

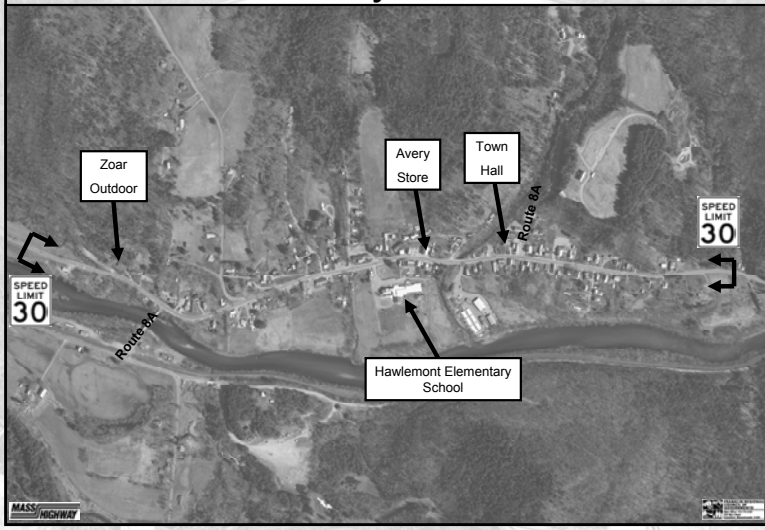
Background

- April 1999 – Select Board letter to FRCOG expressing interest in participating in a Study to evaluate Traffic Calming Measures, specifically to reduce vehicle speeds through the Village Center.
- July 1999 – FRCOG Conducted Traffic Counts to quantify extent of speeding problem.
- August 1999 – FRCOG met with MassHighway District 1 to discuss applicability of Traffic Calming Measures along Route 2. MassHighway agreed to include Village Center work in designs for the reconstruction of 11 miles of Route 2 through Charlemont.
- November 1999 – FRCOG met with the Select Board to discuss Traffic Calming and the collected Speed Data.
- August 2000 – Brainstorming meeting with Town Representative, Business Representatives, MassHighway and FRCOG. Outcome - MassHighway to investigate feasibility of various measures.
- October 2000 – Site walk to identify possible locations for new sidewalks and crosswalks along the length of Village Center.

Background

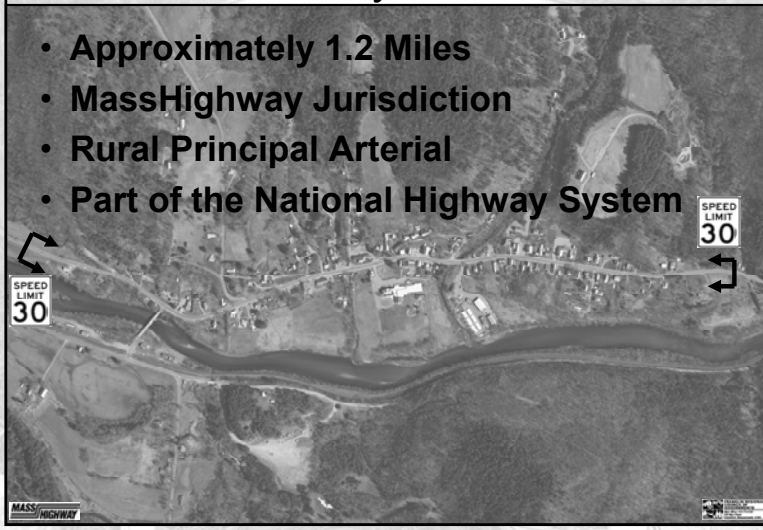
- 2000 through 2006 – Project on hold due to change in priorities to resolve bridge and culvert issues along Route 2.
- March 2006 – Met with Charlemont Master Plan Committee to provide update on Status of Project.
- April 2006 – MassHighway and FRCOG met to develop plan to restart project.
- September 2006 – FRCOG repeated Traffic Counts.
- March 2007 – MassHighway completed review of applicable traffic calming measures and sidewalk and crosswalk improvements.
- February 2008 – Public Information Meeting.
- Future – Review feedback from Community and develop preliminary plans.
Present preliminary plans to the Community for further feedback.
Develop detailed plans.

Study Area

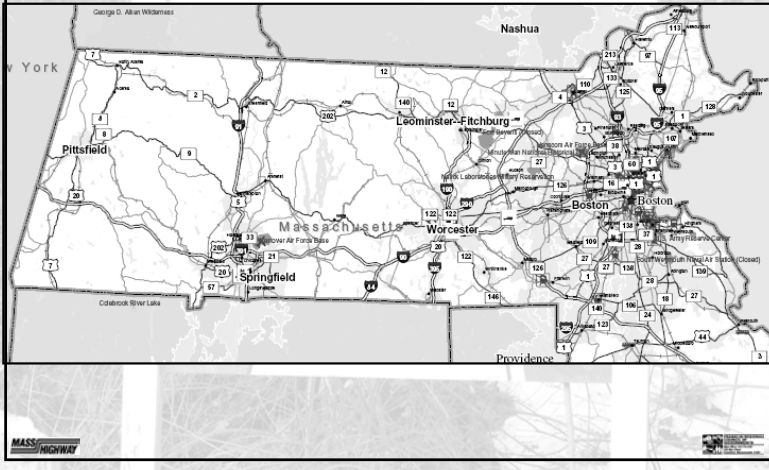


Study Area

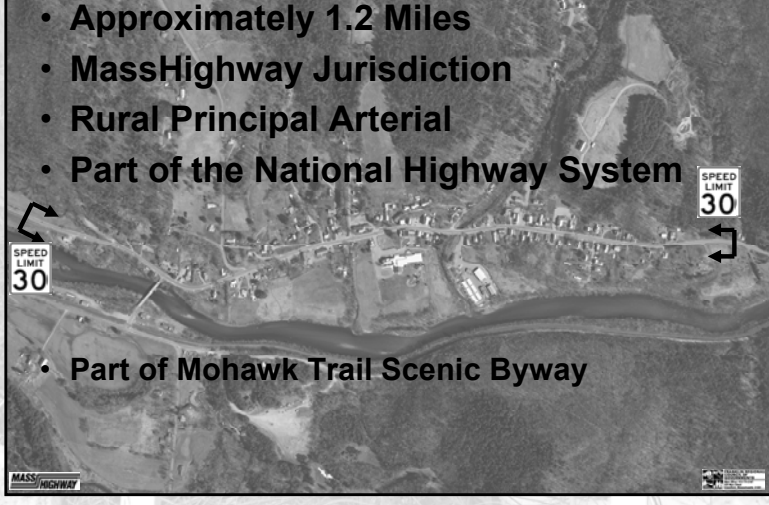
- **Approximately 1.2 Miles**
- **MassHighway Jurisdiction**
- **Rural Principal Arterial**
- **Part of the National Highway System**



National Highway System



Study Area

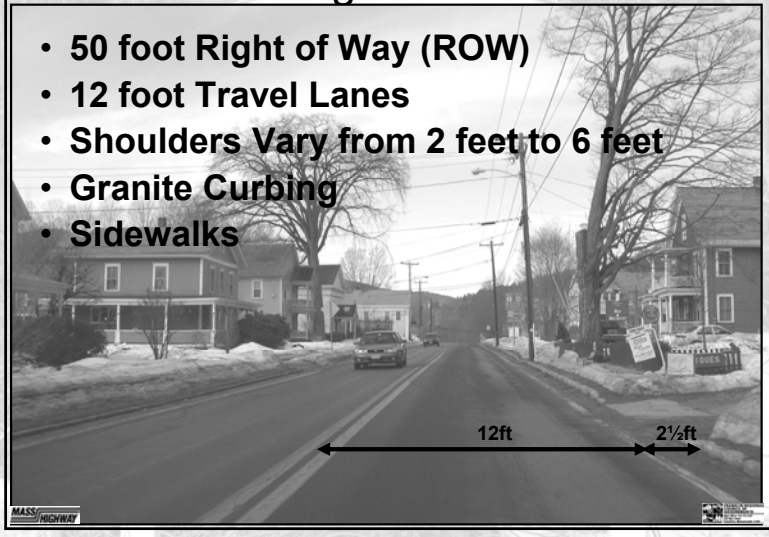


- Approximately 1.2 Miles
- MassHighway Jurisdiction
- Rural Principal Arterial
- Part of the National Highway System

- Part of Mohawk Trail Scenic Byway

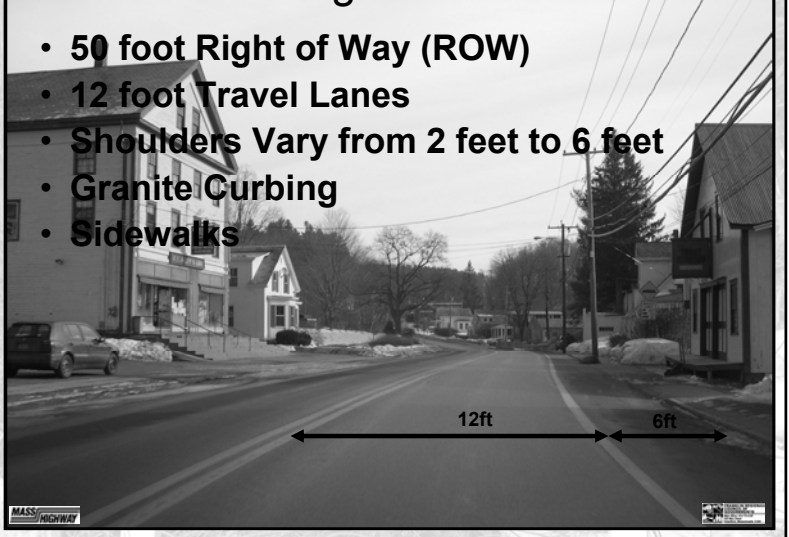
Existing Conditions

- 50 foot Right of Way (ROW)
- 12 foot Travel Lanes
- Shoulders Vary from 2 feet to 6 feet
- Granite Curbing
- Sidewalks



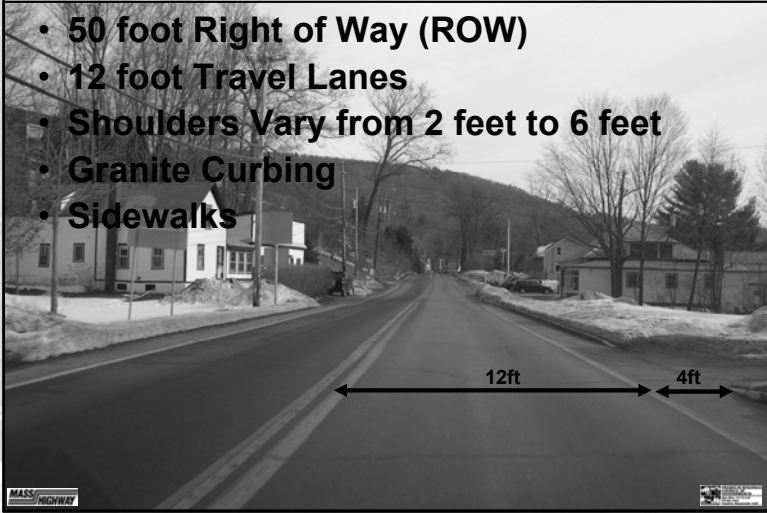
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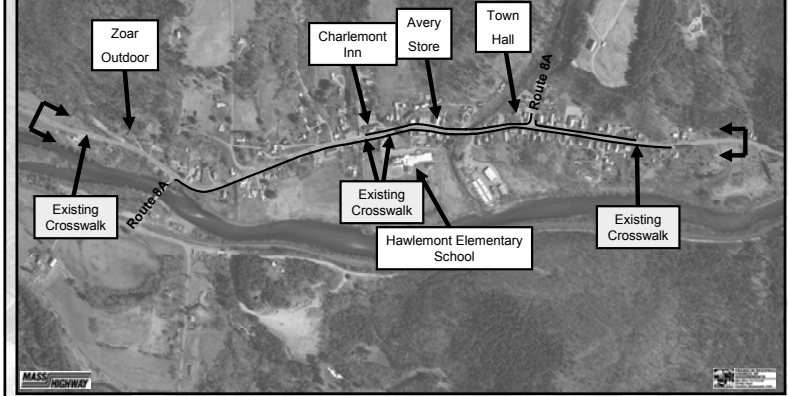


Existing Conditions

- 50 foot Right of Way (ROW)
- 12 foot Travel Lanes
- Shoulders Vary from 2 feet to 6 feet
- Granite Curbing
- Sidewalks



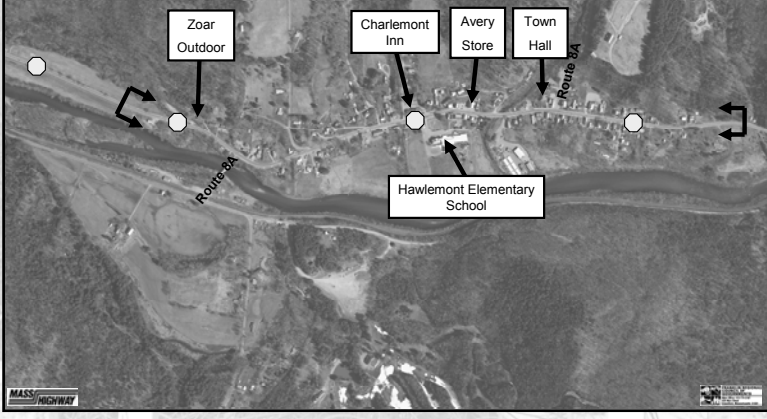
Existing Conditions Sidewalks & Crosswalks



Existing Conditions Traffic Count and Speed Data

4 Locations Counted Simultaneously

July 1999 & September 2006



Existing Conditions Traffic Count and Speed Data

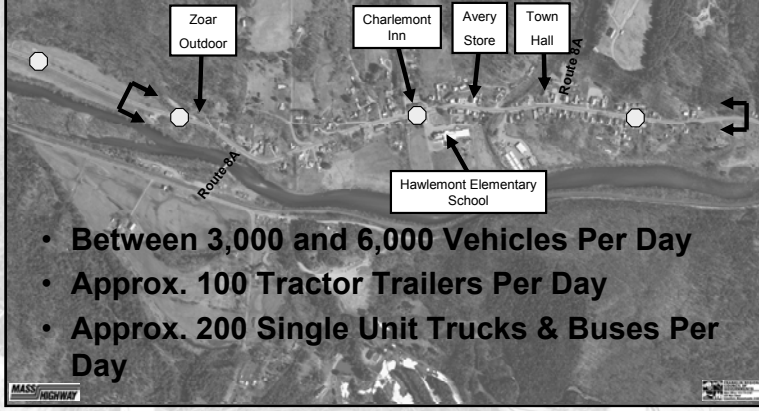


Existing Conditions

Traffic Count and Speed Data

4 Locations Counted Simultaneously

July 1999 & September 2006

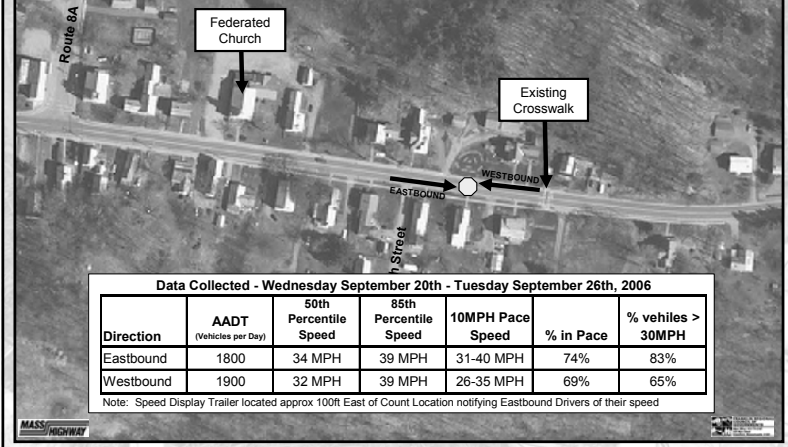


- Between 3,000 and 6,000 Vehicles Per Day
- Approx. 100 Tractor Trailers Per Day
- Approx. 200 Single Unit Trucks & Buses Per Day

Existing Conditions

Traffic Count and Speed Data

Station 0530013 – 100ft East of South Street



Data Collected - Wednesday September 20th - Tuesday September 26th, 2006

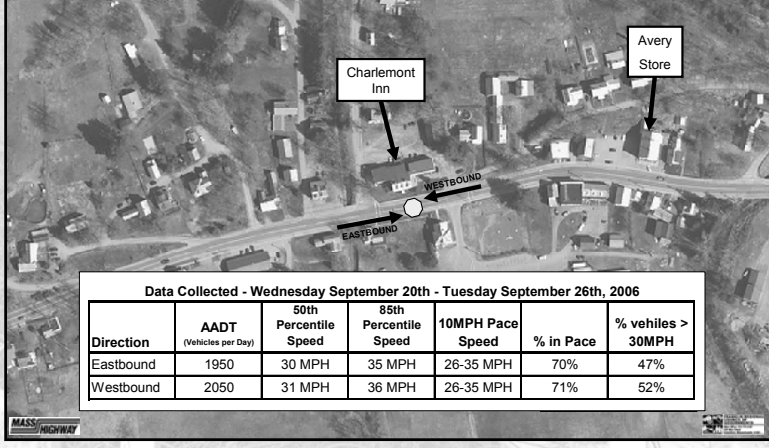
Direction	AADT (Vehicles per Day)	50th Percentile Speed	85th Percentile Speed	10MPH Pace Speed	% in Pace	% vehicles > 30MPH
Eastbound	1800	34 MPH	39 MPH	31-40 MPH	74%	83%
Westbound	1900	32 MPH	39 MPH	26-35 MPH	69%	65%

Note: Speed Display Trailer located approx 100ft East of Count Location notifying Eastbound Drivers of their speed

Existing Conditions

Traffic Count and Speed Data

Station 0530012 – Between School Street and Riddel Street



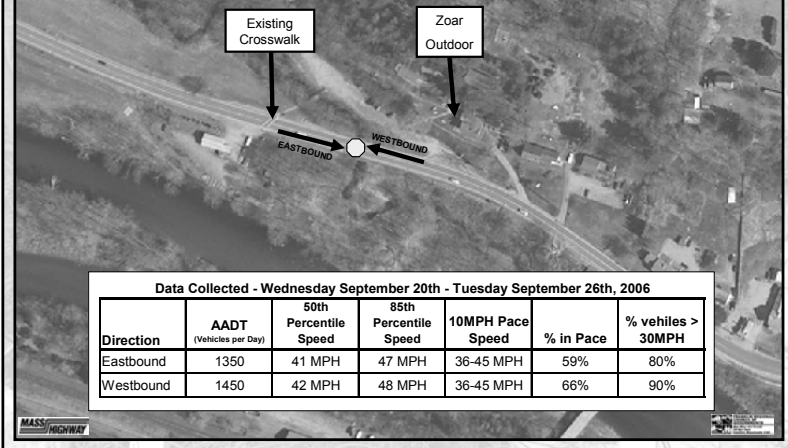
Data Collected - Wednesday September 20th - Tuesday September 26th, 2006

Direction	AADT (Vehicles per Day)	50th Percentile Speed	85th Percentile Speed	10MPH Pace Speed	% in Pace	% vehicles > 30MPH
Eastbound	1950	30 MPH	35 MPH	26-35 MPH	70%	47%
Westbound	2050	31 MPH	36 MPH	26-35 MPH	71%	52%

Existing Conditions

Traffic Count and Speed Data

Station 0530011 – 1/10 Mile West of Hawley Road (Route 8A)



Data Collected - Wednesday September 20th - Tuesday September 26th, 2006

Direction	AADT (Vehicles per Day)	50th Percentile Speed	85th Percentile Speed	10MPH Pace Speed	% in Pace	% vehicles > 30MPH
Eastbound	1350	41 MPH	47 MPH	36-45 MPH	59%	80%
Westbound	1450	42 MPH	48 MPH	36-45 MPH	66%	90%

Existing Conditions

CRASH DATA 2004 - 2006

Identified a Total of 6 Reported Crashes within Study Area during the 3-years reviewed.

Crash Severity

- 1 Fatal Crash on Eastern End
- 4 Property Damage Only Crashes
- 1 Not Reported

Roadway Conditions

- 3 of the Crashes Occurred on Snowy or Icy Road Conditions (including the Fatality)
- 3 of the Crashes Occurred on Dry Road Conditions

Light Conditions

- 5 of the Crashes Occurred during daylight hours
- 1 of the Crashes Occurred during hours of darkness

Crash Type

- 3 of the Crashes were Single Vehicle Crashes
- 2 of the Crashes were Rear-end Crashes
- 1 of the Crashes was a Head-on Crash (resulted in the Fatality)

Source: Registry of Motor Vehicles Crash Data System



Traffic Calming

- **Traffic calming** measures are physical road design elements intended to reduce vehicle speeds and improve driver attentiveness.
- Traffic calming incorporates three major categories of design measures:
 1. Narrowing the real or apparent width of the street.
 2. Deflecting (introducing curvature to) the vehicle path.
 3. Altering the vertical profile of the vehicle path.

Source: MassHighway Project Development and Design Guide – Chapter 16

Traffic Calming

Exhibit 16-2
Traffic Calming and Traffic Management Applicability by Roadway Type

	Arterials	Major Collectors	Minor Collectors	Local Roads
Street Narrowing				
Narrow Lanes		Δ	■	■
Raised Curbs	■	■	■	■
Street Furniture	■	■	■	■
Street Trees	■	■	■	■
Street Lighting	■	■	■	■
Spot Narrowing	Δ	■	■	■
Medians and Crossing Islands	■	■	■	■
Curb Extensions	■	■	■	■
Road Diets	Δ	Δ	■	■
Building Stings	■	■	■	■
Horizontal Deflection				
Chicanes			■	■
Crossing Islands/Short Medians	■	■	■	■
Mid-Block Traffic Circles			Δ	■
Roundabouts	■	■	■	■
Lane Offsets		Δ	Δ	■
Profile Alterations				
Speed Humps		Δ	Δ	■
Raised Crosswalks		Δ	■	■
Raised Intersections		Δ	■	■
Textured Pavement	■	■	■	■
Traffic Management	Δ	Δ	Δ	Δ

■ Often used for new design or retrofit programs in traffic calming settings
 Δ May be suitable

Source: MassHighway Project Development and Design Guide – Chapter 16

Traffic Calming

Exhibit 16-2
Traffic Calming and Traffic Management Applicability by Roadway Type

	Arterials	Major Collectors	Minor Collectors	Local Roads
Street Narrowing				
Narrow Lanes		Δ	■	■
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Street Furniture	■	■	■	■
Street Trees	■	■	■	■
Street Lighting	■	■	■	■
Spot Narrowing	Δ	■	■	■
Medians and Crossing Islands	■	■	■	■
Curb Extensions	■	■	■	■
Road Diets	Δ	Δ	■	■
Building Stings	■	■	■	■
Horizontal Deflection				
Chicanes			■	■
Crossing Islands/Short Medians	■	■	■	■
Mid-Block Traffic Circles			Δ	■
Roundabouts	■	■	■	■
Lane Offsets		Δ	Δ	■
Profile Alterations				
Speed Humps		Δ	Δ	■
Raised Crosswalks		Δ	■	■
Raised Intersections		Δ	■	■
Textured Pavement	■	■	■	■
Traffic Management	Δ	Δ	Δ	Δ

Note: Does not mean that these measures are suitable for all locations on Arterials

■ Often used for new design or retrofit programs in traffic calming settings
 Δ May be suitable

Source: MassHighway Project Development and Design Guide – Chapter 16

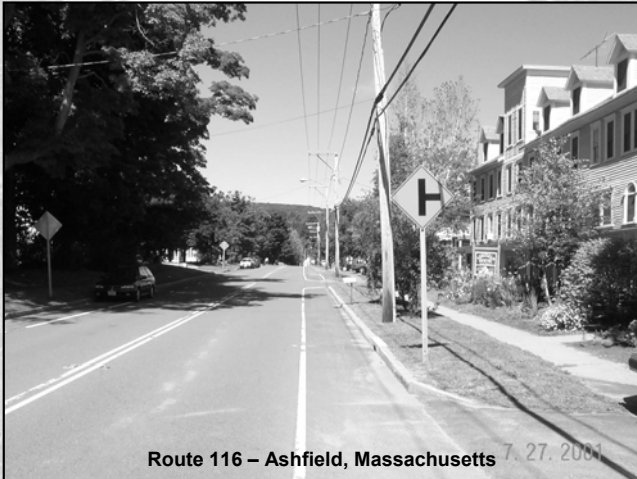
Measures Considered

- ~~Speed Humps/Tables~~
- ~~Crossing Islands/Short Medians~~
- ~~Crosswalk Curb Extensions (Build Outs)~~
- Intersection Curb Extensions
- Shoulder Treatment
- Gateway Treatment
- Enhanced Signage
- Enhanced Crosswalk Markings
- Enhanced Pavement Markings (“SLOW”, “PED XING”, SCHOOL, etc.)
- Landscaping sidewalk buffers
- Pedestrian Level Street Lighting

Measures Explored Further

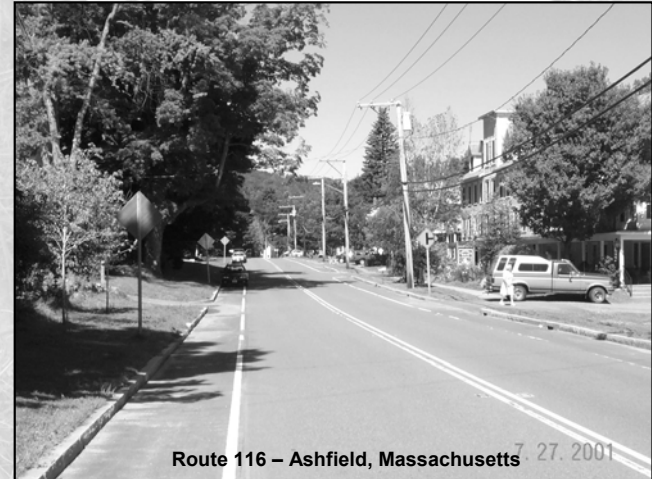
- Shoulder Treatment
 - Gateway Treatment
 - Enhanced Signage
 - Enhanced Crosswalk Markings
 - Enhanced Pavement Markings (“SLOW”, “PED XING”, SCHOOL, etc.)
 - Intersection Curb Extensions
- Have applicability, but felt their Traffic Calming Benefits were limited:
- Landscaping sidewalk buffers
 - Pedestrian Level Street Lighting

Shoulder Treatment



Route 116 – Ashfield, Massachusetts

Shoulder Treatment



Route 116 – Ashfield, Massachusetts

TyreGrip Shoulder Treatment



Albany, New York

TyreGrip Shoulder Treatment



Albany, New York

TyreGrip Installation Process



Route 116 – Sunderland, Massachusetts

Shoulder Treatment

OPTIONS

- Shoulder for full length through Village
Estimated cost \$220,000
- Spot treatment (approx 100 feet in length) at each crosswalk and Gateway.
Estimated cost \$25,000

Gateways



Example from Great Britain

Gateways



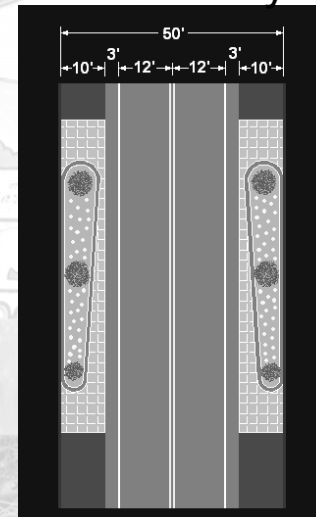
Example from Great Britain

Gateways

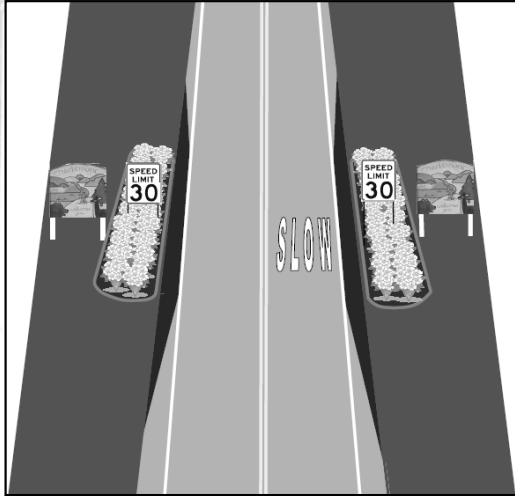


Example from Great Britain

Possible Gateway Design



Possible Gateway Design



Possible Location for West Gateway



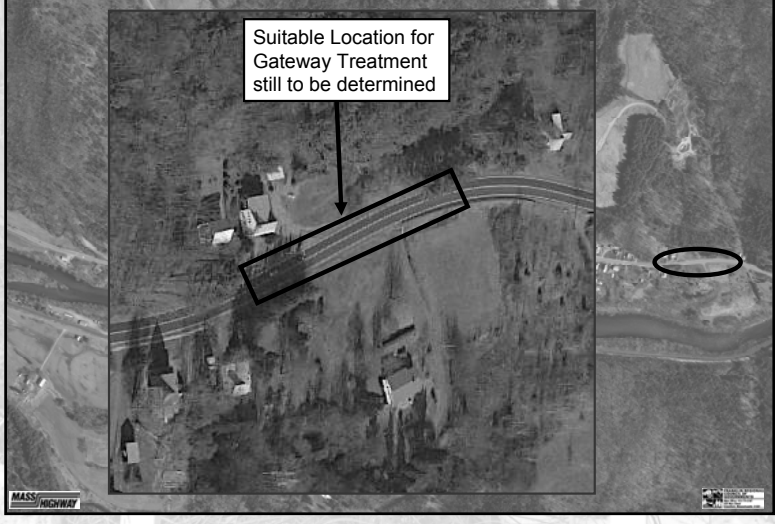
Possible Location for West Gateway



Possible Location for West Gateway



Possible Location for East Gateway



Possible Location for East Gateway



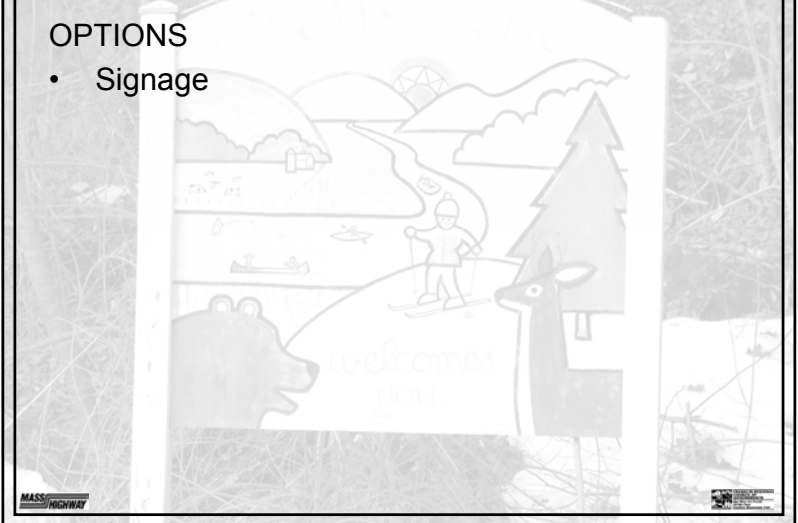
Possible Location for East Gateway



Crosswalk Enhancements

OPTIONS

- Signage



Crosswalk Enhancements

OPTIONS

- Signage – Existing Standard Yellow



Existing - Standard Yellow

Crosswalk Enhancements

OPTIONS

- Signage – Change to Fluorescent Yellow-Green



Existing - Standard Yellow



Fluorescent Yellow-Green

NOTE: Visibility studies have shown that fluorescent yellow-green signs can be seen at distances up to 40% further than standard yellow colors during the day and up to 50% further at night

Crosswalk Enhancements

OPTIONS

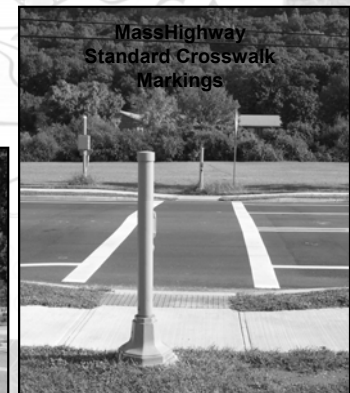
- Signage - Fluorescent Yellow-Green
- Shoulder Treatment - TyreGrip



Crosswalk Enhancements

OPTIONS

- Signage - Fluorescent Yellow/Green
- Shoulder Treatment
- Crosswalk Markings



Crosswalk Enhancements

OPTIONS

- Signage - Reflective Yellow/Green
- Shoulder Treatment
- Crosswalk Markings – Possibility for Enhancement



(Would require special approval.)

Ladder Markings

Crosswalk Enhancements

OPTIONS

- Signage - Reflective Yellow/Green
- Shoulder Treatment
- Crosswalk Markings
- Crosswalk Markers
(Would require special approval.)



R1-6

The In-Street Pedestrian Crosswalk Sign meets or exceeds the specifications released in the 2003 Edition of the MUTCD (Manual of Uniform Traffic Control Devices).

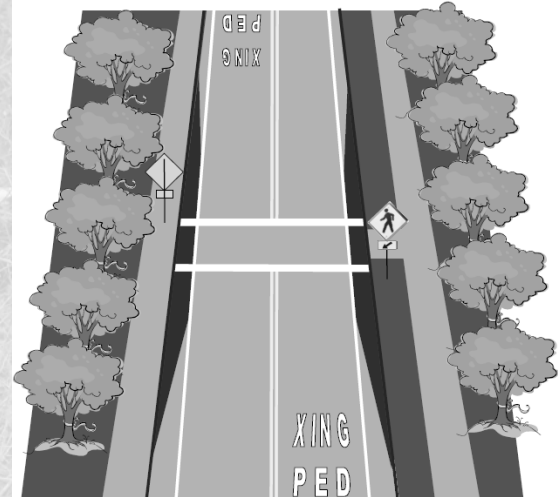
Crosswalk Enhancements

OPTIONS

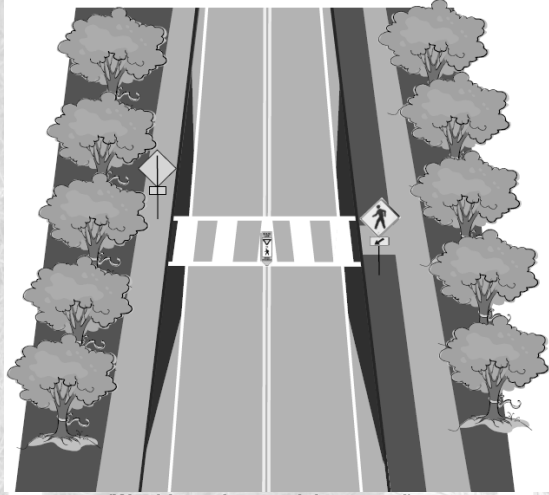
- Signage - Reflective Yellow/Green
- Shoulder Treatment
- Crosswalk Markings
- Crosswalk Marker
- Pavement Wording



Crosswalk Enhancements



Crosswalk Enhancements

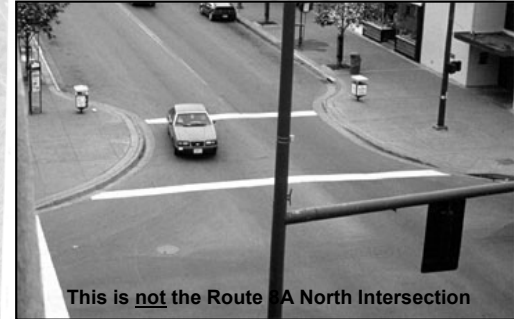


(Would require special approval)

Intersection Curb Extensions

Intersection of Route 8A North

- Currently a 56 feet opening
- Reduce to 48 feet by adding 4 feet to each side.

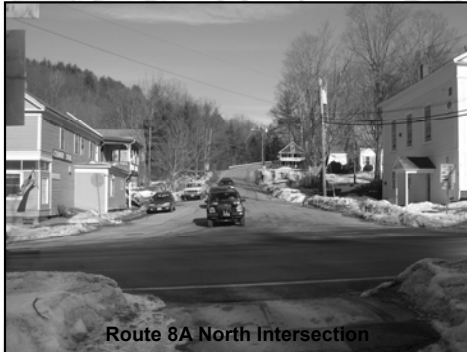


This is not the Route 8A North Intersection

Intersection Curb Extensions

Intersection of Route 8A North

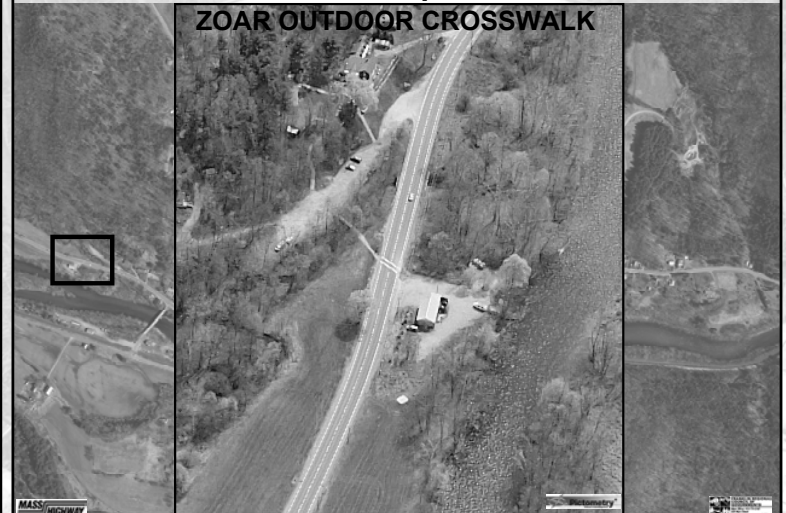
- Currently a 56 feet opening
- Reduce to 48 feet by adding 4 feet to each side.



Route 8A North Intersection

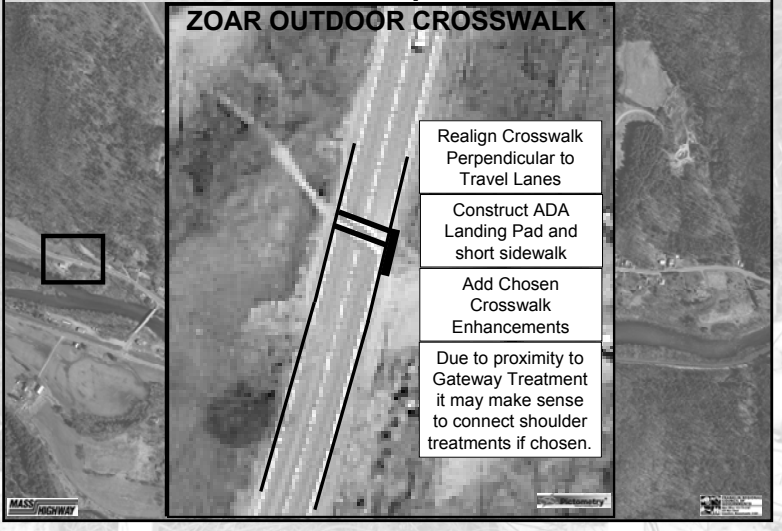
Pedestrian Improvements

ZOAR OUTDOOR CROSSWALK



Pedestrian Improvements

ZOAR OUTDOOR CROSSWALK



Realign Crosswalk Perpendicular to Travel Lanes

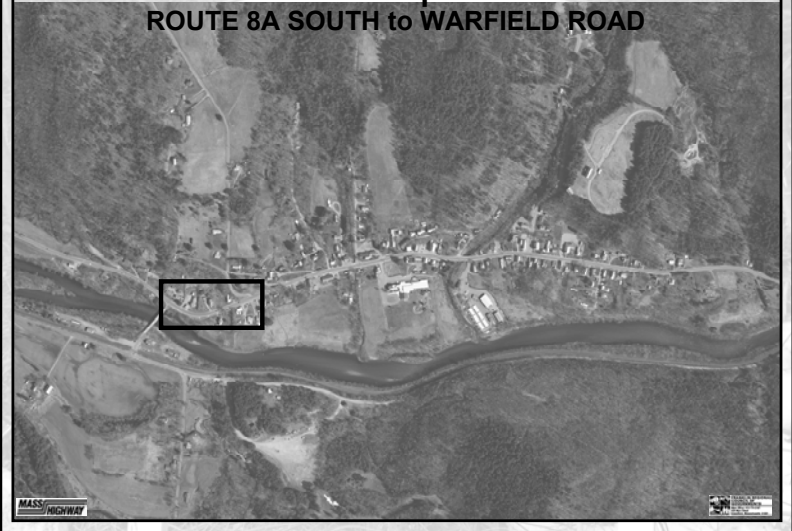
Construct ADA Landing Pad and short sidewalk

Add Chosen Crosswalk Enhancements

Due to proximity to Gateway Treatment it may make sense to connect shoulder treatments if chosen.

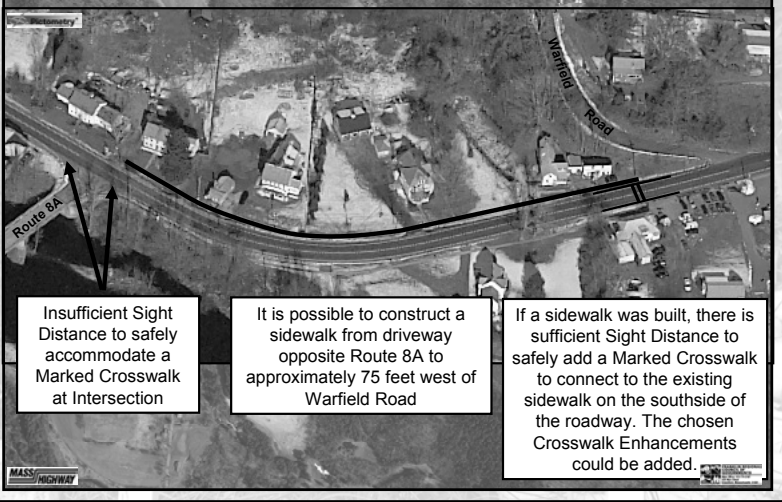
Pedestrian Improvements

ROUTE 8A SOUTH to WARFIELD ROAD



Pedestrian Improvements

ROUTE 8A SOUTH to WARFIELD ROAD



Insufficient Sight Distance to safely accommodate a Marked Crosswalk at Intersection

It is possible to construct a sidewalk from driveway opposite Route 8A to approximately 75 feet west of Warfield Road

If a sidewalk was built, there is sufficient Sight Distance to safely add a Marked Crosswalk to connect to the existing sidewalk on the southside of the roadway. The chosen Crosswalk Enhancements could be added.

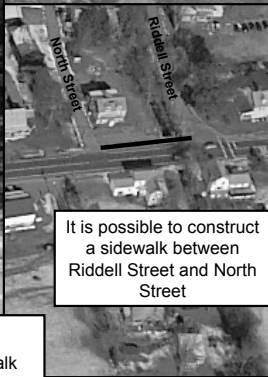
Pedestrian Improvements

RIDDELL STREET to RICE FORT ROAD



Pedestrian Improvements

RIDDELL STREET to RICE FORT ROAD



It is possible to construct a sidewalk between Riddell Street and North Street

Option 1:

Construct sidewalk flush with existing pavement to allow existing parking in front of Commercial Building

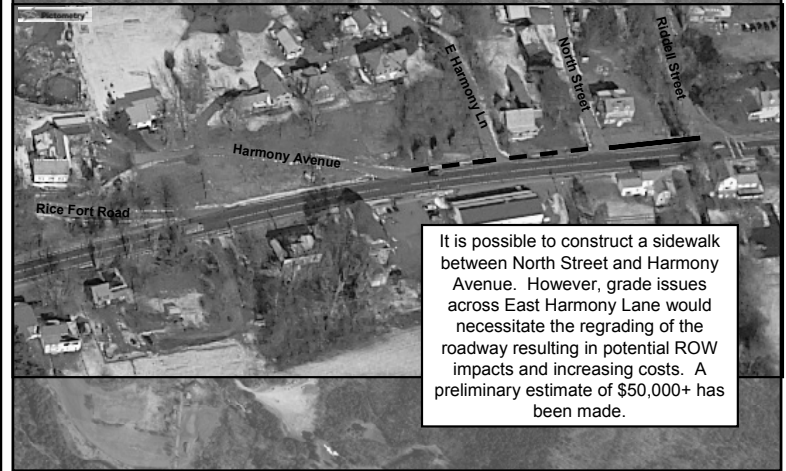
Option 2:

Construct raised sidewalk leaving openings for access to Commercial Building. This would limit parking in front of building



Pedestrian Improvements

RIDDELL STREET to RICE FORT ROAD



It is possible to construct a sidewalk between North Street and Harmony Avenue. However, grade issues across East Harmony Lane would necessitate the regrading of the roadway resulting in potential ROW impacts and increasing costs. A preliminary estimate of \$50,000+ has been made.



Pedestrian Improvements

RIDDELL STREET to RICE FORT ROAD

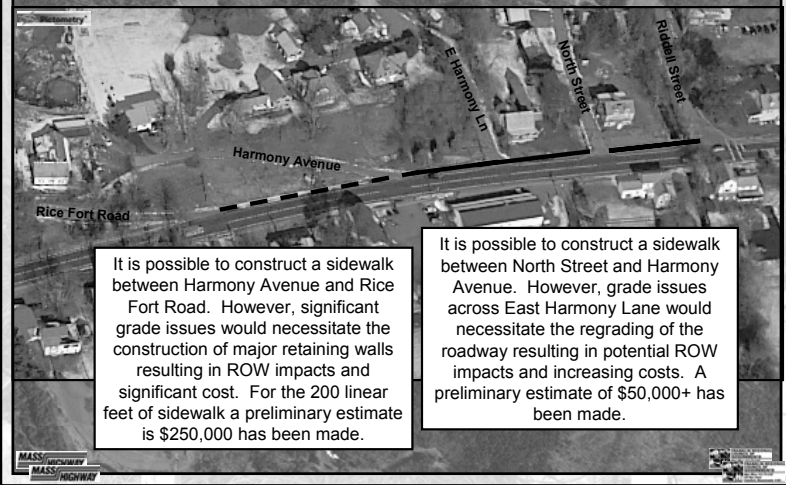


East Harmony Lane



Pedestrian Improvements

RIDDELL STREET to RICE FORT ROAD



It is possible to construct a sidewalk between Harmony Avenue and Rice Fort Road. However, significant grade issues would necessitate the construction of major retaining walls resulting in ROW impacts and significant cost. For the 200 linear feet of sidewalk a preliminary estimate is \$250,000 has been made.

It is possible to construct a sidewalk between North Street and Harmony Avenue. However, grade issues across East Harmony Lane would necessitate the regrading of the roadway resulting in potential ROW impacts and increasing costs. A preliminary estimate of \$50,000+ has been made.



Pedestrian Improvements

RIDDELL STREET to RICE FORT ROAD



Pedestrian Improvements

RIDDELL STREET to RICE FORT ROAD



Pedestrian Improvements

RIDDELL STREET to HIGH STREET



Pedestrian Improvements

RIDDELL STREET to HIGH STREET



Pedestrian Improvements

EVERY STORE



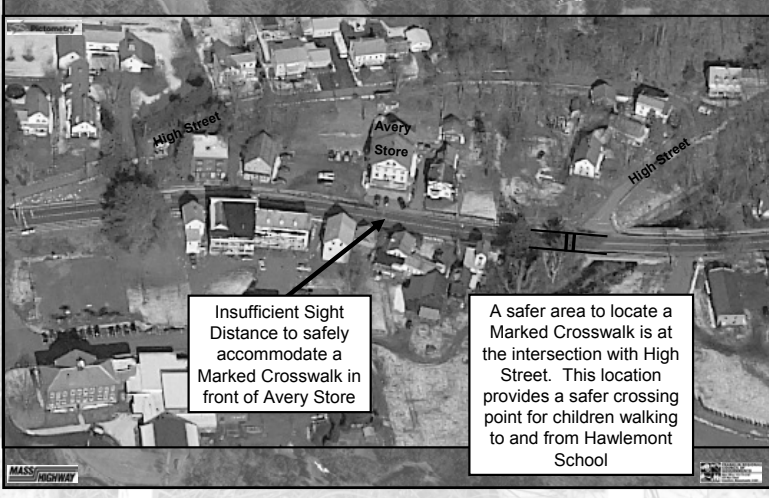
Pedestrian Improvements

EVERY STORE



Pedestrian Improvements

EVERY STORE



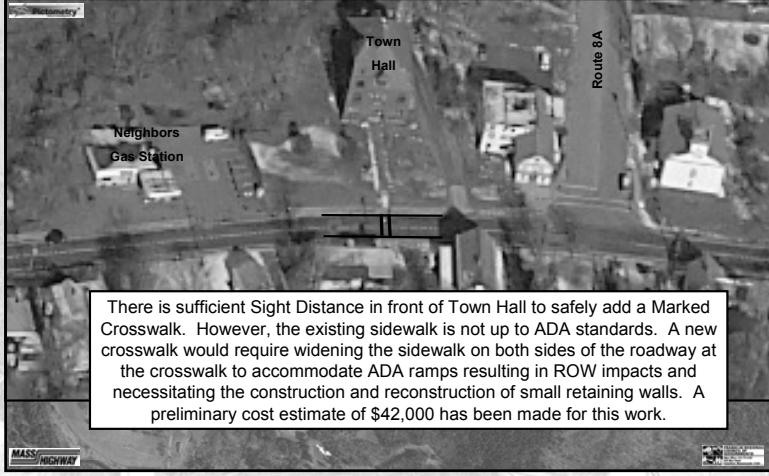
Pedestrian Improvements

TOWN HALL



Pedestrian Improvements

TOWN HALL



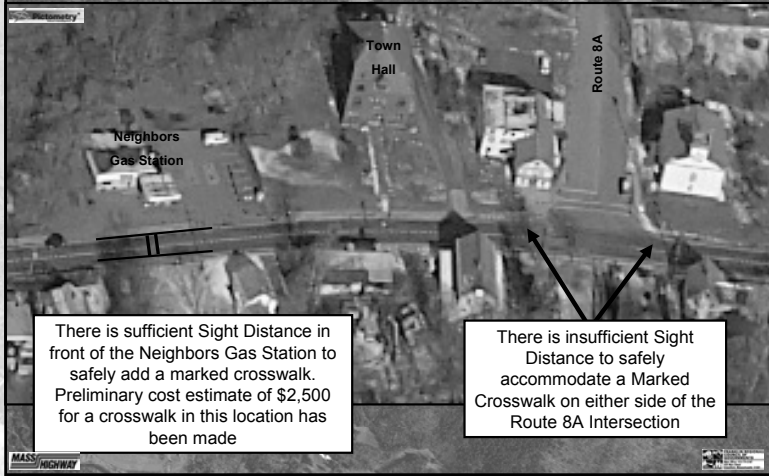
There is sufficient Sight Distance in front of Town Hall to safely add a Marked Crosswalk. However, the existing sidewalk is not up to ADA standards. A new crosswalk would require widening the sidewalk on both sides of the roadway at the crosswalk to accommodate ADA ramps resulting in ROW impacts and necessitating the construction and reconstruction of small retaining walls. A preliminary cost estimate of \$42,000 has been made for this work.

Possible Location for West Gateway



Pedestrian Improvements

TOWN HALL

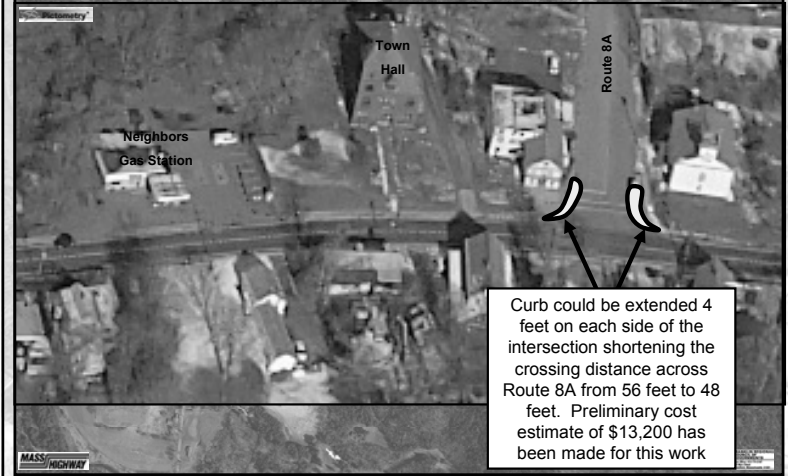


There is sufficient Sight Distance in front of the Neighbors Gas Station to safely add a marked crosswalk. Preliminary cost estimate of \$2,500 for a crosswalk in this location has been made

There is insufficient Sight Distance to safely accommodate a Marked Crosswalk on either side of the Route 8A Intersection

Pedestrian Improvements

ROUTE 8A NORTH



Curb could be extended 4 feet on each side of the intersection shortening the crossing distance across Route 8A from 56 feet to 48 feet. Preliminary cost estimate of \$13,200 has been made for this work

Pedestrian Improvements

FEDERATED CHURCH



Pedestrian Improvements

FEDERATED CHURCH



Pedestrian Improvements

EXISTING CROSSWALK EAST OF SOUTH STREET



Pedestrian Improvements

EXISTING CROSSWALK EAST OF SOUTH STREET

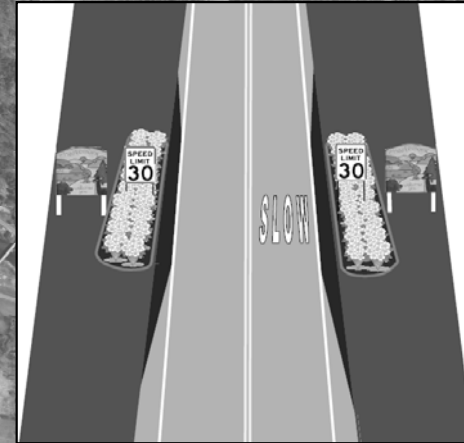


Feedback

- Give verbal feedback now.
- Hand back or Mail written comments on Sheet at back of Handout.
- Email Comments to kwilson@frcog.org

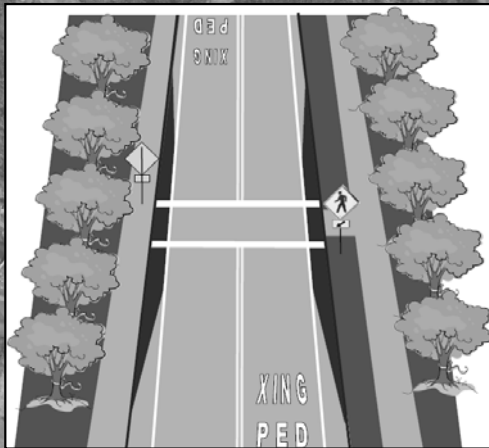
Summary of Possible Improvements

Gateways



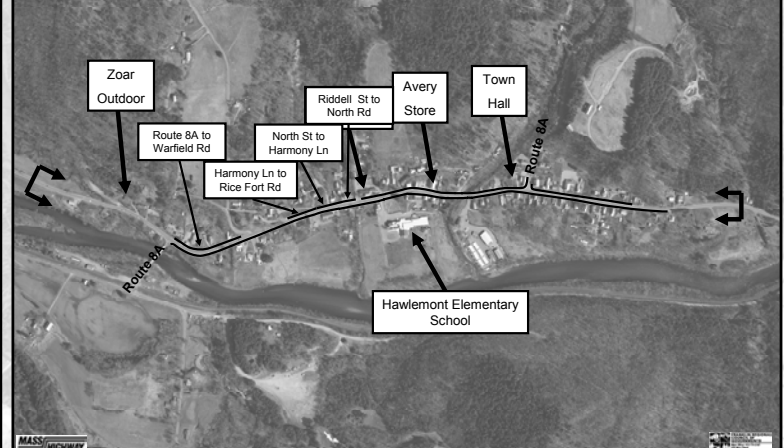
Summary of Possible Improvements

Crosswalk Enhancements



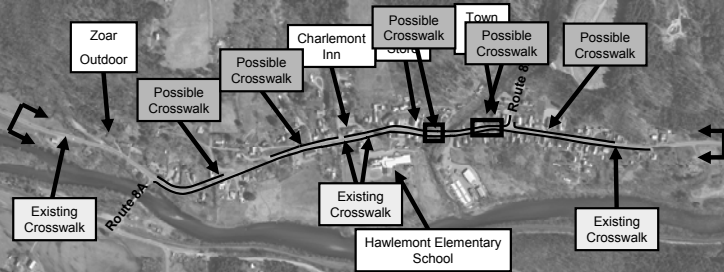
Summary of Possible Improvements

Possible New Sidewalk



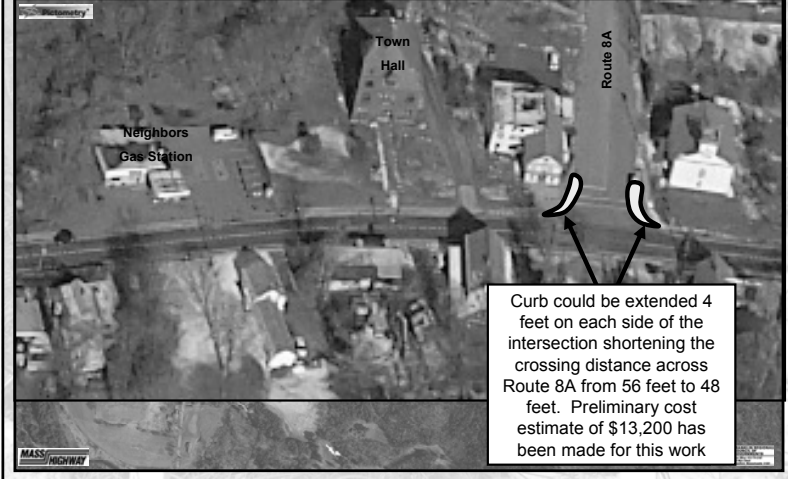
Summary of Possible Improvements

Possible New Crosswalks



Summary of Possible Improvements

Route 8A Curb Extensions



Next Phase

- Review Feedback
- Work with MassHighway District 1 to develop more detailed plans based on feedback.
- Bring back revised plans to the Town for Review.

Thank you for your participation.

Keith P Wilson
Transportation Planning Engineer
Franklin Regional Council of Governments
425 Main Street, Suite 20
Greenfield, MA 01301
413-774-1194 x109
kwilson@frcog.org