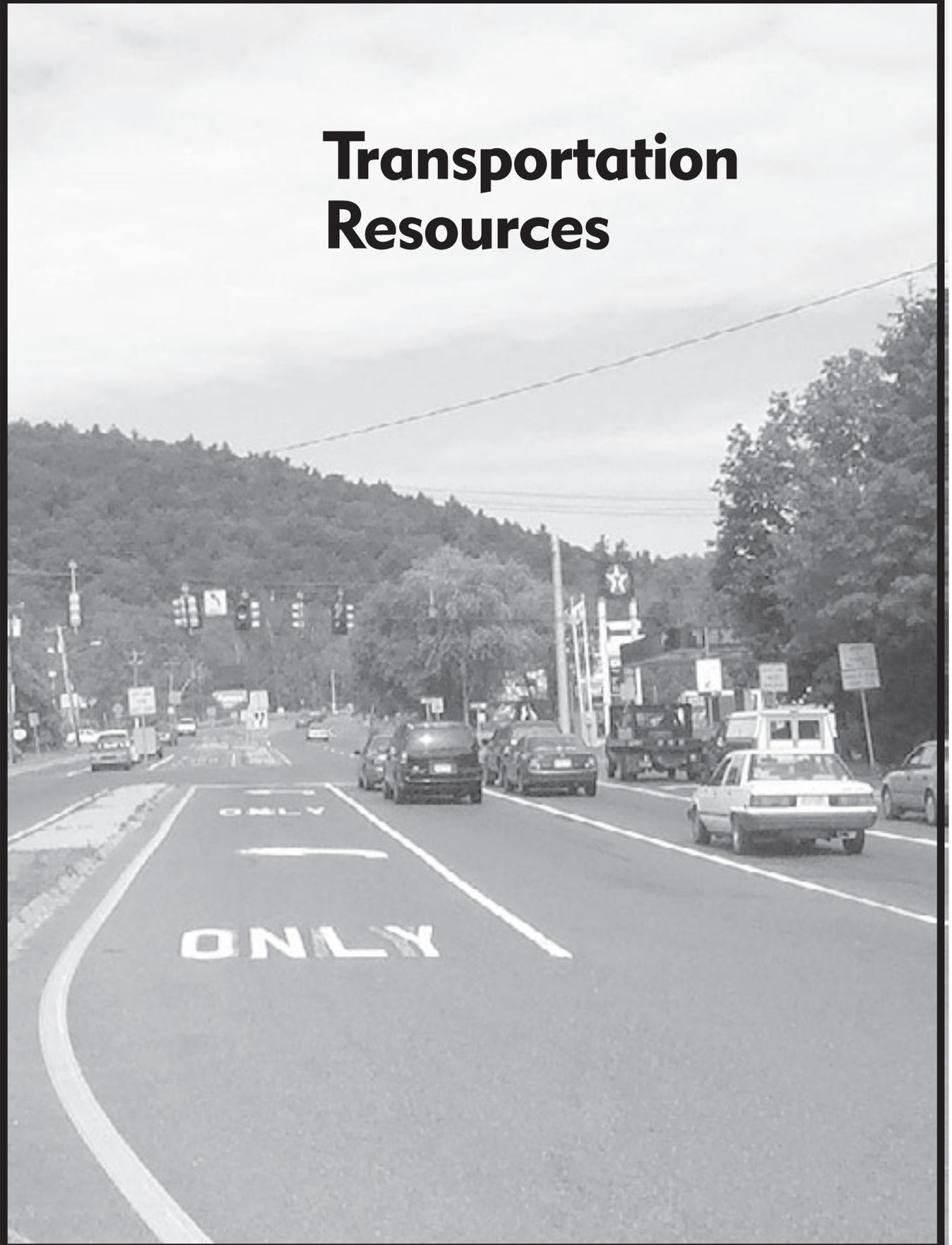


Transportation Resources



The Mohawk Trail

Trodden out, in the dim past,
by the feet of the First
Americans—

Followed by the highway of the
pioneer white man over the
western barrier of
Massachusetts—

Paralleled under the mountain
by the greatest tunnel of
its time—

And now, dedicated to modern
transportation overland, to
become the finest scenic road
in New England, completing
the northern trunk line
across the state.

—from an article in the *North
Adams Transcript* regarding the
formal Mohawk Trail dedication
ceremony held at Whitcomb Sum-
mit on October 27, 1914.

The Transportation Resources chapter includes a comprehensive inventory of transportation related infrastructure and facilities along the Mohawk Trail including: road, bridge, public transportation, bicycle, pedestrian, and railway facilities. The information contained in this chapter was gathered from a variety of sources including, the Massachusetts Highway Department (MHD) road inventory files, the Registry of Motor Vehicles and data routinely gathered and maintained by the transportation staff of the BRPC and FRCOG. In addition site assessments were conducted to record data on the aesthetics and characteristics of the road. The information gathered during the site assessments included the length of the byway, travel lane width, shoulders width and surface materials, the existence or lack of sidewalks, type of guardrails, signs, retaining walls, the layout of major intersections and the location of existing turnoffs.

Issues regarding the maintenance, safety, historic significance and aesthetic character of the transportation facilities along the corridor are discussed. The goal of this chapter is to assess the existing transportation facilities, identify concerns and detail needed improvements. The chapter concludes with a discussion about the issues of concern and recommendations for future action to ensure transportation usefulness and safety while at the same time maintaining the scenic beauty of the area.

History of the Road Development

The Massachusetts Highway Commission's annual reports documented the early development of the Mohawk Trail Scenic Byway. In 1911, the first legislative bills were filled to construct an auto road over Florida (Hoosac) Mountain between Charlemont and North Adams along the Deerfield and the Cold Rivers. The Massachusetts Highway Commission approved the road construction in 1912 and it was completed at a cost of \$368,000 in 1914 (Krim, 2001).

The Mohawk Trail Scenic Byway was formally opened on October 27, 1914. It was noteworthy because it

was declared a scenic road when it was opened, which was unusual. The opening occurred at the dawn of the automobile age, and the road formed the connecting link of the State highway from Boston to New York and west. The construction opened up beautiful sections of the Berkshire Hills to automobiles, which up to this time were inaccessible due to the steep grades.

This newest section of the road was 13 miles and was constructed as a gravel road with wood railings and rock cribs along the slopes. The road extended from the Deerfield River in Charlemont over Whitcomb Summit in Florida to the base of Hoosac Mountain in North Adams. The construction included permanent concrete bridges over the Deerfield and Cold

River, and rock cuts through the Cold River Canyon in Florida and Hairpin Turn in North Adams.

The eastern section of the original Mohawk Trail between Charlemont and Greenfield followed local roads along the Deerfield River Valley. Between 1919 and 1921, this original road was upgraded to a concrete cement highway over Greenfield Mountain to Shelburne. From 1922 to 1929, further improvements were made to the section of the road between Shelburne, Charlemont and Florida. The improvements during this time included paving and regrading. The fact that the road was a State funded highway was unique as many similar scenic roads in the Midwest built during this same period were privately funded. Originally, the Mohawk Trail was assigned State Route Number 7 in 1919, but the route number was later changed to State Route 2 in 1926 to avoid confusion with U.S. Highway 7 through Williamstown (Krim, 2001).

Following World War II, the road was further improved with grade alignments and bypass routings that were also documented in the Massachusetts Highway Commission's engineering files. Among these improvements was the reconstruction of the Greenfield Mountain Longview grade (1951), the construction of a bypass around Shelburne Center (1952), the construction of a bypass around Shelburne Falls (1954), and the replacement of the original concrete bridges over the Deerfield and Cold Rivers (1955). In 1966, the roadway grade at the Hairpin Turn in North Adams was improved and the city expressway over the Hoosac River on State Road was constructed. Interstate 91 (I-91) located at the eastern terminus of this study area was opened in 1963.

Inventory of the Road Characteristics and Conditions

The Corridor Management Study Area extends 44 miles along Route 2 (the Mohawk Trail) from the rotary in Greenfield, located at the intersection of Route 2 and Interstate 91, to the intersection of Route 7 and Route 2 in Williamstown. Route 2 is an important travel route, serving as the major East-West connection in the northern section of Massachusetts, extending from Boston and into New York State. The road serves as a commercial truck route, a local road, and a scenic recreational route.

The majority of Route 2 is a state highway, which is owned and maintained by MHD, but there are two sections of Route 2 that are owned and maintained locally. The 2.4 mile section of Route 2 in North Adams from East Main Street to Notch Road, and the 1 mile section in Williamstown from Bingham Street to Hemlock Brook (southwest of Field Park and the project area) are locally owned and maintained (see Appendix 6A for the Administrative System map). The Mohawk Trail Scenic Byway is also a part of the National Highway System.

According to transportation engineering practices, roads are "functionally classified". The functional classification is defined by the road's purpose within the entire road network and is based on definitions provided by the American Association of State Highway and Transportation Officials (AASHTO). Roads are functionally classified in order to rank their importance within the entire road network. The two major considerations in classifying highway and street networks functionally are for access and mobility. There are eleven road classifications. These categories are further classified based on whether the road is located in an urban or a rural area.



A view of the Byway in Greenfield from the rotary.

The Mohawk Trail headed east into Greenfield.

Most of the Mohawk Trail Scenic Byway (Route 2) within the study area is functionally classified as a “rural principal arterial”. Rural principal arterials are defined as those highways that serve substantial statewide or interstate travel. The sections of Route 2 in North Adams and Williamstown are classified as “urban extensions of a rural principal arterial”. An urban extension of a rural principal arterial is defined as a road

that links a city to larger towns forming an integrated network of interstate and intercounty service. The section of the byway study area that is located in Shelburne Falls includes Route 2A (South Maple Street, Bridge Street and State Street). These roads are all classified as “rural minor collectors”. Rural minor collectors are defined as those roads that provide service to large towns or areas within the County not served by the arterial system and roads that link these towns or areas with the arterial system.

The following section of this chapter summarizes the information gathered on the aesthetic characteristics, overall condition of the road and other related infrastructure. The data is summarized by region for Franklin County and Berkshire County.

Franklin County

General information on the road layout features for the Franklin County section of the Byway is summarized in this section. The MHD Road Inventory File database provided details of the travel lane widths, shoulder width, paving materials, and existence or absence of sidewalks. This information was verified and supplemented by aesthetic and



TABLE 6.1
Summary of Road Layout Details in Franklin County

Mileage		Description			Town	Travel Width	Shoulder Width	Shoulder Surface Material	Comments
Start	End	Start		End					
0	5.14	Rotary in Greenfield		Little Mohawk Road	Greenfield/ Shelburne	24	8	paved	
5.14	5.54	Little Mohawk Road		Mercy Anderson Road	Shelburne	24	5	paved	
5.54	6.2	Mercy Anderson Road		Cooperlane Avenue	Shelburne	24	8	paved	
6.2	7.42	Cooper Lane Road		2/3 mile East of Maple Street	Shelburne	24	5	paved	
7.42	9.81	2/3 mile East of Maple Street		Buckland/Charlemont town line	Buckland	24	8	paved	
9.81	10.33	Buckland/Charlemont town line		Just west of North River Road	Charlemont	24	13	paved	
10.33	16.77	Just west of North River Road		Eastern edge of Charlemont Village	Charlemont	24	4	soft	
16.77	17.71	Eastern edge of Charlemont Village		Western edge of Charlemont Village	Charlemont	24	2	paved	curbs
17.71	18.87	Western edge of Charlemont Village		West of Legate Hill Road	Charlemont	24	4	soft	
18.87	19.72	West of Legate Hill Road		West of Tower Road	Charlemont	24	4	paved	
19.72	22.05	West of Tower Road		Savoy	Charlemont	24	4	soft	

Sources: Data collected by field survey completed by FRCOG staff and MHD Road Inventory File Year 2001, MHD Department Planning.

road layout information that was collected during site assessments.

The Franklin County section of the Mohawk Trail Scenic Byway is 22 miles long. For the most part the road is one lane in each direction. There are only two locations where there are turning lanes. One is immediately west of the traffic rotary in Greenfield (for approximately ¼ of a mile) providing access to the retail establishments located on both sides of the streets. The second is at the intersection of Mechanic Street in Buckland. Otherwise, the road is two lanes: one eastbound and one westbound. According to the MHD Road Inventory files, the road width is consistent for the entire length of the Franklin County section. The travel lane width is 24 feet or two 12-foot travel lanes.

The character of the Mohawk Trail in Franklin County reflects its function as an important and primary regional

travel route within a scenic rural area. The following description is intended to provide a sense of the character and layout traveling from east to west.

Traveling west from the rotary in Greenfield on the Mohawk Trail, the first ¼ of a mile is the most commercially developed of the entire section of the Byway in Franklin County. There is a traffic light located at an intersection controlling access to the commercial development located on both sides of Route 2. The development consists of several large-scale retail businesses that accommodate high traffic volumes. The businesses located here include grocery stores, a price club warehouse store, several hotels, several fast food restaurants, several family style sit down restaurants, and a large office supply store. The businesses located in this area generally cater to a high volume of automobile traffic. The businesses are easily acces-



The narrow and winding road layout east of Charlemont Village.



The Village Center in Charlemont—along the Byway.

sible (within ¼ mile) from Interstate 91. The automobile oriented development layout reflects this close proximity to the highway.

Traveling west from Greenfield the road ascends Greenfield Mountain with a steep upward vegetated slope to the South and a view of the mountains to the North. At the top of Greenfield Mountain the landscape is characterized by scattered development and wooded areas to the North and South of the road. The road layout and characteristics are consistent for the next 10 miles with paved shoulders varying in width between five and eight feet. Table 6.1

contains a breakout of the lane and shoulder widths along the Byway in Franklin County. Although parking is not allowed on State highways, there is enough space for a vehicle to pull off of the road into the shoulder along this stretch of the road in the event of an emergency or breakdown.

The Byway Study Area includes the Village of Shelburne Falls which is located off on Route 2A, including the local roads of South Maple Street, Bridge Street and State Street. The road layout in the Village of Shelburne Falls is distinctive from that of Route 2. Within this area there are historic commercial and residential buildings located close to the road. According to the MHD Road Inventory File, South Maple Street is 28 feet wide, Bridge Street is 22 feet wide and 30 feet wide (with on-street diagonal parking) and State Street is 30 feet wide (also has diagonal on-street parking). Many of the streets have sidewalks, and the scale and road layout of the Village of Shelburne Falls is pedestrian oriented.

West of the Buckland Bridge over the Deerfield River at the Buckland/Charlemont town line (located in the middle of the Deerfield River) the road layout changes. At this point, the shoulder width increases dramatically to 13 feet for about ½ of a mile. After that the roadway layout varies from what was previously experienced for the next six miles. For the next six miles the shoulder is considerably narrower at four feet or less and the shoulder area is no longer paved. The road is winding and as you approach Charlemont center the shoulder is extremely narrow. There are few pull-off areas available to the traveler along this section of the road as the shoulder is too narrow to pull-off into. The road is located to the North of the Deerfield River. There are numerous locations where there are scenic views of the river.

The roadway layout and character completely changes once in the center

of Charlemont. Through Charlemont center the road has 12-foot travel lanes, a two-foot shoulder, curbing and sidewalks. This is the only area directly on the Byway in Franklin County that has sidewalks (while Shelburne Falls has sidewalks also it is not located directly on Route 2 or the Mohawk Trail). The road character reflects that of a small village center.

West of Charlemont center the road is relatively flat with soft surface shoulders that are four feet in width for approximately one mile. The landscape is flat with a view of the mountains in the distance. To the west of the Hail to the Sunrise Statute in Mohawk Trail State Park, the character of the roadway changes as it proceeds into the mountainous portions of the Byway. The shoulder narrows, the road becomes winding, and ascends into the mountains. It is only possible to stop on the side of the road at designed pull off areas. This portion of the road has a quite distinct layout from the rest of the Byway in Franklin County.

Table 6.1 summarizes the travel lane and shoulder width of the length of the Franklin County section of the byway.

Berkshire County

The road continues winding its way along the Cold River and climbs the hills of the Hoosac Range. The roadway is relatively wide and the condition is good to excellent for most of the Byway through Berkshire County, especially the eastern portion through Savoy and into Florida due to recent repaving. The roadway is owned and maintained for the most part by MHD, except for the section through North Adams, which is maintained by the city (see Administrative System map in Appendix 6A). A summary of the road layout for the Berkshire County section of the Byway is included in Table 6.2.

From Charlemont the road winds through Savoy. This section of the



Route 2 as it heads toward the Village Center in Charlemont—along the Byway.

Mohawk Trail is relatively short compared to the other sections of the Byway in Berkshire County. This section is a two-lane road approximately 2.5 miles long, with a travel lane width typically 24 feet or two 12-foot wide travel lanes. The road follows the river and is a typical “cut and fill” road, where the builders “cut” into the ledge or sheer upland hills on one side and laid “fill” on the downward slope to create a level roadbed. The shoulder widths are 2 to 2.5 feet on each side, but vary due to the severe terrain. In general, only one of the shoulders is paved. MHD repaved the road during the summer of 2001; therefore, the surface is in good to excellent condition.

The winding ascent into the Hoosac Range of the roadway continues through the eastern portion of Florida. One especially notorious curve, at the confluence of Manning Brook and the Cold River, is known locally as Dead Man’s Curve. The road through Florida is approximately seven miles long, with a travel lane width of typically 24 feet (or two 12-foot travel lanes) and shoulder widths of typically 1.5 feet on each side, and the paving is varied. The road traverses the mountains, and sparse residential development increases where the terrain temporarily levels out west of Whitcomb Summit. Past the

TABLE 6.2

Summary of Road Layout Details in Berkshire County

Start	End	Start	End	Travel Width (ft.)	Central Turning Lane (ft.)	Shoulder Width (ft.)	Shoulder surface material	Comments
22.1	23.79	Charloment Line	Florida Town Line	24	-	4	One side paved	
23.79	25.73	Florida Town Line	South County Road	24	-	3	One side paved	Narrow shoulder in places
25.73	29.74	South County Road	Tilda Hill Road	24	-	5	Paved	
29.74	29.89	Tilda Hill Road	County Road	24	-	12	Paved	
29.89	30.90	County Rd.	N. Adams Town Line	24	-	6	Paved	
30.90	30.93	N. Adams Line	Strykers Rd Ext	24	-	6	Paved	
30.93	32.00	Strykers Road Extension	Clarksburg Town Line	24	-	6	Paved	
32.00	32.09	Clarksburg Line	N. Adams Town Line	28	-	20	Paved	
32.09	33.34	North Adams Town Line	Old Mohawk Trail	24	-	5	Paved	
33.34	34.09	Old Mohawk Trail	Old West Shaft	24	-	6	Paved	Has 20 ft. shoulder
34.09	34.58	Old West Shaft	East Main Street	24	-	7	Paved	
34.58	35.36	East Main Street	Gallup Street	24	-	4	Paved	Curbed
35.36	35.61	Gallup Street	Eagle Street	26	-	7	Paved	Curbed
35.61	35.77	Eagle Street	Holden Street	44	22	0	Paved	Curbed, 4 travel lanes, 2 tuning lanes plus median
35.77	35.96	Holden Street	High Street	44	-	4	Paved	Curbed, 4 travel lanes, on the bridge
35.96	37.01	High Street	Avon Street	28	-	13	Paved	Curbed
37.01	37.73	Avon Street	New Street	24	11	3	Paved	Curbed, 3 lane
37.73	38.20	New Street	Phelps Avenue	26	-	6	Paved	Curbed, 3 lane section ends at Protection Ave.
38.20	38.60	Phelps Avenue	Chantilly Avenue	26	-	7	Paved	Curbed
38.60	39.23	Chantilly Avenue	Williamstown Line	28	-	6	Paved	Curbed
39.23	39.71	Williamstown Line	Adams Road	24	11	4	Paved	This is a 3 lanes section
39.71	40.14	Adams Road	Stratton Rd/ Colonial Avenue	24	11	5	Paved	Curbed, this is 3 lanes
40.14	40.33	Stratton Rd/ Colonial Avenue	0.08 miles west of Colonial Drive	26	-	6	Paved	Curbed
40.33	40.42	0.08 miles west of Colonial Drive	0.14 miles east of Bingham Street	28	-	5	Paved	Curbed
40.42	40.56	0.14 miles east of Bingham Street	Bingham Street	28	-	3	Paved	Curbed
40.56	40.69	Bingham Street	Waterman Place	36	-	4	Paved	Curbed

*Source: Based on MassGIS Road Inventory datalayer; field verified and adjusted by BRPC in 2002.

residential stretch of road, the sharp descent into North Adams and the Hoosic River Valley begins. Travelers are aptly warned of the coming descent as the road turns north along the famous “Hairpin Turn.”

The descent continues past the turn, and continues relatively steeply until the center of North Adams. In the vicinity of the Route 8 intersection, the Byway travels through a residential area, and approaches the city center where a mix of dense residential and commercial properties line the Byway. This section of the Byway is locally called Union Street. The total length of the Byway in North Adams is approximately 8 miles. The travel lane width is 24 to 26 feet throughout the city, with shoulders of approximately 2.5 feet on each side. At the Eagle Street intersection, the Byway changes from a two-lane road to a four-lane highway for approximately one-quarter mile. This highway section, including an overpass over Route 8 / Marshall Street, was constructed as part of an urban renewal project in the early 1970s to divert through traffic away from Main Street. Route 8 is a major north-south artery, connecting North Adams to central Berkshire County, the City of Pittsfield, and points south, such as the Massachusetts Turnpike.

West of the overpass, the road returns to a two-lane road through an area of dense multi-family houses. Due to the sharp terrain, these buildings are placed close to the road, with little or no front yards. Tight side yards or driveways exist laterally between buildings. Continuing west, the road travels through an area of mixed residential and commercial properties, including several strip malls. This land use continues through to the downtown area of Williamstown. Sidewalks along the Byway appear west of the Route 8 intersection and continue for

the most part through to the Williamstown border.

The Byway travels through Williamstown for approximately 2 miles. The road widens into a three-lane road for the length of the commercial corridor, with the middle lane serving as a left-hand turning lane for both eastbound and westbound traffic. The travel lane width is 24 feet in the two-lane section and is 36 feet in the three-lane section, with shoulders of approximately 3.5 feet on each side. The western section of the Byway serves as the town’s main street and pedestrian traffic is heavy due to the existence of Williams College in the downtown area. The Byway ends at Field Park, which is located at the junction of Route 7, the predominantly north-south artery through Berkshire County.

Roadside Features: Curbing, Guardrails, Retaining Walls and Signs

For the purpose of maintaining the scenic qualities of the Byway an assessment of roadside features such as curbing, guardrails, retaining walls and signage along the Byway were examined. These features are important to consider in order to ensure that the scenic and rural qualities of the corridor are maintained.

Curbing is not a major feature along the Byway except in the few limited areas. In the locations where it is used it is generally either granite or asphalt curbing installed primarily to channel water into drainage structures. There is a significant stretch of granite curbing for an approximately one-mile long section located at the intersection of Mechanic Street and Route 2 near the Buckland town line. This intersection was reconstructed in 2001, and the work included the installation of the granite curbing. There is also granite curbing along the section of the road

MAJOR FINDING



Local leaders have strongly voiced their support for exploring aesthetically pleasing designs to help maintain the scenic and rural nature of the Byway.



Galvanized steel guardrail is located along much of the Byway.



in the center of Charlemont. This is also the only section located directly along the Byway in Franklin County that has a sidewalk. Curbing is found in the more developed areas of Berkshire County, specifically in the North Adams downtown and west through to Williamstown (see Table 6.2).

Overall, there is a considerable amount of guardrail along the entire Franklin County section of the Byway all of it made of standard galvanized steel. Guardrails are an important safety feature along the road. Future construction work along the route that involves replacing guardrail may consider replacing the galvanized steel with a type of guardrail that is less aesthetically unobtrusive. Cor ten steel guardrails, a patented guardrail that is designed to look rusted, are naturally less shiny and thought to blend in more with rural landscapes. It is commonly

used as an alternative to galvanized steel. There may also be opportunities to use steel back timber guardrails, which have a natural look and have been used along other scenic byways across the country as a more aesthetically pleasing alternative. These may be especially appropriate at scenic pullovers.

There are a few locations where there are retaining walls along the Byway. There is a large retaining wall that is visually obtrusive located in Franklin County in Charlemont east of the downtown center. The wall is large and constructed of concrete located on the north side of the road in a location very close to the travel lane. Stone retaining walls such as those discussed in the Alternative Design section of this chapter may be appropriate.

Most of the signs along the roadway are standard road signs installed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) and as approved by MHD. There are a few locations where the numerous signs placed close to one another create confusion. As a motorist approaches South Maple Street in Shelburne from the east there are a large number of directional signs located along this stretch of the road.

Signs for commercial establishments located along the Mohawk Trail are generally not overwhelming or detracting from the scenic nature of the route. At this time, the Franklin County section of the road has limited areas of commercial development. The commercial area in Greenfield is densely developed for a very short distance (approximately $\frac{1}{4}$ mile) and this area contains a large number signs for these commercial establishments.

Signs in the Berkshire County section of the Byway become more numerous west of the Route 8 intersection in North Adams and continuing west to the intersection of Stratton Road in Williamstown. To consolidate directional signage to local

TABLE 6.3
Some Examples of Alternative Design Techniques and Features
(Guardrails, Guardwalls and Retaining Walls)

Alternate Design Technique	Description	Locations Where Feature has been used
Steel-backed Timber Guardrail	Wooden rail surface backed with reinforced steel.	George Washington Memorial Parkway, VA Blue Ridge Parkway, VA
Cor ten Steel Guardrails	Steel guardrail with a weathered or rustic look that blends in with the surrounding landscape.	Cor ten steel guardrails have been used in many locations statewide including Lower Hope Street in Greenfield.
Box Beam Rails	Box beams located lower than usual guardrail allows for view	Dumbarton Bridge, Potomac Parkway, Washington, DC
Columbia River Highway Guardrail	Whitewashed wooden rail backed with reinforced steel	Columbia River Highway, OR
Hidden Guardrails	Guardrails hidden by roadside vegetation	In New Jersey
Ironwood Guardrail System	The post system utilizes composite rails that are attached to steel posts set into the soil. The above ground section of each post is covered by timber, which functions as a block-out while also providing an all-wood appearance.	Watkins Glen, NY
"Rockefeller's Teeth" stone walls	Segmented native stone guards	Acadia National Park Motor Road, ME
Concrete-core Stone Masonry Guardwall	The retaining wall has a concrete core and native stones are applied to the façade for a more natural look.	Skyline Drive, VA and on Route 66 in Hampshire County, Massachusetts
Pre-cast Simulated Stone Wall	Pre-cast concrete panels designed, textured, and colored to resemble native stonework	Baltimore Washington Parkway, MD

Sources: FHWA, Flexibility in Highway Design, 1997; Marriott, Saving Historic Roads, Policy & Design, 1998; FRCOG, Design Alternatives for Rural Roads.

attractions, the City of North Adams recently initiated a way-finding sign system to such places as the Massachusetts College of Liberal Arts, the Massachusetts Museum of Modern Art, and the downtown commercial area. North Adams is the only community in the Berkshire County section of the Byway with billboards, including one of particular interest on Union Street, which is the eastern gateway to the city. Local residents have indicated that they would like to see the billboards removed, especially if efforts to implement the Union Street Streetscape Project move forward (for more information on the Streetscape Project, see the Land Use chapter).

There are also historic markers located along the Byway. These markers are a standard style along the Byway

and mark locations of historical significance, such as the Shunpike in Charlemont. During the development of the plan, it was noted that several other historically significant locations, such as the Hoosac Tunnel, are not designated with signs, and there was an interest in installing additional historic markers to designate the location of these sites. However, this interest in installing additional signs for historically significant sites was qualified with the condition that additional signs should be installed in a manner to not create a clutter of too many signs. The installation of too many signs along the Byway was expressed as a concern during the public forums and input sessions. In light of the scenic nature of the Byway, too many signs can cause confusion for drivers

and also detract from the scenic nature of the roadway.

Alternative Design

During the development of this Corridor Management Plan, local residents have voiced their interest in maintaining the aesthetic, historic and rural qualities of the Byway. This is an important and valid concern that should be taken into consideration whenever roadway improvement projects are undertaken. The design of future roadway improvements should include the consideration and application whenever possible of context sensitive and aesthetically pleasing roadway design.

This topic has received a lot of attention in recent years, which is evident by a number of publications that have been widely circulated by the Federal Highway Administration.

Flexibility in Highway Design was prepared by the Federal Highway Administration in 1997, and serve as an effective guidebook to “explore opportunities to use flexible design as a tool to help sustain important community interests without compromising safety.” The books provide information on Federal Highway Administration safety requirements, when there is flexibility in design, what more aesthetically pleasing or context appropriate alternatives are available, and what the potential costs for these alternatives. *Saving Historic Roads, Design & Policy Guidelines* written by Paul Daniel Marriott is another resource. This document provides several case studies where local and state interests worked together to design historic-sensitive road improvements.

In addition, the Franklin Regional Council of Governments has produced *Design Alternatives for Rural Roads*. This document was originally written in 1994, and has recently been updated. It is a reference guide that provides infor-

mation about the highway design process in Massachusetts, and what elements of road design can be used to help a project to blend into the rural landscape and retain its natural and historic character. This publication was specifically written with the rural nature of the roads in Western Massachusetts in mind. The guide includes information on MassHighway’s effort to establish context sensitive design guidelines, reviews the MassHighway 1997 Low Speed Low Volume design standards, examines Bicycle Accommodation as a component of Project design, and offers numerous case examples of road and bridge projects that are sensitive to the specific rural and historic conditions.

As described throughout this report, the Mohawk Trail is a scenic roadway that winds and curves through hilly terrain. While this road has developed into an important transportation route, a concerted effort should be made to maintain the rural character of the roadway during any improvement projects. In instances where widening and straightening the roadway are considered to improve the flow of traffic and increase potential speeds, the scenic beauty, historic character and intrinsic qualities of the Byway should be considered as equally important.

Roadway details such as guardrails, barriers and retaining walls should take into account the sensitive and historic nature of the road. Designs for the most context sensitive features should be considered on a case-by-case basis given the specific location. Table 6.3 includes some alternative materials that have been used on other Scenic Byway projects or in other locations in Western Massachusetts as more appropriate aesthetically pleasing alternatives to traditional highway features. It is important to note that technology is constantly evolving and it is important to consider all possible engineering features available.



Examples of available alternative safety features: hidden guardrail (left); precast simulated stone wall (below, left); and concrete core with native stone guards (below, right)



While the initial cost of installing alternative design features may be more costly, consideration should be taken of the long-term durability. A comprehensive and long-term cost-benefit analysis of the desired technique should be conducted to evaluate the true cost of the alternative. For example, the concrete-core masonry guardrail may have a higher construction costs; however, the durability of concrete and stone can be expected to outlast that of steel. In addition, the aesthetic quality maintained or improved through the construction of roadway features that are more appropriate for the Byway will ensure local support and also be a positive influence on tourism. These positive im-

pacts should be included in the cost-benefit analysis.

The Massachusetts Executive Office of Environmental Affairs has recently undertaken a Historic Parkway Initiative in which two demonstration projects are being completed to improve historic parkways in the State. One of these projects is to restore the Mount Greylock Scenic Byway. This project involves rehabilitating and reconstructing in a historically accurate and environmentally sensitive manner the length of the Byway that is within the Mt. Greylock State Reservation. This initiative will restore the structural and aesthetic integrity of historic stonework, retaining walls, and guardrails that were first constructed by the

President Roosevelt’s Civilian Conservation Corps in the 1930s. The goal of this project is to repair the road and improve traffic safety while returning the Byway to the look and feel that it had 70 years ago. To accomplish this, several of the techniques mentioned above will be investigated. While this roadway’s function as a parkway is different than Route 2, which does serve as a primary transportation route for trucks, it serves as a positive example where the historic features of the road are being considered and prioritized during the redesign of the roadway. This project will provide invaluable information on the availability and cost of historic and aesthetic roadside features, perhaps even wooden rail retaining walls. The rehabilitation project is scheduled for 2003-2004.

Various studies have indicated that a pavement regularly maintained in a “good” to “excellent” condition requires one-fourth to one-fifth the maintenance investment of a road that is not maintained until it reaches a “poor” or “failed” condition, and then is reconstructed. A PMS is intended to provide quantitative information to assist when budgeting and making decisions regarding road repair and maintenance.

Route 2 is part of the National Highway System, and with the exception of the sections located in North Adams and Williamstown, the road is maintained by the Massachusetts Highway Department (MHD). Therefore, MHD is responsible for conducting pavement condition surveys, prioritizing and completing routine maintenance and repairs to the road. MHD utilizes the Automatic Road Analyzer (ARAN), a vehicle that is equipped to assess the pavement condition as it travels along the road. The FRCOG and BRPC work closely with MHD to ensure the local communities are informed of the results and the schedule for maintenance of the road. In the case of the local roads, the FRCOG and BRPC can provide pavement management services to the local communities on a fee for service basis.

After the data is collected, a computer analysis program is used to rank the condition of the pavement. Depending on the specific pavement analysis software being used, either a Pavement Serviceability Index (PSI) or a Pavement Condition Index (PCI) is assigned to rank the condition of the pavement. The FRCOG used the PSI ranking system for their analysis and the BRPC used the PCI raking for their analysis, and therefore definitions of each ranking is being provided.

According to the Pavement Serviceability Index (PSI) the condition of the pavement is ranked on a scale of 0 to 5. A rating of 0 indicates that the

TABLE 6.4
Pavement Condition Index (PCI) General Rating Categories

Pavement Condition Index (PCI)	Rating
95–100	Excellent
85–94	Good
65–84	Fair
0–64	Poor

Pavement Conditions and Pavement Management Analysis

A Pavement Management System (PMS), as defined by the American Public Works Association (APWA), is “a systematic method for routinely collecting, storing, and retrieving the kind of decision-making information needed (about pavement) to make maximum use of limited maintenance and construction dollars.” Historically, road maintenance funds were channeled to those roads that were perceived to be in the worst condition, or where political influence dictated.

road is in very poor condition to the point of being impassible by vehicles, and a rating of 5 indicates a perfectly smooth and distress free roadway. At thresholds within this scale, roads are determined to be in poor, fair, good or excellent condition.

The Pavement Condition Index (PCI) scores are on a scale of 100 to 64, with 100 indicating a perfectly smooth and distress free roadway and 0 indicating a roadway in very poor condition to the point of being impassible. A summary of the PCI scores and the associated rankings are contained in Table 6.4.

Franklin County

MHD collected the most recent pavement condition data for the study area in 2001. The pavement condition rankings are contained in the Pavement Conditions Map for Franklin County, which is included as Appendix 6B. The analysis showed that from the Greenfield Rotary to just west of the Buckland/Charlemont town line the roadway was generally categorized as in excellent condition. West of this point to the Charlemont/Savoy town line the roadway was categorized as in fair to poor condition, with the exception of the section of the road in the Charlemont Village Center and the section between Tower Road and Cold River Road which were both categorized as in good condition.

Due to the generally fair to poor condition of Route 2 in Charlemont the road has been identified as needing some level of rehabilitation. MHD will commence the design for the reconstruction of this approximately 11 miles of roadway in the near future. In the meantime, a $\frac{3}{4}$ inch layer of asphalt has been laid over the existing pavement to provide a suitable driving surface until the design and rehabilitation is completed. The overlay work was completed during the Spring 2002. Sections of the road that are currently in good to excellent condition

will receive localized maintenance as required. A map of the pavement conditions is contained in Appendix 6B.

Berkshire County

In the summer of 2001, BRPC conducted a pavement management analysis on Mohawk Trail using the Road Surface Management System (RSMS). RSMS collects data and ranks it based on a PCI.

The road through the towns of Savoy and Florida is in excellent and good condition, due to the recent repaving project conducted in 2001 by MHD. The PCI rating for the newly paved road through Savoy to South County Road in Florida is Excellent. The rating drops to Good between South County Road and Olson Road, and varies between excellent and good between Olson Road and the North Adams town line. In the small portion in Clarksburg, the PCI rating is 90, which is considered to be good.

The PCI average rating for the road between the Hairpin Turn and the city center in North Adams is 92, which is considered good, down from excellent due to the presence of longitudinal and transverse cracks. The section of road between Route 8A and Route 8 has a PCI of 96, which is excellent. From Notch Road to Harding Avenue the PCI dramatically drops to 69, which is only considered to be fair. This reflects the fact that there are a lot of potholes and patches on this section of the Byway.

Once in Williamstown, the pavement condition improves to a rating of 89, with the road experiencing only hair-sized cracks. The condition improves again to excellent, with a rating of 95, between Route 43 to the terminus at Field Park. Overall, the average rating for the road through Berkshire County, has been determined to be 90, which is categorized as good.

TABLE 6.5

Traffic Count Data from locations along the Mohawk Trail in Franklin County

Town—Street/Route	Location	Past Year Count		Most Current Count		Average AGR
		Year	AADT	Year	AADT	
Greenfield—Route 2	East of Colrain Road	—	—	1995	21,500	—
Shelburne—Route 2	West of Greenfield Town Line	1995	11,000	2001	12,700	2.42%
Shelburne—Route 2	West of Cooper Lane	1996	9,200	1999	9,800	2.13%
Shelburne—Route 2	East of Mechanic Street	—	—	1997	6,300	—
Buckland—Route 2	Charlemont/Buckland Town Line	—	—	1997	4,600	—
Charlemont—Route 2	West of East Oxbow Road	1996	4,800	2000	4,700	-0.70%
Charlemont—Route 2	East of South Street—	—	—	1999	4,500	—
Charlemont—Route 2	Between School St. & Riddell Rd.	—	—	1999	4,800	—
Charlemont—Route 2	West of West Hawley Street	—	—	1999	3,600	—
Charlemont—Route 2	East of Legate Hill Road	—	—	1999	3,500	—
Charlemont—Route 2	East of Zoar Road	1996	2,900	2001	3,500	3.83%

AADT – Average Annual Daily Traffic; AGR – Annual Growth Rate.

Sources: Traffic counts completed by MHD and FRCOG

Vehicular Use and Roadway Performance Related Statistics along the Byway

Traffic counts are conducted by the FRCOG and BRPC within their respective regions. In addition, MHD routinely collects traffic counts on roads within the State jurisdiction such as Route 2. Maintaining a database of traffic volume counts provides a way to monitor growth in the Byway area and determine future needs.

Traffic Volumes

Franklin County

The FRCOG and MHD have collected traffic volume data at a number of locations along and adjacent to the Mohawk Trail over the past ten years. The locations are illustrated on the Transportation Map for Franklin County. This data consists of traffic volumes collected during a period of at least two consecutive weekdays. The count data collected was averaged to

calculate an Average Weekday Traffic (AWT) volume, which was multiplied by a seasonal adjustment factor to produce an Average Annual Daily Traffic (AADT) volume for each location.

The seasonal adjustment factors are intended to correct irregularities in traffic volumes in order to calculate an Average Annual Daily Traffic (AADT) volume count that reflects a typical day. MHD calculates the seasonal adjustment factors based on data collected at more than 200 statewide permanent traffic count locations where data is collected 365 days of the year. The AADT is used to calculate an Annual Growth Rate (AGR), which quantifies the percent of traffic volume growth over time. It is important to note that while the methodology for calculating AADT volumes follows a standard procedure, the seasonal adjustment factors used to calculate the average Annual Growth Rates (AGR) rely on figures compiled from locations across the State.

Table 6.5 lists the AADT for traffic counts at locations on the Mohawk Trail in Franklin County as well as for

TABLE 6.6

Traffic Count Data from locations on the side roads adjacent to the Mohawk Trail in Franklin County

Town—Street/Route	Location	Most Current Count	
		Year	AADT
Greenfield—Colrain Road	North of Route 2	1997	4,600
Shelburne—Colrain Shelburne Road	1 Mile North of Route 2	1997	1,960
Shelburne—Little Mohawk Road	South of Route 2	1993	560
Shelburne—Shelburne Center Rd.	South of Route 2	1997	360
Shelburne—Maple Street (Route 2A)	West of Route 2	2001	4,200
Shelburne—Mechanic Street	South of Route 2	1997	1,550
Shelburne—Mechanic Street	South of Hope Street	1998	850
Shelburne—Main Street	South of Hope Street	1998	1,480
Shelburne—Route 112 (North)	North of Route 2 Bridge	1998	1,510
Buckland—State Street (Route 2A)	3/10 Mile North of North Street	2001	2,300
Buckland—North Street	1/10 Mile North of State Street	1998	1,70
Buckland—Route 112 (South)	1/2 Mile North of High School	1997	4,200
Charlemont—North River Road	North of Route 2	1992	2,100
Charlemont—East Oxbow Road 200ft	North of Route 2	1998	300
Charlemont—Avery Brook Road	1/10 Mile North of Route 2	2000	590
Charlemont—Route 8A	3/10 Mile South of Warner Hill Rd	1998	740
Charlemont—Legate Hill Road	1/10 Mile North of Route 2	2000	300

AADT—Average Annual Daily Traffic
 Sources: Traffic counts completed by MHD and FRCOG

the AGR for locations where multiple counts were conducted during different years. Table 6.6 contains the AADT for traffic count location adjacent to the Mohawk Trail. Each table includes traffic count data collected during the past ten years for the specific locations.

The highest traffic volumes were recorded at the easternmost locations of the Franklin County section of the Byway. This reflects the count locations' proximity to Interstate 91 and Greenfield, the largest town in the region. The retail and fast food establishments just west of the Greenfield Rotary attract large numbers of vehicles directly from the Interstate 91 and Greenfield, and therefore, the traffic volumes at the locations just west of the rotary (21,500 at Colrain Road) are almost twice those recorded two

miles further west (12,700), west of the Greenfield/Shelburne town line. The counts at Colrain Road and Route 2 are among the highest in the county.

The traffic volumes decrease incrementally traveling west along the Byway. Traffic that is traveling to Colrain and Vermont use Colrain-Shelburne Road. Maple Street is the main access into Shelburne Falls for traffic from the east, and Mechanic Street provides access to Route 112 North.

At four locations along the Mohawk Trail the Average Annual Growth Rate was calculated between the mid 1990s and early 2000s. This analysis indicates that traffic volumes between Greenfield and Shelburne Falls have grown on average by between 2 and 2½% annually over the past five or six years. Between the Buckland/Charlemont town line and

Charlemont village center the traffic volumes have declined on average by just under one percent (-0.70%) annually. Between Charlemont Village Center and the Charlemont/Savoy town line traffic volumes have grown an average of almost four percent (3.83%) annually.

These figures are intended to provide a general idea of the volume and growth trends along the Byway. Monitoring the traffic volumes in the future is also an important component of the Byway and ensuring that the character is protected and maintained in the future.

As part of the Franklin County 2000 Regional Transportation Plan, data from throughout Franklin County was compiled and a regional AGR was calculated. This calculation showed an average AGR of almost one and a half percent (1.4%) for the region. A permanent count station (automatic counter that counts 24 hours a day 365 days a year) is located on Route 112 at the Ashfield/Buckland Town Line. The AGR between 1996 and 2001 at this location was calculated at just below one percent (0.95%). This growth rate reflects the true growth, since it is based on actual AADT volumes.

Berkshire County

Traffic counts for the Byway in the Berkshire region were determined by using two sets of available data, one collected by BRPC and one using data from MHD. BRPC collected its traffic counts at three locations along Route 2

in the summer of 2001: 1) the Franklin County/Berkshire County border, 2) North Adams near the Florida town line, and 3) Williamstown just east of North Adams line. These counts are Average Daily Traffic (ADT) counts collected during the summer of 2001. The ADT counts are “snapshot” numbers, taken during the summer tourist season, while the AADT used by MHD uses seasonal factors to adjust the counts to an average day. Therefore, the ADT is generally higher.

In the summer of 2001, ADT at the Franklin County/Berkshire County border had an ADT of 1,776 vehicles, which conforms to the AADT count from MHD of 1,600 vehicles at that location in 2000. Traffic counts increase as you travel west, with an AADT count of 2,800, west of Olsen Road in Florida. The ADT count at the Florida/North Adams border was 3,507. These traffic counts reveal that the volume of traffic doubles, increasing by 1,731, between the east and west borders of Florida. Although daily commuters from Florida and Monroe traveling to North Adams do account for some of that volume, it certainly cannot account for all of it, especially considering the small populations of the two communities. A more detailed study of the traffic patterns and volumes of local roads intersecting with the Byway is needed to determine the source of this increase. Lastly, in Williamstown the AADT just east of North Adams line is much

TABLE 6.7
Traffic Count Data from locations along the Mohawk Trail in Berkshire County

Town	Location	Past Year Count		Most Current Count	
		Year	AAADT	Year	AAADT
Savoy/Florida	Franklin/Berkshire County line	2000	1,600	2001	1,776
Florida	West of Olsen Rd	2000	2,800	2001	—
Florida/North Adams	Municipal border	2000	—	2001	3,507
Williamstown	Just east of North Adams city line	2000	15,800	2000	17,300

*Source: MHD. **Source: BRPC.

larger, at 15,800 vehicles. This compares with the ADT count collected by BRPC of 17,300 in 2000.

Level of Service Analysis

Level of Service (LOS) analysis quantifies how well a section of roadway is operating under peak hour traffic volumes based on the driver's expectations. In other words, this classification is based on calculating the quality or efficiency of the traffic flow for the motorist. The delay is calculated based on the difference between the travel time actually experienced and the travel time that would have been experienced under ideal road conditions. *The Highway Capacity Manual* provides a methodology for calculating the LOS for rural two-lane roadways such as the Mohawk Trail. Two-lane highways are categorized into two classes for this analysis. Class 1 applies to two-lane highways that motorists expect to travel at relatively high speeds. This classification generally applies to major intercity routes, primary arterials connecting major traffic generators, daily commuter routes or primary links in state or national highway networks. Class 2 applies to two-lane highways where motorists do not necessarily expect to travel at high speeds. This classification generally applies to roadways that serve as scenic or recreational routes that are not primary arterials.

The Level of Service calculation analyzes the geometry of the road, peak hour traffic volumes and environmental conditions, including the lane and shoulder widths, amount of available passing, and the mix of vehicle types in order to calculate the performance rating. LOS is based on a scale "A" through "F". "A" is the best and "F"

the worst and have the following general definitions:

LOS A – Describes the highest quality of service, when drivers are able to drive at their desired speed. The passing frequency required to maintain these speeds has not reached a demanding level with drivers delayed less than 40 percent of the time.

LOS B – The demand for passing to maintain desired speeds becomes significant, with drivers being delayed in platoons (multiple vehicles following closely) up to 50 percent of the time.

LOS C – Traffic volumes are increasing, resulting in a noticeable increase in platoon formation and size. Passing opportunities begin to become infrequent although traffic flow remains stable, in that reasonable travel speed is maintained. Slow moving and turning traffic may cause congestion. Time spent following other vehicles will be likely up to 65 percent of the time.

LOS D – Traffic flow is unstable and the opposing flows begin to operate separately as passing opportunities become very limited. Passing demand is high, but passing capacity approaches zero. Turning vehicles and roadside distractions cause major interruptions in the traffic stream. Platoon size increases to between 5 and 10 vehicles on average delaying vehicles up to 85% of the time.

LOS E – Average travel speeds will likely be less than 40 miles per hour and greater than 85 percent of the time is spent in platoons behind slower or turning vehicles as passing becomes virtually impossible.

LOS F – Traffic flow is heavily congested as traffic demand exceeds the capacity of the roadway.

In general, it is desirable to maintain traffic conditions at a LOS C or better.

Franklin County

A LOS analysis was completed using both a Class 1 and Class 2 analysis (described above) for the Franklin County

TABLE 6.8

Average Speeds along the Byway Between the I-91 Rotary and the Savoy Town Line.

Segment	Westbound Average Speed	Eastbound Average Speed	Speed Limit
Between I-91 Rotary and Ames Plaza Driveway	24 MPH	24 MPH	35 MPH
Between Ames Plaza Driveway and Shelburne Town Line	46 MPH	52 MPH	50 MPH
Between Shelburne Town Line and Colrain Shelburne Road	49 MPH	50 MPH	50 MPH
Between Colrain Shelburne Road and Maple Street (Route 2A)	50 MPH	48 MPH	50 MPH
Between Maple Street (Route 2A) and North River Road	50 MPH	49 MPH	Ranges between 45 MPH and 50 MPH
Between North River Road and East End of Charlemont Village	51 MPH	49 MPH	Ranges between 40 MPH and 50 MPH
Through Charlemont Village	34 MPH	32 MPH	30 MPH
Between West end of Charlemont Village and Zoar Road	51 MPH	52 MPH	Ranges between 45 MPH and 50 MPH
Between Zoar Road and Savoy Town Line	50 MPH	53 MPH	Ranges between 30 MPH and 50 MPH
Average of Whole Route	48 MPH	48 MPH	

Source: Travel time runs completed by the FRCOG in May/June 2002

section of the Byway. The analysis indicated low LOS rankings for the entire roadway ranging from C to E depending on the specific location and whether it was analyzed as a Class 1 or a Class 2 roadway. The discrepancy between the results of the analysis and the actual experiences while driving the road led to a closer consideration of the LOS procedure and the limitations of using this methodology on a more rural and scenic type of roadway.

Generally LOS analysis employs a standard procedure to analyze many types of roads. It became apparent that this system is not well suited to accurately representing a driver's experience on a rural type road that serves as a primary regional transportation route such as the Mohawk Trail Scenic Byway. Between Greenfield and Shelburne the poor LOS rankings were related to the volume of traffic, and the limited opportunities for passing slower vehicles. The methodology for calculating the LOS (the systematic analysis defined

by the *Highway Capacity Manual*, which is widely accepted and described in the preceding section of this report) considers ability to pass slow moving vehicles as a major indicator of the road's performance. West of Shelburne Falls the poor LOS rankings were related to the geometric and environmental conditions on the road. The narrow and winding nature of the roadway limits the maximum speed to below what would be expected on a Class 1 roadway.

The anecdotal information discussed at the numerous public meetings held during the development of the report, actual site visits and information from previously completed traffic reports in the area indicated that most of the regular Byway users do not experience travel at the poor level described in the LOS analysis results. For the most part travel at the road's posted speed limits is not a problem. There are limited peak times when higher levels of traffic volumes can

TABLE 6.9
Volume/Capacity Ratio in Franklin County

Segment	From	To	Volume/Capacity Ratio
1	West of Rotary—Greenfield	Colrain Shelburne Road—Shelburne	0.46
2	Colrain Shelburne Road—Shelburne	Maple Street—Shelburne	0.37
3	Maple Street—Shelburne	North River Road—Charlemont	0.21
4	North River Road—Charlemont	East end of Charlemont Village Center	0.18
5	East end of Charlemont Village Center	Route 8A South—Charlemont	0.15
6	Route 8A South—Charlemont	Savoy Town Line	0.18

Source: FRCOG

slow the travel times. Consequently, travel time runs were completed in order to further analyze the roadway's conditions.

The travel time for the roadway during peak periods were measured to confirm the perceptions that average speeds at or above the speed limits were maintained during peak periods. Timing stations, producing segments similar to those used in the LOS analysis, were identified and the route was driven three times in each direction during the peak traffic periods (between 4:00 and 6:00 PM). Where possible the driver of the test vehicle joined a line of traffic, noting the time to travel each segment. Average speed for each segment was calculated with the three runs providing an error of ± 2 MPH with a 95% confidence level. This means that the three samples conducted are statistically representative of what you would expect if additional travel time runs were conducted. Table 6.8 shows the average speed from the three runs in each direction along with the posted speed limits for each segment.

The results of the travel time runs show that an average speed of 48 miles per hour (MPH) was maintained in each direction along the whole 22.5 miles from the Interstate-91 rotary in Greenfield to the Charlemont/Savoy town line. For the majority of the seg-

ments the average speeds were slightly above the posted speed limits, confirming the perceptions that the road is functioning well. The only segment that had speeds significantly lower than the posted speed limit was between the I-91 rotary and the Ames Plaza driveway in Greenfield. This is the most congested segment of the Byway in Franklin County where multiple driveways provide access to gas stations and retail stores and a traffic signal controls the intersection of Route 2 and Colrain Road. Much of the reduced average speed through this segment was caused by delays incurred at the traffic signal.

Also, average speeds up the steep incline from the Ames Plaza driveway to the Greenfield/Shelburne town line were slightly below the posted speed limits as larger vehicles tended to slow the traffic flow. This may indicate the need for a westbound climbing lane at this location for slow moving vehicles as they currently often use the breakdown lane. On the east end of the Byway between the I-91 rotary and Maple Street (Route 2A) into Shelburne Falls, travel was generally in a line of vehicles, where speeds were dictated by the lead vehicle. West of this point few vehicles were encountered and travel speeds were generally dictated by the drivers level of comfort. This information is contained in

TABLE 6.10

Level of Service (LOS) and Volume/Capacity Analysis Results for Berkshire County

Segment	From	To	Class*	LOS*	Volume/Capacity Ratio
7	Berkshire/Franklin border	S. County Rd., Florida	II	A	.07
8	S. County Rd., Florida	Moore Road, Florida	II	A	.11
9	Moore Road, Florida	W. Shaft Rd, N. Adams	II	A	.01
10	W. Shaft Rd., N. Adams	Route 8A, N. Adams	II	A	.10
11	Route 8A, N. Adams	Route 8, N. Adams	Multilane	A	—
12	Route 8, N. Adams	Notch Rd., N. Adams	I	E	.44
13	Notch Rd., N. Adams	Williamstown Town line	I	D	.22
14	Williamstown Town line	Route 7, Williamstown	I	D	.28

*Source: BRPC.

the transportation map for Franklin County in Appendix 6C.

Roadway Capacity Analysis

The capacity of a roadway is defined as the maximum number of vehicles that can pass a point on a roadway per hour. For two-lane highways the capacity has been determined to be 3,200 vehicles per hour in both directions. To determine how close to capacity a roadway is, the peak hour volume is divided by the capacity to produce the volume/capacity or “v/c” ratio. A v/c ratio equal to 1.00 indicates a roadway operating at maximum performing capacity. In general, a lower the v/c ratio reflects a less congested roadway and therefore a more enjoyable route to drive. The v/c ratio for the Mohawk Trail in Franklin County is included in Table 6.9. The v/c ratio for the Berkshire County section of the Byway is included in the Level of Service Table 6.10. The data printout for the Level of Service and capacity analysis for the Berkshire County section of the Byway is included in Appendix 6D.

Franklin County

It can be seen that the more heavily traveled sections of the Mohawk Trail between Greenfield and Shelburne are operating at 46% of the available capacity during peak periods and west of Shelburne Falls they it is at less than 20% of the roadway capacity.

Berkshire County

As mentioned previously, the LOS for a Class I commercial route is different than that of a Class II scenic and recreational route. Drivers routinely traveling a Class I routes expect wide roads and higher traffic volumes, while drivers traveling a Class II route expect scenery and lower traffic volumes. The Mohawk Trail Scenic Byway is a mix of these classes, busy and commercial at the eastern and western ends and more relaxed in the rural communities of Buckland, Charlemont and Florida. Because of these disparities, different segments of the Byway were evaluated for their dominant geometry (shoulder width, travel lane width, etc.) and traffic volume. As such, Segments 7, 8, 9 and 10 were evaluated using Class II criteria, while Segments 12, 13, and 14 were evaluated using Class I criteria. Segment 11 was evaluated using the

multi-lane methodology because it is a four-lane highway.

As can be seen in Table 6.10, the LOS for the much of the Berkshire County section of the Scenic Byway is excellent to good, and the traffic volume is well below capacity. Travel is smooth, traffic volume is generally low, and stopping for stopped or turning vehicles is seldom. In fact, the LOS is so good, that local citizens living along the roadway in Florida have voiced concern with the high speed at which commuting and commercial vehicles travel. This is especially a concern in the residentially settled and relatively level straightaway west of the Whitcomb Summit.

The section of the roadway that received the lowest score is that between the Route 8 intersection to Notch Road in North Adams (Segment 12), which is operating at 44% of available capacity. Other sections that are less than adequate is the western portion of the Byway, where strip mall development is prevalent west of Notch Road and frequent pedestrian crossings stall traffic in downtown Williamstown. It is important to note that these sections of roadway are failing, especially given the fact that they were rated using the Class I (commercial route) methodology and not the Class II rating, which was used in the more rural areas. Therefore, the developed strip between North Adams and Williamstown is beginning to fail its function of serving as a commercial route.

Notwithstanding the relative ease of traveling the roadway, some residents have complained about the limited number and spatial dispersion of passing lanes along the Byway. It can be frustrating to follow commercial trucks or unusually slow drivers without ample opportunities to pass.

Safety Analysis and Crash Data

The National Highway Traffic Safety Administration refers to motor vehicle collisions as “crashes”. The crash data was reviewed to determine if there are any locations along the Byway have a high number of crashes that are related to the roadway geometry or other factor that could be corrected in order to prevent crashes in the future. Crash data is available from the Massachusetts Registry of Motor Vehicles (RMV) and also local police departments. The Massachusetts’ Law requires that within 5 days of the crash, all vehicular crashes that results in \$1,000 or more of property damage, or an injury or a fatality must be reported to the Massachusetts Registry of Motor Vehicles (RMV) and the local Police Department using a standardized Motor Vehicle Crash Operator Report form. The RMV maintains a database from these crash reports.

Franklin County

Greenfield

An analysis of crash data for the Byway corridor in Franklin County was completed. For the section of the Byway that is located in Greenfield, the analysis utilized crash data collected as a part of the *Downtown Greenfield Circulation Study* completed by the FRCOG in May 1999. RMV crash data was used for the sections of the Byway located in Shelburne, Buckland and Charlemont.

The accident data collected as a part of the *Downtown Greenfield Circulation Study* was used because it provides the most accurate crash data summary for the Greenfield section of the Byway Study Area. As a part of the *Downtown Greenfield Circulation Study*, individual crash reports were reviewed for the three-year period 1996

TABLE 6.11

*Crash Statistics along Route 2 for the three-year period,
1998 through 2000*

	Shelburne	Buckland	Charlemont	Total
Average Number of Reported Crashes per year	27	4	18	49
Crash Severity				
Property damage Only	16	3	9	28
Injury	11	1	8	20
Fatality	0	0	1	1
Crash Type				
Single Vehicle	14	1	10	25
Multiple Vehicle	13	3	8	24
Road Conditions				
Snowy/Icy	4	1	3	8
Wet	5	1	4	10
Dry	17	2	10	29
Unknown	1	0	1	2
Light Conditions				
Daylight	18	2	12	32
Dark	7	1	5	13
Dawn or Dusk	1	1	1	3
Unknown	1	0	0	1
Month Occurred				
January	2	0	2	4
February	2	0	1	3
March	3	0	2	5
April	2	0	1	3
May	2	0	2	4
June	3	0	2	5
July	3	0	2	5
August	1	0	2	3
September	2	0	0	2
October	2	0	2	4
November	3	1	2	6
December	3	1	2	6

Source: Registry of Motor Vehicles

through 1998. Below is a summary of the crash data and findings for locations along the Mohawk Trail.

LOCATION: *The rotary at the intersection of Interstate 91,*

Route 2 and Route 2A in Greenfield

Accident Trends for period from 1996 to 1998:

- 82 crashes were reported.
- 60% of the crashes resulted in property damage, and the other 40% resulted in injury to one or more of those involved.
- 50% (41 crashes) of those crashes occurred on the Route 2A approach leading from Downtown Greenfield.
- 25% (20 crashes) occurred on the Route 2 approach from the west.
- 25% (21 crashes) occurred on the two exit ramps from Interstate 91.

The rotary was ranked as the third most hazardous intersection in Franklin County (FRCOG, 2000) and is recommended for a more in depth analysis to identify mitigation measures that could be implemented to reduce the number of crashes.

Generally, the large size of the rotary, the high speeds with which cars travel through it, and the fact that drivers are often unfamiliar with the traffic pattern makes them prone to high crash frequency. The majority (94%) of the crashes were of the rear-end type, which a large number of crashes appeared to occur when a vehicle stopped to yield to circulating traffic and the following vehicle was either following too close, traveling too fast or not paying attention.

There is a concentration of retail stores, fast food restaurants and gas stations to the immediate west of the rotary (at Interstate 91, Route 2, and Route 2A) for approximately ½ mile. The high traffic volumes and the numerous retail establishments located on both sides of the road with many entrance/exit point raises the potential for crashes.

LOCATION: *The intersection of Route 2, Colrain and Robbins Road*

This intersection is located 400 feet west of the rotary. This intersection was reconfigured and a traffic signal was installed in the fall of 1997 as part of the mitigation measures to accommodate the increased traffic to be generated as the result of the construction of BJ's Wholesale Club built on Colrain Road. The crash analysis conducted as part of the Greenfield Circulation Study concluded that the frequency and severity of crashes at the intersection did not drop after the installation of the traffic signal.

Accident Trends for period from 1996 to 1998:

- 13 crashes were reported during the 2-year period 1996 to 1997 (prior to reconfiguration of the intersection and installation of traffic signal).
- 7 crashes were reported in the year (1998) following the signal's installation.
- This intersection was ranked the twenty-ninth in a list of the thirty most hazardous intersections in Franklin County (FRCOG, 2000).

LOCATION: *The Entrance to the FoodMart Plaza*

Accident Trends for period from 1996 to 1998:

- 8 crashes were reported at this location
- 3 crashes were reported at the entrance to the Big Y/Ames Plaza

The road configuration and traffic volumes, makes it difficult to exit these plazas during certain periods of the day. Since this data was collected, additional commercial establishments (fast food restaurants and a gas station) have been opened. In addition, the FoodMart grocery store has closed. Big Y is planning to move its grocery store from the Big Y/Ames Plaza (on the South side of Route 2) to the old FoodMart store location (on the North side of Route 2). The now

vacant Big Y location has the potential to attract another large-scale high traffic commercial use.

This area of concentrated commercial activity and turning movements warrants a more detailed analysis of crashes and traffic operations.

Summary of Registry of Motor Vehicle Crash Statistics for the towns of Shelburne, Buckland and Charlemont

The most up to date RMV crash data available was for the period 1998 through 2000. The crash data for this period was reviewed for the towns of Shelburne, Buckland and Charlemont. The crash reports analyzed were reported as occurring on Route 2 between the Greenfield/Shelburne Town Line and the Charlemont/Savoy Town Line. Table provides general statistics averaged over the three-year period from the reported crashes that occurred along the Mohawk Trail in Shelburne, Buckland and Charlemont.

There were an average of 49 reported crashes per year along this section of the Mohawk Trail.

Approximately 60% of the crashed resulted in property damage and 40% resulted in some kind of injury to one or more of those involved. For this three-year period, 2 fatalities were reported (one in September of 1998 and one in June of 1999). Both of these crashes were reported as occurring along the Mohawk Trail in Charlemont. However, the location descriptions did not provide any specific details.

Approximately half of the crashes during this three-year period involved a single vehicle that left the road and collided with some kind of fixed object such as a guardrail, tree or telephone pole. Often this type of crash occurs when a vehicle is being driven at a speed inappropriate for the road conditions, the driver is under the influence of alcohol or the driver takes evasive action to

avoid a collision with another vehicle or object in the roadway.

The other half of the crashes involved collisions between two or more vehicles. "Angle" and "Rear-end" type crashes were the most common multiple vehicle crashes reported. Angle crashes generally involve a turning vehicle (making a left-turn for example) from one direction colliding with or being hit by a vehicle coming from the opposite direction and is most common at intersections. Rear-end crashes generally involve two vehicles traveling in the same direction, the first vehicle slows to make a turn and the following driver does not react in time and hits the back of the first vehicle.

Almost 60% of the crashes occurred under dry road conditions and 65% occurred during the daylight hours. The crashes were evenly distributed throughout the year with no month of the year seeing a substantially higher number of crashes than any of the others.

As noted above, the descriptions of the crash locations are often vague being reported only as occurring on Route 2. However, a number of the reports did provide details such as an intersecting street. For these more detailed reports, the crash data was reviewed to identify any specific locations that may have elevated occurrences of crashes. A summary by town of this analysis is detailed below:

Shelburne

In Shelburne two intersections were identified as having an elevated occurrence of crashes.

LOCATION: **Mohawk Trail and Maple Street (Route 2A)**

This is the main access into Shelburne Falls for traffic traveling from the East. This intersection is one of the busiest intersections, with respect to traffic volumes.

Summary of Accident Trends from 1998 to 2000.

- There were a total of eight crashes.
- Five of these involved property damage only and three injuries.
- Seven of the crashes involved multiple vehicles.
- Five were rear-end type, one angle and the other two not specified.

LOCATION: *Route 2 and Old Greenfield Road*

Accident Trends from 1998 to 2000.

- There were four crashes. A closer review revealed that the crashes were not directly related to the geometry of the intersection, as four of the five crashes were single vehicle crashes. Old Greenfield Road intersects the Mohawk Trail at a relatively sharp curve. Two of these crashes occurred under “snowy” road conditions, and one under “wet” road conditions, indicating that drivers may have been driving too fast for the road conditions and lost control.

LOCATION: *Mohawk Trail and Colrain-Shelburne Road*

Accident Trends from 1998 to 2000.

- This intersection has also been raised as a hazardous intersection. However, only two crashes were specifically identified as occurring at this location during the three-year period.
- In the fall of 2001, MHD District 1 undertook a brief traffic study of this intersection. The study included a review of crash data, a capacity/delay analysis of the operation of the intersection as well as observations of the traffic operation and geometric conditions. The study concluded that the intersection was operating safely and efficiently in accordance with their standards and that no special treatment was warranted. The report stated that MHD would continue to monitor the intersection for any unusual crash patterns.

Buckland

Only a little more than one half mile of the Mohawk Trail travels through the town of Buckland. However, within that section of the road three separate roadways intersect with it. These roads are State Street (Route 2A), Creamery Avenue and the Route 112 (South) connector. A total of eleven crashes occurred along this section of Route 2 over the three-year period, which averages to fewer than four per year.

LOCATION: *Mohawk Trail and State Street*

In 2000 the FRCOG completed a more in depth analysis of county-wide crash data from 1995 through 1997 (FRCOG, 2000), which ranked the intersection of the Mohawk Trail and State Street in Buckland as the sixteenth most hazardous intersection in the County, primarily due to the severity of crashes occurring at the intersection. More recent data indicates that this intersection would not receive a similar ranking due to a lower number and severity of the crashes between 1998 and 2000. Only two crashes, both resulting in property damage were reported as occurring at this intersection.

LOCATION: *Mohawk Trail and Route 112 (South)*

Three crashes were reported to have occurred at the intersection of the Mohawk Trail and the Route 112 (south) connector. Again, the low number and severity of crashes would not rank this intersection as a hazardous one.

Charlemont

In Charlemont, the crash location descriptions were quite vague. In 2000, all fifteen reported crashes did not provide a location description other than the crash occurred on Route 2. The crash data for 1998 and 1999 provide a slightly better level of detail. Route 8A intersects the Mohawk Trail

TABLE 6.12

Crash Statistics along Route 2 for the ten-year period, 1990 through 1999

Byway Community	Savoy	Florida	Clarksburg	North Adams	Williamstown	Total
Number of Reported Crashes	43	120	20	783	356	1,322
Crash Severity						
Property damage Only	23	72	13	475	204	787
Injury	20	43	7	285	144	499
Fatality	0	3	0	2	1	6
Crash Type						
Single Vehicle	34	71	13	179	64	361
Multiple Vehicle	9	49	7	604	292	961
Road Conditions						
Snowy/Icy	7	30	1	113	25	176
Wet	28	35	6	188	88	345
Dry	8	52	13	468	234	775
Unknown	0	3	0	14	6	23
Light Conditions						
Daylight	30	75	15	532	263	915
Dark	10	33	5	199	66	313
Dawn or Dusk	3	10	0	42	13	68
Unknown	0	2	0	10	14	26

Source: MassGIS "Allaccid 9909" datalayer, verified by BRPC.

in Charlemont Village Center at two locations. Route 8A from the north in the center of the village and from the south on the western edge of the village. Two crashes were described as occurring at the intersection of the Mohawk Trail and Route 8A south and one at Route 2 and Route 8A north. An additional four crashes have the description of Route 8A, but do not specify which of the two intersections. Five of the seven crashes involved property damage only and, the other two resulted in injuries to one or more of those involved. Concerns about the intersection at Route 8A south have been raised and although this crash data is inconclusive, a more detailed review may be warranted.

Intersections recommended for future monitoring or further study

- Commercial area to the west of the Rotary in at the intersection of Route 2, Interstate 91, and Route 2A in Greenfield.
- Safe access to the commercial and retail establishments along the easternmost ½ mile of the Byway is of concern. It is often difficult for vehicles to make left turns out of the large-scale retail establishments located on both sides of Route 2.
- Intersection of Route 2 (Mohawk Trail)/Colrain-Shelburne Road in Shelburne
- Intersection of Route 2 (Mohawk Trail)/Route 2A (South Maple Street) in Shelburne

- Intersection of Route 2 (Mohawk Trail)/ Route 2A (State Street) in Buckland

Berkshire County

Sections of the Berkshire County section of Byway, are famous for dramatic accidents. The Hairpin Turn is especially known for the truck that rammed into the front door of the Golden Eagle restaurant and the fuel truck that ran into the bedrock outcrop and burst into flames, killing the driver. In addition, the curve at the confluence of Manning Brook and the Cold River is locally known as “Dead Man’s Curve” for the number of unsuspecting drivers who have gone over the edge due to driver error or a sudden shift in the load of the truck. A third site of recent accidents is a sharp turn just below and east of the Eastern Summit. Driving west, this right-hand curve comes up suddenly on drivers in an area where the past several hundred feet of road is relatively straight and drivers have gained speed and confidence. Because the curve sneaks up on drivers, local residents would like to see more additional warning signs placed ahead of the curve. Although they are not advocating the elaborate type of signage that is placed near the Hairpin Turn, it does not seem unreasonable to consider some additional signs appropriate to the site.

In Berkshire County, there were 1,322 accidents within the Byway Study Area between 1990 and 1999, according to registry records. There are two areas along the Byway that are the scene of a significant percentage of crashes. In all, 59% of the crashes occurred in North Adams. The intersection of Eagle Street and Union Street had a relatively high number of accidents within this period, with a total number of 43. Of those, 67% involved Property Damage (29 accidents) and 30% involved Injury Accidents (13 ac-

cidents). As a reminder that not all accidents can be blamed on wet weather conditions, 30 out of the 43 occurred during dry weather conditions.

Williamstown was a second area of high accident rates, with 27% of the total accidents reported. Of the 356 crashes, 62 occurred at the Main Street / North Street intersection, which is the intersection at the eastern end of Field Park. Of those, 44 (60%) occurred during daylight hours and dry weather. This intersection is part of an unusually designed rotary with poor signage, and because this is the intersection of two main arteries in northern Berkshire County (Route 2/Main Street and Route 7/North Street), the high incidence of accidents can be partially attributed to tourists unaccustomed to the traffic flow. This area is of concern to the Town, as noted in the Transportation section of the Draft Master Plan for Williamstown, Massachusetts. In an effort to remedy the situation, the Draft Master Plan includes preliminary designs to reconfigure Field Park and redesign the intersection.

Traffic Calming and Traffic Flow

Franklin County

Traffic calming strives to achieve a better balance between the needs of the motor vehicle and other modes of transportation such as bicycles and pedestrians and in the process often creates a more pleasing environment that would support and complement the scenic qualities that make it a scenic byway.

Traffic Calming through Charlemont Village Center

A 1.2-mile section of the Mohawk Trail travels through the Charlemont Village Center. The Town has expressed an interest in implementing roadway design measures aimed at reducing the speeds

MAJOR FINDING



Traffic and congestion is a concern in some areas (notably in Greenfield, Shelburne Falls and the North Adams/Williamstown strip).

of vehicles traveling through the village center on the Mohawk Trail. The Mohawk Trail is part of the National Highway System, is maintained by MHD and carries moderate traffic volumes. Therefore, the road design must comply with design standards that are stricter than those for a road with lower traffic volumes and is maintained by a town. The village center is also part of the Charlemont Village Historic District, and therefore any work must be completed in a manner that is sensitive to this designation.

In April 1999 the Charlemont Selectboard expressed an interest to the FRCOG in participating in a study to evaluate traffic calming measures, specifically to reduce vehicle speeds in the village center. At that time MHD District 1 anticipated starting the design work for the rehabilitation of Route 2 in Charlemont in the near future. Consequently, the exploration of traffic calming measures through Charlemont Village Center and the design of the roadway reconstruction were coupled together.

In July 1999 the FRCOG conducted traffic counts at three locations within the Town Center that showed 85th percentile¹ speeds between 8 mph and 20 mph above the 30 mph speed limit. This data confirmed the perception expressed that vehicles are traveling at excessive speeds through the village center. In August 1999, the FRCOG met with MHD District 1 to discuss traffic calming measures and their applicability to Route 2. In November 1999, the FRCOG met with the Selectboard to present the traffic

count data and discuss traffic calming. MHD began preliminary work on the design of Route 2 at the end of the summer in 2000. In August 2000, the FRCOG facilitated a meeting with MHD, the town and local business owners to discuss the issues of concern and potential solutions. MHD left that meeting with a list of potential measures to investigate further. These measures include: gateway treatments (islands placed in the center of the roadway) which notify drivers of a change in the surrounding environment in which they should slow their speed; pedestrian refuges (islands at crosswalks) which shorten the distance that pedestrians must cross and also narrow the roadway thereby causing the motorists to reduce their speeds; and various line painting and pavement treatments to make the crosswalks more conspicuous to drivers and the travel lanes appear narrower, thus inducing slowing down. In October 2000, a site visit was organized with the participants of the August 2000 meeting to specifically look at crosswalk locations within the village center. This site visit identified potential new crosswalk locations and improvements to sidewalk connectivity that MHD would investigate incorporating into the design.

Between the fall of 2000 and the spring of 2002 the project was put on hold, and little work was completed on the design. The design of a Park and Ride lot at the eastern edge of Charlemont that was originally to be included with the redesign of the whole length of Route 2 has been put on a fast track schedule for completion and is currently under design. It is expected that this design will be completed by mid-2002, and that sometime during the summer or fall of 2002 the design will begin on the larger project, which includes the village center.

¹ 85th percentile speed indicates the speed at which 85 percent of the recorded vehicles were going at or below. The 85th percentile speed "...is the principal value used for establishing speed controls. This method assumes that the majority of motorists are prudent and capable of selecting safe speeds...." – MHD Procedures for speed zoning on State and Municipal Roadways, 1998.

Berkshire County

Corridor Access Management along the North Adams – Williamstown Commercial Strip

Residents and business owners along the commercial area on Route 2 between North Adams and Williamstown have voiced their concerns about the increase in traffic congestion, the increase in difficulty in exiting driveways and side streets, and the decrease in traffic flow along this stretch of Route 2. This is a result of the increase in commercial businesses located along the road or on side streets intersecting with the road. These businesses generate traffic, which interacts and slows down the already high volume of local and through traffic on this busy local artery. This concern has recently been publicly restated in Williamstown as local leaders and residents work to develop a new Master Plan for the town.

Access Management is the coordination of land use controls and design standards with roadway design and infrastructure to ensure that existing and future land uses are accessible and the road provides safe and adequate traffic operations. Access Management measures generally fall into two categories: Policy (Regulatory) Techniques and Geometric (Design) / Traffic Operations Techniques.

Regulatory Techniques are land use measures exercised by local permit granting authorities and include these control measures:

- Statutory authority to limit access to certain highways (driveway permits)
- Zoning bylaws
- Subdivision Regulations
- Site Plan Review

Design Techniques include measures to control vehicular movement in the roadway area, including measures to facilitate traffic flow and control turning movements, such as:

- Physical design of roadways and driveways
- Physical design to control traffic operations.

Four case study areas, each representing a specific access problem, were selected along the Byway to illustrate Access Management techniques. These case studies documented current access management problems, analyzed potential solutions, and recommended access management techniques to remedy the problems. For the most part, the Access Management techniques that were recommended were design techniques. Aerial photographs of the four case study sites were prepared to document existing conditions and recommended improvements. The sections of road represent different types of conditions, which are common in many other Berkshire County communities. They are briefly described below and a more detailed narrative of each case study and recommendations to improve current conditions are included in Appendix 6E.

1. Dense Residential Section with traffic speed and pedestrian safety concerns

LOCATION: *Rt. 2 between High
Street and Brown Street,
North Adams*

This is a densely settled residential area where local access competes with through traffic. The speed limit here is 35 mph, but vehicles routinely travel faster. Sight distance is limited. Parking is only allowed on the north side of the road and many houses have little on-site parking, so residents regularly walk across the highway to and from their cars.

Recommendations include techniques to: increase crosswalk visibility, enhance pedestrian visibility, and heighten speed limit awareness.

2. Residential/Commercial uses with pedestrian safety concerns

LOCATION: *Rt. 2 between*

Demond Avenue and Greylock Avenue, North Adams

This section of Route 2 is a mix of residential, commercial and industrial uses. Many of the commercial uses are high traffic generators, such as the Price Chopper supermarket, a convenience store and fast food restaurants. Dense subdivisions of modest post-WWII homes are located on both sides of the Byway. The road here is three lanes wide (two travel lanes and a center turning lane) with shoulders. Local residents have stated that crossing the street on foot or bicycle to access the commercial businesses and restaurants is dangerous; the road is wide with no refuge and the high number of side streets and driveways make it a busy section of road with a high number of turning movements.

Greylock Avenue was recently the scene of a pedestrian fatality, and as such there is political and local interest in pedestrian safety improvements.

Recommendations include techniques to: limit entrances/exits, add and/or relocate crosswalks, increase crosswalk visibility, and adding pedestrian safety warning signs.

3. Residential homeowners concerned with cut-through traffic on side streets along the Byway Study Area

LOCATION: *Residential*

neighborhood on north side of Rt. 2, Demond Avenue/Greylock Avenue over to Protection Ave, North Adams

Traffic cuts through the residential neighborhoods on the north side of Route 2 to reach Massachusetts Avenue and vice versa. Drivers cut across Roberts Drive, Demond, Greylock, and Protection avenues. This is mainly a concern for people on the more residential streets, Demond and Greylock

avenues. The alignments at each end of Roberts Drive may make the intersections more dangerous than they would be otherwise. This cut through traffic may be partially attributed to the traffic volumes and congestion that currently exists along this portion of the Byway.

Recommendations include techniques to: improve flow of traffic on Route 2, add signs rerouting cut-through traffic on less residential road, and signs and structures to discourage or prohibit turning vehicles.

4. Strip mall development and pedestrian safety concerns

LOCATION: *Rt. 2 in the Colonial*

Village Plaza/Adams Road area, Williamstown

This area has primarily been developed in the last thirty years. The original low-density strip development has become more dense, almost an outgrowth of the developed part of town. Route 2 still looks like a low-density highway even though its usage seems characteristic of a more developed area. On one side of the road there is a large rehabilitation/assisted living housing center and a bus shelter, and on the other side are retail stores, a pharmacy, and other commercial development. The crosswalk is neither located near the bus shelter nor near the rehabilitation/assisted living center, and anecdotal evidence suggests that pedestrians routinely cross at the more convenient location near the Mobil Station and the bank. Local residents have stated repeatedly that pulling out onto Route 2 or crossing it on foot, across three travel lanes, is dangerous, given the travel speed of most vehicles.

Recommendations include techniques to: limit entrances/exits, add and/or relocate crosswalk, extending the sidewalk, increase crosswalk visibility, and calm traffic.

Although these recommendations are specific to the four case study sites,

they may be applicable to other sites suffering similar traffic and pedestrian safety conditions. We encourage local citizens and officials to review the recommendations in Appendix 6E made for the four case studies; perhaps some of the recommendations will be relevant to other sections of roadway in other areas of their communities.

Bridge Inventory

Bridges are a critical component of any transportation system. Maintaining the safety and functionality of bridges is a top priority. Bridges are predominantly under the domain of the state. Bridges are inspected by MHD, and are ranked according to standards established by the American Association of State Highway and Transportation Officials (AASHTO). The purpose of the AASHTO rating is to provide a standard to compare the status of bridges in a region and across the country. The ratings are based on factors such as its structural integrity, the road's functional classification, and the designed purpose of the bridge. The ratings are used to determine eligibility for reconstruction or replacement.

Bridges are also further classified as “structurally deficient” or “functionally obsolete”. These classifications can raise the bridges’ position on the priority list for repair/replacement. Bridges are determined to be “structurally deficient” if they fall below specific thresholds. A “structurally deficient” classification may indicate that a vital, but relatively minor, repair is needed or that a bridge is in need of more serious rehabilitation. Safety concerns are paramount.

The classification of a bridge as “functionally obsolete” means that it is inadequate to fulfill its current function. An example would be a four-lane road leading to a two-lane bridge. The bridge it-

self may be structurally sound, however, its use is limited in some capacity.

Information regarding whether a bridge has a posted weight or height limit is important in assessing a region’s transportation network. Weight restrictions are important determinants affecting freight routes and should be addressed to improve a region’s accessibility to goods, people and economic opportunities. It is also important for local fire departments with heavy fire equipment.

The historic character and design of the bridges within the Mohawk Trail Scenic Byway study area should be taken into consideration during rehabilitation/reconstruction work. Table 6.13: Inventory of Bridges in the Byway Study Area in the Scenic Byway Study Area provides data for each of the bridges located within the Byway study, as listed in the 1999 MHD Bridge Listing. This information includes the condition rating, structural evaluation, American Association of State Highway and Transportation Officials (AASHTO) ratings and bridge status.

Franklin County

There are 29 bridges within the Byway study that are under the jurisdiction of MHD. Many of these bridges were constructed prior to 1950. A number of these bridges have been reconstructed. Five of the bridges are classified as structurally deficient, and nine are classified as functionally obsolete.

In addition, the Bissel Bridge is an historic covered bridge located in Charlemont and within the Byway study area. This bridge is a covered bridge that spans the Mill River and is located on Route 8A near Route 2. The bridge was built in 1951 on the site of a covered bridge that was built in the 1800s. The existing bridge is 60-feet long.

TABLE 6.13

Inventory of Bridges in the Byway Study Area in Franklin County

Town	Bridge Number	Road/Location	Under Bridge	Owner
Buckland	B-28032	Route 2	Route 112 & Deerfield River	State
Buckland	B-28-022	Bridge Street	Deerfield River	State
Buckland	B-28-009	Route 2	Deerfield River	State
Buckland	B-28-004	Route 112, Ashfield Road	Clesson Brook	State
Buckland	B-28-002	Route 112, Ashfield Road	Clarks Brook	State
Charlemont	C-05-05T	8A North Heath Road	Mill Brook	State
Charlemont	C-05-053	Zoar Road	Deerfield River	Town
Charlemont	C-05-049	Burrington Road	Hartwell Brook	Town
Charlemont	C-05-048	Tinney Road	Hartwell Brook	Town
Charlemont	C-05-042	East Oxbow Road	East Oxbow Brook	Town
Charlemont	C-05-029	Maxwell Road	Maxwell Brook	Town
Charlemont	C-05-027	South River Road	Albee Brook	Town
Charlemont	C-05-026	South River Road	Bozrah Brook	Town
Charlemont	C-05-024	Route 2	BMRR	State
Charlemont	C-05-012	Route 2	Deerfield River	State
Charlemont	C-05-011	Route 2	Mill Brook	State
Charlemont	C-05-010	8A West Hawley Road	Deerfield River	Town
Charlemont	C-05-005	8A North Heath Road	Mill Brook	Town
Charlemont	C-05-004	Cold River Road	Cold River	Town
Charlemont	C-05-003	Rowe Road	Pelham Brook	Town
Charlemont	C-05-002	Zoar Road	Pelham Brook	Town
Greenfield	G-12-060	191 NB	Route 2 WB Rotary	State
Greenfield	G-12-060	191 SB	Route 2 Westbound	State
Greenfield	G-12-059	191 NB	Route 2 Eastbound Rotary	State
Greenfield	G-12-059	191 SB	Route 2 Westbound Rotary	State
Greenfield	G-12-058	191 SB	BMRR	State
Greenfield	G-12-058	191 NB	BMRR	State
Greenfield	G-12-035	Route 2	Old Shelburne Road	State
Greenfield	G-12-007	Route 2A, Lower Main St	Green River	State

Source: MHD April 1999 Bridge Listing and the Franklin County Transportation Improvement Program FY 2000-2005 * Please Note: SD = Structural Deficiency; FO = Functionally Obsolete

Berkshire County

There are 27 bridges located in the one-mile wide corridor study area in the Berkshire County section of the Byway (see Table 6.14). Among those, 10 bridges are located directly on the Byway. The bridge on Galvin Road in North Adams, in the Blackinton His-

toric District, is an iron bridge constructed in 1886. Galvin Road is a local road that branches off of Route 2 in the western section of the city and the bridge spans the Hoosic River one block north of the Byway. Although the bridge is within the Historic District, it has not been nominated as an individual historic structure. The

Functional Class	Year Built/Rebuilt	AASHTO Rating	Deficiency*	TIP Listed**	TIP Cost Estimate	TIP Fiscal Year
Rural Principal Arterial	1954	49	FO	N		
Rural Major Collector	1890, 1994	54	FO	N		
Rural Principal Arterial	1954	89	N			
Rural Major Collector	1938	80	N			
Rural Major Collector	1939, 1982	62	SD	N		
Rural Major Collector	1995	71	FO	N		
Rural Minor Collector	1987	99	N			
Local Road	1920, 1940	59	SD	Y	\$118,400	2001
Local Road	1940	79	N			
Local Road	1940	75	N			
Local Road	1939	21	SD	N		
Rural Major Collector	1939, 1960	70	N			
Rural Major Collector	1938, 1960	17	SD	Y	\$302,000	2004
Rural Principal Arterial	1985	93	N			
Rural Principal Arterial	1955	91	N			
Urban Principal Arterial	1938	72	N			
Rural Major Collector	1944	77	N			
Rural Major Collector	1950	40	SD	Y	\$530,000	2001
Local Road	1959	79	N			
Rural Major Collector	1939, 1992	81	N			
Rural Major Collector	1938	63	FO	N		
Interstate	1966	91	FO	N		
Interstate	1966	91	FO	N		
Interstate	1966	91	FO	N		
Interstate	1966	91	FO	N		
Interstate	1964	67	FO	N		
Interstate	1964	75	FO	N		
Rural Principal Arterial	1951	83	N			
Urban Principal Arterial	1957	94	N			

North Adams Historic Preservation Plan of 1980 specifically noted that the bridge is worthy of such distinction and recommended that it be nominated for the National Register of Historic Places. It is currently in disrepair and is closed to vehicular traffic. The Blackinton Neighbor's Association is interested in restoring and repairing the bridge to bring it up to code for bicycle and pedestrian use, but recent in-

TABLE 6.14

Inventory of Bridges in the Byway Study Area in Berkshire County

Town	Bridge Number	Road/Location	Under Bridge	Owner
Savoy	S06011	Blackbrook Road	Black Brook	Town
Florida	F05005	Route 2	Cold River	State
Florida	F05006	Route 2	Cold River	State
North Adams	N14020	McCauley Road	Hudson Brook	City/Municipal
North Adams	N14009	Holden Street	N. Branch Hoosic River	City/Municipal
North Adams	N14010	Eagle Street	N. Branch Hoosic River	City/Municipal
North Adams	N14014	Route 8	N. Branch Hoosic River	State
North Adams	N14015	Route 8	N. Branch Hoosic River	State
North Adams	N14012	Route 2 & 8, Union Street	N. Branch Hoosic River	State
North Adams	N14013	Route 2 & 8, Union Street	N. Branch Hoosic River	State
North Adams	N14001	Ashton Avenue	Hoosic River	City/Municipal
North Adams	N14008	Marshall Street	N. Branch Hoosic River	City/Municipal
North Adams	N14019	Route 8	S. Branch Hoosic River	State
North Adams	N14018	Route 8 (Hadley Overpass)	Railroad	State
North Adams	N14007	Brown Street	Hoosic River	City/Municipal
North Adams	N14040	Notch Road	Notch Brook	City/Municipal
North Adams	N14016	Route 2	Hoosic River	State
North Adams	N14004	Protection Avenue	Hoosic River	City/Municipal
North Adams	N14017	Route 2	Hoosic River	State
North Adams	N14025	Route 2	Notch Brook	State
North Adams	N14032	Route 2	BMRR	State
North Adams	N14039	Route 2	Route 8 & Hoosic River	City/Municipal
Williamstown	W37015	Route 2	Green River	State
Williamstown	W37005	Route 7	Hemlock Brook	State
Williamstown	W37010	West Main Street	Hemlock Brook	Town
Williamstown	W37011	Bulkley Street	Hemlock Brook	Town
Williamstown	W37024	Belden Street	Hemlock Brook	Town

Source: MHD April 1999 Bridge Listing, and the Franklin County Transportation Improvement Program FY 2000-2005

* Please Note: SD = Structural Deficiency; FO = Functionally Obsolete ** Tip listings taken from BRPC TIP FY 2002-2007.

formation on the condition of the bridge indicates that it is not feasible to rehabilitate the bridge even for light pedestrian use.

Rail Facilities

Franklin County

The rail lines that are located in the Mohawk Trail Scenic Byway study area and located along the Deerfield River are used for freight transportation only. The rail line is the main east-west

Functional Class	Year Built/Rebuilt	AASHTO Rating	Deficiency*	TIP Listed**	TIP Cost Estimate	TIP Fiscal Year
Minor Collector	1939	61				
Rural Arterial	1955	79				
Rural Arterial	1976	28				
Urban Local	1921	2	SD			
Urban Collector	1976	98				
Urban Arterial	1957	32	SD			
Urban Arterial	1955	95				
Urban Arterial	1948	82				
Urban Arterial	1956, 1983	77				
Urban Arterial	1958, 1983	75				
Urban Local	1985	100				
Urban Collector	1956	80				
Urban Arterial	1966	94				
Urban Arterial	1941	74	FO	Yes	\$4,000,000	After 2007
Urban Collector	1952	87				
Urban Local	1960	92				
Urban Arterial	1934, 1958	70	Yes		\$1,600,000	After 2007
Urban Local	1950	36	SD			
Urban Arterial	1959	89				
Urban Arterial	1959	87				
Urban Arterial	1882, 1930	74	FO	Yes	\$200,000	After 2007
Urban Arterial	1959, 1992	77				
Urban Arterial	1939	94				
Urban Arterial	1924	65	FO			
Urban Local	1976	99				
Urban Local	1985	99				
Urban Local	1992	87				

rail line traveling from Deerfield. The rail line is currently owned by Guilford Rail Systems (GRS), formerly the Boston and Maine Railroad. The line is the primary route into northern New England from the west, and is now used for freight transportation only. From the large freight yard in East Deerfield, the runs through Greenfield to the Deerfield River valley in West Deerfield, which it follows through Shelburne Falls and Charlemont until

it exits the valley at the Hoosac Tunnel in the town of Florida.

Shelburne Falls has a five-track freight yard adjacent to the GRS main line. This yard is home to the Shelburne Falls Trolley Museum, which operates a fully restored trolley car. The trolley car was built in 1896 for the Shelburne Falls and Colrain Street Railway. The museum has become a popular tourist attraction, and is in negotiation to acquire the rail yard from its private owner. The exit-

ing historic freight house was built in 1868 when the railroad first came through Shelburne Falls. This freight house remains on the site and when acquired and restored will serve as the main building for the museum,

The rail yard is the east-west main line with approximately one half mile of track, good ground storage, and some warehousing. The museum intends to maintain sufficient trackage to enable the shipment of freight through the yard should the demand evolve. The yard was last used for freight transloading in 1987. The cost of acquisition and restoration is estimated to be approximately \$700,000.

Berkshire County

This rail line runs through the Hoosac Tunnel, carrying approximately 10 million gross tons per year. A feeder line from North Adams to Adams carries less than 1 million gross tons per year. It is important to note that the Guilford Corporation's railway right-of-way between North Adams and Williamstown consists of one active train track and one lane where the tracks have been removed. Bicycling advocates are interested in creating a "trails with rails" pathway along a portion of this corridor. The rail lines in the Berkshire County section of the Byway exclusively carry freight; the nearest passenger rail service is in Pittsfield, 20 miles to the south.

Public Transportation Services

Franklin County

In Franklin County there are two public transportation service providers: the Franklin Regional Transit Authority (FRTA) and the Greenfield Montague Transportation Area (GMTA). Regularly scheduled public transit service to

the Mohawk Trail corridor is limited. The FRTA provides service between Court Square in Greenfield and Charlemont Academy. The service operates during the school year (September through the end of May) Monday through Friday. The schedule includes one trip to Charlemont in the morning and two trips in the afternoon with only one trip in the afternoon on Friday. The service makes a stop in Shelburne Falls.

Park and Ride Lot in Charlemont

Due to Franklin County's dispersed population and distance to employment centers, carpooling is a more feasible transportation option than some other choices such as fixed route transit. Carpooling becomes even more attractive if a convenient and secure park-and-ride facility is available for commuters. The development of such a facility along the Byway is underway, and will be located on a currently vacant, MHD-owned parcel of land in Charlemont adjacent to Route 2 approximately ¼ mile from the Route 112 south intersection.

A joint project between the FRCOG and MHD District 1, this project will formalize a park-and-ride facility that already operates there informally. Plans call for 46 parking spaces, a U-shaped bus pull-in with a waiting shelter, landscaping, and access to the adjacent Deerfield River. The park-and-ride lot will be paved, lighted (using solar powered lights), and plowed during the snow season. Additional landscaping could be provided at the site to soften the internal parking areas, but a local "adopt-a-site" effort is required to commit to its upkeep and maintenance before any plantings are installed. Otherwise, plans call for concrete medians in the parking areas, with landscaping provided around the perimeter of the lot.

This park-and-ride facility offers transportation alternatives to the area's commuters, and is one tool to help manage

traffic volumes on the Byway. However, its benefits are not limited to commuters. It is envisioned that the facility can also support events in the Shelburne Falls downtown area by providing parking for either employees of, or visitors to, the Village by operating a shuttle between the two areas. Construction of the park-and-ride facility will be completed either during the fall of 2001 or the spring of 2002, depending on the length of the construction season due to weather.

Berkshire County

The Berkshire Regional Transit Authority (BRTA) provides public transit to the residents of Berkshire County, including services from Northern to Central and Southern Berkshire Communities. Its services in the Byway region are limited to North Adams and Williamstown; there is no bus route through Florida or Savoy.

Hourly bus service is available on several routes that travel through the Corridor Study Area. These are: Bus #3 between North Adams and Williamstown on Route 2, Bus #31 from downtown North Adams to the Wal-Mart on Route 8, Bus #32 between downtown North Adams and the North Adams Regional Hospital, Bus #33 between downtown North Adams and the Mohawk Forest subdivision, and Bus #1 between North Adams and Pittsfield. Bus #1 is timed to connect to buses for the rest of the BRTA service area. Overall, the ridership on BRTA has been stable and the bus service between North Adams and Williamstown (Route #3) is especially well used.

Although there are a small number of bus stops with shelters, passengers may hail down the bus or request a stop at almost any spot along the Route they choose. There are three bus shelters within the Byway Study Area, including one located directly along the Byway. In general, buses run between the hours of 6:00 a.m. and 6:00 p.m. The

BRTA can be contacted for specific information at (800) 292-BRTA.

In 2001 BRPC conducted the Northern Berkshire Community Transit Study to inventory the range of transportation options for residents who do not own a car and identify a range of potential options to improve access. This was a joint project with BRTA and coordinated with the Northern Berkshire Community Coalition. As a result, the Transportation Association of Northern Berkshires Inc, (TANBI), a single point of contact to connect all residents with transportation providers, is currently being developed. The TANBI will refer callers to existing transportation providers and coordinate, or broker, rides with a focus on those seeking employment and training

Non-Motorized Transportation Resource Assessment

All public ways in Massachusetts may be legally used for walking, bicycling, and other non-motorized modes of transportation except for posted limited-access and express state highways. The Mohawk Trail is not generally encouraged for inexperienced bicyclists or family outings with children because of areas with narrow shoulders and the high speeds at which vehicular traffic travels, including commercial trucks. The areas that do not have shoulders often pose particular dangers for bicyclists because these sections of the roadway are often at the windiest and steepest areas. Bicycling routes for expert recreational riders in the larger Scenic Byway region is discussed in more detail in the Recreational Section of the Plan.

MAJOR FINDING



Speeding motor vehicles threaten the safety of vehicles, pedestrians and bicyclists along the Byway.

Pedestrian Access

In Franklin County the Byway is generally not well suited for pedestrian use. The road generally has a shoulder, but there is not sidewalk and the vehicular traffic travels at about 50 miles per hour. Shelburne Falls, located off of Route 2 but included in the byway study area, is extremely pedestrian friendly and conducive to pedestrian activities. Charlemont Center is also of a scale that is conducive to pedestrian access. Route 2 is the main road through Charlemont Center and has sidewalks through this section. However, pedestrian safety is a major concern in this area because of the high speeds traveled by the vehicles. The town of Charlemont is interested in incorporating pedestrian safety measures into road design for the reconstruction of Route 2 through the town to be completed in the near future.

The Scenic Byway travels through the downtown area of Williamstown, which is an area of heavy pedestrian traffic. Williams College buildings are located on both sides of the Byway, so there are an unusually high number of students crossing the street from one building to another at all times of the day and evening. In addition, the shops, restaurants and other businesses located on Spring Street and Water Street, which both intersect the Byway, are destination areas for bicyclists and pedestrians. The town has just purchased a "Lightguard Crosswalk System." In this system, flickering amber lights are embedded into the pavement along the painted lines of the crosswalk. These lights, which can be seen as far away as 1,000-1,500 feet, are activated when a person walks through the two free-standing bollards at the entrances to the crosswalk. Although it is unknown at this time how effective this new crosswalk system will be, it does illustrate the town's dedication to pedestrian safety.

Bicycle Access

Franklin County

Road bicycling is an issue of much concern in the rural areas of the Scenic Byway. While some portions of the Mohawk Trail have wide shoulders that will accommodate road cycling, much of the Byway is narrow and winding, posing potential dangers to bicyclists. The road is particularly dangerous for less experienced or young bicycle riders. It was noted that the section of the Byway between Shelburne and Greenfield is often used as part of a training route by local groups of avid and more experienced bicyclists. Their concern was that debris sometimes accumulates along the shoulders of the road and poses a hazard.

While Route 2 itself is not appropriate for family bicycling, there may be more suitable roads for touring by bicycle that intersect the Scenic Byway and provide opportunities to explore the region. Specific routes off of the Mohawk Trail have not been fully evaluated; however, the suggestion of developing a network of bicycling loops has been made at numerous times during the Corridor Management Plan Development Process. A few specific suggested routes have been mentioned such as Shelburne Falls/Conway Road and East Hawley Road. Bicycle route signs have been installed at two locations on Route 112 in Buckland near the intersection of Route 2. This road has adequate shoulder to serve as a part of a longer bicycle touring routes off of the Byway.

Berkshire County

Bicycling in much of Savoy, Florida and to some extent North Adams is also considered less than ideal for many types of bicyclists, due to blind corners, steep terrain, and an inconsistent shoulder width and lack of sidewalks. There is, therefore, a great deal of interest in creating bicycle and pedestrian routes, especially in the more urbanized area of the Byway in North

TABLE 6.15

Local Populations in Northern Berkshire County that May Have Limited Transportation Options

Community	Percent of residents younger than 18 or over 65 years	Percent Disabled Population, (ages 16-64)*	Percent Home Owners/Renters Paying greater than 30% of Income for housing**
Florida	37	6	7
North Adams	40	9	14.3
Williamstown	36	<.1	6

*Percent of population classified as having a work disability, BRPC, 1997.

**1997 BRPC, 1997.

Adams and Williamstown. In addition, the Commonwealth of Massachusetts and the United States Department of Transportation (USDOT) have prioritized including such routes in transportation planning. The BRPC is in the midst of completing a Draft Walking and Bicycling Transportation Plan. This plan gathers and analyzes information on a range of existing conditions and proposes a prioritized list of problem areas for projects or for further discussion by communities. The following discussion draws on that draft document and the Northern Berkshire Community Transit Study, previously conducted by BRPC.

People bicycle for short trips for a variety of reasons. Especially in good weather, a ten-minute walk to the store for a loaf of bread is a healthy, inexpensive, and environmentally friendly way to do an errand. For the fifteen percent of households in northern Berkshire County without a vehicle there may not be much choice of how to do errands. Other community attributes also make bicycling an important mode of transportation, as shown in Table 6.15. Improving the safety and convenience for walking and bicycling may be especially helpful for people with these challenges to getting around.

In an effort to quantify and evaluate the bicycling and walking transportation system of the county, BRPC applied the federal Bicycle Compatibility Index (BCI) methodology to the region. While this measure is designed

for bicyclists, many of the factors it measures relate to pedestrian compatibility as well. Using this methodology BRPC analyzed the Scenic Byway Corridor for its bicycling and walking compatibility. The purpose of this analysis is to identify areas along the Byway where improving the BCI to accommodate bicycles would be desirable.

The BCI methodology draws together factors that account for approximately 90% of the variability in how an average mix of bicyclists would experience a section of road. These factors include presence of shoulders more than three feet wide, sidewalks, high traffic volumes (separately evaluating percentages of trucks), speed of traffic, parking issues, and surrounding land uses. All of the sections listed in the table below are in the “Moderately Low” category, which can be thought of as a D on a report card, where the normal range is A (excellent) through F (failing). The numerical ratings are on a scale of 1 to 6, where the sections of road with the higher numbers are the least compatible sections for bicycling. There were no sections that had a lower rating than a D. See Table 6-16 and Appendix 6F.

The *Draft Walking and Bicycling Transportation Plan* also evaluated demand for bicycling and walking facilities, which is an estimation of how much such facilities are currently or might be used if they were in good condition. Demand factors included roads near a school or park, or in areas with high densities of households with

TABLE 6.16

Sections of the Mohawk Trail in Northern Berkshire County with Worst Bicycle Compatibility Index (BCI)

Community	Location & County Serial Number (CSN_2000)*	Level of Service (BCI)**	Brief Summary of Reasons for Rating
Florida	At the intersection of Rt. 2 and Strykers Road (227998)	D (3.47)	The speed limit is 50 MPH and the shoulder/sidewalk width is 2-feet wide
North Adams	From Brayton Street to Williamstown town line (198800)	D (3.49)	Traffic is fairly heavy in this residential area with a posted speed of 40 MPH
Williamstown	North Adams line/Galvin Rd. to Luce Road. (386100)	D (3.49)	Approximately 16,000 vehicles per day (ADT) use this road. It has a 40 MPH speed limit and a wide paved area that may encourage speeding.
Williamstown	Luce Road to Stratton Road (386000)	D (3.75)	2 lanes of traffic that passes through commercial areas—lots of turning cars and driveways through the walks
Williamstown	Stratton Road to the Eastlawn Cemetery (385900)	D (3.51)	This section enters the more developed part of Williamstown. It goes a short distance west of Colonial Ave.

*CSN_2000 is a unique identifier assigned by MHD for each section of road throughout Berkshire County.

**BCI Level of Service is comparable to a report card grade. The higher BCIs are the least compatible.

Please note that as of June 2002 these priority areas reflect technical analysis. The next steps will be to work with community leaders and interested citizens on reviewing the results. See Appendices for maps

TABLE 6.17

Sections of Mohawk Trail with Highest Priority for Investment

Community	Location and County Serial Number (CSN_2000)*	Priority**	Description
North Adams	Veterans Mem. Highway between Eagle St. and High St. (217200, 300, 216900, 216800)	8.60, 8.93, 8.39, 9.53	In addition to a history of accidents and access to community facilities, this is an area with very high rates of zero car households.
North Adams	State Rd. between the Hoosic River/ New St. and Phelps Ave. (199000)	8.27	There is a moderate rate of households with a vehicle and the wide travel width may tend to encourage high operating speeds.
North Adams	State Rd. between the Airport Dr. and Galvin Rd./Williamstown line (198800)	8.99	There are some areas of dense residential development interspersed with commercial areas, including a major supermarket.
Williamstown	Williamstown line/Galvin Rd. past Stratton Rd. to Colonial Ave area (386000, 100, 392500)	9.25, 8.49, 8.31	This is an area with fast moving traffic, a mix of dense residential and commercial development with many turning vehicles
Williamstown	Bingham St. to the intersection of Main St. & Spring Rd. at Field Park (385400, 500, 600,700)	8.03, 8.44, 8.57, 8.14	This section of road includes Williams College, some areas of dense residential development and relatively high rate of residents without vehicles. Parts of it are already in good shape for bicycling or walking.

*CSN_2000 is a unique identifier assigned by MHD for each section of road throughout Berkshire County.

**Priority is ranked 1-12, with the higher number having a higher priority rating.

zero vehicles. Steep terrain was included as a factor that reduces likely demand. The plan also gathered data on where accidents or crashes occurred involving a pedestrian or bicyclist. The BCI, demand, and accident

data were then combined to prioritize areas for bicycle or pedestrian improvements. The sections of road received a rating from 1 to 12, where the sections with the higher numbers would be areas where improvements

will be the most effective. In other words, priority areas with the higher number will likely result in the “biggest bang for the buck.” See Table 6-17 and Appendix 6G.

It is important to note that as of June 2002, when this Corridor Management Plan was being finalized, these priority areas reflect technical analysis and preliminary field verification. The next steps will be to work with community leaders and interested citizens on reviewing the results and determining if the technical analysis meets local needs and desires. Investing funds to improve the streets in these high demand areas has the possibility to make it safe and pleasant for the highest number people to walk or bicycle for the smallest investment of public dollars.

While the above work draws attention to some areas that may be a wise public investment, it should be noted that bicyclists and pedestrians are allowed on all roads in Massachusetts except those such as the Mass. Turnpike, where design considerations and posted signs prohibit them. Further, in Engineering Directive E-98-003 (in response to MGL Ch 87 Acts of 1996), it is required that:

Project design engineers shall use sound engineering practice in making reasonable provisions to accommodate bicycles and pedestrians in project designs. This generally includes assuring continuous paths of travel with smooth surfaces without obstructions or impediments. This Directive must be addressed on all projects at the 25% design level.

The Directive goes on to recognize some of the differences in reasonable accommodations for bicyclists as compared to pedestrians. Generally, pedestrians are likely to care more about factors such as separation from vehicles (such as sidewalks), shade, pleasantness of surroundings (such as removal of litter) and safe crosswalks. For more on the similar and different needs for bicyclists and pedestrians,

some resources are the Mass. Pedestrian Transportation Plan, the Mass. Statewide Bicycle Transportation Plan, and the federal Pedestrian and Bicycle Information Center (PBIC). Information from the PBIC, including a walkability checklist for communities, is available at www.pedbikeinfo.org.

Off-Road Paths for Non-Motorized Uses

Mountain biking is permitted on the many roads and trails in the Mohawk Trail State Forest and Savoy Mountain State Forest, and on designated trails in Mount Greylock State Reservation. The rugged terrain of the parks offers mountain bikers challenges of moderate to extremely difficult levels. At this time there are no established bicycle trails in gentler terrain for the less hardy bicyclists or for family biking within the Mohawk Trail Study Area.

Franklin County

The FRCOG has been working to implement a regional Bikeway System, which includes both shared roadway and bicycle path facilities. This bikeway system is called the Franklin County Bikeway and at this time only includes routes as far west as Greenfield. Future expansion plans will include any possible off-road connections within the Byway Study Area.

Berkshire County

In 1995 the Commonwealth of Massachusetts contracted with the Bicycle Coalition of Massachusetts to conduct a region-wide and statewide assessment of existing and proposed bicycle facilities. The result of the project was the Commonwealth of Massachusetts Bicycle Facilities Inventory, which inventoried existing facilities and routes, identified proposed facilities, and prioritized to the degree possible those that were transportation-based and most feasible. The inventory discussed

two possible areas within the Scenic Byway study area in Berkshire County where development of bicycle routes should be prioritized, including the Ashuwillticook Rail Trail between Pittsfield and North Adams and what was then referred to as the Trail of Peace between North Adams and Williamstown (now more likely referred to as an extension of the Ashuwillticook Trail). The vast majority of the Scenic Byway, between Greenfield and downtown North Adams, was not identified as a priority, presumably due to the varying degrees of shoulder width and condition, the steep grades and the winding nature of the road.

The Ashuwillticook Rail Trail is currently being constructed between Pittsfield and Adams, and there is hope that it will continue through to Western Gateway Heritage Park in North Adams and on through Williamstown.

The Berkshire Bike Path Council is a county-wide citizen's group with a goal of creating a bicycle path from Vermont to Connecticut. They were heavily involved in building community support for the Ashuwillticook

and are actively working with residents from North Adams and Williamstown to develop a bike path system that would connect the two communities. Local officials from both communities have indicated a strong support for the creation of such a bicycling route.

The Berkshire Bike Path Council is currently investigating potential routes for the bike path that would connect Williamstown to North Adams and south to Adams. Although the preferred and alternate routes have not yet been thoroughly investigated, preliminary studies suggest that some of the route could be located within the right of way of the rail line and some of the route could be located in a greenway along the Hoosic River. Much of the route would be within the Byway Study Area and provide additional recreational opportunities for visitors to the Byway. It is also important to note that a bike route in this region has the potential to be more than a recreational pathway; it most likely would also function as a transportation route, especially with the high number of college students in the two communities.

ISSUES AND RECOMMENDATIONS

Issues

- Safety along the roadway is a concern. Local residents are concerned with vehicular speed in Shelburne, Charlemont and Florida. Also, a dangerous curve below the Eastern Summit could use additional signage.
- There is a concern with bicycle safety on the roadway.
- The communities have expressed a concern that road improvements are not always completed in a manner that is in keeping with the rural character of the byway.
- There is a concern that the installation of too many signs can clutter the landscape along the roadway.
- There is an interest in finding additional safe bicycling routes off of but connecting to the Mohawk Trail.
- Too many signs can cause confusion for drivers and also detract from the scenic nature of the roadway.
- Maintaining the rural character of the towns along the byway.
- Route 2 is the main road through the centers of downtown Charlemont, North Adams and Williamstown. The towns share the concern that road improvements are completed in a sensitive manner and also are geared towards slowing the traffic down.
- The rural residential character of the road is abruptly transformed along Union Street in North Adams into a busy urban setting, complete with fast food establishments and supermarkets.
- Bicyclists and local residents and officials in Williamstown, North Adams and Adams are interested in developing a region-wide network of trails and extending the Ashuwillticook Rail Trail proposed routes in North Adams and Williamstown.
- Although a main east-west artery for northern Berkshire County, the North Adams-Williamstown corridor has developed into a heavily commercial corridor. Through traffic flow is impeded by vehicles turning in and pulling out of the numerous businesses along the roadway. In addition, exiting residential properties and side streets is increasingly difficult.
- Two major intersections along the Scenic Byway stand out for their relatively high number of accidents
- Although the LOS for portions of the Byway in Shelburne and Charlemont are below an optimum level, local residents do not want to see LOS standards “dictate” highway improvements, such as road widening, that would encourage drivers to increase their travel speeds.

Recommendations

- Williamstown and North Adams should coordinate a joint Corridor Access Management effort to improve traffic flow and property access along the commercial corridor connecting their two downtown areas.
- Complete improvements to pull-off areas that are in need of repairs to the apron areas.
- Construction of retaining walls and culverts along the Byway should be completed in a context sensitive manner.
- Support local efforts and potential Scenic Byway funding towards the development of a bicycle route between Williamstown and North Adams that would eventually connect with the Ashuwillticook Rail Trail in Adams.
- State and local official and residents should work cooperatively to insure that the scenic and historic qualities of the Byway are maintained or enhanced when road improvement projects are conducted. Alternative safety design techniques, such as those discussed in this section, should be seriously considered. During the design process, criteria to be evaluated in the long-term cost-benefit analysis should include tourism benefits of aesthetics and durability of the alternate design.
- Encourage future road resurfacing/reconstruction projects to be completed in a manner, which is sensitive to the historic and scenic nature of the roadway.
- Develop turn-off areas with a view of the Deerfield River in appropriate locations. In locations where there are several turn-offs located near one another eliminate some.
- Improve turn off area in the Greenfield section of the Byway.
- Consider the construction of a west-bound climbing lane in the section of the Byway that travels up Greenfield Mountain (east of the pull-off area). Slow moving trucks currently use the breakdown lane along this stretch of the road.
- Support the efforts of the town of Charlemont to reduce the speeds of traffic and improve pedestrian safety and accessibility in the downtown.
- Conduct a more detailed analysis to investigate safety, and possible traffic flow improvements at the traffic rotary in Greenfield.
- Continue to monitor crash incidences at the three major sites of accidents along the Byway (Rt. 2 & Rt. 2A in Shelburne, Rt. 2 & Rt. 8A in North Adams, and Rt. 2 & Rt. 7 in Williamstown) and explore possible mitigation measures.
- Support the development of the park and ride lot in Charlemont.
- Further explore opportunities for transit, incorporate park and ride lots to reduce traffic congestion and parking problems during peak periods.
- Consider installing additional warning signs at the right-hand curve east of and below the Eastern Summit.
- Investigate the increased use of electric, mobile speed displays as an enforcement tool. This is especially an interest in the town of Charlemont.
- Work with the Town of Williamstown in its efforts to improve traffic safety at the Main Street/North Street intersection at the eastern end of Field Park.
- Develop a map of bicycle touring routes connecting from the Mohawk Trail Scenic Byway. These routes should take into consideration roads that are scenic and have sufficient shoulders to accommodate bicycle touring.
- Also, explore opportunities to improve the roadway conditions for road cycling on Route 2 between Shelburne and Greenfield as this section of the road is currently being used by local groups of avid cyclists.