ROUTE 146 FUTURES STUDY
DRAFT REPORT

CENTRAL MA REGIONAL PLANNING COMMISSION

May 2006

CHAPTER 1: INTRODUCTION

1.0 OVERVIEW

Once the construction of the new Route 146 Blackstone River Parkway from Millbury to Interstate 290 in Worcester is complete in 2007, the section of Route 146 between the Route 122A interchange in Millbury and the Central Turnpike interchange in Sutton will have the only traffic signal on this road between Worcester and the Rhode Island state line. It will also be the only remaining section with curbside access directly onto the highway. The area of concern is shown in Figure 1. At the very least, this creates serious safety issues both for those traveling through this area and for those who live and work along the highway. The purpose of this limited study is to develop some conceptual design alternatives for that section of Route 146 and to seek public comment and discussion on its future configuration. Two concerns in particular have provided the impetus for this discussion:

1. The Executive Office of Transportation (EOT) – Planning has recently completed the Route 146 Transportation Study, which provided alternatives and recommendations for this roadway in Millbury and Sutton. The principal focus of that study was the two major intersections/interchanges on Route 146 in Sutton at Boston Road and in Millbury at West Main Street. MassHighway has proposed, and the towns have agreed, to replace the Boston Road intersection with a grade-separated interchange and overpass plus frontage roads to Central Turnpike, and to upgrade the West Main Street interchange with longer acceleration and deceleration ramps plus a new bridge and a new roundabout at Elm/Elmwood & West Main Streets.

2. During the course of the EOT-Planning study, it became apparent that there was no overall plan to steer the future use and look of this roadway so that it would be as safe as possible for the motorists using it while still providing the greatest benefit to the current and future property owners as well as the towns of Millbury and Sutton. Planning for the future of this roadway beyond the improvements to the interchanges is the principal reason for this effort. The Central Massachusetts Regional Planning Commission believes that the towns, the residents, the business owners and the highway users as well as EOT-Planning need to establish a shared idea for the future configuration of Route 146 in Millbury and Sutton.

1.1 GOALS

Based on the results of the EOT-Planning Route 146 Transportation Study [Ref. 1], comments provided at the public meetings and workshop, and discussions with the Route 146 Inter-Agency Working Group, the goals of the Route 146 Futures Study were as follows:

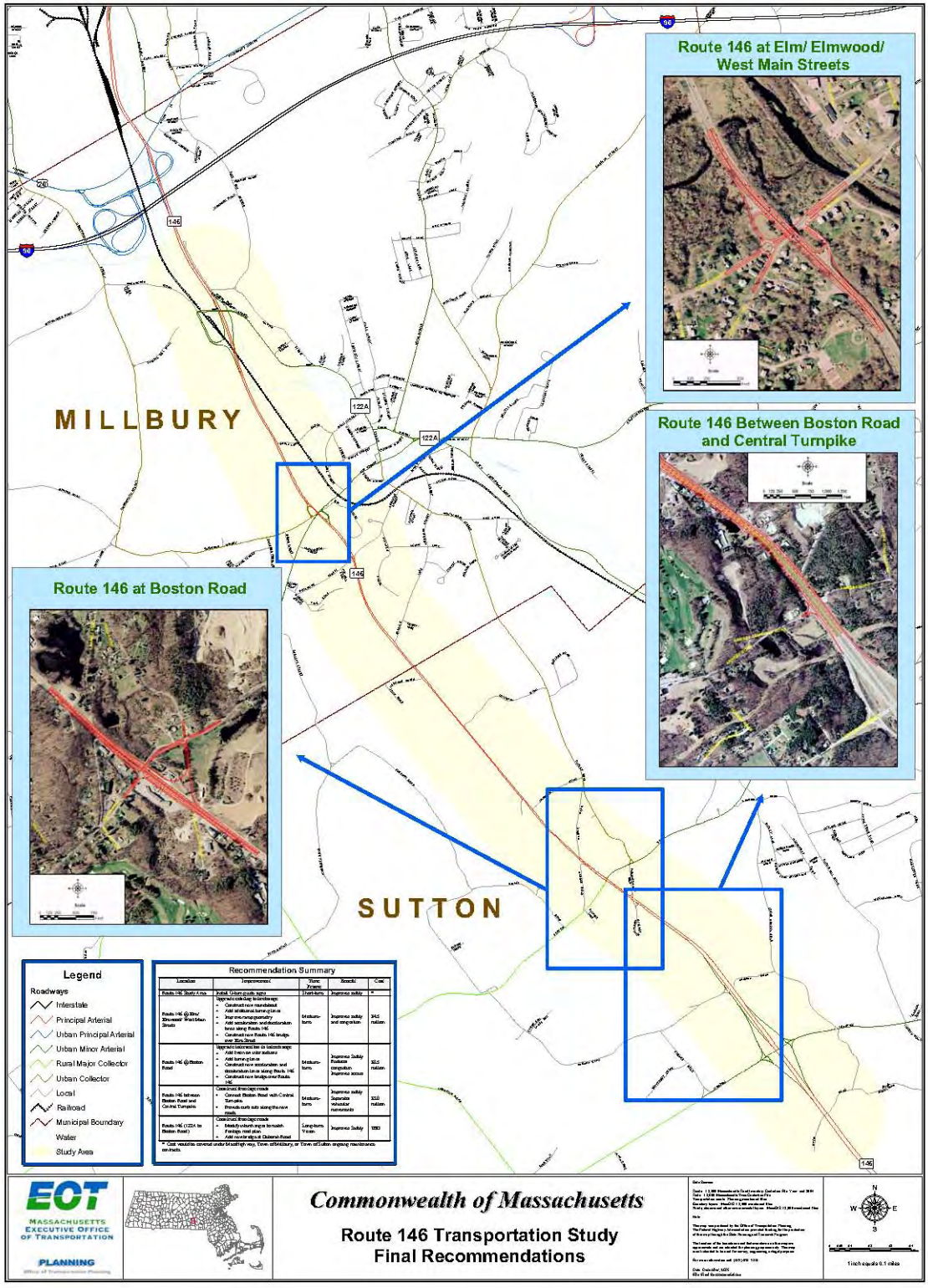


Figure 1-1: Route 146 Futures Study Area [from Ref. 1]

- Preserve and enhance the safety of Route 146 in Millbury and Sutton as a major highway corridor linking Worcester, Massachusetts, and Providence, Rhode Island
- Maintain and enhance, to the extent possible, the economic opportunities presented by the Millbury-Sutton Route 146 Corridor for the benefit of the two municipalities, the property owners and the region
- Develop realistic expectations for the future of this highway corridor following the proposed upgrades to the Boston Road and West Main Street interchanges by proposing a conceptual design and possible timeline for other improvements to the road

1.2 BACKGROUND

The Massachusetts Highway Department (MassHighway) originally designed Route 146 during the 1940s and constructed the road in the early 1950s. Connecting Worcester to Providence, Rhode Island, Route 146 was built as a four-lane roadway from US Route 20 in Millbury to just south of Boston Road; from there Route 146 was built as a three-lane limited access roadway through the southern portion of the Blackstone Valley. The three-lane design included one lane in each direction and a shared lane striped for use for both directions along different parts of the roadway. Route 146 provided a highway bypass around the original north-south routes through the Blackstone Valley, specifically Route 122.

In 1981, MassHighway widened Route 146 from Sutton to Millville to its present four-lane cross section and reconstructed the Central Turnpike interchange from a tight half-cloverleaf, 1950s-era design to a spacious diamond interchange. In addition to the Route 146 widening, MassHighway designated a “no-access” line along Route 146 beginning just south of Boston Road to the Rhode Island border. A “no-access” line prohibits MassHighway from granting curb-cut access permits anywhere on that section of road, thus establishing its freeway-like character.

Recently, a new industrial development has been constructed adjacent to Route 146 in the southern part of Sutton. Near Boston Road and Central Turnpike, several proposals for significant commercial developments are under consideration, and land in the northern part of Sutton next to Route 146 has also been considered for industrial development. As these developments continue to appear, the traffic along Route 146 will continue to increase. Significant peak-hour delays have been reported along the northbound stretch of Route 146 between Central Turnpike and the traffic signal at Boston Road.

In 1997, MassHighway began constructing a new grade-separated interchange with Route 122A in Millbury. This is the southern limit of the Route 146/Massachusetts Turnpike/ Interstate 290 Connector Project, stretching from Millbury to Worcester. As part of this construction, a “no-access” line has been designated in Millbury from the Worcester city line to just south of Route 122A. At the location of the Route 122A interchange, a new regional shopping center has been constructed that is already adding to the generation of traffic through the corridor.

When Route 146 is complete to its connection with I-290 at Brosnihan Square in Worcester, scheduled for late 2007, it will be an access-controlled Parkway from I-290 to

Route 122A in Millbury. It is already an access-controlled highway from Central Turnpike in Sutton to the Rhode Island line and beyond. The five-mile section from Route 122A to Central Turnpike, however, is the oldest remaining part of the highway and was not designed with the kind of access control that would be required on a modern highway of this type. High vehicle speeds and higher vehicle volumes have made this an increasingly dangerous stretch of road, and traffic projections indicate that this situation is likely to get worse, even if the interchanges are improved. This highway corridor in Millbury and Sutton represents a substantial part of the available commercial or industrial land in both those towns, and the loss of that economic resource would be serious, both for the towns and the property owners, if the highway access from the adjacent land were to be removed. On the other hand, it has become increasingly dangerous to enter or exit the many driveways that currently open directly onto the highway in this area. Furthermore, the present configuration of the median divider means that emergency response and other vehicles must travel a substantial distance before its possible to reverse direction to reach many locations on the highway.

What should be done? At the moment only a few things have been decided. EOT-Planning has recommended conceptual designs for a new grade-separated interchange at Boston Road and an upgraded interchange at West Main Street, and it will take a concerted effort by all interested parties to get the proposed interchange projects ready for design and construction. The planners agree that this process could take five to ten years under the current funding levels, but that would still leave all of the other problems with this corridor in place. This limited study was intended to explore the options and make recommendations for improving the uncontrolled access portion of Route 146, to identify the interested parties that might effect those improvements, and to set a potential timeline for implementation so that all parties might have a clearer idea for the future of the corridor, its users and its property owners.

CHAPTER 2: EXISTING AND PROJECTED CONDITIONS

2.0 INTRODUCTION

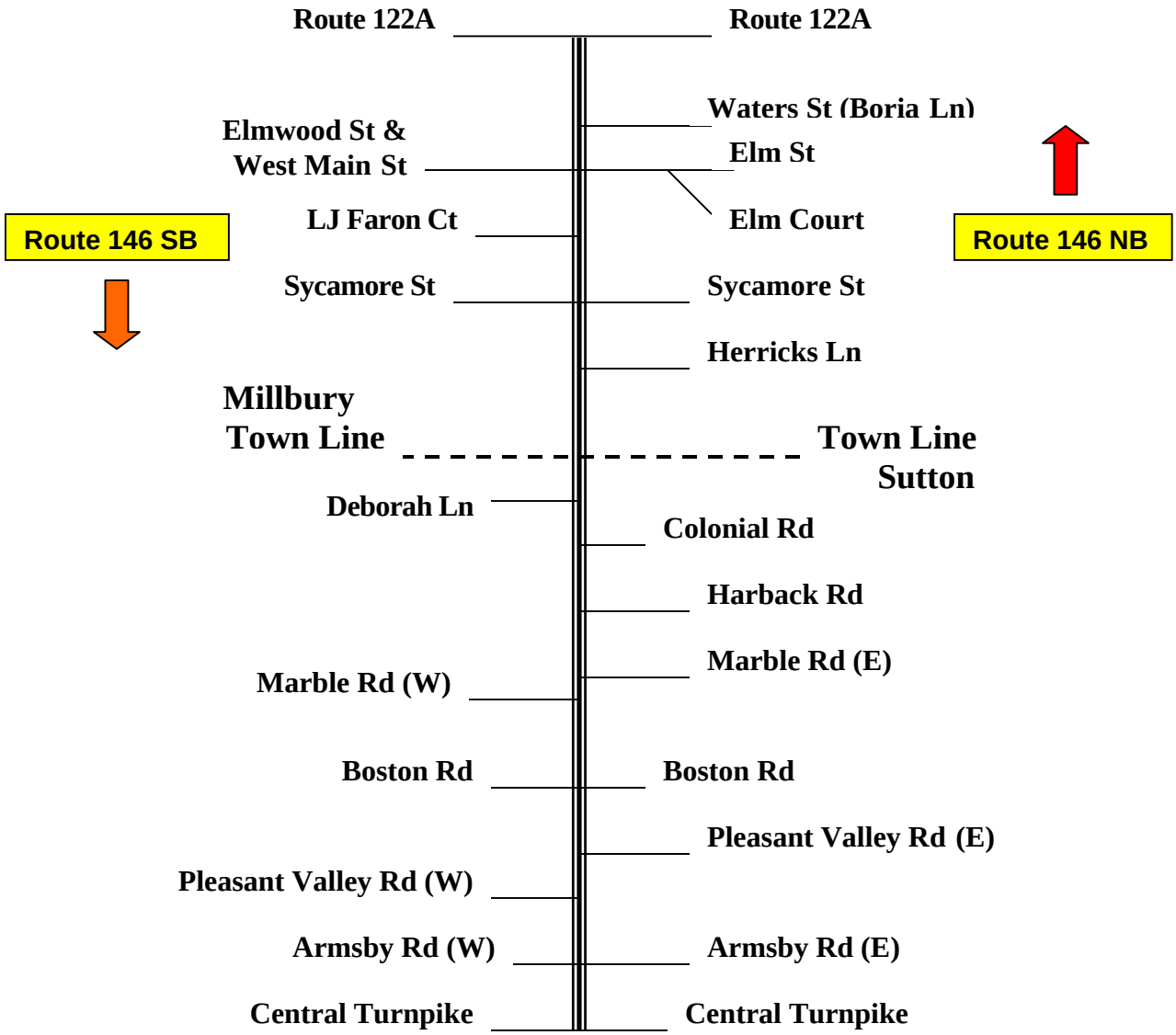
Route 146 in Millbury and Sutton is a four-lane, median-divided highway from just south of the Route 122A interchange in Millbury to just north of the interchange with Central Turnpike in Sutton, a distance of about five miles. North of Boston Road in Sutton to Route 122A in Millbury the median consists of sections of concrete "Jersey" barrier, while to the south of Boston Road it is a grassy area of varying width. Layout and alignment drawings and specifications provided by MassHighway indicate that the right of way between Boston Road and Route 122A is about 60 feet in width on each side of the highway centerline, for a total width of 120 feet. For the most part the road includes two 12-foot wide travel lanes in each direction with right shoulder widths that vary from 6 to 12 feet. The left (center) shoulder is narrow, extending only a foot or two beyond the foot of the median barrier on either side.

EOT-Planning's Route 146 Transportation Study Report [Ref. 1] provides a complete description of the current traffic conditions, but there is no doubt that this is a heavily traveled highway: traffic counts taken in 2001 showed 23,000 vehicles per day using the road. The heaviest traffic is northbound in the morning and southbound in the afternoon, with peak volumes between 1600 and 1800 vehicles per hour in one direction. Based on expected local and regional growth, these volumes are expected to grow by 25-33% by 2025. Traffic volumes on the major intersecting roads – Boston Road and West Main/Elm/Elmwood Streets – are expected to show comparable or higher increases over the same period.

2.1 EXISTING HIGHWAY ACCESS

A schematic diagram of the roadway is shown in Figure 2-1. While the interchange at West Main Street and the intersection at Boston Road represent the major points of traffic interaction with Route 146, it's clear that there are several other local roads that must be considered in planning for the future, including LJ Faron Circle, Elm Court, Sycamore Street, Herricks Lane, Deborah Lane, Colonial Road and Harback Road. These local streets provide access to Route 146 for residences and businesses along the way, in some cases the primary access. If the commercial/industrial benefits of the corridor are to be preserved, appropriate access to these roads must be provided in future plans.

Figure 2-1: Location of Intersecting Roadways on Route 146, Sutton/Millbury (Not to Scale)



Local public streets are not the only interactions with Route 146 in Millbury and Sutton. Between Route 122A in Millbury and Armsby Road near Central Turnpike in Sutton there are more than 60 individual land parcels that abut southbound Route 146, and many of them have one or more curb cuts that open directly onto the highway. There are a similar number of land parcels abutting Route 146 northbound over this same length, although with a somewhat smaller number of curb cuts due to the lower level of property development there. The area adjacent to the highway is shown in Figures 2-2 through 2-5.

Figure 2-2


MILLBURY-SUTTON
Route 146 Futures Project:
Rte 122A to West Main Street
TAINTERHILL ROAD
NORTH MAIN STREET
146
122
ELMWOOD STREET
ELM STREET
Legend
Town Boundary
Parcel Line
Stream
Intermittent Stream
Water body
500 250 0 500 1,000 Feet
CMRPC
Central Massachusetts Regional Planning Commission
Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution in interpreting positional accuracy.
Produced by the GIS Center at Central Massachusetts Regional Planning Commission, 35 Harvard Street, Second Floor, Worcester, MA 01609-2801
Contact Paul Lamarre or Michael Martin - phone: 508.756.7717
Visit us at - http://www.cmrpc.org/gis.
Map produced May 2005

Figure 2-3


MILLBURY-SUTTON
Route 146 Futures Project:
West Main Street to Sutton Town Line
ELMWOOD STREET
146
ELM STREET
FARON CIRCLE
ELM COURT
WEST MAIN STREET
SYCAMORE
STREET
146
HERRICKS LANE
DEBORAH DRIVE
146
Town of Millbury
Town of Sutton
500 250 0 500 1,000
Feet
Legend
Town Boundary
Parcel Line
Stream
Intermittent Stream
Water body
CMRPC
Central Massachusetts Regional Planning Commission

Figure 2-4

MILLBURY-SUTTON
Route 146 Futures Project:
Millbury Town Line to Harback Road

Figure 2-5


MILLBURY-SUTTON
Route 146 Futures Project:
Harback Road to Boston Road
146
DUDLEY ROAD
HARBACK ROAD
MARBLE ROAD EAST
MARBLE ROAD WEST
BOSTON ROAD
PLEASANT VALLEY ROAD EAST
PLEASANT VALLEY ROAD WEST
Legend
Town Boundary
Parcel Line
Stream
Intermittent Stream
Water body
500 250 0 500 1,000
Feet
CMRPC
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While the multitude of curb cuts along this stretch of Route 146 makes the corridor valuable to the abutting property owners, it also creates significant safety issues for the vehicles and drivers that traverse the road on a regular basis. Table 2-1 provides a summary of current land-use conditions and curb cuts.

Table 2-1: Route 146 Adjacent Land Use and Access Provisions in Millbury/Sutton (based on visual inspection, April 2004)

Southbound, Millbury	***Parcels***	***Curb Cuts***
Residential	***15***	***9***
Business	***9***	***17***
Undeveloped	***3***	***1***
Southbound, Sutton	***Parcels***	***Curb Cuts***
Residential	***6***	***3***
Business	***20***	***18***
Undeveloped	***10***	***0***
Northbound, Sutton	***Parcels***	***Curb Cuts***
Residential	***12***	***6***
Business	***16***	***24***
Undeveloped	***16***	***1***
Northbound, Millbury	***Parcels***	***Curb Cuts***
Residential	***11***	***2***
Business	***4***	***5***
Undeveloped	***7***	***1***

The existing land use is a varied mix of open space, residential, commercial, and light industrial development. The segment from Route 122A to West Main Street in Millbury is primarily open space, except for two small concentrated commercial developments located one on each side. Much of the land in this segment is wetland associated with the Blackstone River. Land adjacent to the West Main Street interchange is primarily residential, but includes several small commercial uses. The segment from the West Main Street to the Boston Road intersections is highly varied and intermixes low-density residential, commercial, and open space along the entire stretch. It is not unusual for single-family homes to be neighbors with small retail establishments. Each establishment generally has its own curb-cut access to Route 146. This area is the most problematic in terms of access because of the number of uses. A further complication in this area is that this section of roadway begins a rather steep increase in grade in the southbound direction, making it even more difficult to access Route 146 without the benefit of acceleration or deceleration lanes. Continuing south, the land near Route 146 at Boston Road is primarily commercial, although one quadrant is open space. South of Boston Road to Central Turnpike the land use is mostly commercial and development in this area has become more dense in recent years. In general, the land use along Route 146 is gradually trending toward more commercial use, a trend that the town planners from both communities see as continuing for the foreseeable future.

The current zoning along Route 146 varies almost as much as the existing land use. Proceeding southbound in Millbury, land west of Route 146 from Route 122A to West Main Street (approximately one mile) is zoned industrial. From West Main Street to within a quarter of a mile from the Sutton town line (approximately ¾ mile), the adjacent land is zoned residential. Continuing southbound, the last quarter-mile of land west of Route 146 to the town line is business-zoned. Over the line in Sutton, the land west of the roadway is zoned industrial for the first quarter of a mile, becomes a business zone for the next mile, and briefly becomes a residential zone before returning to business zone for the remaining mile and a half to the Central Turnpike. Northbound, on the east side of Route 146, the land is zoned for business from the Central Turnpike for approximately 1 ½ miles, except for a small portion of residentially zoned land. The zoning changes to industrial for a stretch of about ½ mile before returning briefly to business, then residential for ½ mile, and finally to industrial for ¼ mile just prior to the Millbury town line. In Millbury, land east of Route 146 north of the Sutton town line is zoned business for less than ¼ mile and then residential for nearly a mile to the West Main Street exit. North of the West Main Street exit, the land becomes industrially zoned to Route 122A.

As can be seen, the zoning varies widely along this stretch of Route 146. In addition to the base zoning, each town has adopted a different overlay district for their own portion of this roadway. While the overlay district is principally meant to guide design standards, in Millbury the underlying use of the land can change with the application of the overlay. The Millbury overlay district also includes a provision for high-density nodes, and does not cover the portion of roadway south of West Main Street. In Sutton, the underlying use within the overlay district must remain the same. One of the principal benefits of an overlay district is that the Planning Board can request more information in advance from a prospective developer and can then negotiate more community benefits into the final design, although development impact fees are prohibited by state law.

2.2 PROJECTED CONDITIONS

According to the Route 146 Transportation Study, significant traffic growth is projected throughout the study area through 2025. These projections were based on traffic pattern changes associated with the connection of Route 146 with I-290, and also as a result of development such as The Shoppes at Blackstone Valley in Millbury. The most significant increase is expected to occur on Route 146, but substantial increases are also expected to occur on Elm Street, North Main Street, West Main Street, and Elmwood Street in Millbury, and on Boston Road and Central Turnpike in Sutton. Table 2-2 shows the current and projected volumes for Route 146 and the various crossroads in the study area taken from Ref. 1 for the morning peak period as an illustration.

An issue that will be exacerbated with increased traffic is the ability of vehicles from various side roads and residential and commercial establishments to merge safely into the Route 146 traffic as fewer breaks occur in the flow. Because there is only one signalized intersection in this area, at Boston Road, there is often an inadequate critical gap during peak traffic periods. As traffic continues to increase, and the signal at Boston Road is

replaced, the safety risk caused by entering vehicles will also increase and the accident rate is likely to rise.

Table 2-2: Current and Projected AM Volumes (vehicles per hour, Ref. 1)

	2000	2000	2025	2025
Road	**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
Route 146 (@ Millbury/Sutton TL)	1850	1100	2300	1380
West Main St (west of Rte 146)	650	430	760	560
Elm St (east of Rte 146)	280	280	330	360
Boston Rd (east of Rte 146)	270	400	350	500
Boston Rd (west of Rte 146)	230	220	280	290
Central Turnpike East	210	310	280	400
Central Turnpike West	50	60	70	70

2.3 ACCESS CONSIDERATIONS

According to the Transportation Research Board [Ref. 2], Access Management is "…*the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway.*" The purpose of access management is "…*to provide vehicular access to land development in a manner that preserves the safety and efficiency of the transportation system.*" Although these are general statements, they could have been written specifically for the situation of Route 146 in Millbury and Sutton. As noted previously, the purpose of this current study is to:

- *Preserve and enhance the safety of Route 146 in Millbury and Sutton as a major highway corridor linking Worcester, Massachusetts, and Providence, Rhode Island*
- *Maintain and enhance, to the extent possible, the economic opportunities presented by the Millbury-Sutton Route 146 Corridor for the benefit of the two municipalities, the property owners and the region*
- *Develop realistic expectations for the future of this highway corridor following the proposed upgrades to the Boston Road and West Main Street interchanges by proposing a conceptual design and possible timeline for other improvements to the road*

To accomplish this means applying the principles of access management to this roadway in a way that is cost-effective while still meeting those goals to the maximum extent practicable. For most of its length in Massachusetts, Route 146 is functionally classified as a principal arterial although it has many of the access features of an Interstate freeway. It is the intent of MassHighway to manage the roadway as a high-speed through highway, and the plans for the improvements to the West Main Street interchange and the Boston Road intersection reflect that idea.

For a principal arterial with a design speed of 50 mph or more, the desired spacing between access points is at least one-half mile and preferably longer [Ref. 2]. This illustrates why the current spacing of driveway curb cuts is not compatible with the roadway's functional classification. The minimum desirable spacing for median

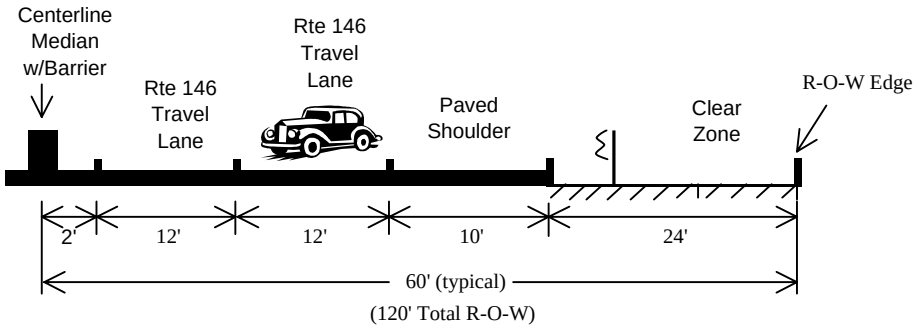
crossings, if allowed, is one mile and suggested lengths for acceleration and deceleration are available as well. By considering the constraints of access management for this type of roadway one can begin to develop the conceptual design approaches for improving its safety and functionality. For these reasons the concept of unidirectional frontage roads on each side and parallel to the main roadway came to be regarded as the most practical approach. The frontage roads would be connected to the main roadway at appropriately spaced intervals suggested by the access management guidelines.

2.4 HIGHWAY CROSS SECTIONS

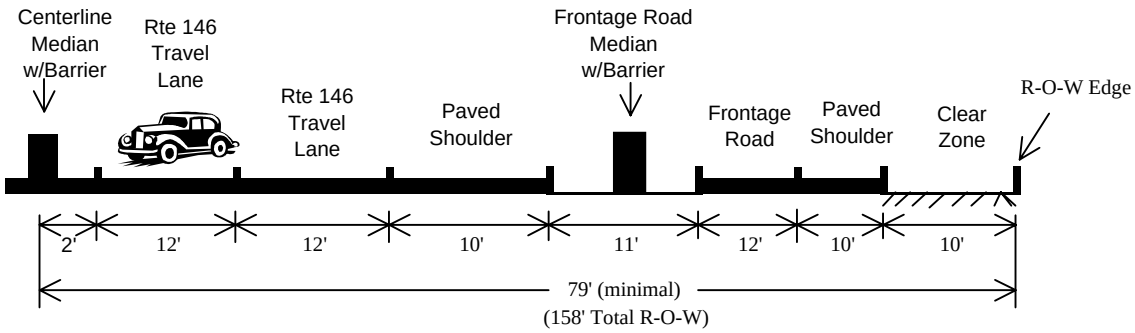
The typical half cross section of the existing Route 146 roadway is illustrated in Figure 2-6 (a). As can be seen, it includes two 12-foot travel lanes and a 10-foot paved shoulder plus the unpaved remainder for a (half) right-of-way width of 60 feet. MassHighway has suggested [Ref. 3] that the minimum cross section to include a single-lane frontage road would be 79 feet (Fig. 2-6 (b)), based on a minimal, barrier-type divider between the main travel lane and the frontage road and a barrier-type median such as exists today.

A more desirable cross section is shown in Figure 2-6(c), allowing for a more expansive median and a larger separation between the main travel lane and the frontage road. The principal concern, of course, is for the takings that would be required to implement these cross sections. While it would be desirable to have a uniform right-of-way width and cross section along the entire length of the corridor, the topography, wetlands and existing development would likely necessitate some compromises. The actual layout would be determined during the design and environmental process that would be required to implement any sort of frontage road alternative. The National Cooperative Highway Research Program (NCHRP) Report # 548, *A Guidebook for Including Access Management in Transportation Planning* [Ref. 4] provides some suggestions for dealing with access management during the corridor planning process.

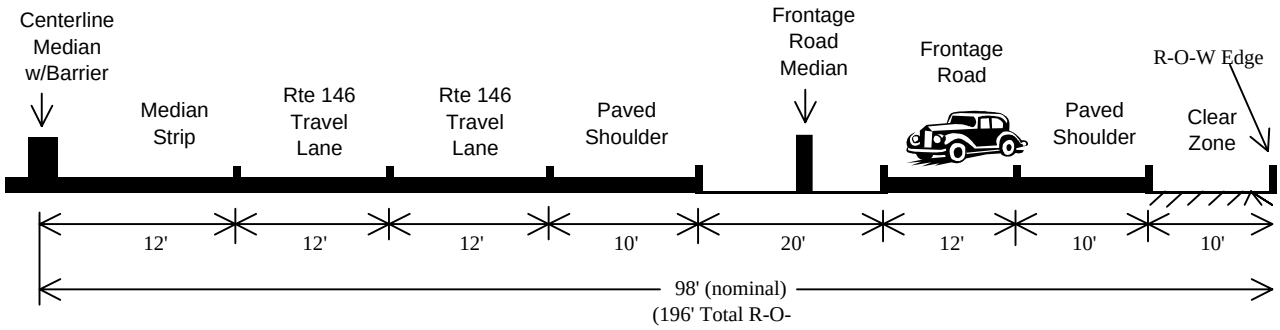
Figure 2-6: Route 146 Existing & Suggested Cross Section (not to scale)



(a) Existing Nominal Half Cross Section



(b) Suggested Minimum Half Cross Section (with frontage road)



(c) Suggested Desirable Half Cross Section (with frontage road)

CHAPTER 3: PUBLIC PROCESS

As previously noted, the current effort to define the vision for the Route 146 Corridor developed as an outgrowth of EOT-Planning's study of Route 146, and their subsequent recommendations to reconstruct the intersections at Boston Road and West Main Street. CMRPC observed that the intersection reconstructions, while necessary, were not sufficient in defining the future use of that stretch of roadway. CMRPC worked with the Route 146 Inter-Agency Working Group established by MassHighway Planning from 2002 to 2005 and began a public outreach effort in conjunction with MassHighway's final public hearing to gather input on how to address the remaining Route 146 access issues.

At the public hearing on March 7, 2005, CMRPC staff explained how the State's study of the interchanges along the corridor still left the region without a vision for the remaining area in between that currently allows full access, but is becoming more of a safety problem as time passes. CMRPC noted that this vision must be achieved through dialogue with the general public and public officials.

A second follow-up meeting was held shortly after, on April 4, 2005. The purpose of the charette -style meeting was to garner input on a variety of topics including residential, business, right-of-way, economic development, and safety concerns, from both local citizens and public officials.

- Generally, the residential abutters were concerned about the growing problem of safe access and egress from Route 146.
- They were interested in the process of right-of-way takings and wanted assurance that they would be fairly compensated if their property was taken in the event of a roadway widening and, would not be left in a worse safety situation if their property was not taken.
- Others in attendance expressed the idea that land along Route 146 would be more desirable for future economic development if frontage roads were added between Boston Road in Sutton and West Main Street in Millbury.
- Several individuals expressed concern about the potential environmental impact of frontage roads between Main Street and Route 122A in Millbury.

CMRPC met again with the Route 146 Inter-Agency Working Group, composed of planning, safety, public works, and other officials from both Millbury and Sutton, on August 24, 2005. The concerns of the public were reviewed, along with additional information on four possible alternatives (presented in Chapter 4). The additional information included estimated right-of-way land takings and economic, environmental, and land use impacts for each alternative. The Group made concrete recommendations for interchange projects to their respective Boards of Selectmen and to MassHighway. They also recommended that CMRPC take a lead role in convening the Route 146 InterAgency Working Group on an as needed basis throughout the course of the Route 146 roadway projects.

Following the InterAgency Working Group meeting, both Boards of Selectmen from Millbury and Sutton sent letters to MassHighway, endorsing the recommendations of the InterAgency Working Group. At Millbury's Board of Selectmen meeting, CMRPC staff assisted the Town Planner in presenting the InterAgency Working Group findings.

A final public meeting is planned for sometime in 2006 to present the study findings.

CHAPTER 4: ROUTE 146 FUTURE ALTERNATIVES

Below are summaries of conceptual alternatives that illustrate the range of possibilities for additional improvements to the Millbury/Sutton Route 146 corridor. These alternatives are based on comments received from the public that were refined through discussions with town officials and MassHighway. The first alternative listed (Alternative A) summarizes the impacts if no action is taken on this section of roadway. It is useful to compare the impacts of the other alternatives with this "No Action" scenario, in order to adequately compare the benefits and drawbacks of all of the alternatives.

The layout drawings for the section of Route 146 between West Main Street in Millbury and Boston Road in Sutton were examined and it was determined that, for planning purposes, the right-of-way width appears to be a uniform 120 feet from side to side, or 60 feet from centerline to edge. Based on advice from MassHighway, it was determined that 80 feet (40 feet on each side) should be added to the current right of way width for a desired right of way of 200 feet (100 feet on each side) to accommodate a single-lane frontage road on either side of the existing highway. Based on this requirement, a swath of 40 feet along each side of the existing right of way would have to be taken. Any reconstruction to the existing Route 146 roadway that may be needed has not been included in these estimates.

- ## ALTERNATIVE A
  No Action

  Required for comparison of all other alternatives; highway layout remains as it is today through 2025; curb cuts will continue to be granted as requested; more abutting parcels will be developed, primarily for commercial use though slowly due to poor highway access; vehicle crashes and vehicle congestion are likely to increase; emergency vehicle access (police, fire, ambulance) will get worse. The opportunities for significant economic development will decrease as the danger of exiting and entering this stretch of roadway increases.

  2001 Traffic: 31,000 vpd 2025 Traffic: 41,000 vpd (TDF Model)

- ## ALTERNATIVE B
  Construct continuous single-lane northbound & southbound frontage roads adjacent to highway between West Main St and Boston Rd with crossover bridge at Deborah Rd (Millbury-Sutton TL).

  Distance is approximately 2.6 miles; would require land takings estimated at 40 additional feet of width on each side beyond the existing 60-foot R-O-W width from centerline; would require addressing access issues to/from LJ Faron Circle, Harback Rd and a few other focus locations; would settle the question of the configuration of the corridor and would set the timeline for change; would likely improve safety by minimizing driveway/highway interactions; could possibly involve re-zoning by the towns.

- **Estimated total cost: $11.4 M**
  - Construction **$11.1 M**
    - ✓ Single-lane frontage roads **$3.9 M** ($750,000/mile x 5.2 miles)
    - ✓ Bridge over Rte 146 at Deborah Rd **$7.2 M** ($38 M/mile x 1000 ft /5280 ft/mile)
  - Potential property takings (estimated value of strips of land based on median per acre assessments) **$257,314**
    - ✓ Millbury (east side & west side): $107,332
    - ✓ Sutton (east side & west side): **$149,982**

- **Benefits:**
  - Improves access and safety for roadside residents, businesses, and motorists traveling on the roadway (especially in conjunction with rezoning)
  - Improves commercial opportunities by creating a safer and more consistently zoned corridor
  - Improves access time for emergency vehicles (Crossover at Deborah Rd)
  - Settles the question of the configuration for a major section of the corridor and sets the timeline for change.

- **Drawbacks:**
  - Significant land takings probable (Both residential and commercial parcels)
  - Significant cost
  - Towns may need to rezone abutting areas

ALTERNATIVE C

Construct frontage roads and slip ramps to service properties north of West Main/Elm/Elmwood St Interchange.

This section is considered separately from the section south of the interchange because of the small number of parcels that would require access to the frontage roads and the sensitivity of the wetlands on both sides of the highway. This alternative includes adding a third travel lane along Route 146 between the Route 122A interchange ramps to just north of the MassHighway depot. From that point south, the third lanes would exit into two frontage roads running parallel to Route 146. The speed limit along Route 146 could be increased to 65 MPH, as it would operate as a freeway through this section. Signs indicating where the frontage roads lead and how to execute Route 146 U-turns would be installed to guide motorists. It should be noted that the future build-out of this area is projected to be minimal.

- **Estimated total cost: $2.7 M**
  - Construction***:* $2.4 M**
    - ✓ Third lane on both sides of Route 146 **$1.5 M** ($900,000/mile x 2 x 4300 ft/5280 ft/mile)
    - ✓ Single-lane frontage roads on both sides of Rte 146 **$0.9 M** ($750,000/mile x 2 x 0.6 miles)

- Potential property takings: **$0.3 M** (estimated value of strips of land based on median per acre assessments for minimum r-o-w width (40' x 4000' x 2 sides x $1.60/sq ft)

o **Benefits:**
- Allows continued access to commercial properties in this sector while improving the safety of the main highway
- Extends the parkway character of Route 146 southward from the newly constructed section north of Route 122A
- Complements the improvements to the West Main Street interchange.
- Would require only minimal takings

o **Drawbacks:**
- Significant wetlands issues to be resolved which may be costly and difficult to mitigate

▪ ALTERNATIVE D

Upgrade the entire Route 146 highway layout between Route 122A in Millbury and Central Turnpike in Sutton to include wider median, provision for future expansion to 3 lanes each direction, and provision for either unidirectional or bidirectional frontage roads on the east and west sides of the highway located in most advantageous position for future development.

This alternative would essentially extend northward a similar highway cross section to that south of Central Turnpike, but with the addition of frontage roads; it would allow future upgrades to Interstate Highway standards for Route 146, retain or expand many of the commercial opportunities in the Millbury-Sutton corridor, and settle the configuration of the corridor for the foreseeable future. It would likely be the most expensive alternative and might present significant environmental challenges, depending on the actual location of the main lanes and the frontage roads.

o **Estimated Total Cost**
- No current cost estimate, as cost would depend on actual routing of frontage roads and the required land takings

o **Benefits:**
- Maintains the Interstate character of Route 146 to the north from Central Turnpike in Sutton
- Facilitates upgrading Route 146 to full Interstate standards
- Allows more flexible opportunities for commercial, industrial and residential uses by expanding the highway corridor through the judicious placement of service roads

o **Drawbacks:**
- Extensive land takings necessary (Both residential and commercial parcels)
- Likely to be the most costly alternative
- Significant environmental challenges possible

- **ALTERNATIVE E**
  Complete Access Control

All direct access to the highway would be prohibited except for ramps at established interchanges at Route 122A, West Main St, Boston Road and Central Turnpike; state would purchase all land on both sides of highway right-of-way from Rte 122A to Central Turnpike having no alternative access; no frontage roads provided; likely to be very expensive and most disruptive alternative.

- **Estimated Total Cost:**
  - Construction: no cost estimate at this time, but would likely be lower than Alternate D because frontage roads are not part of this alternative.
  - Potential Property Takings (based on assessed values): **$21.7 M** (does not include parcels needed for Boston Rd or West Main Street interchanges)
    - ✓ Millbury, West Main Street to Sutton Town Line
      East Side: **$769,700**
      West Side: **$3,347,700**
    - ✓ Sutton, Millbury Town Line to Boston Road
      East Side: **$3,005,214**
      Deborah Drive: **$3,752,900**
      Other West Side Parcels: **$4,354,000**
    - ✓ Sutton, Boston Road to Central Turnpike
      East Side: **$2,890,300**
      West Side: **$3,579,600**
- **Benefits:**
  - Makes the entire corridor access-controlled
  - Facilitates future upgrade of Route 146 to Interstate Highway standards.
- **Drawbacks:**
  - Removes most commercial opportunities
  - Eliminates residential use of the corridor
  - Requires complete takings of about 100 parcels, which would very likely have a detrimental affect on public support
  - Likely to be very costly, though not as costly as Alternative D

It should be noted that the cost of land takings detailed in this chapter is based on assessed values. Since market values would be greater in most cases, these assessed values, at the very least, establish the magnitude of the taking costs as a way to compare the proposed alternatives. This document reflects the maximum number of parcels that could be impacted if the listed alternatives were implemented as described. The centerline of the right of way could be moved so that only parcels on one side or the other were affected. This could lessen the overall number of parcels that would have to be taken. The proposed layout with the identified parcels to be taken would be developed and presented during the design process, and would be discussed with individual property owners. It is important to note the following:

- Landowners would be compensated at fair market value for any takings, whether for entire properties or just small strips.
- Takings would be done on an individual basis, directly with each owner.
- Relocation assistance may be available for businesses & residents

CHAPTER 5: RECOMMENDATIONS

5.1 COMPREHENSIVE LONG-TERM VISION AND RECOMMENDATIONS

The communities of Millbury and Sutton, acting upon the recommendations of the Working Group, support upgrades for the Boston Road and West Main Street interchanges as outlined in EOT-Planning's Route 146 Transportation Study report. The Boston Road intersection improvement includes construction of a grade-separated interchange and the construction of one-way frontage roads on either side of Route 146 between Boston Road and Central Turnpike. The West Main Street intersection improvement calls for the construction of a roundabout at West Main, Elm and Elmwood Streets just west of Route 146 and upgrades to the on-off ramps at Route 146 in both directions.

Millbury and Sutton officials have also expressed their support for Alternative B, as outlined in Chapter 4 of this report, which calls for the construction of frontage roads parallel to Route 146 between West Main Street and Boston Road. The officials agreed that this project should follow the interchange projects and not be concurrent. The details of the frontage road project, including the need for a crossover bridge, should be determined during a separate project development process once the interchange projects have been approved.

5.2 PROCESS

MassHighway District 3 has submitted a formal project proposal on the Boston Road interchange to the EOT-Planning Project Review Committee, and is expected to follow that with a proposal for the West Main Street interchange in the near future.

Following approval from the Project Review Committee, MassHighway will initiate a preliminary design on the most favorable alternatives for each project and then submit an Environmental Notification Form to determine the need for an Environmental Impact Report (EIR). Given the magnitude of the construction activity proposed for both the Sutton Ave interchange and the West Main St interchange, it is expected that an EIR would be required for each. An EIR considers the environmental, social, land use, and economic impacts of the proposed alternatives in detail. Extensive public input is also sought during the EIR phase. Affected individuals, businesses, and town officials can work with MassHighway to minimize the potential negative project impacts and maximize the potential positive impacts for the surrounding area, the town, and the region.

Generally speaking, the alternatives presented in the EIR are close to 25% design stage. Once the EIR is complete and a final alternative is recommended, 100% design plans would be drafted. For the two interchange projects, MassHighway would be expected to complete the design plans, manage the readiness to begin construction, bid the projects, and oversee construction. Readiness would be dependent upon completing negotiations on land-takings, obtaining any required environmental or other permits and prioritization of the Route 146 projects, given statewide resource demands to move forward on other large-scale projects.

Because the projects will require federal and state construction funding, they should be placed on the Central Massachusetts Metropolitan Planning Organization's CMMPO) Transportation Improvement Program (TIP).

The entire process from concept to construction is expected to take from 5-7 years for the interchange projects and 10-15 years for the frontage roads project.

5.3 FUNDING

MassHighway has indicated that the magnitude of the proposed projects would likely mean that the agency would expect to handle the design, right-of-way and construction costs without financial support from the towns, but that town assistance with right-of-way negotiations would be expected. While it is further expected that costs will exceed what is programmed locally and require the state to fund it out of statewide funds, the projects should still be placed on the TIP to indicate regional support. It is important to note that these projects are likely to compete for limited funds with other statewide projects and the timing could be significantly affected by that situation.

5.4 ACTION STEPS

- MassHighway has submitted the Boston Road interchange project to the Project Review Committee (PRC). It was on the agenda for the March 9th meeting, but it was tabled. The next PRC meeting is scheduled for June 8th, 2006. MassHighway is expected to submit the West Main Street project to the Project Review Committee (PRC) in the near future.
- Once accepted by the PRC, MassHighway must commit EIR and preliminary design funds to begin the EIR process. It is recommended that the towns should be prepared to act on their support for these projects, once they are approved, through letters and meetings with MassHighway officials, state officials and the state legislative delegation. Community officials should continue to remain involved throughout the life of these projects as they will have significant impact on the lives of residents and the livelihood of businesses in both communities.
- Recognizing that these are long-term project commitments, CMRPC will initiate a process for informing the Working Group of project developments on a periodic basis and for calling meetings of the Working Group as events dictate, to keep the Route 146 projects moving forward. The Town Planners will be the principal points of contact in each town for project planning information.

REFERENCES

1. *Route 146 Transportation Study*, Executive Office of Transportation/Office of Transportation Planning, December 2005
2. *TRB Access Management Manual*, ISBN 0-309-07747-8, Transportation Research Board of the National Academy of Sciences and Engineering, 2003
3. Private Communication, Andrew Paul, MassHighway District 3, July 2005
4. *NCHRP Report # 548: A Guidebook for Including Access Management in Transportation Planning*, National Cooperative Highway Research Program of the Transportation Research Board of the National Academies, 2005