#### 4. Brookfield Transportation Chapter

#### Introduction

This section discusses the town's transportation network, including existing road conditions, alternative forms of transportation and an analysis of the transportation issues associated with new development. The Transportation Chapter includes recommendations for transportation policies and infrastructure improvements to create a more efficient transportation system and mitigate the impacts of new development.

Much of the information within this section comes from the 2008 Brookfield Open Space/Master Plan Survey, the Mass Department of Transportation, as well as the U.S. Census Bureau 2000.

#### Roadways - Maintenance Responsibilities

The Massachusetts Department of Transportation is responsible for maintaining the entirety of Route 9 through Brookfield, as well as Route 148. All other roads in Town (roughly 39 miles) are considered "local" and the Brookfield Highway Department is responsible for their maintenance. The town also has a number of private roads, many of them being dirt roads in the rural areas of Brookfield. It is the responsibility of the residents living on private roads to maintain them.

#### State Roads/Bridges – Planning for Improvements:

In most cases, major transportation projects are planned at the regional level. The Central Massachusetts Metropolitan Planning Organization (CMMPO) is the decision-making body responsible for planning, programming and funding for the federal-aid transportation projects in this region. The 10-member CMMPO is made up of representatives from three organizations; Mass. Dept of Transportation, the Central Massachusetts Regional Planning Commission (CMRPC), the Worcester Regional Transit Authority (WRTA). The CMMPO membership also includes six locally elected officials, one from each of CMRPC's six sub regions. CMRPC's transportation staff does planning for the CMMPO.

The CMMPO prepares an annual update to the Transportation Improvement Program (TIP) for the region. Each annual TIP lists projects at least four years into the future. The highway-related improvements included in the TIP are paid for through federal-aid funds provided to Mass. Dept. of Transportation by the Federal Highway Administration (FHWA). Projects slated for non federal-aid or State funding are also included in the TIP listing.

The most recent version of the CMMPO-endorsed Transportation Improvement Plan (TIP) covers a four year period (FY 2011 – FY 2014) and lists the following Federally-Funded programmed project in Brookfield in the FY 2014 element:

#### **Project 603486**

Brookfield – Reconstruction of Route 148 (Fishdale Road) from Molasses Hill Road to the Sturbridge Town Line including Webber Road.

- Programmed for \$2,800,000 in Surface Transportation Program (STP) funds

Part C of the CMPO-endorsed TIP is a Supplementary Bridge Listing for "unprogrammed" projects recognized by the CMMPO. This list is informational only and is subject to funding availability and is disclosed as "potential for state funded accelerated bridge program (ABP) project".

# A: Brookfield- Bridge Replacement, B-26-002, State Road 148 (FISKDALE ROAD) over the Quaboag River

- This project is in the preliminary design phase and has an estimated construction cost of: \$1.4 million

- The existing two-span bridge is to be replaced with a single span superstructure of approximately 105 feet span.
- MassDOT is moving forward with this project and the Selectmen are working with them on the design phase.
   The Selectmen have requested that provisions be made for bringing town water over the river as well as allowing for pedestrian travel over the bridge.



# B: A project, also known as the CSX Bridge Bundle #3 with an initial construction estimate of \$25.4 million began in the spring 2010. No "TIP" data is available for the project.

- The project is located in multiple cities and towns, within the boundaries of Districts 2 and 3 [Brookfield is in District 3]. The scope of work contains, but is not limited to, the design and replacement / reconstruction of the following bridges in order to elevate the highway vertical clearance over CSX rail tracks to allow for double stack freight trains: Brookfield, Route 148 (B-26-003), Charlton, Jones Road (C-06-013), Charlton, Route 31/Spencer Road (C-06-14), Spencer, Route 49/Podunk Blvd (S-23-024), West Brookfield, Route 67/Warren Road (W-19-015), Westborough, Route 135/Milk Street (W-24-007) and Worcester, James Street (W-44-022).

#### State Aid for Local Roads:

The Massachusetts Dept. of Transportation (MassDOT) distributes funds for local roadway repair and maintenance to municipalities in Massachusetts on an annual basis through Chapter 90 of the Massachusetts General Laws (MGL). For the 2009 Fiscal Year, Brookfield received \$127,949 in Chapter 90 funds. For the 2010 Fiscal Year, Brookfield has been apportioned \$127,147 in Chapter 90 funds.

## Road Classifications and Federal-Aid Eligibility:

MassDOT maintains an inventory of local roadways as reported by municipalities in Massachusetts, and the inventory is updated annually (see appendix A-E for road classifications and aid eligibility). MassDOT also maintains an inventory of State-maintained roads that are considered to be part of the federal-aid system. The federal-aid system has a three-tier functional classification system for roads:

- ✓ <u>Arterial Roads</u>: Roads that provide the fastest method of travel and are usually designed with long-distance travel in mind. Arterial roads in the Brookfield area include Route 9 and U.S. Route 20 in Sturbridge.
- ✓ <u>Collector Roads</u>: Roads that link local roads to arterial roads. These roads provide a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterial roads. Collectors are heavily traveled local roads and those roads associated with the State highway network (Route 148).
- ✓ Local Roads: Roads used primarily to access a community's housing stock.

<u>Interstate highways are their own classification of roadways and are not included within the functional classification rating system.</u>

MassDOT classifies Brookfield's roadways in the following manner:

- ✓ Principal Arterial Roads: Route 9 (West Main Street, Post Road). These roads are all eligible for federal-aid.
- ✓ Rural Major Collector Roads: Route 148 (Fiskdale Road, River Street, Main Street, North Brookfield Road), Webber Road, School House Road, Quaboag Street. These roads are all eligible for federal-aid.

- ✓ Rural Minor Collector Roads: Mill Street, Rice Corner Road (including parts of Lake Road, South Pond Road and West Sturbridge Road). These roads are not eligible for federal-aid.
- ✓ Local Roads: All other roads in Brookfield. These roads are not eligible for federal-aid.

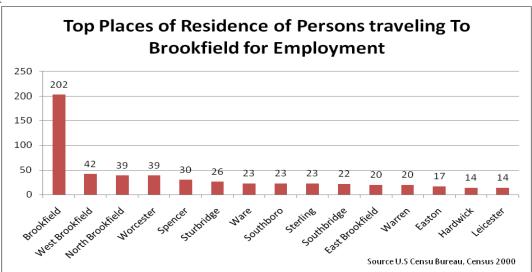
Brookfield can compete for limited federal-aid funding to repair their eligible roads listed above through the annual TIP process. Roads classified as "rural minor collector roads" and "local roads" are not eligible for federal-aid; however, these roads are eligible for funds under the Chapter 90 program.

#### **Regional Highway System and Commuting Patterns**

The regional highway system is one of the most important infrastructure elements influencing a community's development pattern. The accessibility provided by a regional highway not only stimulates new development, but allows residents greater flexibility in making decisions that are affected by locational factors such as, where to work, where to live, or where to shop.

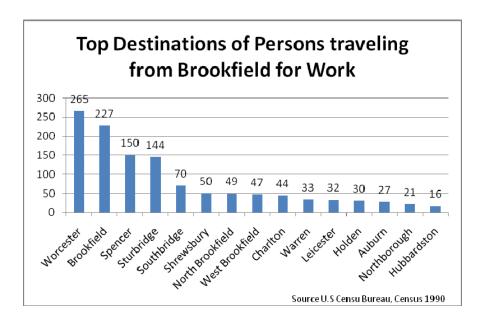
Regional transportation access to Brookfield is provided primarily by Route 9 (classified as a Principal Arterial Road), which runs east-west through the center of town. Route 9 connects to Route 148 (in Brookfield's Center) and Routes 49 and 31 (in Spencer) and Route 67 in West Brookfield. Route 148 (classified as a Rural Major Collector Road) carries commuters north-south through Brookfield. Both Route 49 and Route 148 connect directly to U.S. Route 20 in Sturbridge. U.S. Route 20 has direct access to I-90 (the main thoroughfare to Boston and Springfield), as well as I-84 (the main thoroughfare to Hartford and Connecticut).

#### Chart 1



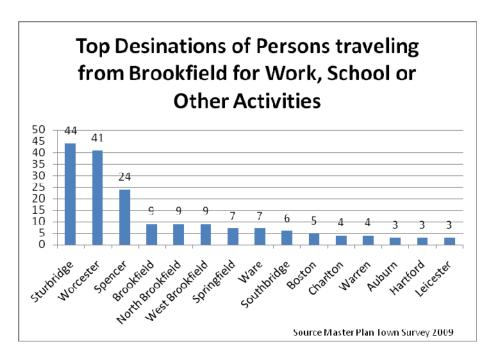
**Chart 1** identifies the place of residence of those working in Brookfield in 2000. Individuals employed in Brookfield come primarily from Brookfield (27.8%) or from other neighboring Massachusetts municipalities (70.4%).

#### Chart 2



**Chart 2** identifies the top places Brookfield residents traveled to for work in 1990. The primary destination is Worcester (19.1%), closely followed by Brookfield (16.4%). The percentage of Brookfield Residents traveling to Brookfield for Work increase from 16.4% in 1990 to 27.8% in 2000 (see Chart 1).

Chart 3



In 2009, the Master Plan Committee conducted a Brookfield Resident survey asking "What City/Town do you travel to on a regular basis for work, school or other activity". Chart 3 identifies the primary destination as Sturbridge (19.0%) followed by Worcester (17.7%).

Given the wide range of residents' workplaces, it is not surprising that Brookfield residents and workers rely heavily upon their autos to reach their jobs. The 2000 U.S. Census reported 85.5% of all Brookfield residents traveled alone to their workplace, while for Worcester County this figure was 82.6%. Although

the 2009 Town survey indicated a slight decrease to 78.4% for residents using their autos to get to work, 17.4% of respondents chose not to answer the survey question.

In addition to those residents that drove alone in 2000, 7.5% carpooled and 0.3% took public transportation; while for Worcester County's figures were 9.3% and 1.7% respectively. The percentage of those that carpool dropped to 2.1% in 2009, whereas the percentage of those that take public transportation had a slight increase to 0.4%.

Overall, Brookfield falls behind the county in the use of travel modes in carpooling, use of public transportation and walking; whereas Brookfield pulls ahead of the county in driving alone and working at home (Brookfield: 4%, County: 2.7%).

Commuting times for Brookfield residents in 2000 were split between those that worked close to home (35.1% of residents commuting less than 20 minutes) and those that traveled greater distances (29.3% of residents commuting greater than 45 minutes).

## **Existing Street System in Brookfield**

A town's character is not only affected by its proximity to the regional highway system; it is also very much influenced by the pattern and condition of its local street network. Nearly 40 miles of local road



exist throughout Brookfield. The street network in Brookfield is dominated by various local roads connected directly or indirectly with Route 9, Route 148, Route 20, I-90 and I-84. Since travel in Brookfield is heavily oriented toward private automobile transportation, it is essential that the road capacity be able to accommodate existing and future volumes of traffic efficiently and safely. Conversely, if the town's position is to refrain from widening the local, rural streets that contribute to Brookfield's rural character, it is critical that the town plan future land uses so as not to overburden the existing street network.

#### Route 9

The jurisdictional and functional classification of Brookfield's streets is important to understanding how the streets relate to one another, how they are used, and who exercises control over them. **Chart 4** lists the agencies that have jurisdiction over the use and maintenance of the streets in Brookfield. Brookfield's roads are generally town-owned with the exception of one numbered state highway and some privately owned roadways. There is a second numbered road (Rt 148) that is owned and maintained by the town. In addition, unlike many other Massachusetts communities, the length of roadways owned by state agencies is relatively small.

Chart 4

#### **Jurisdiction Classification of Brookfield Streets**

Controlling Agency	Location	Mileage
MassDOT	Route 9	2.65
Town of Brookfield	Through Out Town	35.74
Unaccepted But Open to Public Travel	Through Out Town	1.11
Total Road Mileage		39.5

Source: Executive Office of Transportation Road Inventory 2008

#### Traffic Volume:

CMRPC conducts traffic counts throughout the region on an ongoing basis. Automatic Traffic Recorder (ATR) machines are placed along a roadway to record the number of vehicles travelling in each direction over a 48-hour period. The Daily Traffic Volume Counts total number of vehicles (i.e., both directions) travelling on Brookfield's primary roadways during a 48-hour period. The volumes were taken from a series of traffic counts conducted during a ten year period (1998 – 2008) [See Appendix H]. While most of Brookfield's local roads handle less than 1,000 cars a day, the more heavily traveled roads have the following ranges of daily traffic volume:

1,000 - 2,000 Vehicles Per Day: Webber Roads and Route 148 (at the North Brookfield Town Line) handles in excess of 500 vehicles per day traveling in each direction.

2,000 – 5,000 Vehicles Per Day: Mill Street and Quabog Street fall into this category with an excess of 1,000 vehicles per day traveling in each direction. In addition, the following specific counts conducted along Route 148 fell into this category: Upper River Street-South of Rt9/Main St (800-northbound/1500-southbound), North Brookfield Road-North of Webber Road (1,400 each direction) and North Brookfield Road-At Sturbridge Town Line (1,800 each direction)

Over 5,000 Vehicles Per Day: Route 148 (Fiskdale St-South of Mill Street) and Route 9 are the only roadways that falls within this category, with Peak hours were between 7:00am-8:00am and 4:30pm-5:30pm. Approximately 3,000 vehicles per day travel in each direction along Route 148 (Fiskdale St-South of Mill Street). While approximately 4,000 vehicles were counted traveling in each direction at both the East Brookfield and West Brookfield town lines.

#### **Scenic Roads:**

Massachusetts General Laws, Chapter 40, Section 15C authorizes municipalities to designate certain roads as "Scenic Roads". Any local road owned and maintained by the Town, other than a state numbered route, can be designated as a Scenic Road.

Adopted as part of the local zoning bylaws, the scenic roads ordinance requires a public hearing by the planning board before any work is undertaken in a public right-of-way that would involve the cutting of trees or the destruction of stone walls. This bylaw only applies to trees and stone walls



Scenic Lake Road - Richardson Farm and Quaboag River (left of image)

within the town owned right-of-way and to local roads and not state routes. The question that should be considered is how to change from reacting defensively to violations to one that is pro-active. The answer will require an investment in time and money for monitoring and enforcement.

It has been 25 years since the Town of Brookfield voted in a scenic road. A possible route the Town may look to pursue for retaining the rural and historic character is to review existing roadways for scenic road eligibility. The following are town designated scenic roads:

#### 1985, May 6, Town Meeting:

- 1. East Main Street commencing at the junction of East Main and North Brookfield Rd (Route 148) to the end of East Main Street (North Brookfield-East Brookfield boundary)
- 2. Lake Road from Route 148 to the Four Corners at South Pond
- 3. Long Hill Road from Route 148 to the West Brookfield town line.

#### 1986, May 5, Town Meeting

- 1. Molasses Hill Road from beginning to end (Route 148 to Route 148)
- 2. Webber Road from Route 148 to the Warren town line.
- 3. Rice Corner Road from Rice Corner Cross Road to Sturbridge town line.

#### **Mass Transit Alternatives:**

Mass transit can be loosely defined as a public transportation service designed to move groups of people from one place to another. Such services include buses, trains and, for some areas of our nation, boats. Typically in the Central Massachusetts region, mass transit serves persons who would find it difficult to make their trip by private transportation. Such persons include the elderly, people with disabilities, young people, and people living on limited incomes.

#### **Bus Service:**

Brookfield has been a longstanding member of the Worcester Regional Transit Authority (WRTA). The WRTA service area includes over half a million in population and is the second largest regional transit authority in Massachusetts, serving 35 communities. The WRTA maintains a fleet of 46 buses and 10 minibuses for 23 fixed routes in Worcester and 10 of the surrounding communities. The WRTA also provides paratransit service for the elderly and disabled in the region, in addition to a variety of special services for elderly and disabled residents in the entire service area.



Planes, Trains and Buses

Overall, the WRTA serves approximately 1.0% of all person travel trips in the region. The WRTA estimates that on any given business day, there are 1,345,000 person travel trips in the region by all modes of transportation, with the WRTA bus service providing 12,800 of those trips, or slightly less than 1% of the total person travel trips per day.

The WRTA's #33 bus route travels Brookfield-Worcester along Route 9 four times a day. Outside of the City of Worcester, all routes operate under a "flag down" system, meaning there are no fixed stops and bus patrons need to flag down the bus as it approaches. However, most of Brookfield's pickups occur at the beginning of the route, at the Town Common in the Brookfield Center area. The latest WRTA statistics indicate there are, on average, between 4 and 7 bus boardings/alightings in Brookfield on any given weekday. See Appendix F for the Bus Schedule as of September 4, 2010.

The WRTA contracts with South Central Massachusetts (SCM) Elderbus Inc. to provide paratransit services for elderly and disabled people into Worcester for medical appointments, education services, employment and social activities. SCM Elderbus also provides transportation to local services as well.

The Worcester Intercity Bus Station is located at the Union Station Intermodal Center. Interstate bus service is provided via two carriers: Peter Pan and Greyhound. These carriers provide service to Boston, Springfield, and various other points outside of Massachusetts.

#### **Passenger Rail Service:**

Worcester is the western terminus of the Framingham/Worcester commuter rail line run by the Massachusetts Bay Transportation Authority (MBTA). Worcester's historic Union Station serves as the region's primary hub for commuter railway traffic. Built in 1911, Union Station has been restored to its original grace and splendor, reopening to full operation in 2000 as the regional intermodal center. In

October 2008, the MBTA added five new trains to the Framingham/Worcester line as part of a plan to add 20 or more trains from Worcester to Boston and also to buy the track from CSX Transportation.

Union Station also serves as an Amtrak stop. Amtrak is a national passenger railroad that provides service through Central Massachusetts from Boston to Chicago via the *Lakeshore Limited* using MBTA and CSX-owned rail rights-of-way. Union Station is the only stop in the region along the *Lakeshore Limited* route before it reaches Springfield, howeverBrookfield lies between Worcester and Springfield. In Springfield, train passengers may also connect to additional Amtrak services such as the Vermonter line and other Amtrak trains to Hartford, New Haven and New York.

#### Freight Rail Service:

The CSX rail line runs east to west from Boston to Springfield via Worcester and carries a significant volume of freight. This rail line passes through Charlton Depot and South Spencer before passing through Brookfield south of Route 9 and the Town Center area. Further, the East Brookfield & Spencer Railroad (EBSR) provides railcar switching service for the New England Automotive Gateway (NEAG) located between Route 49 and South Spencer Road in East Brookfield with CSX. The NEAG is ranked at the top of intermodal automotive facilities utilized by CSX.

#### Air Travel:

The Worcester Regional Airport (ORH) is the only interstate air travel provider located in Central Massachusetts. The Worcester Airport is owned and operated by Massport and lies at the top of Tatnuck Hill, Worcester's highest. The airport consists of one 7,000 ft runaway and a \$15.7 million dollar terminal built to attract airlines and passengers. Direct Air is currently the only commercial airline serving Worcester Airport and providing limited service to Orlando and Punta Gorda, Florida, as well as Myrtle Beach, South Carolina. In addition to commercial airline service, Worcester Airport also provides fixed base operator (FBO) services through Swissport Executive Aviation, which provides upscale ground handling services to the international community of operators and executives who rely on corporate or private jets.

Since commercial service is limited at the Worcester Airport, area residents are more likely to utilize Bradley International Airport (in Windsor Locks, CT), Logan International Airport (in Boston) and the T.F. Green Airport (in Providence, RI) for their cross-country and international travel needs.

There are five local airports that are designed to accommodate smaller, lighter, general aviation aircraft. These local airports include the Spencer Airport (small paved runway for small planes; 2 miles NE of Spencer center), the Oxford Airport (located in east Oxford near the Millbury town line), the Southbridge Municipal Airport (located in the northwest corner of town; 2 miles N of Southbridge center), the Hopedale Industrial Park Airport (3 miles SE of Hopedale center), and the Tanner-Hiller Airport in New Braintree (4 miles SW of central business district of the associated city).

The closest municipal airport to Brookfield is located in Southbridge (14 miles), and the closest multicarrier commercial airport is Bradley International Airport (61.3 miles).

#### **Water Travel**

The Quaboag River heads at Quaboag Pond (south of East Brookfield) at an elevation of 594 feet. It flows through the towns of Brookfield, West Brookfield (where Lake Wickaboag drains into it), and Warren before joining the Ware River and Swift River in Three Rivers at an elevation of 290 feet, to form the Chicopee River. This river is part of the Chicopee River Watershed.



Quaboag River at White's Landing

Whitewater kayakers and canoeists paddle the Quaboag from a put-in at Lucy Stone Park in Warren, downstream to a take-out along Route 67. The river is Class III and features several named rapids, Mousehole and Trestle Rapid above the dam, and, downstream, Angel's Field and Devil's Gorge, which contains an abrupt four-foot waterfall called Quaboag Drop. The river has a large watershed, holds its water well (is well formed), and is runnable at levels above four feet on the Brimfield USGS gauge. It contains one mandatory portage around an unrunnable dam next to a factory.

The Quaboag River has long been a recreational resource from walking trails and bird watching along its banks to access and travel along its winding route through the town. White's Landing is located on the banks of Quaboag River (off route 148), just south of Brookfield's Town Center area. Easy access to the River, as well as a beautiful picnic spot which blends with the natural landscape, make this one of the Town's most valuable attractions and a popular meeting place for Kayakers and Canoeists alike. In addition to boat rental, White's Landing sells bait and tackle and offers an indoor and outdoor music series in the Quaboag Café.

With the help of Central Massachusetts Regional Planning Commission, a Quaboag Water Trail is being developed from East Brookfield into Warren. Several access points have been identified as well as scenic and natural features that can be experienced along the way. White's Landing will serve as the access point for the Town of Brookfield.

#### Walking and Bicycling

Prior to the 1920's, walking and bicycling were primary means of transportation in Brookfield. With the widespread use of the automobile, these forms of travel were largely relegated to recreation. However, with the rise in the cost of gasoline and a growing concern in the public health community over obesity rates, there has been renewed interest in both walking and bicycling as a primary transportation mode. The village area of Brookfield has sidewalks on almost all streets. However, outside of the center of town, there are no sidewalks and roads have not been designed with walkers or bicyclists in mind.

It is the intention of the Master Plan to provide a vision for a Walkable and Bikeable Brookfield. Brookfield should be a place where walking and bicycling is safe, accessible, and convenient.

#### **Off-Road Trails**

The Quabog Historical Society has created a network of hiking trails. These roughly follow the original Military Highway that was established in Colonial Days. These trails provide a route east-west that runs parallel to Route 9, approximately ½ mile north.

#### **Park-and-Ride Facility**

The MassDOT and the MBTA operate park-and-ride lots throughout the commonwealth. Many of these lots are conveniently located along major highways; all-day parking is often free.

The closest Park-and-Ride Lot to Brookfield is at the Bethlehem Lutheran Church in Sturbridge (11.3 miles) on Route 131 near Mass Turnpike exit 9. There are 50 spaces and has an average occupancy of 23%. For details on the lot (including site map and location) see Exhibit G.

#### **Transportation Goals**

It is Brookfield's goal to continue to provide an efficient, safe and well-maintained transportation system in keeping with Brookfield's rural character, one that reduces negative impacts on residential areas while encouraging non-motorized modes of transportation.

The following set of recommendations should be investigated:

#### 1: Protect the rural and historic character of Brookfield streets.

#### **Specific Objectives:**

• Create street design guidelines to direct future road construction, reconstruction, and maintenance as well as Scenic Bylaw adherence.

A scenic by-law limits the cutting of trees, avoids the destruction of stone walls, and monitors road and driveway construction.

Brookfield currently has a Scenic Bylaw. However, it is imperative that the town proactively work to ensure adherence to the bylaw to protect the rural and historic character of Brookfield. This can be accomplished by developing a system for monitoring scenic roads and by establishing a procedure for reporting and enforcing violations.

There are several roadways in Brookfield already designated as a "Scenic Road". However, identifying other roads with these qualities and monitoring development along them will contribute to the town's goal of preserving its rural character. In addition, any existing and future land use policies in areas of scenic roadways should be created with the intention to protect the very features and resources it designated as "scenic".

Although many roads in Brookfield have retained their narrow alignment and rural character, the potential for growth along the Route 9 and Route 148 corridors should be a consideration.

The Mass. Dept. of Transportation, the private sector and even the town will continue to redesign intersections and 'improve' roadways; these improvements could have drastic impacts in terms of traffic capacity, automobile speed and overall character of the town. To ensure the rural character of Brookfield's roads, it is imperative that the town create street guidelines that outline the desired character and characteristics of future roads and intersections.

It is also imperative that the town proactively work with the Mass. Dept. of Transportation as plans are developed for any projects involving Route 9. Route 9 passes directly through the town and runs alongside the Elementary School. The priorities and concerns of Brookfield residents – safety, lower speeds and preserving/rebuilding the character of our town center – are almost certainly not the priorities and goals of the Mass. Dept. of Transportation. The proactive intervention by town officials and residents is crucial to address the needs and desires of Brookfield.

By preserving the scenic and aesthetic value of the roads, and providing a level of oversight for future work on scenic roads (paving, widening, etc), the town can work to maintain the important characteristics of historic Brookfield.

<u>Responsible Municipal Entity</u>: The Planning Board, the Highway Department with the assistance of the Mass Dept. of Transportation.

# 2: Promote traffic calming and increased safety on neighborhood and residential streets.

#### **Specific Objectives:**

- Reduce traffic speeds through neighborhoods and residential streets by using traffic calming techniques.
- Increase pedestrian safety in the town center, residential neighborhoods and commercial areas.
- Identify and address dangerous intersections

Traffic calming can be used to decrease the possibility that drivers will find a faster route on side streets than on the major roads. Policies and procedures should be created to ensure traffic calming techniques are used to reduce the damaging effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users (i.e. pedestrians, cyclists etc).

Examples of possible traffic calming methods are

- ✓ Speed humps
- ✓ Raised pedestrian crossing islands
- ✓ Narrowed intersections
- ✓ Deliberate curves to slow traffic
- ✓ Partial road closures to divert traffic off certain streets
- ✓ Landscaped medians to slow traffic while also improving the aesthetics

The town can also work with CMRPC and the Mass Dept. of Transportation to identify and address dangerous intersections such as:

- a. Mill Street with Upper River Street/148 and Pleasant Streets
- b. Mill Street with Rte. 9
- c. Quaboag Street and Rte. 9
- d. Upper River, Common Streets and Rte. 9
- e. Rice Corner Road and Lake Road

<u>Responsible Municipal Entity</u>: The Planning Board, the Highway Department with the assistance of the Mass Dept. of Transportation and CMRPC.

# 3. Establish "Connectivity" for non-motorized streets users. Specific Objectives:

- Connect local business and neighborhoods to surrounding towns via walkways and multi-use pathways by designing and constructing new and multi-use pathways through town.
- Improve and encourage increased use of existing bicycle and hiking paths.
- Develop safe roadways with lanes intended for multi-use non-motorized street users
- Identify pedestrian pathways in heavy traffic areas (i.e. Post Office, Town Beach areas etc.)
- Build additional sidewalks and ensure proper maintenance of the existing stock.

The Town should work to "connect" to the surrounding towns for business and recreational purposes. This can be done by designing a network of pathways for non-motorized street users; which can include pedestrians, cyclists, boats etc.

This strategy should include safety mechanisms such as crosswalk locations, sidewalk upgrades for connectivity and handicapped accessibility, centralized parking, bicycle racks, and street lighting, among other considerations. When developing a plan, the town should consider the safety and accessibility of walkways in municipal and recreational areas. [Particular concern was raised for the dangerous areas around the police barracks and Post Office.]

As part of the Town's strategy for connectivity, the Town can work to create a "walkable" town to encourage pedestrian foot traffic for local businesses, scenic areas, schools and shops by improving and expanding the construction of sidewalks connected to safe intersections and parking lots.

The area also has a significant bicycling community that would benefit from bicycle-related amenities. However, Brookfield does not have designated bicycle lanes along roadways. The Town can design roadways with wider shoulders to accommodate bicyclists. In addition to unsafe road conditions for bicycles, further use is inhibited by a lack of storage and other amenities for pedestrians and bicyclists.

The Town also has a few hiking trails. However, to create "connectivity", hiking trails should be expanded and connected to other trails in adjoining towns as well as others within Brookfield.

The town should further require new development to provide bicycle facilities, provide sidewalks and open onto trails where possible. Bylaws can be created to require new construction to consider "connectivity".

As with any town projects funding is always a concern. As plans are developed the town should keep in mind any Federal Fund and Block Grants that would aid in financing projects. In addition, the town could look at prioritizing some of the highway funds to improve sidewalks and bikeways. A committee should be created specifically to work on ensuring progress and fund development.

<u>Responsible Municipal Entity</u>: The Planning Board, the Highway Department with the assistance of the Mass Dept. of Transportation.

# 4: Improve opportunity for Mass Transit: regional and public transportation as well as other alternative means of transportation.

#### **Specific Objectives:**

- Create opportunities for Brookfield Residents to use Mass Transit
- Consider a Train Station

Use of public transportation reduces environmental and congestion impacts of single-user automobiles through Brookfield. Therefore, with Brookfield's population and local roadway traffic volumes projected to increase, it would be beneficial for the Town to promote and improve regional public transportation networks.

There are multiple modes of Mass Transit Brookfield should consider including:

- ❖ WRTA Bus Service: Brookfield has been a member of the Worcester Regional Transit Authority (WRTA) for over 2 decades. The Town should continue its membership in the WRTA and support its efforts to provide public transportation alternatives on a regional scale since Mass Transit keeps cars off the roads thereby helping to reduce traffic congestion. Also, the WRTA often provides the only method of transportation for the elderly and disabled.
  - The Board of Selectmen can work to promote bus service and consider options that would encourage residents to use Mass Transit such as constructing bus shelters and park and ride facilities.
- ❖ Park & Ride Facilities: Brookfield should research options for a permanent Park & Ride facility in or around the town center so more area residents can either utilize the WRTA's bus service or create a carpool system. Should such a facility be considered, the WRTA should be consulted in the early stages of planning.

 Given that the automobile is the dominant mode in Brookfield, the town should be proactive in controlling future parking placement in town or parking relative to subdivision control/Site Plan Review.

#### **Connect the WRTA to the PVTA**

The WRTA bus service currently goes as far west as Brookfield and the Pioneer Valley Transit Authority (PVTA) comes as far East as Palmer and Ware. This leaves a 10 mile section of Route 9 without any public transportation. The motto for the Mass Dept. of Transportation is "Moving Massachusetts Forward". Well how can we move forward if we can't get there. The Town should work with CMRPC, the WRTA and PVTA to develop a plan to connect both Transit Authorities. Should this happen you could travel from Boston to Springfield on public transportation.

#### **\*** Train Station in the Brookfield Region

Brookfield currently does not have a train station. The Town should consider working with MassDOT, the MBTA and surrounding towns to build a Train station. Brookfield is centrally located and sits amid several State owned roadways, as well as an Interstate (I-90). Access to the train could promote business growth and ecotourism.

<u>Responsible Municipal Entity</u>: The Board of Selectmen, the Planning Board and the Highway Dept. with the assistance of the WRTA, the CMRPC and the Mass Dept. of Transportation.

# 5: Implement strategies that limit negative vehicle and traffic impacts from new development.

#### **Specific Objectives:**

- Require detailed traffic impact statements and mitigation measures for new development regardless of State MEPA requirements.
- Carefully manage uses that generate traffic issues such as big box retail, strip malls, drive throughs and large residential developments.

As residential and business development in Brookfield expands, the Town should expect congestion to increase and should require detailed impact analyses and traffic demand management measures from new construction.

Traffic generated by the numerous retail uses along Route 9 could result in longer travel times during the midday and evening peak hour. In addition to Route 9, traffic along on Route 148 and Rice Corner Road will increase with the expanding business and residential areas.

Impact analyses and reports should be submitted as part of Site Plan Review and should contain specific written submittal requirements and review criteria. Design guidelines for parking lots and site access should strive to further minimize the impacts of new development to maintain the rural and historic character of Brookfield.

Responsible Municipal Entity: The Planning Board and the Highway Dept.

# 6. Communication Specific Objectives:

- Improve communication among all Municipal Employees, Volunteers and Resources.
- Improve communication with Town Residents by upgrading and updating the Town Website

Communication is vital to all areas of the Municipality. This becomes critical with the multiple Departments, Committees and Boards that work independent of each other, with the same end goal: the

betterment of the Town of Brookfield and its residents. The Town should analyze its current communication processes both internally and externally.

- ✓ Internally: Departments, Committees and Boards should work to keeping communication open and ongoing ensuring harmony, timely workflow and cohesion with projects and goals.
- ✓ Externally: the Town's representatives to the WRTA and the CMRPC should continue to brief the Board of Selectmen on the regional transportation projects and issues that may have relevance to Brookfield.

Another form of communication is through the Town Website: The Information Highway. Both the Master Plan survey results and comments made during public forums indicated the consensus was the existing website is not user friendly and in need of upgrading. An efficient user friendly website would allow residents and visitors to locate area pathways, walkways and transportation alternatives which would increase Brookfield's "connectivity"; thereby improving local business and ecotourism.

Responsible Municipal Entity: The Board of Selectmen

## 7. Clarify Private Roads

#### **Specific Objectives:**

• Clarify "Private Roads" to ensure proper maintenance and safety of roadways.

Clarify conditions that define a "Private" road to ensure the roadways are updated and maintained. Identify and label existing private roads with signs. Review and evaluate existing policies on private roads.

Responsible Municipal Entity: The Highway Dept.

# 8. Review and Update Gravel Removal Bylaws Specific Objectives:

• Update bylaws to add language for Gravel Removal restrictions and responsibilities.

Roads in Brookfield can be damaged by the weight of gravel removal trucks. The Towns bylaws should be reviewed to ensure they are updated to add language to either avoid the damage or have those responsible contribute to the repairs of the roads. Optional restrictions and responsibilities the Town could explore could include bond, load tariffs, seasonal weight limits or the power to designate which roads can be used for gravel trucking.

Responsible Municipal Entity: The Highway Dept.

## 9. Utility Work Policy

## Specific Objectives:

• Create/Update policy for Utility Work responsibilities.

The Town should make certain a formal policy is in place to ensure utility companies who dig up town-maintained roads for the placement of their utility lines incur the full cost of repairing the roadway to its previous conditions.

As the Town looks at new projects and/or developments they should consider underground utilities.

Responsible Municipal Entity: The Highway Dept.

#### **Appendix**

- A: MAP: CMRPC Brookfield Federal Aid Eligible Road System
- B: MAP: MassDOT Brookfield Road Inventory By Jurisdiction
- C: MAP: MassDOT Brookfield Road Inventory By Functional Classification
- D: MAP: MassDOT Brookfield Road Inventory By Federal Functional Classification
- E: MAP: MassDOT Brookfield Road Inventory By National Highway System
- F: WRTA Bus Schedule (as of September 4, 2010)
- G: Park-and-Ride Facility: Sturbridge, MA
- H: CMRPC Traffic Counts 1998 2008

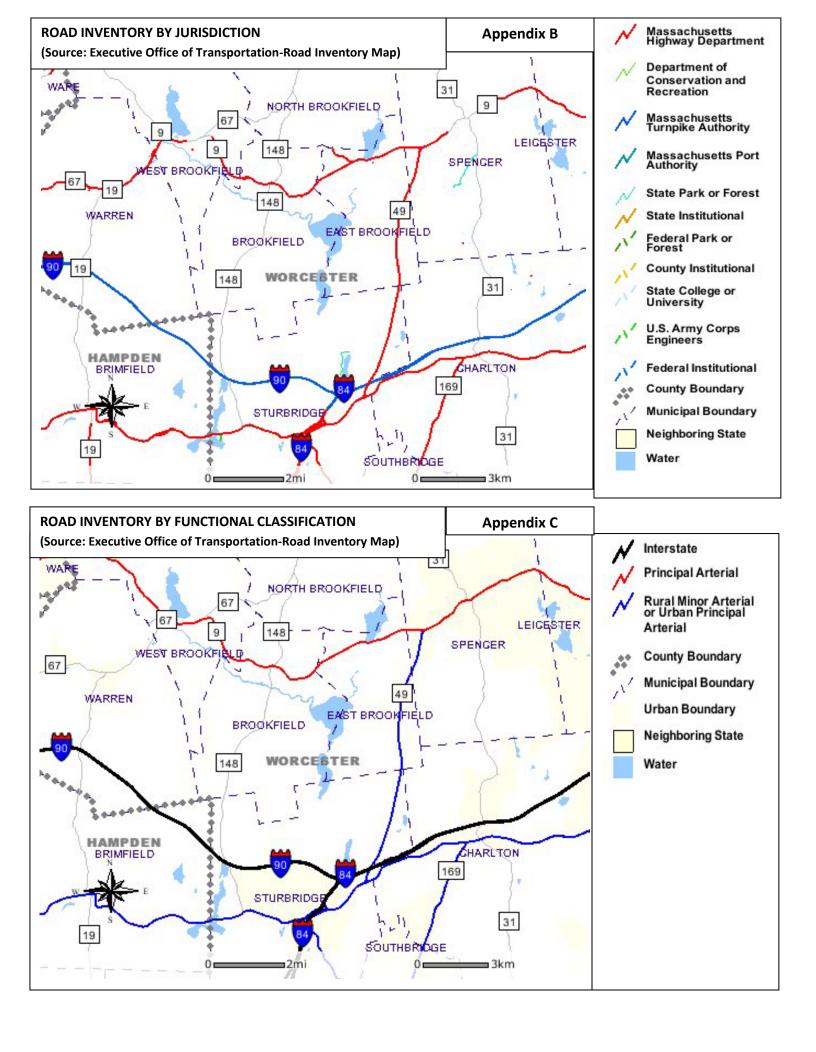
#### **Bibliography:**

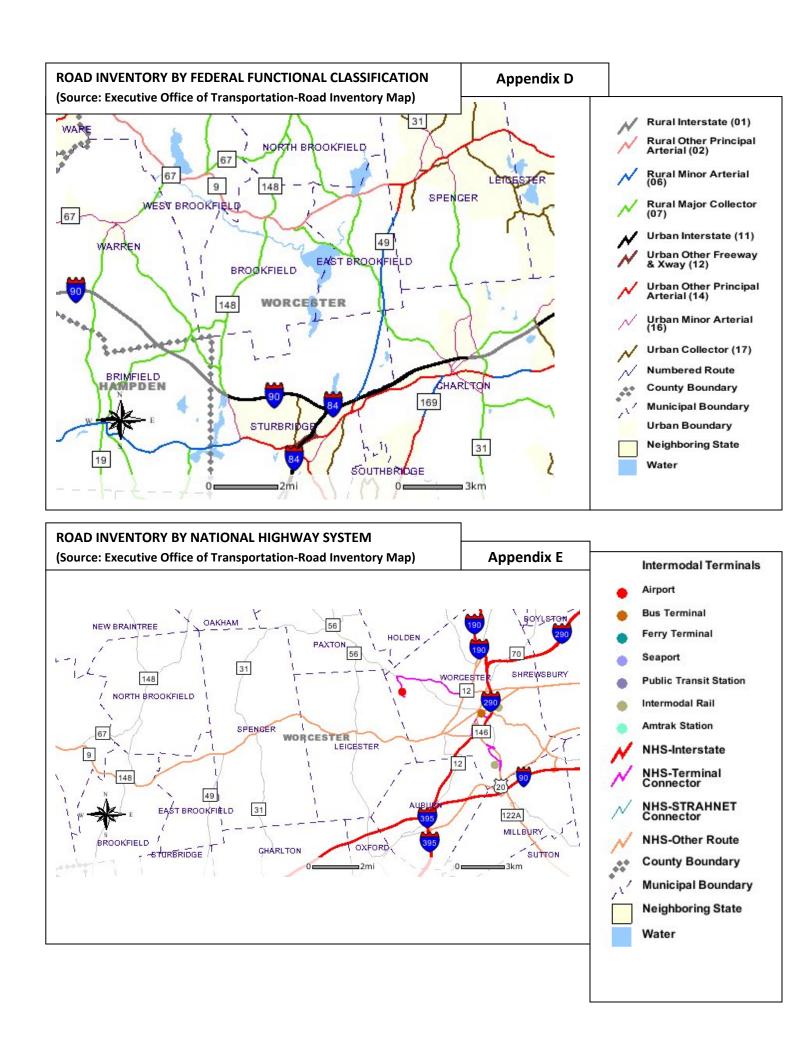
- 2008 Brookfield Open Space/Master Plan Survey
- Brookfield Reconnaissance Report
- CMMPO: 2006 Regional Pavement Management System Annual Report
- CMMPO: 2007-2010 Transportation Improvement Program Report
- Executive Office of Transportation: 2008 Road Inventory Year End Report
- Town of Brookfield Annual Report

#### Websites:

- Central Mass Regional Planning Commission: <a href="http://www.cmrpc.org/">http://www.cmrpc.org/</a>
- Mass Executive Office of Transportation: <a href="http://www.eot.state.ma.us/default.asp">http://www.eot.state.ma.us/default.asp</a>
- Mass Highway Dept: <a href="http://www.massdot.state.ma.us/Highway/">http://www.massdot.state.ma.us/Highway/</a>
- Town of Brookfield: <a href="http://www.brookfieldma.us/">http://www.brookfieldma.us/</a>
- U.S. Census: http://www.census.gov/

# APPENDIX A: FEDERAL AID ELIGIBILITY MAP SEE SEPARATE FILE





## Welcome aboard the WRTA!

This route timetable shows the times of departure at major stops along the route and contains route maps and other important information. Additional information be can obtained by calling the WRTA Information Line at (508) 791-WRTA (9782),

or visit our website at www.TheRTA.com.

#### WRTA FARE INFORMATION Effective January 1, 2009

Full Cash Fare (Adults age 14 and up)	\$0.75
One Day Pass	\$3.50 \$1.75
31 Day Pass	\$48.00
Ten (10) Ride Pass	\$13.00

#### Please have exact fare ready when boarding the bus.

Route schedules and the purchase of passes. and tickets are available at the WRTA General Office, 287 Grove Street. Worcester and at the Customer Service Center, 317 Main Street, Worcester

**ACCESSIBILITY:** All WRTA buses are wheelchair accessible and feature bicycle racks for two bicycles. For TTY service call Massachusetts Relay TTY (800) 439-2370.

PROPER IDENTIFICATION: One of the following valid identification cards must be shown to the driver each time you

ELDERLY	WRTA Senior I.D. card
DISABLED	Statewide Access Pass /
	WRTA ADA Photo I.D. / MCB I.D.

MEDICARE..... Medicare card with Photo I.D.

**HOLIDAY SERVICE:** Saturday\* Service is provided on Martin Luther King, Jr. Day, Presidents' Day, Patriots' Day, Columbus Day and the day after Thanksgiving.

Weekday Service is provided on Veterans' Day.

\* Routes 22, 33 and 42 operate on a weekday schedule on these holidays.

NO SERVICE ON: New Years Day; Memorial Day;

Please...NO Smoking, Eating, Drinking or Radios

## ADVERTISE HERE

For further information call Penta Communications at 508-616-9900

# begins at Spencer DPW Garage 7:43 8:30 Z O ¥E ND SE RVIC П 8:00 8:46 8:15 8:58

Trip

	I	6:45	I	4:45	I	I			7:42	-	5:55	BUS STARTS STORTIS Brookfield Center
		6:55		4:48					7:49		6:02	8 BUS Leaves East Brookfield
8:30 *	7:43 *	-	5:57 *	-	2:45 *	12:28 *	10:38 *	8:47 *		7:00 *		BUS STARTS Spencer DPW Garage
		7:00		4:52		12:31	10:41	8:50	7:57		6:09	BUS Leaves Spencer Center
8:42	7:55	7:10	6:10	4:58	2:58	12:40	10:50	9:00	8:07	7:10	6:16	2
8:46	8:00	7:15	6:15	5:03	3:03	12:45	10:56	9:05	8:13	7:15	6:20	900 <b>–</b>
8:58	8:15	7:30	6:30	5:18	3:18	12:55	11:05	9:15	8:29	7:30	6:30	BUS Leaves Leaves City H
9:06	8:30	7:45	6:45	5:33	3:26	1:20	11:30	9:40	8:47	7:45	6:40	BUS Leaves City Hall (Main St.)
1		7:50	6:50	5:40	3:33	1:25	11:35	9:45	8:52	7:50	6:45	BUS ENDS Union Station

INBOUND WEEKDAYS	* Trip ends at Spencer DPW Garage. The Union Station bus stop is located on Foster Street, outside the Peter Pan bus terminal.

AM	BUS STARTS Opposite City Hall 5:10	BUS Leaves Clark University 5:15	BUS Leaves Webster Square Plaza	BUS Leaves Leicester Center 5:32	BUS Leaves Leicester Wal-Mart	BUS Leaves Spencer Center 5:38	BUS ENDS Spencer DPW Garage	аде	m
	5:10 6:15 6:50	5:15 6:20 6:59	5:25 6:30 7:03	5:32 6:40 7:14	6:45 7:19			7:00 *	7:00 *
	7:55 9:50	9:57	8:16 10:07	8:26 10:17	8:31			8:47 * 10:38 *	8:47 * 10:38 *
	11:40	11:47	11:57	12:07	12:12			12:28 *	12:28 *
	2:00	2:10	2:18	2:28	2:33				2:45 *
	3:45	3:50	4:00	4:10	4:15		1	1	
	5:10	5:20	5:25	5:40	5:45				5:57
	5:45	5:59	6:05	6:10	6:15				-
	6:55	7:09	7:15	7:30	7:35				
	7:53	8:00	8:05	8:15	8:19				8:30 *

#### lappendix f

# Route 33

**DOWNTOWN WORCESTER -**SPENCER - BROOKFIELD via MAIN ST. & ROUTE 9

Effective Date: September 4™ 2010

## Serving:

- **Union Station**
- St. Vincent Hospital/Worcester Medical Center
- **DCU Center**
- Federal Building / U.S. Courthouse
- YMCA Central Branch
- Clark University
- \*\*\*\* Webster Square
- Webster Square Plaza
- Becker College (Leicester campus)
- Leicester Housing Authority
- Leicester Wal-Mart
- Western Worcester District Court



Worcester Regional Transit Authority

For Transit Information Call 508-791-9782 or visit www.therta.com



#### Route 33 Serving:

- ~ Union Station
- ~ Worcester City Hall
- ~ St. Vincent Hospital Worcester Medical Center
- ~ DCU Center
- ~ Federal Building/ U.S. Courthouse
- ~ YMCA Central Branch
- ~ Jacob Hiatt Magnet School
- ~ Clark University
- ~ Webster Square
- ~ Webster Square Plaza
- ~ Gates Lane School
- ~ Leicester Center
- ~ Leicester Wal-Mart
- ~ Spencer Center
- ~ Western Worcester District Court
- ~ East Brookfield Elementary School
- ~ Lake Lashaway
- ~ East Brookfield Center
- ~ Brookfield Center

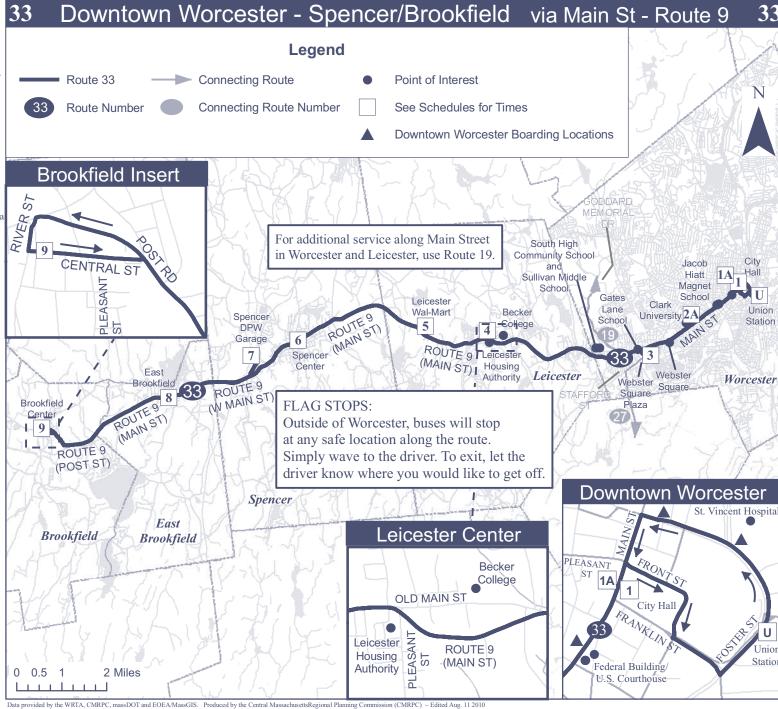
#### **Connecting Routes:**

#### **Route 19 Serving:**

- ~ Worcester Airport
- ~ Leicester Center

#### **Route 27 Serving:**

~ Auburn Mall



## Sturbridge Park-and-Ride Lot

Route 131, near Mass Turnpike exit 9, Bethlehem Lutheran Church

Spaces: 50 Average Occupancy: 23% Contact: 888.4.COMMUTE

Commuting Options: Carpool, Vanpool

Lighted: No Bus Shelter: No Bike Rack: No Public Telephone: No

#### **LOCATION MAP**

### SITE MAP





## **Driving Directions**

From the East and West (Springfield, Worcester)

- Take I-90 to Exit 9 for I-84 South
- After the toll plaza, take **Exit 3** onto Route 20 West
- Merge onto Route 20 West
- Turn LEFT at the first traffic signal onto **Route 131**
- Take an immediate RIGHT onto Sturbridge Hills Road
- Follow signs for the Bethehem Lutheran Church
- The park-and-ride lot is located in the church parking lot

From the South (Connecticut)

- Take I-84 to Exit 3 for Route 20 West
- Merge onto Route 20 West
- Turn LEFT at the first traffic signal onto **Route 131**
- Take an immediate RIGHT onto Sturbridge Hills Road
- Follow signs for Bethlehem Lutheran Church
- The park-and-ride lot is located in the church parking lot

APPENDIX G

Volume APPENDIX H

				Traffic	NB/EB	SB/WB		Reference	
<u>Date</u>	Municipality	Street/Highway	<u>Location</u>	<u>Flow</u>	or ON	or OFF	<u>Total</u>	<u>ID</u>	Source
9/18/2007	Brookfield	Prouty St	N of Route 9 (Post Rd)	NB	143	136	279	2007036	CMRPC
9/18/2007	Brookfield	Prouty St	S of Route 9 (Post Rd)	NB	182	169	351	2007037	CMRPC
		Prouty St	S of Route 9 (Post Rd)			avg:	315		
9/18/2007	Brookfield	Town Farm Rd	N of Deer Run Rd	NB	179	187	366	2007045	CMRPC
9/18/2007	Brookfield	Town Farm Rd	S of Deer Run Rd	NB	181	175	356	2007046	CMRPC
		Town Farm Rd				avg:	361		
6/14/2004	Brookfield	Pleasant St	N of Lincoln St	NB	397	431	828	2004041	CMRPC
6/14/2004	Brookfield	Pleasant St	S of Lincoln St	NB	341	330	671	2004042	CMRPC
		Pleasant St	S of Lincoln St			avg:	750		
9/20/2007	Brookfield	Rice Corner Rd	N of Gay Rd	NB	401	382	783	2007039	CMRPC
		Rice Corner Rd	N of Gay Rd			avg:	783		
10/21/2008	Brookfield	Webber Rd	At Warren TL	EB	622	630	1252	2008213	CMRPC
		Webber Rd	At Warren TL			avg:	1252		
7/23/1998	Brookfield	Mill St	S of Route 9 (S Maple St)	NB	977	945	1922	1998018	CMRPC
7/12/2001	Brookfield	Mill St	S of Route 9 (S Maple St)	NB	1003	1090	2093	2001037	CMRPC
6/14/2004	Brookfield	Mill St	S of Route 9 (S Maple St)	NB	1105	1085	2190	2004040	CMRPC
0/14/2004	Brookricia	Mill St	S of Route 9 (S Maple St)	IVB	1103	avg:	2068	2004040	CIVILLE
		Will St	S of House 5 (5 Maple 5t)			α <b>ν</b> δ.	1		
7/23/1998	Brookfield	Quaboag St	S of Route 9 (S Maple St)	NB	1230	1209	2439	1998019	CMRPC
7/17/2001	Brookfield	Quaboag St	S of Route 9 (S Maple St)	NB	934	1240	2174	2001038	CMRPC
6/14/2004	Brookfield	Quaboag St	S of Route 9 (S Maple St)	NB	1357	1376	2733	2004043	CMRPC
9/18/2007	Brookfield	Quaboag St	S of Route 9 (S Maple St)	NB	1281	1273	2554	2007038	CMRPC
		Quaboag St	S of Route 9 (S Maple St)			avg:	2475		
8/27/1998	Brookfield	Route 148 (North Brookfield Rd)	At North Brookfield TL	NB	721	9	730	1998062	CMRPC
7/12/2001	Brookfield	Route 148 (North Brookfield Rd)	At North Brookfield TL	NB	774	730	1504	2001039	CMRPC
9/18/2007	Brookfield	Route 148 (North Brookfield Rd)	At North Brookfield TL	NB	638	665	1303	2007040	CMRPC
		Route 148 (North Brookfield Rd)	At North Brookfield TL			avg:	1179		
7/23/1998	Brookfield	Route 148 (Upper River St)	S of Route 9 (Main St)	NB	831	1556	2387	1998022	CMRPC
		Route 148 (Upper River St)	S of Route 9 (Main St)			avg:	2387		
7/17/2001	Brookfield	Route 148 (North Brookfield Rd)	N of Webber Rd	NB	1433	1443	2876	2001041	CMRPC
		Route 148 (North Brookfield Rd)	N of Webber Rd			avg:	2876		
7/17/2001	Brookfield	Route 148 (North Brookfield Rd)	At Sturbridge TL	NB	1519	1533	3052	2001040	CMRPC
6/14/2004	Brookfield	Route 148 (North Brookfield Rd)	At Sturbridge TL	NB	1920	1004	2924	2004045	CMRPC
9/20/2007	Brookfield	Route 148 (North Brookfield Rd)	At Sturbridge TL	NB	1776	1842	3618	2007041	CMRPC
		Route 148 (North Brookfield Rd)	At Sturbridge TL			avg:	3198		
7/17/2001	Brookfield	Route 148 (Fiskdale St)	S of Mill St	NB	2687	2624	5311	2001042	CMRPC
6/14/2004	Brookfield	Route 148 (Fiskdale St)	S of Mill St	NB	3190	3131	6321	2004046	CMRPC
9/20/2007	Brookfield	Route 148 (Fiskdale St)	S of Mill St	NB	2985	3116	6101	2007042	CMRPC
		Route 148 (Fiskdale St)	S of Mill St			avg:	5911		

9/15/1998	Brookfield	Route 9 (S Maple St)	At East Brookfield TL	EB	3511	3790	7301	1998023	CMRPC
7/17/2001	Brookfield	Route 9 (S Maple St)	At East Brookfield TL	EB	3849	4014	7863	2001043	CMRPC
9/13/2007	Brookfield	Route 9 (S Maple St)	At East Brookfield TL	EB	4085	4050	8135	2007043	CMRPC
		Route 9 (S Maple St)	At East Brookfield TL			avg:	7766		
7/23/1998	Brookfield	Route 9 (West Main St)	At West Brookfield TL	EB	3909	3452	7361	1998185	CMRPC
5/30/2001	Brookfield	Route 9 (West Main St)	At West Brookfield TL	EB	3953	3656	7609	2001217	CMRPC
6/21/2004	Brookfield	Route 9 (West Main St)	At West Brookfield TL	EB	4162	4426	8588	2004200	CMRPC
9/20/2007	Brookfield	Route 9 (West Main St)	At West Brookfield TL	EB	4081	3921	8002	2007044	CMRPC
		Route 9 (West Main St)	At West Brookfield TL			avg:	7890		