:34	7:14	7:58	8:30	9:00	10:05	11:18	1:18	3:13	4:18	5:29	-	7:47	-	9:23	10:32
1A	Forest Hills		6:37	7:17	8:01	8:33	9:03	10:08	11:21	1:21	3:16	L 4:23	L 5:33	L 6:04	7:51	8:24	9:27	10:35
1A	Ruggles		6:41	7:21	8:06	8:38	9:08	10:13	11:26	1:26	-	-	-	-	7:56	8:29	9:31	10:39
1A	Back Bay		L 6:45	L 7:25	L 8:10	L 8:42	L 9:12	10:17	11:30	1:30	3:24	4:30	L 5:40	L 6:12	8:00	8:33	9:35	10:43
1A	South Station		6:50	7:30	8:15	8:47	9:17	10:22	11:35	1:35	3:29	4:35	5:45	6:17	8:05	8:38	9:40	10:48

Trains in purple box indicate peak period trains.

Monday to Friday

Outbound from Boston

ZONE	STATION	TRAIN #	605	607	609	611	613	615	617	619	621	623	625	627	629	631	633	635
	Bikes Allowed																	
1A	South Station		7:05	7:39	8:45	10:00	12:00	1:55	3:00	4:00	4:40	5:23	5:55	6:25	7:10	8:10	9:15	10:30
1A	Back Bay		7:10	7:44	8:50	10:05	12:05	2:00	3:05	4:05	4:45	5:28	6:00	6:30	7:15	8:15	9:20	10:35
1A	Ruggles		-	-	-	-	12:09	2:04	3:10	4:10	4:50	5:33	6:05	6:35	7:20	8:19	9:24	10:39
1A	Forest Hills		7:16	-	-	10:14	12:15	2:10	3:16	4:16	4:56	5:38	6:11	6:41	7:26	8:25	9:29	10:45
1	Roslindale Village		7:20	-	9:03	10:18	12:18	2:13	3:20	4:21	5:01	5:42	6:16	6:45	7:29	8:29	9:33	10:48
1	Bellevue		7:22	-	9:06	10:20	12:21	2:16	3:23	4:24	5:04	5:45	6:18	6:48	7:32	8:31	9:35	10:51
1	Highland		7:25	-	9:08	10:23	12:23	2:19	3:25	4:26	5:06	5:48	6:21	6:50	7:34	8:34	9:38	10:53
1	West Roxbury		7:27	8:03	9:10	10:25	12:26	2:22	3:28	4:28	5:08	5:50	6:23	6:52	7:36	8:36	9:40	10:55
2	Hersey		7:32	8:08	9:15	10:30	12:31	2:27	3:32	4:33	5:13	5:57	6:28	6:57	7:41	8:41	9:44	11:00
2	Needham Junction		7:42	8:14	9:18	10:33	12:34	2:30	3:35	4:37	5:17	6:00	6:32	7:01	7:44	8:44	9:47	11:03
2	Needham Center		7:46	8:18	9:22	10:37	12:38	2:34	3:39	4:40	5:20	6:04	6:35	7:05	7:48	8:47	9:51	11:06
2	Needham Heights		7:50	8:22	9:26	10:41	12:42	2:38	3:44	4:45	5:25	6:09	6:40	7:09	7:52	8:51	9:55	11:10

Trains in purple box indicate peak period trains.

Keep in Mind

This schedule will be effective from December 27, 2014, and will replace the schedule of July 1, 2014.

Holiday Service:
Saturday service: Presidents' Day, 4th of July (train #1617 may be held for 45 minutes after the conclusion of the 4th of July fireworks).
Sunday service: There is no service on New Year's Day, Memorial Day, Labor Day, Thanksgiving Day, and Christmas Day.
All other holidays: For other holiday schedules, please check MBTA.com or call 617-222-3200.

Times in blue indicate an early departure (L stop): The train may leave ahead of schedule at these stops.

Bikes: Bicycles are allowed on trains with the bicycle symbol shown below the train number.

Saturday (NO SERVICE ON SUNDAY)

Inbound to Boston

ZONE	STATION	TRAIN #	1602	1604	1606	1608	1610	1612	1614	1616	1618
	Bikes Allowed										
2	Needham Heights		8:00	10:00	12:00	2:00	4:00	6:00	8:00	10:00	11:35
2	Needham Center		8:05	10:05	12:05	2:05	4:05	6:05	8:05	10:05	-
2	Needham Junction		8:08	10:08	12:08	2:08	4:08	6:08	8:08	10:08	-
2	Hersey		8:11	10:11	12:11	2:11	4:11	6:11	8:11	10:11	-
1	West Roxbury		8:16	10:16	12:16	2:16	4:16	6:16	8:16	10:16	-
1	Highland		8:18	10:18	12:18	2:18	4:18	6:18	8:18	10:18	-
1	Bellevue		8:20	10:20	12:20	2:20	4:20	6:20	8:20	10:20	-
1	Roslindale Village		8:22	10:22	12:22	2:22	4:22	6:22	8:22	10:22	-
1A	Forest Hills		8:26	10:26	12:26	2:26	4:26	6:26	8:26	10:26	-
1A	Ruggles		8:30	10:30	12:30	2:30	4:30	6:30	8:30	10:30	-
1A	Back Bay		8:34	10:34	12:34	2:34	4:34	6:34	8:34	10:34	-
1A	South Station		8:39	10:39	12:39	2:39	4:39	6:39	8:39	10:39	12:00

Saturday (NO SERVICE ON SUNDAY)

Outbound from Boston

ZONE	STATION	TRAIN #	1601	1603	1605	1607	1609	1611	1613	1615	1617
	Bikes Allowed										
1A	South Station		7:10	9:10	11:10	1:10	3:10	5:10	7:10	9:10	10:45
1A	Back Bay		7:15	9:15	11:15	1:15	3:15	5:15	7:15	9:15	10:50
1A	Ruggles		7:18	9:18	11:18	1:18	3:18	5:18	7:18	9:18	10:54
1A	Forest Hills		7:24	9:24	11:24	1:24	3:24	5:24	7:24	9:24	11:00
1	Roslindale Village		7:28	9:28	11:28	1:28	3:28	5:28	7:28	9:28	11:03
1	Bellevue		7:30	9:30	11:30	1:30	3:30	5:30	7:30	9:30	11:06
1	Highland		7:33	9:33	11:33	1:33	3:33	5:33	7:33	9:33	11:08
1	West Roxbury		7:35	9:35	11:35	1:35	3:35	5:35	7:35	9:35	11:10
2	Hersey		7:39	9:39	11:39	1:39	3:39	5:39	7:39	9:39	11:15
2	Needham Junction		7:42	9:42	11:42	1:42	3:42	5:42	7:42	9:42	11:18
2	Needham Center		7:46	9:46	11:46	1:46	3:46	5:46	7:46	9:46	11:21
2	Needham Heights		7:50	9:50	11:50	1:50	3:50	5:50	7:50	9:50	11:25

Access schedules, T-Alerts & updates. Simply scan this QR code with your smartphone.

Visit MBTA.com.

Call MBTA Customer Service at 617-222-3200.

Stay connected with us on Twitter.

Make your train on time. Download the official MBTA Commuter Rail mobile app. Get schedule info, train progress, and alerts easily and conveniently.

Appendix D

ROUTE 1 AM

EASTBOUND	Central Hub	5:30 AM	5:55 AM												
	Concord & Howard	5:32 AM	5:57 AM												
	Flutie Pass	5:42 AM	6:05 AM												
	Natick Mall	**5:43 AM**	**6:06 AM**	**6:18 AM**	**6:46 AM**	**6:58 AM**	**7:25 AM**	**7:41 AM**	**8:08 AM**	**8:27 AM**	**8:53 AM**	**9:22 AM**	**9:46 AM**	**10:07 AM**	**10:53 AM**	**11:35 AM**
	MathWorks	5:47 AM	6:10 AM	6:22 AM	6:50 AM	7:02 AM	7:29 AM	7:45 AM	8:12 AM	8:31 AM	8:57 AM	9:26 AM	9:50 AM	10:11 AM	10:57 AM	11:39 AM
	Woodland	**6:00 AM**	**6:25 AM**	**6:35 AM**	**7:03 AM**	**7:19 AM**	**7:47 AM**	**8:04 AM**	**8:31 AM**	**8:52 AM**	**9:16 AM**	**9:42 AM**	**10:09 AM**	**10:27 AM**	**11:12 AM**	**11:54 AM**
WESTBOUND	**Woodland**	**6:00 AM**	**6:28 AM**	**6:40 AM**	**7:08 AM**	**7:24 AM**	**7:52 AM**	**8:09 AM**	**8:35 AM**	**9:02 AM**	**9:26 AM**	**9:47 AM**	**10:14 AM**	**10:32 AM**	**11:17 AM**	**11:59 AM**
	Natick Mall	**6:18 AM**	**6:46 AM**	**6:56 AM**	**7:24 AM**	**7:40 AM**	**8:08 AM**	**8:27 AM**	**8:53 AM**	**9:22 AM**	**9:46 AM**	**10:05 AM**	**10:32 AM**	**10:52 AM**	**11:35 AM**	**12:17 PM**
	Central Hub												10:37 AM			

ROUTE 1 PM

EASTBOUND	Central Hub			1:35 PM			3:35 PM										
	Concord & Howard																
	Flutie Pass																
	Natick Mall	**12:18 PM**	**1:00 PM**	**1:50 PM**	**2:35 PM**	**3:20 PM**	**3:50 PM**	**4:05 PM**	**4:35 PM**	**4:50 PM**	**5:20 PM**	**5:35 PM**	**6:05 PM**	**6:20 PM**	**6:50 PM**	**7:05 PM**	**7:35 PM**	**7:50 PM**
	MathWorks	12:22 PM	1:04 PM	1:54 PM	2:39 PM	3:24 PM	3:54 PM	4:09 PM	4:39 PM	4:54 PM	5:24 PM	5:39 PM	6:09 PM	6:24 PM	6:54 PM	7:09 PM	7:39 PM	7:54 PM
	Woodland	**12:37 PM**	**1:19 PM**	**2:09 PM**	**2:54 PM**	**3:39 PM**	**4:09 PM**	**4:24 PM**	**4:54 PM**	**5:12 PM**	**5:39 PM**	**5:54 PM**	**6:24 PM**	**6:39 PM**	**7:09 PM**	**7:24 PM**	**7:54 PM**	**8:09 PM**
WESTBOUND	**Woodland**	**12:42 PM**	**1:22 PM**	**2:14 PM**	**2:59 PM**	**3:44 PM**	**4:14 PM**	**4:29 PM**	**4:59 PM**	**5:17 PM**	**5:44 PM**	**5:59 PM**	**6:29 PM**	**6:44 PM**	**7:14 PM**	**7:29 PM**	**7:59 PM**	**8:14 PM**
	Natick Mall	**1:00 PM**	**1:36 PM**	**2:32 PM**	**3:17 PM**	**4:02 PM**	**4:32 PM**	**4:47 PM**	**5:17 PM**	**5:35 PM**	**6:02 PM**	**6:17 PM**	**6:47 PM**	**7:02 PM**	**7:32 PM**	**7:47 PM**	**8:17 PM**	**8:27 PM**
	Central Hub		1:43 PM														8:23 PM	8:32 PM

Please note:

Shaded areas are approximate arrival times only. The bus may leave these locations prior to the listed time. Riders should be at these time points at least ten minutes prior to the time listed. The bus will not leave the **bolded** locations prior to listed times.

If you have any questions, please contact Customer Service at (508) 935-2222.

ROUTE 8: Wellesley

MetroWest Regional Transportation Authority

8 ROUTE 8 (Monday-Friday Service)

Cash Fare Information

Adult fare: $1.50 / $1.10 with a Charlie Card
Student fare:$1.00 with valid Student ID.
Children under 6 ride free when accompanied by an adult.
Children under 12 may not ride unaccompanied.
Elderly (65 years of age or older)- $0.75 with photo ID indicating date of birth or a MWRTA senior TAP Pass or $0.70 with a Charlie Card
Individuals with disabilities- Valid MBTA Access Card, Medicare Card or MWRTA Disabled TAP Pass are accepted as proof of eligibility for the MWRTA reduced fare program.
Charlie Cards are available free of charge at the Central Hub or on the bus. Value can be added to existing cards onboard, online at mbta.com, or at an MBTA kiosk.

No service provided on the following Holidays:

New Year's Day
Patriot's Day
Memorial Day
Independence Day
Thanksgiving Day
Christmas Day

Transfer/Connections

Transfer coupons are available on all buses and are good for transfers within the MWRTA system only. Transfers are not compatable within the MBTA system. Riders wishing to transfer, (free of charge), from one route to another (in the same direction), must ask the driver for a transfer coupon and present it to the next driver within 90 minutes.

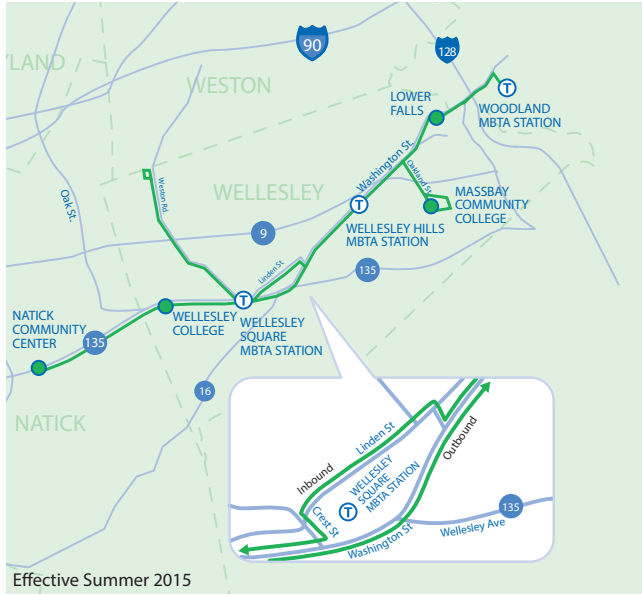
Riders can access MBTA Commuter Rail Service in Downtown Framingham, at the West Natick Commuter Rail Station, Downtown Natick as well as Wellesley Square and Wellesley Hills. For MBTA schedule and service information call 617.222.3200.

Schedule Times

Scheduled times are only approximate; please wait for the MWRTA ten minutes in advance of scheduled times to assure not missing the bus.

The MWRTA uses the Flag Down System which allows buses to stop anywhere along their routes to pick up passengers, where it is safe to do so. Passengers can hail MWRTA buses by waving.

Route 8 (Monday-Friday Service)



Effective Summer 2015

Please visit our website: www.mwrta.com
MWRTA Customer Service: (508) 935-2222
Follow Us: @mwrta

MetroWest Regional Transit Authority
Public Transportation System

8 ROUTE 8 Weekday (Monday-Friday Service) 8

Commuter Schedule

EASTBOUND	AM
Central Hub (37 Waverly St.)	6:20A
Natick Community Center	6:30A
Wellesley College	6:33A
Weston Rd. / Manor Ave.	6:39A
Fells Market	6:40A
Crest Rd. (MBTA)	6:43A
Wellesley Hills (MBTA)	6:48A
Lower Falls	6:52A
Newton-Wellesley Hosp.	6:55A
Woodland (MBTA Green Line)	6:59A
WESTBOUND	
Lower Falls	7:05A
MassBay Community College	7:11A
Wellesley Hills (MBTA)	7:17A
Crest Rd. (MBTA)	7:20A
Weston Rd. at Manor Ave.	7:27A
Fells Market	7:28A
Crest Rd. (MBTA)	7:32A
EASTBOUND	
Wellesley Hills (MBTA)	7:37A
MassBay Community College	7:44A
Lower Falls	7:47A
Newton-Wellesley Hosp.	7:50A
Woodland (MBTA Green Line)	7:54A
WESTBOUND	
Lower Falls	8:04A
MassBay Community College	8:14A
Wellesley Community Center	R
Wellesley Hills (MBTA)	8:19A
Linden St.	8:21A
Crest Rd. (MBTA)	8:25A
Wellesley College	8:34A
Natick Community College	8:40A

EASTBOUND	PM
Natick Community Center	4:58P
Wellesley College	5:03P
Weston Rd. / Manor Ave.	5:10P
Fells Market	5:13P
Crest Rd. (MBTA)	5:25P
Wellesley Hills (MBTA)	5:33P
MassBay Community College	5:38P
Lower Falls	5:45P
Newton-Wellesley Hospital	5:47P
Woodland (MBTA Green Line)	5:50P
WESTBOUND	
Lower Falls	5:58P
MassBay Community College	6:05P
Wellesley Community Center	R
Wellesley Hills (MBTA)	6:11P
Linden St.	6:18P
Crest Rd. (MBTA)	6:24P
Wellesley College	6:30P
Natick Community Center	6:35P
EASTBOUND	
Wellesley College	6:40P
Weston Rd. / Manor Ave.	6:46P
Fells Market	6:47P
Cross St.	6:53P
Cameron St.	6:56P
Crest Rd. (MBTA)	6:58P
Linden St.	7:00P
Whole Foods	7:03P
Wellesley Hills	7:05P
MassBay Community College	7:10P
Lower Falls	7:15P
Newton-Wellesley Hosp.	7:18P
Woodland (MBTA Green Line)	7:20P
WESTBOUND	
Lower Falls	7:23P
MassBay Community College	7:29P
Wellesley Community Center	R
Wellesley Hills	7:33P
Linden Street	7:37P
Crest Rd. (MBTA)	7:40P
Wellesley College	7:46P
Natick Community Center	7:48P
Central Hub	7:58P

MetroWest Regional Transit Authority
Public Transportation System

Local Schedule

EASTBOUND	AM			PM	
Central Hub (37 Waverly St.)	--	10:05A	--	--	--
Natick Community Center	8:45A	10:10A	11:34A	1:10P	3:23P
Wellesley College	8:48A	10:13A	11:37A	1:14P	3:27P
Weston Rd. / Manor Ave.	8:54A	10:20A	11:44A	1:22P	3:35P
Fells Market	8:55A	10:22A	11:46A	1:23P	3:36P
Cross St.	9:01A	10:28A	11:49A	1:29P	3:38P
Cameron St.	9:04A	10:31A	11:52A	1:33P	3:40P
Crest Rd. (MBTA)	9:06A	10:33A	11:54A	1:36P	3:43P
Linden St.	9:08A	10:35A	11:56A	1:38P	3:45P
Whole Foods	9:11A	10:37A	11:58A	1:41P	3:49P
Wellesley Hills (MBTA)	9:13A	10:39A	12:00P	1:44P	3:51P
MassBay Community College	9:20A	10:46A	12:05P	1:52P	3:58P
Lower Falls	9:26A	10:52A	12:11P	1:59P	4:05P
Newton-Wellesley Hosp.	9:29A	10:55A	12:14P	2:04P	4:08P
Woodland (MBTA Green Line)	9:33A	10:59A	12:20P	2:06P	4:10P
WESTBOUND					
Lower Falls	9:40A	11:08A	12:30P	2:15P	4:20P
MassBay Community College	9:47A	11:15A	12:37P	2:25P	4:30P
Wellesley Community Center	R	R	R	R	R
Wellesley Hills (MBTA)	9:53A	11:18A	12:45P	2:37P	4:33P
Linden St.	9:55A	11:20A	12:50P	2:39P	4:37P
Crest Rd. (MBTA)	9:57A	11:23A	12:55P	2:44P	4:40P
Wellesley College	10:03A	11:29A	1:00P	2:51P	4:48P
Natick Community Center	10:06A	11:33A	1:07P	2:58P	4:53P

Key

R: By Request Only
A- AM & P- PM

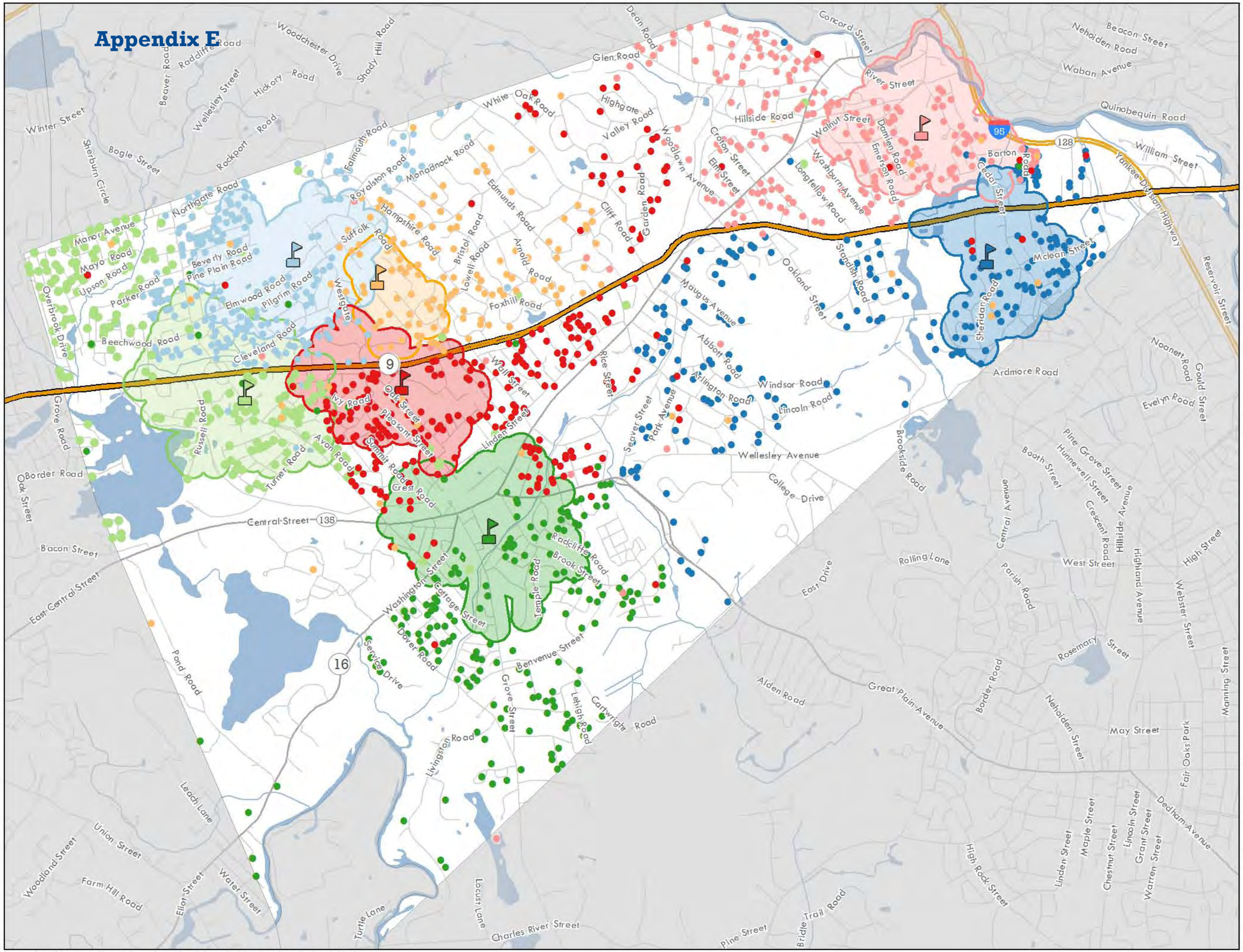
**MWRTA will deviate (D) from its Route 8 fixed route service for ADA Certified riders. Please call 508-935-2222 for more information.

For up to the minute bus information call the MWRTA at 508.935.2222 or 888.996.9782, or visit www.mwrta.com for GPS tracking.

Scan the QR code below with your smartphone to be directed to the MWRTA Routes and Schedules website.

Appendix E

Wellesley
Route 9 Corridor Study
Elementary Schools



Elementary Schools

- Katharine Lee Bates
- Joseph E Fiske
- John D Hardy
- Hunnewell
- Schofield
- Sprague Elementary School
- Ernest F Upham

Enrolled Students

- Bates Elementary
- Fiske Elementary
- Hardy Elementary
- Hunnewell Elementary
- Schofield Elementary
- Sprague Elementary
- Upham Elementary

0.5 Mile Walkshed

- Ernest F Upham
- Hunnewell
- John D Hardy
- Joseph E Fiske
- Katharine Lee Bates
- Schofield
- Sprague Elementary School

0 0.125 0.25 0.5 Miles

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Produced by:
Metropolitan Area Planning Council
60 Temple Place, Boston, MA 02111 | (617) 933-0700

Data Sources:
Metropolitan Area Planning Council (MAPC)
Massachusetts Geographic Information System (MassGIS)
Massachusetts Department of Transportation (MassDOT)

Walksheds produced by MAPC as part of a Statewide School Walkability Analysis, 2013

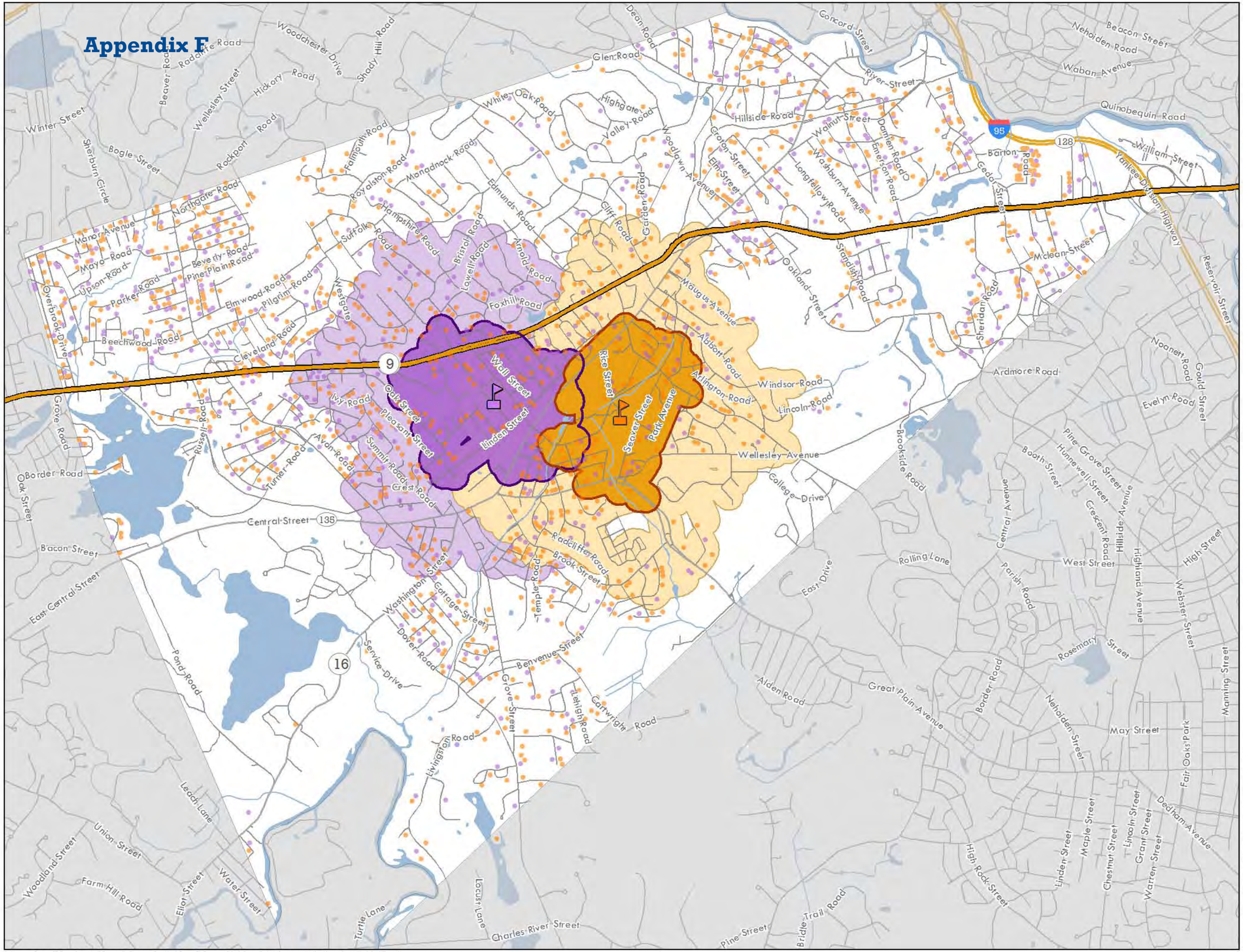
December, 2015

MAPC

Document Path: K:\DataServices\Projects\Current_Projects\Route9\Project_Files\Route9_WellesleyElemSchools_11x17.mxd

Appendix F

Wellesley
Route 9 Corridor Study
Middle and High Schools



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