



## DESCRIPTION OF THE CORRIDOR

The Southwest Corridor extends from Boston to the Rhode Island border. The corridor is anchored in the north by the Boston neighborhoods of Roxbury, Jamaica Plain, Roslindale, West Roxbury, and Hyde Park, and extends through a diverse assortment of suburban communities. Seventeen municipalities in the corridor are located within the Boston Region MPO area including (proceeding south) portions of Boston, Dedham, Canton, Westwood, Norwood, Medfield, Walpole, Sharon, Stoughton, Millis, Norfolk, Foxborough, Medway, Franklin, Wrentham, Milford, and Bellingham.

This needs assessment addresses only the needs of the municipalities in the Boston Region MPO portion of the corridor. In doing so, however, it must take into consideration conditions and travel activity in other portions of the corridor. This is reflected in the discussion. The portions of the corridor outside of the Boston Region MPO area are not shown in most of the maps.

Thirteen corridor municipalities, all located in the southern part of this corridor, are outside of the Boston Region MPO area: Plainville, North Attleboro, Attleboro, Mansfield, Norton, Easton, Taunton, and Raynham, which are in the Southeast Regional Planning and Economic Development District (SRPEDD) MPO area, and Hopedale, Mendon, Uxbridge, Millville, and Blackstone, which are in the Central Massachusetts MPO area.

## EXISTING TRANSPORTATION FACILITIES

The major transportation facilities and services in the Southwest Corridor, broken down by mode, are described here. Although this assessment considers the needs in the Boston Region MPO area only, existing transportation facilities outside of that

area but within the Southwest Corridor are included in this section for informational purposes.



## Highway

The major roadways in this corridor are (see Figure 6-1):

- North–south travel: Interstate 95, Route 109, Route 24, Route 1, Route 1A, Route 126, Route 138, Route 28
- East–west travel: Interstate 495, Route 140, Route 115, Route 27

There are 1,663 centerline miles in the corridor:

- State-owned – 141 centerline miles (9%)
- Locally owned – 1,401 centerline miles (84%)
- Privately owned – 120 centerline miles (7%)

When looking at lane miles (as opposed to centerline miles) in the corridor, there are a total of 1,980 lane miles. Of the total lane miles, 39% or 763 lane miles are federal aid eligible.

There are 378 bridges in the corridor:

- State-owned – 281 (74%)
- Locally owned – 82 (22%)
- Other – 15 (4%)

Of the 378 bridges, 149 (39%) accommodate pedestrians as well as motorists, 8 (2%) are for bicyclists and pedestrians only, 101 (27%) are railroad bridges over highways or water, and no bridges are closed.

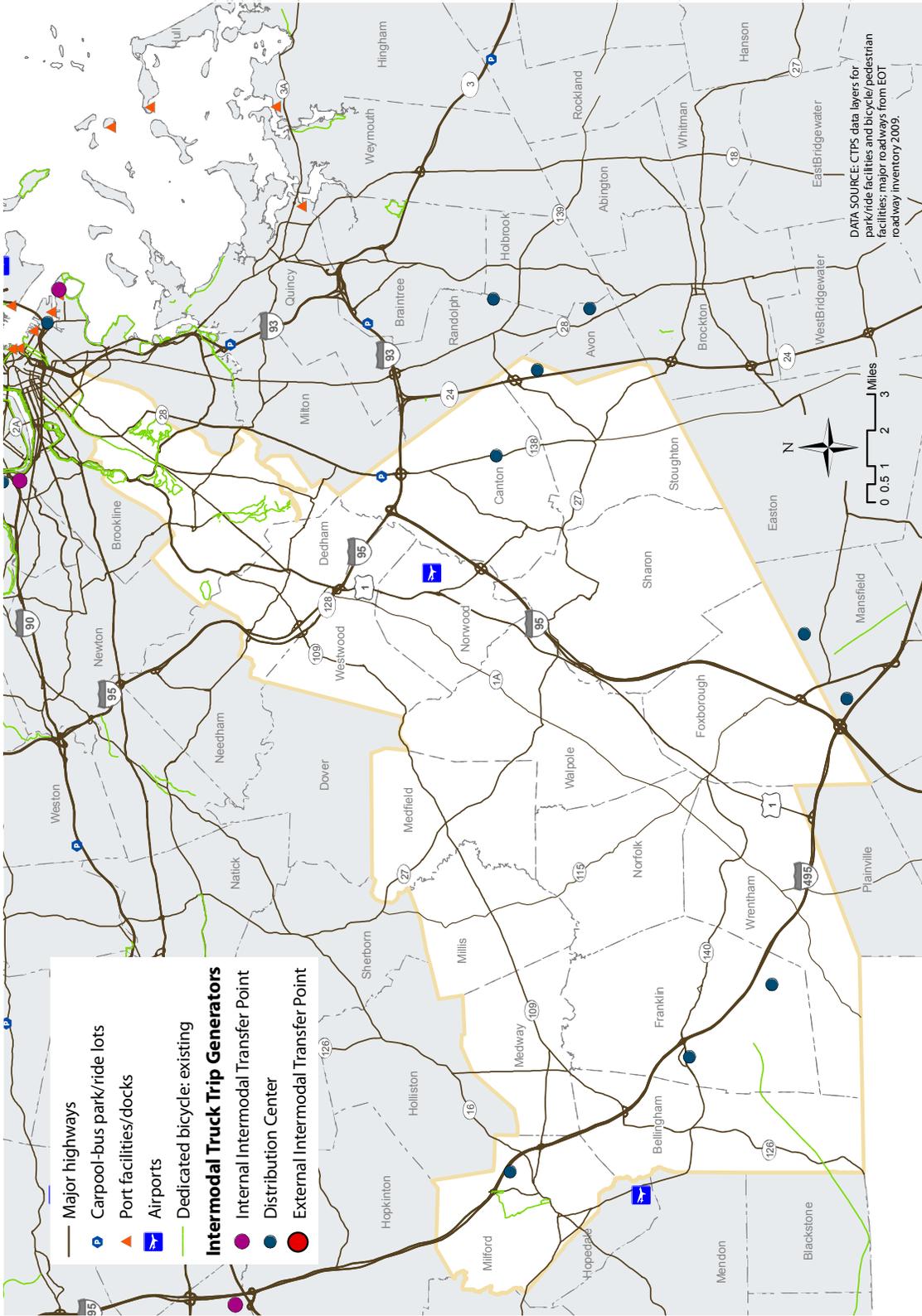
Park-and-ride facilities that are not connected with a public transit station are located in Canton (within the Boston Region MPO) and Raynham (outside of the Boston Region MPO area). They are operated by MassDOT.

## Transit

Transit in the corridor includes a variety of modes: commuter rail, intercity rail, rail rapid transit, bus, and paratransit (provided by the MBTA's THE RIDE program and the Greater Attleboro-Taunton Regional Transit Authority); see Figure 6-2. A description of the transit services is provided below.

FIGURE 6-1

EXISTING HIGHWAY TRANSPORTATION FACILITIES - SOUTHWEST CORRIDOR





## Commuter Rail and Intercity Rail

Four MBTA commuter rail lines run through the corridor and provide service into South Station in Boston. The stations, along with their numbers of park-and-ride spaces and average utilization rates, and other selected information as applicable, are:

- Franklin Line with 11 stations in the corridor:
  - Endicott (Dedham) – 45 park-and-ride spaces (100% utilization rate)
  - Dedham Corporate Center – 497 park-and-ride spaces (22% utilization rate); bicycle parking also
  - Islington (Westwood) – 39 park-and-ride spaces (25% utilization rate); bus connections
  - Norwood Depot – 393 park-and-ride spaces (15% utilization rate)
  - Norwood Central – 781 park-and-ride spaces (40% utilization rate); bicycle parking also; bus connections
  - Windsor Gardens (Norwood) – No park-and-ride spaces
  - Plimptonville (Walpole) – No park-and-ride spaces
  - Walpole – 343 park-and-ride spaces (30% utilization rate); bicycle parking also
  - Norfolk – 532 park-and-ride spaces (52% utilization rate); bicycle parking also
  - Franklin – 173 park-and-ride spaces (75% utilization rate); bicycle parking also
  - Forge Park (Franklin) – 716 park-and-ride spaces (50% utilization rate); bicycle parking also; Greater Attleboro Taunton Regional Transit Authority (GATRA) bus connection
- Providence/Stoughton Line, with eight stations in the corridor and one in Rhode Island:
  - Route 128 (Westwood) – 2,589 park-and-ride spaces; intercity rail (92% utilization rate)
  - Canton Junction – 764 park-and-ride spaces (49% utilization rate)
  - Canton Center – 215 park-and-ride spaces (51% utilization rate); bicycle parking also
  - Stoughton – 333 park-and-ride spaces (54% utilization rate); bicycle parking also



- Sharon – 542 park-and-ride spaces (90% utilization rate); bicycle parking also
- Mansfield – 806 park-and-ride spaces managed by town (74% utilization rate); bicycle parking also; GATRA bus connection
- Attleboro – 780 park-and-ride spaces (63% utilization rate); bicycle parking also; GATRA bus connection
- South Attleboro – 567 park-and-ride spaces (76% utilization rate); bicycle parking also; GATRA bus connection
- Providence (Rhode Island) – 330 park-and-ride spaces (75% utilization rate); intercity rail and bus connections



- Needham Line, with five stations in the corridor:
  - Forest Hills – 206 park-and-ride spaces (100% utilization rate); rapid transit; bicycle parking also; bus hub
  - Roslindale Village – 160 park-and-ride spaces (14% utilization rate); bicycle parking also; bus connections
  - Bellevue (West Roxbury) – 37 park-and-ride spaces (28% utilization rate); bicycle parking also; bus connections
  - Highland (West Roxbury) – 175 park-and-ride spaces (43% utilization rate); bus connections

- West Roxbury – 62 park-and-ride spaces (30% utilization rate); bicycle parking also; bus connections

- Fairmount Line, with one station in the corridor:

- Fairmount (Hyde Park) – 50 park-and-ride spaces (13% utilization rate); bus connections

- Several stations are common to two or more lines:

- Ruggles (Needham, Providence/Stoughton, and Franklin) – No park-and-ride spaces; bicycle parking; commuter rail; rapid transit; bus hub
- Readville (Franklin and Fairmount) – 347 park-and-ride spaces (26% utilization rate); bicycle parking also; bus connections
- Hyde Park (Franklin and Providence/Stoughton) – 121 park-and-ride spaces (34% utilization rate); bus connections

Amtrak stops at the Route 128 station on the Providence/Stoughton Line in the corridor with frequent service to Providence, Rhode Island and points south. Amtrak

shares parking with MBTA commuter rail at this station.

### **MBTA Rail Rapid Transit**

The southern portion of the Orange operates in this corridor. Its stations, along with their number of park-and-ride spaces and other selected information as applicable, are:

- Orange Line with six stations:
  - Ruggles – No park-and-ride spaces; bicycle parking; commuter rail; bus hub
  - Roxbury Crossing – No park-and-ride spaces; bicycle parking; bus hub
  - Jackson Square – No park-and-ride spaces; bicycle parking; bus connections
  - Stony Brook – No park-and-ride spaces; bicycle parking; bus connections
  - Green Street – No park-and-ride spaces; bicycle parking; bus connections
  - Forest Hills – 206 spaces (100% utilization rate); commuter rail; bicycle parking also; bus hub

### **Bus**

Numerous public bus services operate in or through the corridor:

- MBTA bus rapid transit (1 route) – Silver Line (SL) Washington Street service operates in the Southwest Corridor. The SL5 to Downtown Crossing and SL 4 to South Station serve four stations in the corridor: Massachusetts Avenue, Lenox Street, Melnea Cass Boulevard, and Dudley. None of these stations has parking; MBTA local bus routes serve three of the four stations.
- MBTA express buses (1 route) – Route 170 provides connections between the Northwest corridor and locations in Boston Proper and the Southwest Corridor.
- MBTA local buses (39 routes) – Many of the local bus routes offer connections to destinations in the Southeast Corridor. The MBTA also contracts with a private carrier to provide service in Canton.
- Greater Attleboro Taunton Regional Transit Authority (GATRA) (14 routes) – Seven routes serve Attleboro, and some of these extend into other municipalities. The buses provide connections to MBTA commuter rail on the Providence/Stoughton and Franklin Lines.
- Municipal and private bus carriers – The Town of Dedham oversees a municipal transit service operated by a contractor. Peter Pan provides off-peak service between Foxborough and Logan Airport.

### **Intermodal Facilities (Passenger)**

The Route 128 Station is located just off Interstate 95 in Westwood. The station serves MBTA commuter rail and Amtrak trains. The latter has frequent service to Providence, Rhode Island and points south. Amtrak shares parking with MBTA commuter rail.





### **Connections to MBTA Service from Other Regional Transit Authorities' Services**

GATRA provides bus connections to MBTA commuter rail at the Attleboro, South Attleborough, and Mansfield stations on the Providence/Stoughton line; and at the Norfolk, Franklin, and Forge Park stations on the Franklin line.

### **Transportation Management Associations**

The Neponset Valley Transportation Management Association (TMA) offers

two shuttle services to employers in Canton:

- Route 128 Station Link 1 is an employee shuttle service operating between 128 Station, the Reebok complex, the One Beacon complex, and the Computershare complex.
- Route 128 Station Link A is an employee shuttle service between the Ashmont and Quincy Center Red Line stations, the Reebok complex, the One Beacon complex, and the Computershare complex.

## **Freight**

### **Truck Freight**

Trucks are the dominant freight mode in the Boston Region MPO area. They operate on all roadways in the region to transport goods and make deliveries. In this analysis, trucks include three categories of vehicle: tankers, large trucks, and business pickup trucks and vans. The analysis of Interstate 495 took advantage of actual MassDOT vehicle classification count data, which is available for a limited number of locations in the region. The following is a list of the highways in the Southwest Corridor with the highest current volumes of truck traffic:

- Interstate 95 from Needham to Mansfield, with volumes ranging from 5,000 to 11,000 trucks per day
- Interstate 495 from Hopkinton to Plainville, with volumes ranging up to 17,000 trucks per day
- Route 24 in Canton, with volumes ranging from 5,000 to 9,000 trucks per day

### **Rail Freight**

CSX carries freight to a pair of rail yards in the Southwest Corridor. The Readville Yard in Boston supports local freight distribution along the Northeast Rail Corridor and connecting lines. CSX also serves the Walpole Yard in Walpole, which supports local freight distribution in east central Massachusetts.

CSX operates on several secondary lines in the corridor and has interchanges with multiple short line railroads in the region. CSX connects to the Bay Colony Railroad (BCLR) in Medfield. The BCLR conducts freight operations over MBTA-owned right of ways between Medfield and Millis, and on the Fall River Branch, also known as the Watuppa Branch. BCLR's principal business is the movement of municipal waste.

The Grafton and Upton Railroad operates in the corridor and has an interchange with CSX in Milford. The Massachusetts Coastal Railroad connects to CSX in Taunton, which is in the Southwest Corridor, but outside of the Boston Region MPO area.

### **Marine Freight**

There are no marine facilities in the Southwest Corridor.

### **Air Freight**

There are no freight airport facilities in the corridor.

### **Intermodal Freight Facilities**

The intermodal facilities located in the Boston Region MPO portion of the Southwest Corridor are shown in Figure 6-1 and listed below:

- Franklin Grove Distribution, Franklin
- Barrett Distribution Center, Franklin
- USCO Distribution Center, Franklin
- Holmes Products, Milford
- Casual Male Retail Group, Canton
- Reebok, Stoughton

The intermodal facilities located in the Southwest Corridor outside of the Boston Region MPO area are:

- Myles Standish Industrial Park, Taunton
- Hurquist Terminal, Mansfield

### **Air**

Norwood Memorial Airport is a general aviation airport in Norwood. Among the 37 general aviation airports in the state (not including Logan and Hanscom), Norwood Memorial is home to the second highest number of aircraft. The Mansfield Municipal Airport and the Taunton Municipal Airport – King Field are also located in the corridor, but outside of the Boston Region MPO.



## Bicycle

### Bicycle Paths

The Southwest Corridor has two major bicycle trails, the Upper Charles Trail, 2.8 miles in Milford, and the Southwest Corridor Trail, 3.9 miles in Boston.<sup>1</sup> These are shown in Figure 6-1, along with other minor facilities used by bicyclists and pedestrians in the corridor.

### On-Road Bicycle Accommodations

Table 6-1 shows the percentage of roadways in each of the Boston Region MPO municipalities in the corridor that have on-road bicycle accommodations defined as roadways with bicycle lanes or shoulders of four feet or greater. The Boston neighborhoods of Hyde Park, Roslindale, and West Roxbury are included in this table, and are not included in Chapter 8, Central Area because they are not considered part of the Central Area. The Boston neighborhoods of Roxbury and Jamaica Plain are not included in this table but are included in Chapter 8.

**TABLE 6-1**

**PERCENTAGE OF ROADWAYS WITH BICYCLE ACCOMMODATIONS**

MUNICIPALITY	TOTAL NON-INTERSTATE CENTERLINE MILES	CENTERLINE MILES WITH BICYCLE LANES	CENTERLINE MILES WITH FOUR-FOOT SHOULDERS	PERCENTAGE OF CENTERLINE MILES WITH BICYCLE ACCOMMODATIONS
Hyde Park*	82	0.1	1.7	2.2%
Roslindale*	65	2.2	0.0	3.4%
West Roxbury*	80	0.0	0.2	0.3%
Bellingham	93	0.0	2.0	2.2%
Canton	103	0.0	2.8	2.7%
Dedham	103	0.0	0.9	0.9%
Foxborough	92	0.0	3.2	3.5%
Franklin	165	0.0	1.0	0.6%
Medfield	77	0.0	0.0	0.0%
Medway	74	0.0	0.0	0.0%
Milford	118	0.0	0.3	0.2%
Millis	52	0.0	0.0	0.0%
Norfolk	81	0.0	0.0	0.0%
Norwood	108	0.0	3.5	3.2%
Sharon	117	0.0	1.3	1.1%
Stoughton	123	0.0	2.3	1.8%
Walpole	138	0.0	0.0	0.0%
Westwood	87	0.0	2.1	2.4%
Wrentham	91	0.0	4.0	4.4%
<b>TOTAL</b>	<b>1,883</b>	<b>2.0</b>	<b>25.0</b>	<b>1.5%</b>

\* Boston neighborhoods

1 The Southwest Corridor Trail is also part of the East Coast Greenway that aims to develop a trail system between Canada and Key West.

The bicycle accommodation coverage in the Southwest Corridor is low and predominately consists of four-foot shoulders on roadways. The coverage varies from no coverage in Medfield, Medway, Millis, Norfolk, and Walpole to over 4% coverage in Wrentham. Overall, the Southwest Corridor ranks below the regional average of 1.7%.

### **Bicycle Parking**

The MBTA provides bicycle parking at various commuter rail and rapid transit stations in the corridor (see lists of rail stations in the Transit section). According to the MBTA, over 95% of stations now have bicycle parking. Also, the MBTA has secured funding for bike racks on all MBTA buses; therefore, the riders in this corridor will be able to take their bicycles on the bus. The Boston Region MPO has a program funding the installation of bicycle racks in participating municipalities. Municipalities in the corridor that recently installed bike racks funded by the Boston Region MPO are:

- Bellingham
- Dedham
- Foxborough
- Franklin
- Medfield
- Sharon

Municipalities planning bike rack installations are:

- Norfolk
- Walpole
- Westwood
- Wrentham

### **Pedestrian**

Table 6-2 shows the percentage of roadways in each of the Boston Region MPO municipalities in the corridor that have sidewalks on at least one side. The Boston neighborhoods of Hyde Park, Roslindale, and West Roxbury are included in this table, and are not included in Chapter 8 - Central Area because they are not considered part of the Central Area. The Boston neighborhoods of Roxbury and Jamaica Plain are not included in this table but are included in Chapter 8.



**TABLE 6-2**

**PERCENTAGE OF ROADWAYS WITH SIDEWALKS**

MUNICIPALITY	TOTAL NON-INTERSTATE CENTERLINE MILES	CENTERLINE MILES WITH SIDEWALKS ON AT LEAST ONE SIDE	PERCENTAGE OF CENTERLINE MILES WITH SIDEWALKS
Hyde Park*	82	66	81%
Roslindale*	65	56	87%
West Roxbury*	80	66	82%
Bellingham	93	30	32%
Canton	103	38	37%
Dedham	103	63	61%
Foxborough	92	36	39%
Franklin	165	92	55%
Medfield	77	32	42%
Medway	74	27	37%
Milford	118	46	39%
Millis	52	16	32%
Norfolk	81	20	25%
Norwood	108	78	72%
Sharon	117	54	47%
Stoughton	123	45	36%
Walpole	138	74	54%
Westwood	87	30	34%
Wrentham	91	22	24%
<b>TOTAL</b>	<b>1,848</b>	<b>890</b>	<b>48%</b>

\* Boston neighborhoods

The Southwest Corridor has the second-lowest sidewalk coverage of all of the radial corridors, and ranks below the regional average of 50%. The sidewalk coverage varies from 24% coverage in Wrentham to 72% coverage in Norwood, with 81% to 87% coverage in the Boston neighborhoods of Hyde Park, Roslindale, and West Roxbury.

**LAND USE AND DEMOGRAPHICS**

**Demographics**

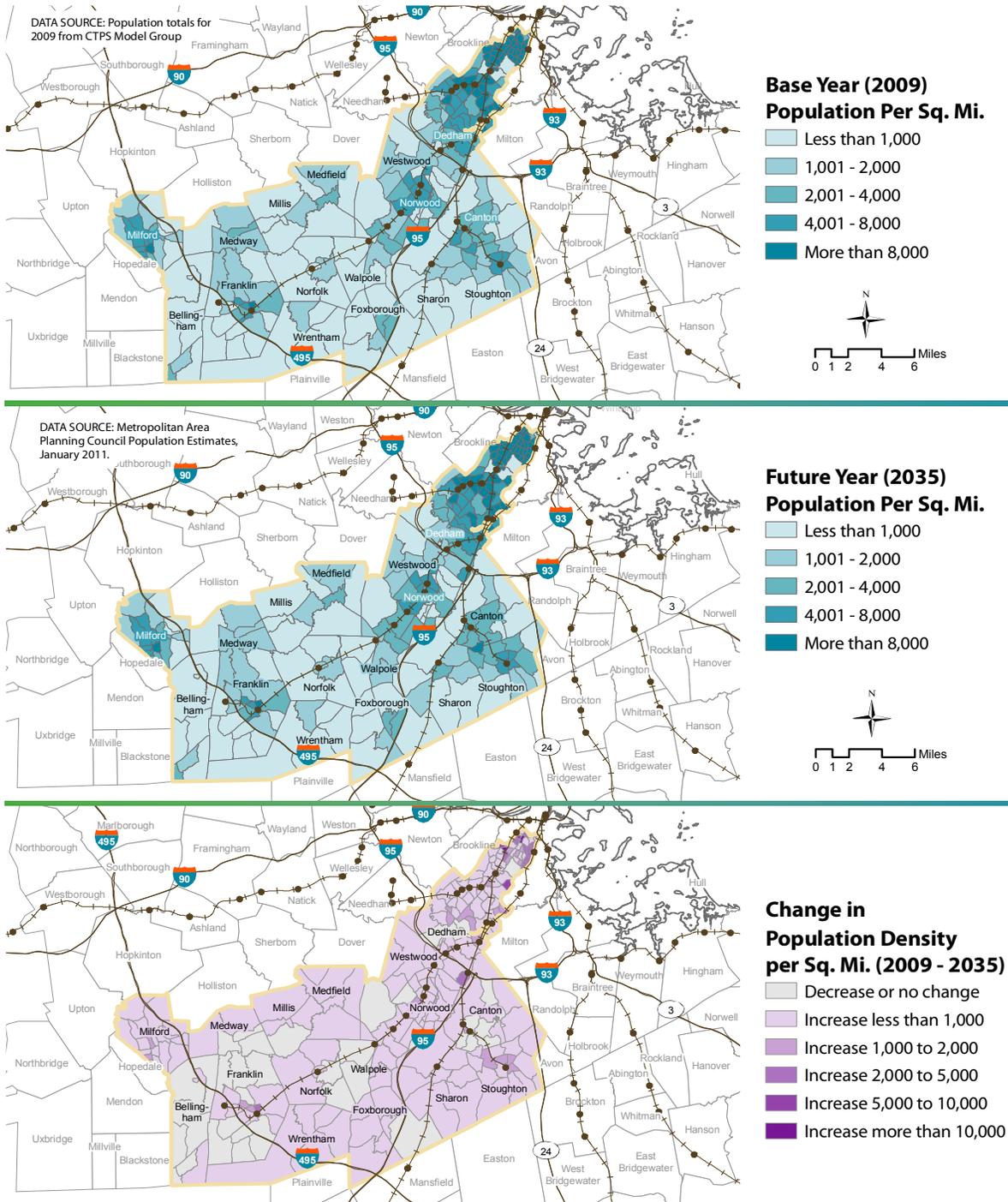
**Population**

The largest densely populated areas in the Southwest Corridor are within Norwood, Dedham, and Milford. The areas that are projected to become more densely populated between 2009 and 2035 include already-developed areas along the commuter rail. In general, population is projected to remain relatively stable, with most municipalities experiencing moderate gains or losses (see Figure 6-3).

According to U.S. census data (updated annually at the town level), the corridor’s 2009 population was 303,295. In the Metropolitan Area Planning Council’s (MAPC’s) MetroFuture forecasts, the corridor’s population increases by 8%, to 315,650 by 2035.

**FIGURE 6-3**

**POPULATION DENSITY BY TRANSPORTATION ANALYSIS ZONE - SOUTHWEST CORRIDOR**



The municipalities projected to have the largest absolute growth are Stoughton, Milford, and Westwood.

Figure 6-4 shows, by community for 2009, total elderly (age 70 or higher) population. This information can be used to assess the types of transportation services needed now and in the future. As shown in Figure 6-4, Dedham and Norwood currently have the highest population of elderly residents.

### **Land Use, Housing, Sustainable Transportation**

As of the year 2000, there were 107,200 households in the Southwest Corridor. The



population in the corridor is distributed across the corridor, with no municipality housing more than 10% of all residents. The largest municipalities are Franklin, Norwood, Stoughton, and Milford, all of which had more than 25,000 residents in 2000. The highest population densities are found in Norwood, Stoughton, and Franklin near the commuter rail stations, where the population density exceeds 6,500 residents per square mile. Norwood also boasts the corridor's highest employment densities near transit, with more than 9,500 employees per square mile in the area around the Norwood Depot station.

Figure 6-5 shows transit service and catchment areas with population density in the Southwest Corridor; it includes commuter rail and rapid transit stations

along with bus stops. For rapid transit and commuter rail stations, a half-mile catchment area for walk access is assumed, while the catchment area for bus stops is a quarter mile. This figure shows that higher-density areas in parts of Dedham, Norwood, and Milford do not have direct access to MBTA transit services, but Milford is served by the MetroWest Regional Transit Authority (MWRTA).

From 2000 to 2009, Southwest Corridor municipalities issued building permits for 9,023 new housing units (according to the U.S. Census Bureau), representing housing unit growth of 8.4%. Franklin and Canton led the way with over 1,100 housing units permitted per municipality, more than 28% of the total. Millis was the only municipality that issued permits for fewer than 200 units over the past decade.

In 2007 and again in 2010, MAPC surveyed municipalities about recent and anticipated development. The largest recent residential developments recently completed or under active construction in the corridor include the Preserve Apartments in Walpole (a 300 unit 40B); The Estates at Walpole (196 single family homes); Walden Woods in Milford (165 attached single family homes); and Windsor

**FIGURE 6-4**

**ELDERLY POPULATION BY TOWN, 2009 - SOUTHWEST CORRIDOR**

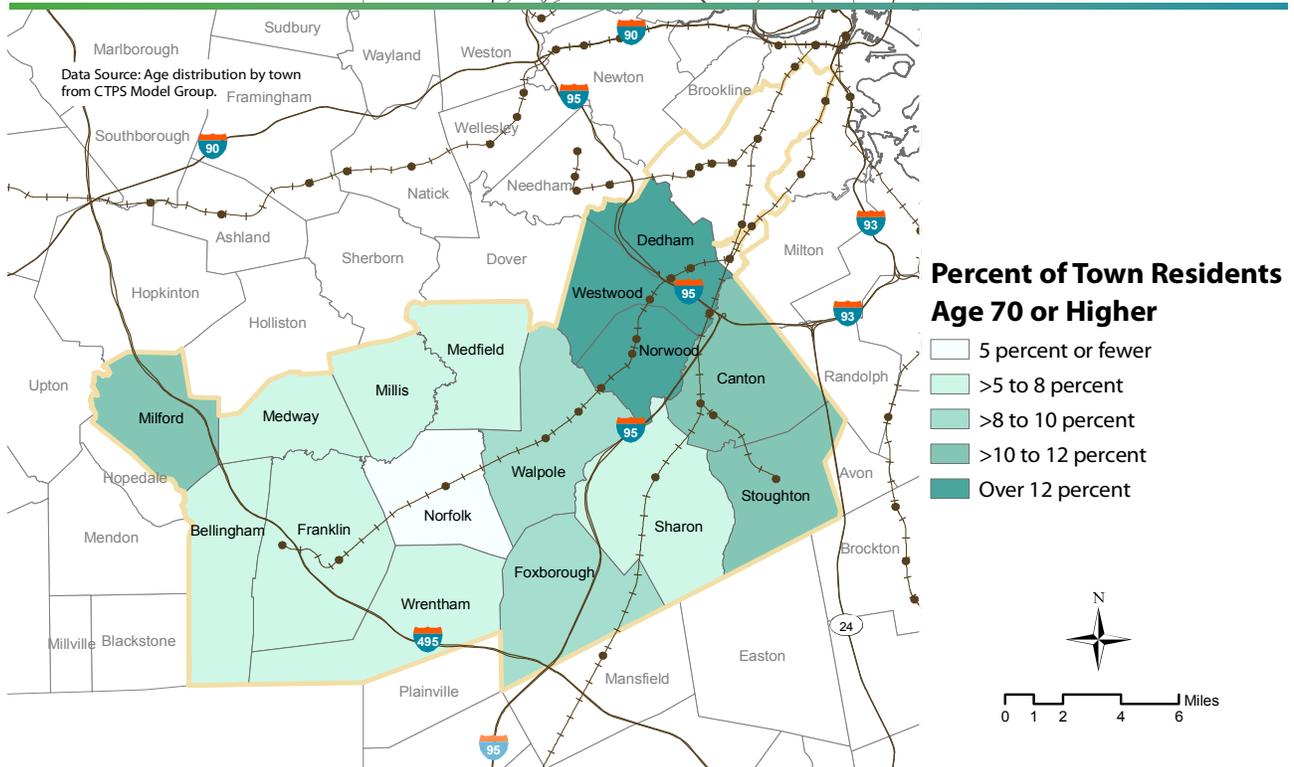
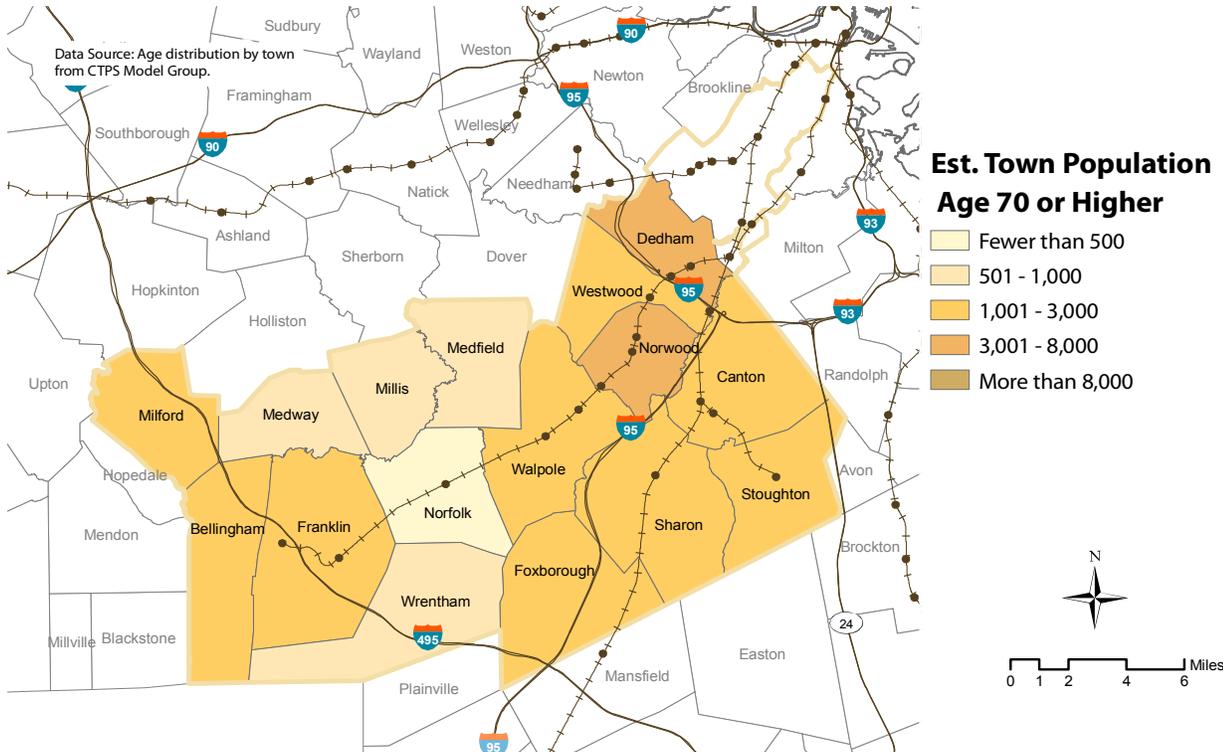
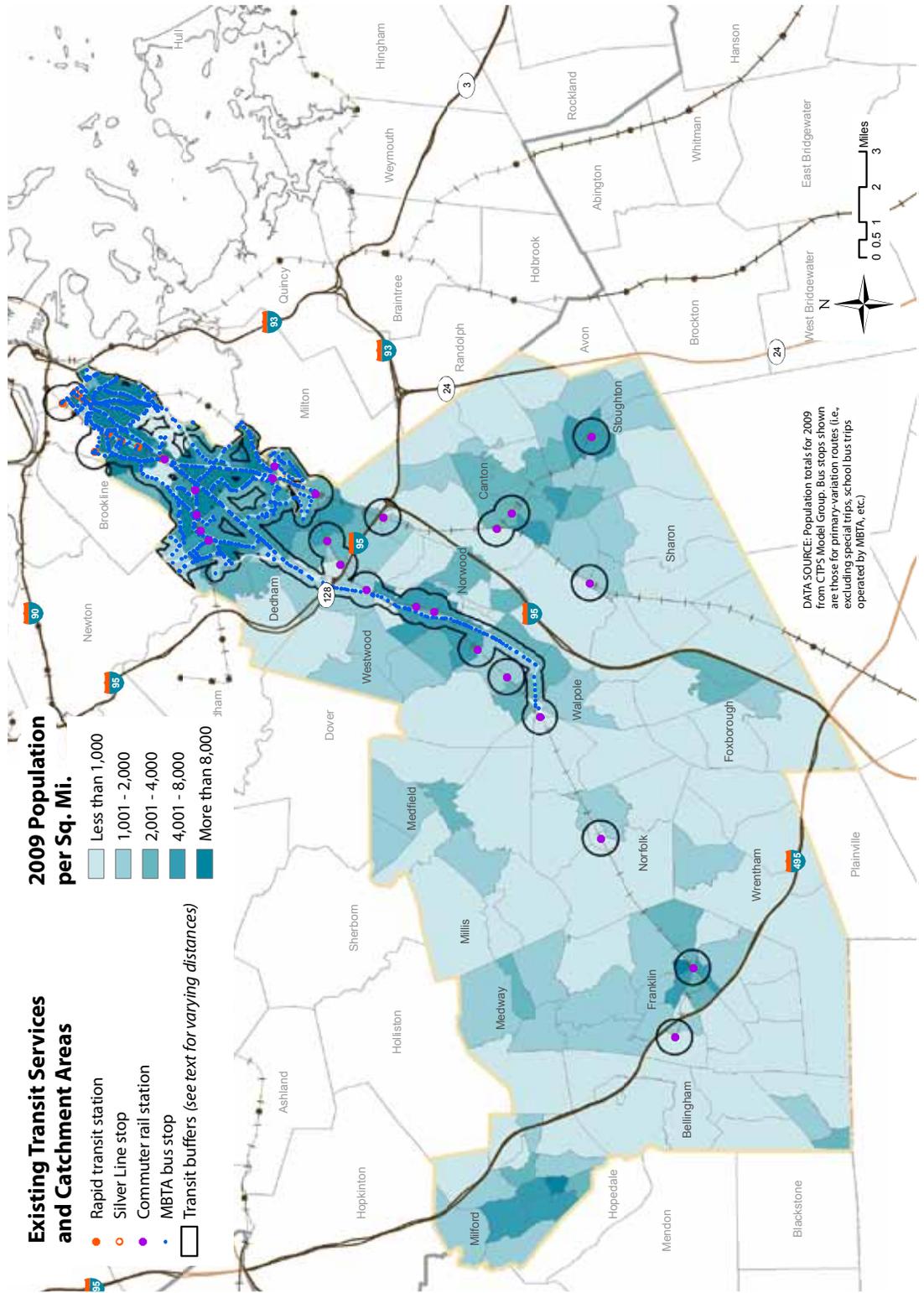


FIGURE 6-5

TRANSIT SERVICES CATCHMENT AREAS - SOUTHWEST CORRIDOR



Woods in Canton (159 apartments). The largest development currently planned in the corridor is Westwood Station, with 1,000 housing units, 1 million square feet of retail space, 1.5 million square feet of office space, and two hotels. Other planned developments include Acorn Estates in Canton (a 224 unit 40B development) and the Stone Ridge Business Park in Milford (625,000 square feet).

Corridor-wide, auto ownership is markedly higher than the regional average, at 2.0 autos per household; the average household drives 68.6 miles per day, well above the regional average of 46.7 miles per day. This above average auto dependency is consistent across the corridor; Norwood has the lowest per household auto usage (54.5 miles per day), but still above the regional average. In five municipalities—Norfolk, Wrentham, Franklin, Bellingham, and Medfield—the average household owns more than 2.1 vehicles and drives more than 80 miles per day.

### **Employment**

According to the Executive Office of Labor and Workforce Development, the number of jobs in the Southwest Corridor in 2009 was 157,800. Norwood and Canton are the top employment centers, with more than 21,000 jobs each. Westwood, Canton, and Wrentham have the longest commute distances, with round trips of more than 20 miles per employee. In three municipalities—Medway, Norfolk, and Bellingham, more than 10% of commute miles are accomplished by walking or biking.

MAPC's MetroFuture forecasts show employment increasing by 6%, to 170,500 by 2035, with some municipalities experiencing modest growth in absolute terms. Almost all of the gains are expected in Westwood, Franklin, Foxborough, Milford, Norwood, and Stoughton (see Figure 6-6).

### **MetroFuture Plan**

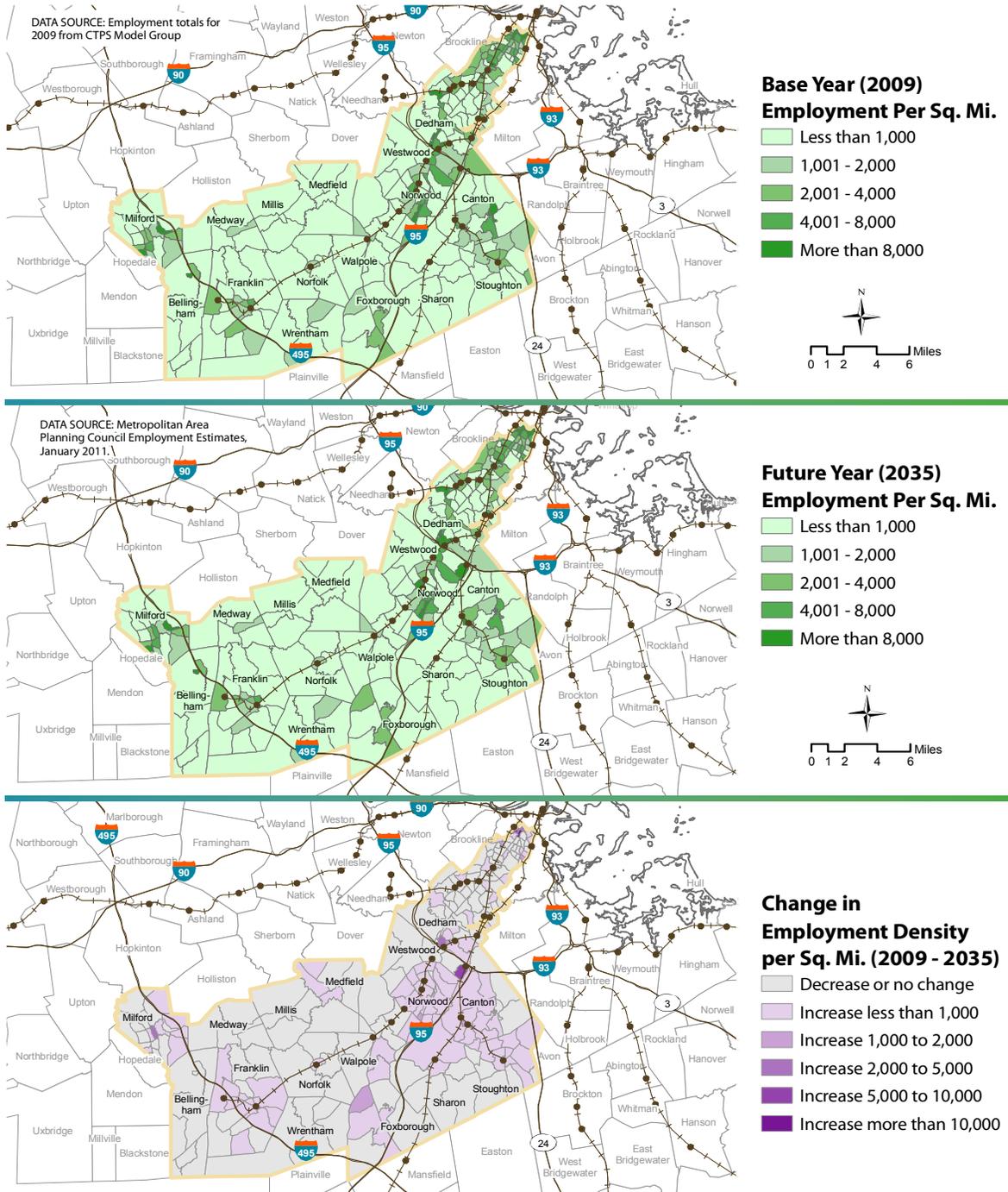
MetroFuture is a long-range plan for land use, housing, economic development, and environmental preservation in the Boston region comprising both a vision for the region's future and a set of strategies to achieve that future. The MetroFuture land use plan and associated socioeconomic projections are used in the MPO's travel demand model. MetroFuture seeks to create a more sustainable future for the region by focusing growth in areas where development already exists in order to make better use of existing infrastructure and reduce the need for new highways, interchanges, and other infrastructure.

MetroFuture classified municipalities into four distinct community types based on existing conditions and potential for sustainable development. The Southwest Corridor includes two Regional Urban Centers (Norwood and Milford). The remaining towns are Maturing Suburbs and Developing Suburbs.

The MetroFuture land use vision for the Southwest Corridor is built around continued redevelopment and reuse of commercial and industrial land proximate to Commuter Rail stations and in traditional downtowns and town centers in Norwood, Canton, Stoughton, Franklin, and Milford. In these locations, new households will

FIGURE 6-6

EMPLOYMENT DENSITY BY TRANSPORTATION ANALYSIS ZONE - SOUTHWEST CORRIDOR



have the greatest access to transit and the highest proximity to common household destinations.

Economic development along commuter rail stations will also create more options for commuters, especially if transit service is structured to serve reverse commutes from the Inner Core to suburban job locations near transit. In locations more distant from transit, MetroFuture recommends land use, design, and transportation demand strategies that facilitate transit and bicycle or pedestrian access. In 2010, MAPC worked with four municipalities in the Southwest Corridor to identify Priority Development Areas (PDAs) and Priority Preservation Areas (PPAs) as a part of the South Coast Rail planning process.

### **Municipal Planning**

Most municipalities in the corridor have adopted or opted in to contemporary planning initiatives and other planning activities that promote economic development, smart growth, healthy transportation, and greenhouse gas (GHG) emission reductions. Participating municipalities along with their programs and municipality designations, are shown in Table 6-3. A description of these programs is provided in Appendix B.

The MPO does not have direct control over land use decisions; land use is controlled by local municipalities through zoning. However, the MPO can use the information presented here in its decision making when choosing projects to fund in the LRTP and Transportation Improvement Program (TIP). Projects can be ranked based on how well the community is implementing the smart growth and healthy transportation initiatives in addition to whether a project reduces GHG emissions.



**TABLE 6-3**

**MUNICIPAL PLANNING: COMMUNITY CHECKLIST**

MUNICIPALITY	ECONOMIC DEVELOPMENT			SMART GROWTH								LAND USE			PUBLIC HEALTH			CLIMATE CHANGE	
	PWED	Approved 43D Site	TMA	TOD & Housing Support	Approved 40R District	Regional Hub	Suburban Center	Urban Center	Maturing Suburb	Growth Districts Initiative	District Local Tech. Asst.	TOD District	Mixed-Use Zoning District	Comm. Preservation Act	Mass In Motion	Safe Routes to School	WCW	ICLEI Member	Green Community
Bellingham	•									•							•		
Canton	•		•		•		•		•	•	•	•			•				
Dedham			•		•				•	•		•			•			•	•
Foxborough	•						•		•	•		•			•				
Franklin	•		•		•		•			•	•	•			•	•			
Medfield								•											
Medway	•				•							•	•						•
Milford						•	•								•				
Millis										•		•	•						
Norfolk					•					•		•	•		•				
Norwood	•	•	•			•	•			•		•							
Sharon		•			•				•	•		•	•						
Stoughton	•						•		•	•		•	•		•				
Walpole	•	•	•			•				•		•			•	•			
Westwood			•			•			•	•	•	•			•	•			
Wrentham																•			

**TRAVEL CHARACTERISTICS**

**Travel into Boston Proper from the Southwest Corridor (Highway and Transit)**

The most recent count information for highway and transit travel into Boston Proper from the Southwest Corridor is shown in Table 6-4. Also included is the same information from the travel demand model showing projected future 2030 No-Build conditions. Highway and transit trips were assigned to the corridor from which they enter Boston Proper, rather than assigning them to the corridor in which they originate. Boston Proper is the area with the following boundaries:

- Charles River on the north
- Massachusetts Avenue to Interstate 93 on the west and south
- Interstate 93 to South Station on the east

**TABLE 6-4****AVERAGE DAILY HIGHWAY AND TRANSIT PERSON-TRIPS INTO BOSTON PROPER FROM THE SOUTHWEST CORRIDOR: 2008 AND 2030 NO-BUILD**

	2008 PERSON-TRIPS	2030 NO-BUILD PERSON-TRIPS
Highway	51,490	48,860
Transit	67,430	73,630
Total	118,920	122,490
Highway percentage	43%	40%
Transit percentage	57%	60%
Corridor's share of total person-trips into Boston	12%	12%

Table 6-5 gives the modal breakdown of the transit trips.

**TABLE 6-5****AVERAGE DAILY TRANSIT PERSON-TRIPS BY MODE INTO BOSTON PROPER FROM THE SOUTHWEST CORRIDOR: 2008 AND 2030 NO-BUILD**

	2008 PERSON-TRIPS	2030 NO-BUILD PERSON-TRIPS
Bus	6,140	8,560
Rapid transit	44,400	47,170
Commuter rail	16,720	17,900
Contracted bus service	170	n/a
Ferry	0	0
TOTAL	67,430	73,630
Corridor's share of total transit trips into Boston	19%	19%

Inbound congestion levels on each of the three major modes of transit entering Boston Proper from the Southwest Corridor were calculated via two methods: by comparing the ridership loads to the seating capacity and by comparing them to the planning capacity (planning capacity is the seating capacity plus standing capacity). The 2008 congestion levels for each mode are shown in Table 6-6.

**TABLE 6-6****AVERAGE DAILY CONGESTION LEVELS ON TRANSIT MODES WITH SERVICE INTO BOSTON PROPER FROM THE WEST CORRIDOR (2008)**

MODE	BY SEATING CAPACITY	BY PLANNING CAPACITY
Bus	73%	52%
Rapid transit	41%	18%
Commuter rail	86%	72%

More detailed information on both highway and transit congestion is included in the Identified Transportation Issues section under Mobility.

## Southwest Corridor Travel Patterns

Figure 6-7 presents data, for both the base year 2008 and the projected 2030 No-Build scenario, on the person-trips (highway and transit combined for all types of travel: work-based, school-based, shopping, etc.) that originate in and are destined to the inner Southwest Corridor—the corridor communities that are not part of the Central Area. The 2030 No-Build assumes the realization of the projected MetroFuture population and employment with the existing transportation network. This information was developed using the travel demand model.

As shown, 59% of person-trips in the 2008 base year and 59% of person-trips in the 2030 No-Build scenario remain in the inner Southwest Corridor (municipalities within the Boston Region MPO that are not part of the Central Area). Other prominent travel to and from the inner Southwest Corridor are the outer Southwest (municipalities in the Southwest Corridor but not in the Boston Region MPO), West, Northwest, and Southeast corridors, and the Central Area. In comparing 2008 base-year and 2030 No-Build travel, the latter includes slightly less travel to and from the Central Area and to the Southeast Corridor. Travel from the Northwest Corridor is expected to increase slightly. Travel within the Southwest Corridor and between it and the previously listed corridors accounts for 90% of all person-trips associated with the Southwest Corridor. The remaining 10% of person-trip travel to the remaining corridors.

The information above discusses person trips for all purposes (work-based, school-based, shopping, etc.). When looking at the 2000 census Journey-to-Work data for the Southwest Corridor, only about 42% of the work-based trips (compared to 59% of all trips) remain within the Southwest Corridor, while about 20% of the work-based trips (compared to about 9% of all trips) are destined to the Central Area.



## Truck Travel

Daily truck trip-ends per square mile are shown in Figure 6-8 along with the locations of freight intermodal facilities. This figure shows that the highest concentrations of 2008 daily truck activity occur in Norwood and Dedham along Route 1, in Milford along Route 16, in Bellingham along Route 126, in Canton and Stoughton along Route 138, and in the neighborhoods of Boston closest to Boston Proper.

Between 2008 and 2030 (No-Build scenario), the truck model predicts that the largest increase in truck travel is expected to occur near the interchange of Interstates 93 and 95 in Canton.

FIGURE 6-7

TRAVEL ASSOCIATED WITH THE SOUTHWEST CORRIDOR  
(2008 AND 2030 PERSON-TRIPS)

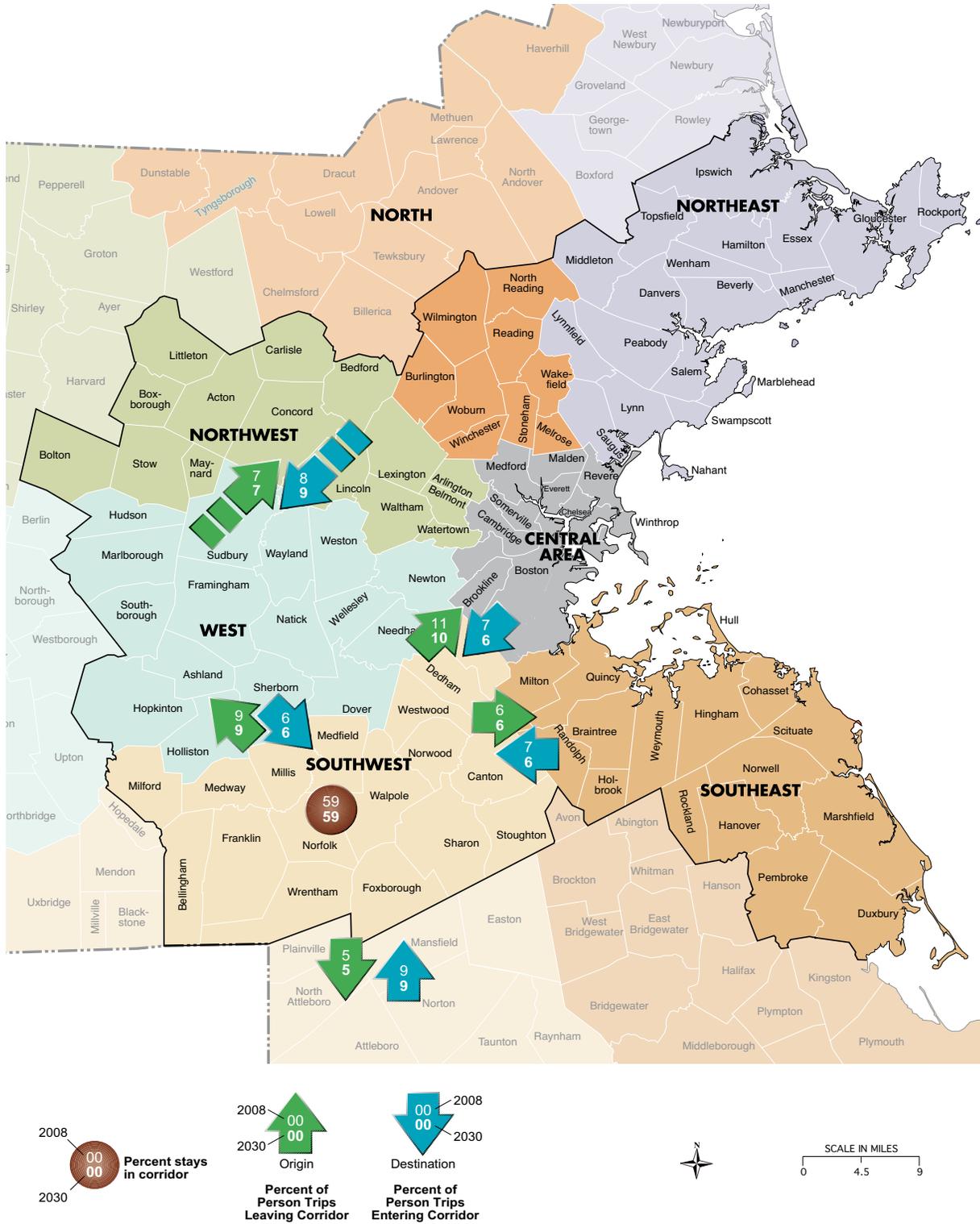
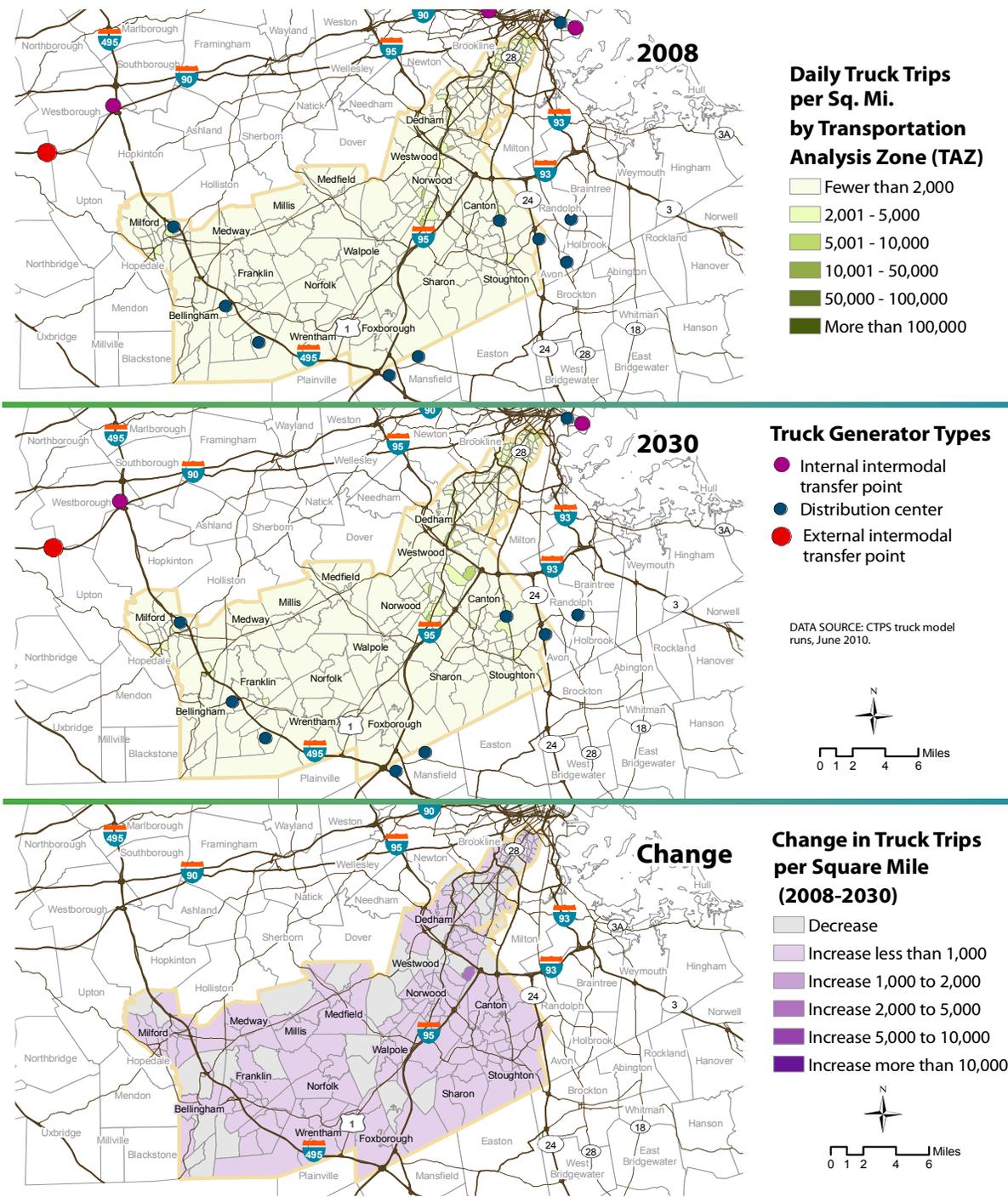


FIGURE 6-8

DAILY TRUCK TRIPS BY TRANSPORTATION ANALYSIS ZONE - SOUTHWEST

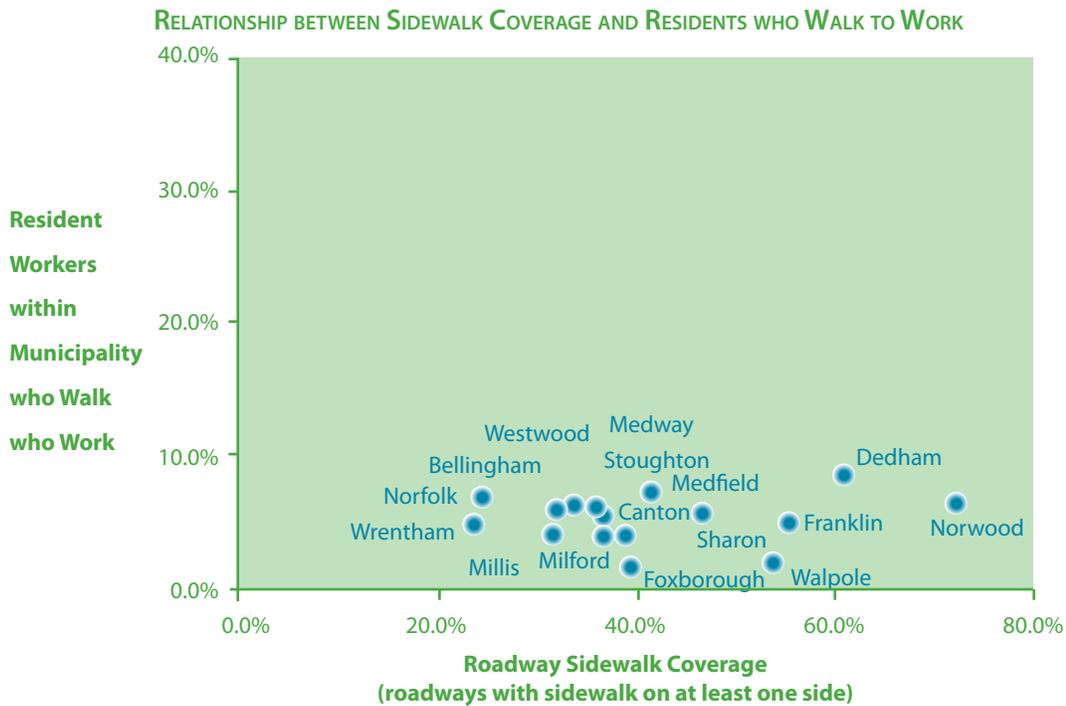


## Bicycle and Pedestrian Travel

There are limited bicycle facilities and bicycle travel in the Southwest Corridor. Less than 2% of the non-interstate centerline miles provide bicycle accommodations. Similarly, less than 1% of Southwest Corridor residents bicycle to work (data derived from 2000 census Journey-to-Work data).

Walking conditions vary from poor to good in the Southwest Corridor. Table 6-7 shows the relationship between roadway sidewalk coverage (roadways having a sidewalk on at least one side) and percentage of residents that walk to work by community. (Walk-to-work data are derived from 2000 census Journey-to-Work data.<sup>2</sup>) This table indicates the range in sidewalk coverage from 24% coverage in Wrentham to 72% coverage in Norwood, and in walk share from 2% in Foxborough to 8.7% in Dedham.

**TABLE 6-7**



Bicycle and pedestrian activity has been counted at several on-road and off-road facilities in the Southwest Corridor. Table 6-8 contains the top counted locations by average AM weekday, PM weekday, and daily weekend peak user volumes. Users are classified as bicyclists or pedestrians (people walking, jogging, skating, using wheelchairs, and pushing strollers).

<sup>2</sup> It should be noted that these percentages are estimates based on a U.S. Census Bureau questionnaire. Only workers over 16 years of age are included. All students, including those over 16, are excluded. The data were collected in early spring, when, according to metropolitan Boston counts, bicycle volumes are about one quarter of the peak-season volumes. It is not known what the seasonal variations are for pedestrians, but pedestrian volumes are assumed to be less variable than bicycle volumes. Another factor to consider is that the census questionnaire asks for the mode used for the longest part of the trip to work. A trip comprising a two-mile bicycle trip to a rail station, a five-mile train trip, and a half-mile walk to the workplace, for example, would be classified as a rail trip.

**TABLE 6-8**

**AVERAGE PEAK-HOUR BICYCLIST AND PEDESTRIAN VOLUMES**

FACILITY NAME	AM WEEKDAY PEAK-HOUR VOLUMES		
	BICYCLISTS	PEDESTRIANS	TOTAL
Southwest Corridor Trail (Boston)	189	29	218
Upper Charles Trail (Milford)	3	31	34
FACILITY NAME	PM WEEKDAY PEAK-HOUR VOLUMES		
	BICYCLISTS	PEDESTRIANS	TOTAL
Southwest Corridor Trail (Boston)	245	45	290
Upper Charles Trail (Milford)	24	102	126
Washington St. (Norwood)	3	101	104
Pearl St. (Stoughton)	5	22	27
FACILITY NAME	DAILY WEEKEND PEAK-HOUR VOLUMES		
	BICYCLISTS	PEDESTRIANS	TOTAL
Southwest Corridor Trail (Boston)	116	51	167
Upper Charles Trail (Milford)	70	60	130

## IDENTIFIED TRANSPORTATION ISSUES

### System Preservation and Modernization

#### Highway

##### Roadways

The Boston Region MPO area is the most densely populated MPO area in the state. The condition of its roadways is under constant pressure from high traffic volumes and harsh weather conditions. Because of this and the advanced age of much of the infrastructure, the roadways require significant preservation activities. Pavement needs were not calculated at the corridor level but have been calculated for the MPO region as a whole. That information is provided in Chapter 10.

##### Bridges

*Condition:* In Massachusetts, the condition of bridges is categorized through a nationally adopted rating system based on a number of standards, including structural adequacy, safety, serviceability, traffic, and public use. The system assigns one of three classifications to a bridge, based on its condition: 1) meeting standards, 2) functionally obsolete, and 3) structurally deficient. Functionally obsolete means that the bridge fails to meet current traffic demands or highway standards on bridge width, traffic volume, or condition of approach roadways. Inclusion in this category does not necessarily mean there is an imminent safety concern. Structurally deficient means that deterioration has reduced the load-carrying capacity of the bridge and is an indication that reconstruction may be necessary. Of the 378 bridges in the Southwest Corridor, 79 (21%) are classified as functionally obsolete, and 18 (5%) are classified as structurally deficient.

*Vertical Clearance:* The desired vertical clearance for trucks on highways as outlined in the 2006 Massachusetts Highway Department Project Development and Design Guide is 16 feet and 6 inches. This allows for the larger truckloads that are becoming more prevalent. There are 131 bridges in the corridor that should meet this vertical clearance for trucks. Of these bridges, 101 (77%) do not meet this standard.

*Highway Bridge Weight Restrictions:* Closed bridges and weight-restricted bridges cost truckers time and money due to increased fuel consumption, longer delivery times, and other inefficiencies. There are 17 (5%) weight-restricted bridges in the Southwest Corridor.

### **Transit: Universe of Transit Preservation and Modernization Needs Identified for the Southwest Corridor in the MBTA's Program for Mass Transportation**

The MBTA's Program for Mass Transportation (PMT) approved in December 2009 provides information on current and proposed transit needs. Some of the major transit needs or issues regarding system preservation and modernization in the Southwest Corridor are as follows:

#### **State-of-Good-Repair Projects**

A number of system preservation projects must be undertaken in the short- to mid-term to bring the system into a state of good repair and to ensure the safety of passengers and reliability of service.

On the commuter rail system, twelve bridges on the Fairmount Line and two on the Providence/Stoughton Line are currently rated as structurally deficient. Replacement of the Fairmount Line bridges is currently in progress.

On the Orange Line, upgrades to many components of the power distribution system are needed. In addition, new Orange Line cars must be purchased, so that the 1979–1981 fleet can be retired.

On the Silver Line Washington Street, the CNG vehicle fleet needs a mid-life overhaul.

#### **Infrastructure Enhancements**

In order to continue to maintain and improve service quality as demand grows and as technologies and materials improve, the MBTA will need to continually invest in infrastructure enhancements.

#### **ADA Accessibility**

Some gaps remain in providing ADA accessibility. The following stations are not accessible:

- Sharon (Providence/Stoughton Line)
- Franklin/Dean College, Walpole, Plimptonville, Windsor Gardens, Islington, Endicott (Franklin Line)

## Freight

### Weight-Restricted Tracks

The tracks in the Southwest Corridor are restricted to less than 286,000 pounds, which has become the industry standard. This increases costs for all shippers who need more cars to move their freight than they would in areas with 286,000-pound tracks.

## Mobility

### Highway Bottlenecks: Method for Identifying Them

A highway bottleneck is defined as a location where a constraint impedes the flow of traffic. The constraint at a bottleneck can be caused by, among other things, close spacing of intersections operating near or at capacity, a lane drop, or the confluence of large volumes of traffic at an interchange connecting two major highways. The types of roadways included in this bottleneck analysis are as follows:

1. Express highways, which are multilane, divided highways with fully controlled limited access
2. Class I and II arterials, which are defined as higher-speed arterials (those with some degree of limited access) and partially limited-access highways
3. The remainder of the arterial roadway network, which is classified as Urban Street Class III

Bottlenecks on express highways and arterials can be identified using a number of methods. For identifying those in the Southwest Corridor, three types of data that the Boston Region MPO collects or produces for express highways and arterials have been used:

- Travel speed index during peak periods (existing conditions for express highways and Class I and II arterials)
- Volume-to-capacity ratio during peak periods (existing and future conditions for express highways and all arterials)
- Intersections given priority by the Congestion Management Process (CMP) for improvement (existing conditions for Class III arterials)

Information of each type for the Southwest Corridor is presented in the following three subsections. Based on that information, the worst bottlenecks in the corridor were identified; these are listed in the subsequent section.

### Travel Speed Index (from the CMP)

Congestion thresholds have been established for express highways and Class I and II arterials using existing travel speed index data and are used in this identification of bottlenecks. The speed index is the ratio of observed speed to the posted speed limit. The locations on express highways and Class I and II arterials that have the worst speed indexes are shown in Table 6-9 for the AM peak period and Table 6-10 for the

PM peak period, and also in Figures 6-9 and 6-10. Note that the tables include only Class I and II arterials; however, Figure 6-10 also shows Class III arterials. Many of the locations shown in Figure 6-10 with a travel speed index below 40% are CMP priority intersections on Class III arterials and are also discussed below in the CMP Priority Intersections section and shown in Figure 6-15. The AM and PM peak periods referred to in the tables and figures are defined as follows. For express highways, the AM peak period is from 6:00 AM to 10:00 AM, and the PM peak period is from 3:00 PM to 7:00 PM. For arterials the AM peak period is from 6:30 AM to 9:30 AM, and the PM peak period is from 3:30 PM to 6:30 PM. This information is provided for existing conditions only.

**TABLE 6-9**

**TRAVEL SPEED INDEX (FROM THE CMP):  
WORST LOCATIONS\* IN AM PEAK PERIOD**

EXPRESS HIGHWAYS	SPEED INDEX
Rte. 24 northbound from the Stoughton/Avon town line to the Rte. 139 interchange (Stoughton)	0.60
I-95 northbound from the Dedham St. overpass to the I-95/I-93 split (Canton)	0.68
I-95 northbound from the I-95 interchange to Rte. 109 (Dedham, Canton, Westwood)	0.77 to 0.84
I-93 southbound from the I-95 interchange to Rte. 138 (Canton)	0.89
CLASS I & II ARTERIALS	SPEED INDEX
Rte. 1/VFW Pkwy various segments (Dedham, Norwood, Boston)	0.30 to 0.68
Rte. 203/Jamaicaway between Willow Pond Rd. and the Forest Hills Rotary (Boston)	0.37 to 0.75
Rte.138 (Canton)	0.32 to 0.38
Rte. 109 from I-495 to Birch St. (Milford)	0.33 to 0.69

\*Where multiple communities are listed for a roadway, they are in descending order of severity.

**TABLE 6-10**

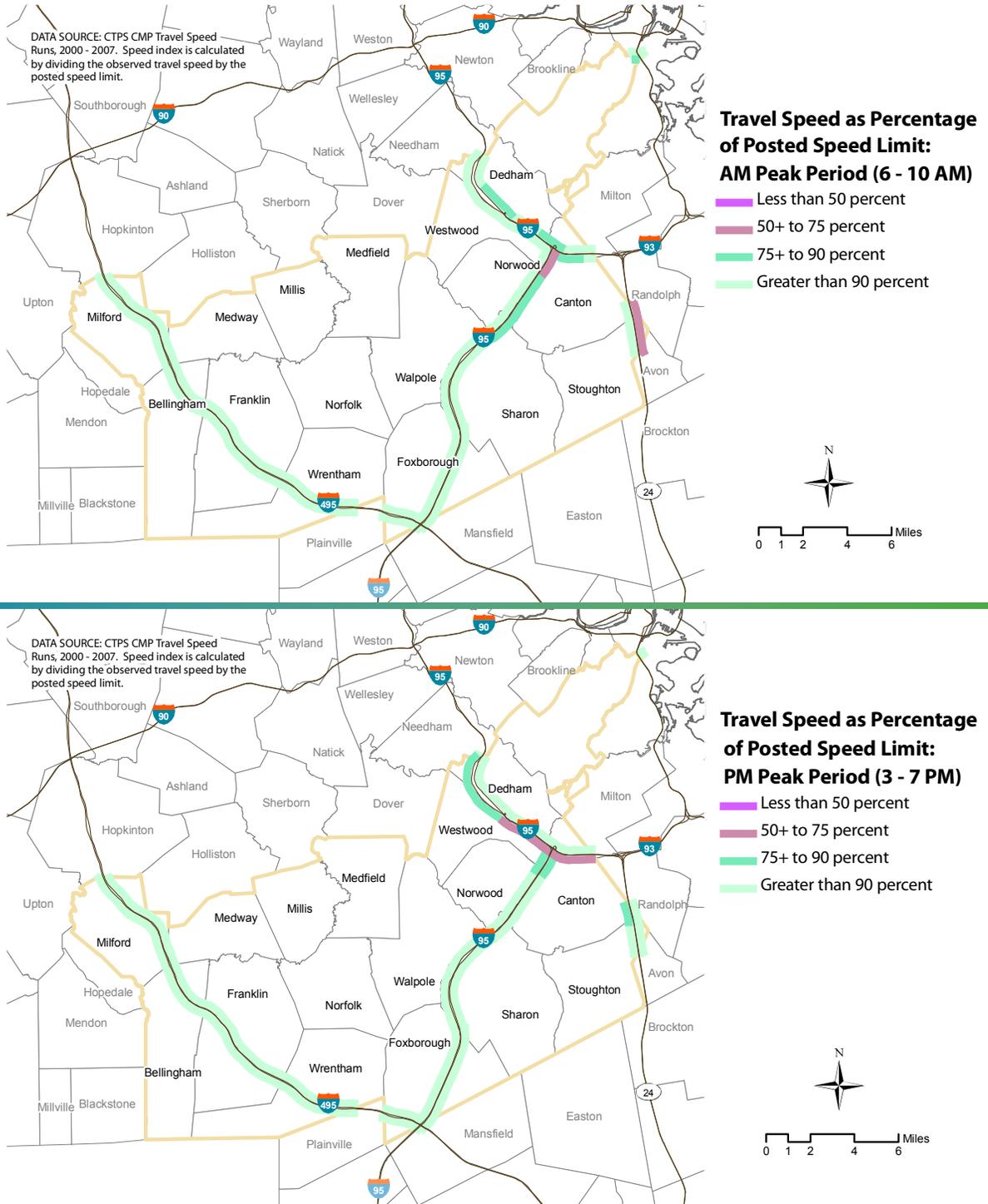
**TRAVEL SPEED INDEX (FROM THE CMP):  
WORST LOCATIONS\* IN PM PEAK PERIOD**

EXPRESS HIGHWAYS	SPEED INDEX
I-95 southbound from Great Plain Ave. to the I-95 south interchange (Dedham, Westwood, Canton)	0.52 to 0.89
I-95 at I-93 interchange (Canton)	0.86 to 0.89
CLASS I & II ARTERIALS	SPEED INDEX
Various segments of Rte. 1/VFW Pkwy (Dedham, Boston, Norwood, Westwood)	0.20 to 0.59
Rte. 109 from I-495 to Birch St. (Milford)	0.21 to 0.65
Rte.138 (Canton)	0.37 to 0.38
Rte. 203/Jamaicaway between Willow Pond Rd. and the Forest Hills Rotary (Boston)	0.33 to 0.75

\*Where multiple communities are listed for a roadway, they are in descending order of severity.

**FIGURE 6-9**

**EXPRESS HIGHWAY TRAVEL SPEED INDEX (EXISTING CONDITIONS)  
AM AND PM: SOUTHWEST CORRIDOR**





## Volume-to-Capacity Ratio

The existing volume-to-capacity ratios (V/Cs) of express highways and arterial segments in the Southwest Corridor were calculated using the roadways' existing traffic volumes and capacities. The V/C is an indication of the operational quality of a roadway segment. A roadway is reaching capacity as the V/C begins to approach 1.

Table 6-11 and Figures 6-11 and 6-12 present the segments of roadways in the Southwest Corridor with the highest V/Cs during the AM peak period, listed in descending order of severity. Table 6-12 and Figures 6-11 and 6-12 present the same information for the PM peak period. Order of severity was determined based on all data points and is therefore not always reflected in the ranges shown in the tables. In these tables and figures, for both express highways and arterials, the AM peak period is from 6:00 AM to 9:00 AM and the PM peak period is from 3:00 PM to 6:00 PM.

**TABLE 6-11**

**VOLUME-TO-CAPACITY RATIO (V/C):  
WORST LOCATIONS IN AM PEAK PERIOD, 2008**

EXPRESS HIGHWAYS	V/C
I-95 northbound just before the Rte. I-95 split (Canton)	Greater than 1
I-93 southbound from the Rte. 138 interchange to the I-95 (Canton)	0.96 to greater than 1
I-95 northbound from I-95 interchange to the Rte. 135 interchange (Canton, Dedham)	0.86 to greater than 1
ARTERIALS	V/C
Rte. 138 from Stoughton Center to the I-93 interchange (Stoughton, Canton)	0.69 to greater than 1
Rte. 140 between Wrentham and Franklin	0.67 to greater than 1
Rte. 109 (Westwood to Milford)	0.66 to greater than 1
Rte. 139 from the Rte. 24 interchange to the Turnpike St. intersection (Stoughton)	0.8 to greater than 1

**TABLE 6-12**

**VOLUME-TO-CAPACITY RATIO (V/C):  
WORST LOCATIONS IN PM PEAK PERIOD, 2008**

EXPRESS HIGHWAYS	V/C
I-95 southbound from the Rte. 135 interchange to the I-95 interchange (Dedham, Canton)	0.90 to greater than 1
I-95 northbound from the I-95 interchange to the East St. Rotary (Canton, Dedham)	0.90 to greater than 1
I-93 northbound from the I-95 split to the Rte. 138 interchange (Canton)	Greater than 1
I-93 southbound from the Rte. 138 interchange to the I-95 interchange (Canton)	0.94 to greater than 1
ARTERIALS	V/C
Rte. 138 from Stoughton Center to the I-93 interchange (Stoughton, Canton)	Greater than 1
Rte. 140 (Wrentham, Franklin)	Greater than 1
Rte. 109 from I-495 to Birch Street (Milford)	Greater than 1
Rte. 1 (Norwood)	Greater than 1
Rte. 139 from the Rte. 24 interchange to the Turnpike Street intersection (Stoughton)	0.8 to greater than 1
Rte. 27/North Main St. between Depot St. and Canton St. (Sharon)	0.8 to greater than 1

FIGURE 6-11

EXPRESS HIGHWAY VOLUME-TO-CAPACITY RATIO  
2008, AM AND PM: SOUTHWEST CORRIDOR

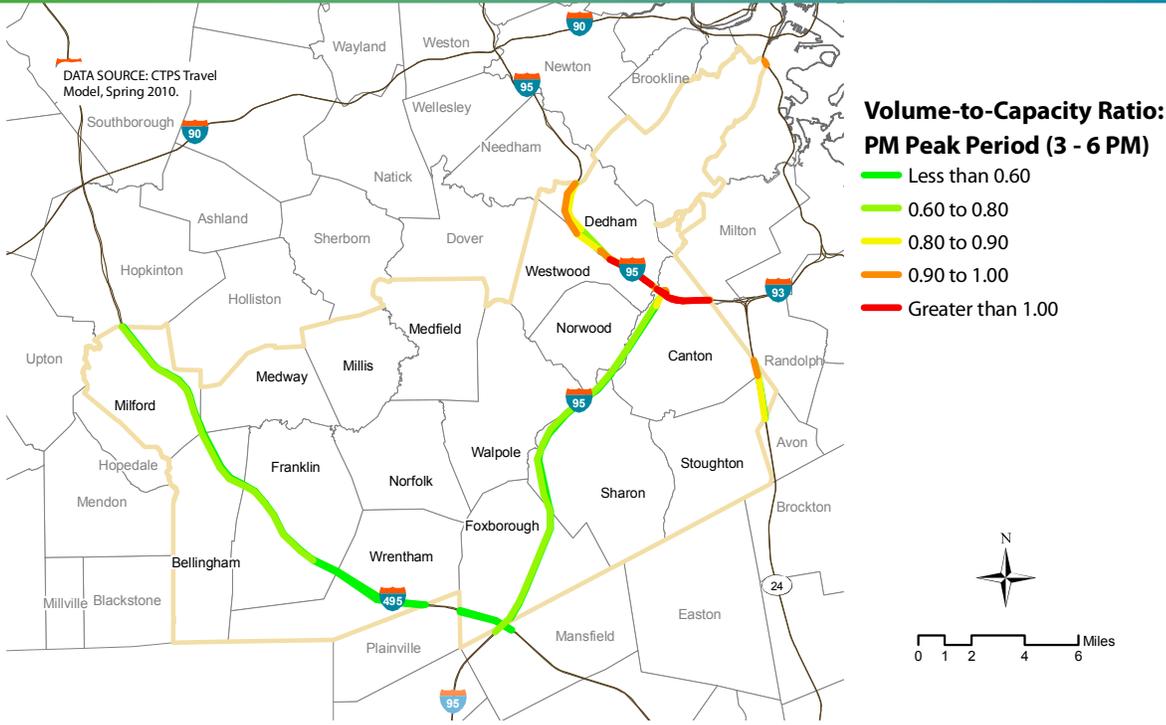
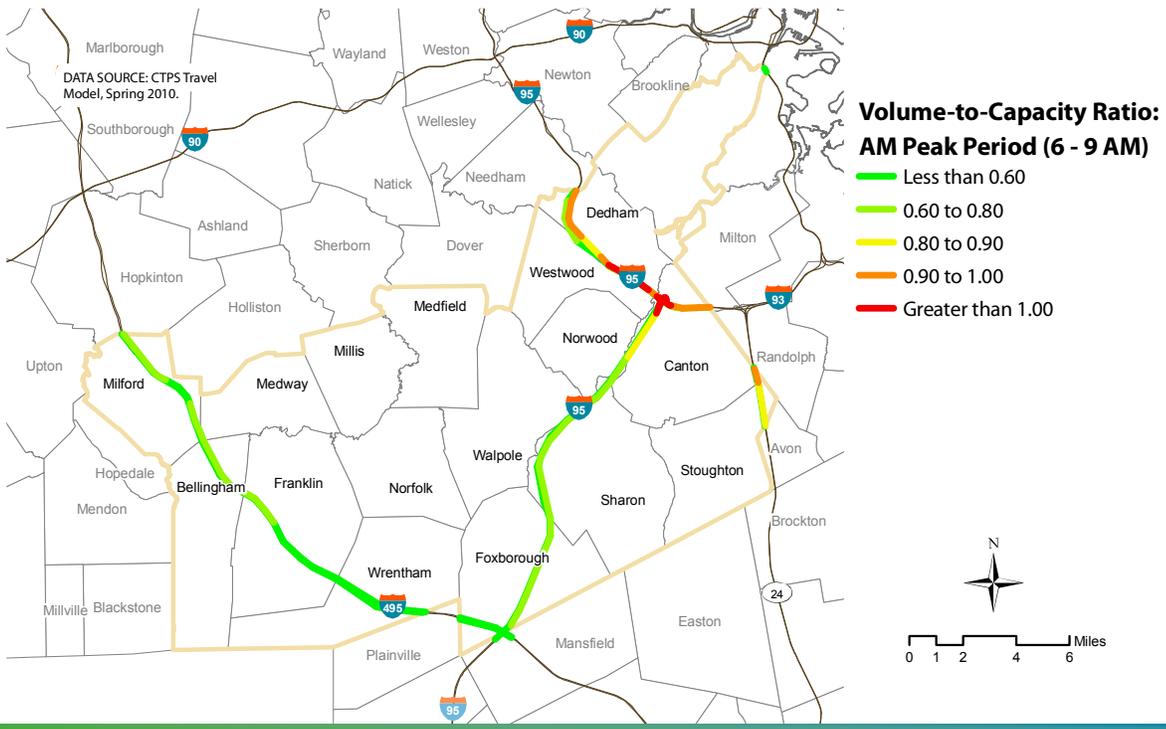
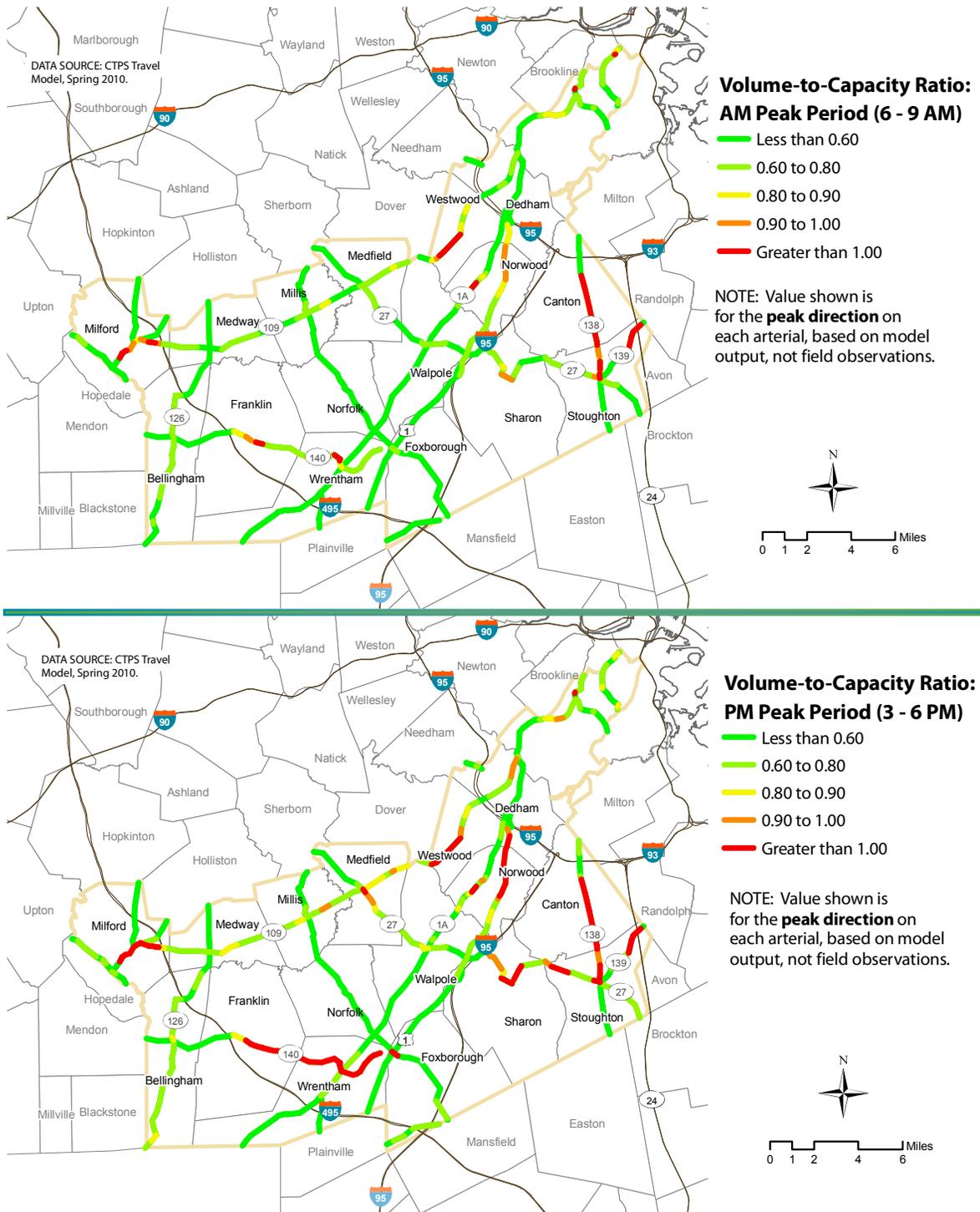


FIGURE 6-12

ARTERIAL VOLUME-TO-CAPACITY RATIO  
2008, AM AND PM: SOUTHWEST CORRIDOR



In addition, the Boston Region MPO's travel demand model was used to determine V/C for roadways under 2030 No-Build conditions. Table 6-13 and Figures 6-13 and 6-14 present the segments of roadways in the Southwest Corridor with the highest AM peak period V/Cs under the 2030 No-Build, again listing them in descending order of severity. Table 6-14 and Figures 6-13 and 6-14 present the same information for the PM peak period. Order of severity was determined based on all data points and is therefore not always reflected in the ranges shown in the tables. In the V/C analysis, arterials are not broken down by classification.

**TABLE 6-13**

**VOLUME-TO-CAPACITY RATIO (V/C):  
WORST LOCATIONS IN AM PEAK PERIOD, 2030 NO-BUILD**

EXPRESS HIGHWAYS	V/C
I-95 northbound from the I-95 interchange to the Rte. 135 interchange (Canton, Dedham)	0.90 to greater than 1
I-93 southbound from the Rte. 138 interchange to the I-95 interchange (Canton)	0.91 to greater than 1
I-95 northbound from Neponset Street to the I-95 split (Norwood, Canton)	0.42 to greater than 1
ARTERIALS	V/C
Rte. 138 from Stoughton Center to the I-93 interchange in Canton	0-69 to Greater than 1
Rte. 109 (Westwood to Milford)	0.66 to greater than 1
Rte. 126 (Bellingham)	0.78 to greater than 1
Rte. 140 between Wrentham and Franklin	0.67 to greater than 1
Rte. 1 from the Walpole/Norwood border to the I-95/Rte. 128 interchange in Westwood	0.74 to greater than 1
Rte.139 from the Route 24 interchange to the Turnpike St. intersection (Stoughton)	0.75 to greater than 1

**TABLE 6-14**

**VOLUME-TO-CAPACITY RATIO (V/C):  
WORST LOCATIONS IN PM PEAK PERIOD, 2030 NO-BUILD**

EXPRESS HIGHWAYS	V/C
I-95 southbound from the Rte. 135 interchange to the I-95 interchange (Dedham, Canton)	0.90 to greater than 1
I-93 northbound from the I-95 split to the Rte. 138 interchange (Canton)	0.93 to greater than 1
I-95 southbound in Norwood and Foxborough	0.92 to 0.94
ARTERIALS	V/C
Rte. 109 from I-495 to Birch St. (Milford)	Greater than 1
Rte. 138 from Stoughton Center to the I-93 interchange in Canton	Greater than 1
Rte. 27/North Main Street between Depot St. and Canton St. (Sharon)	Greater than 1
Rte. 140 between Wrentham and Franklin	Greater than 1
Rte.139 from the Route 24 interchange to the Turnpike St. intersection (Stoughton)	Greater than 1

FIGURE 6-13

EXPRESS HIGHWAY VOLUME-TO-CAPACITY RATIO  
2030 No-BUILD, AM AND PM: SOUTHWEST CORRIDOR

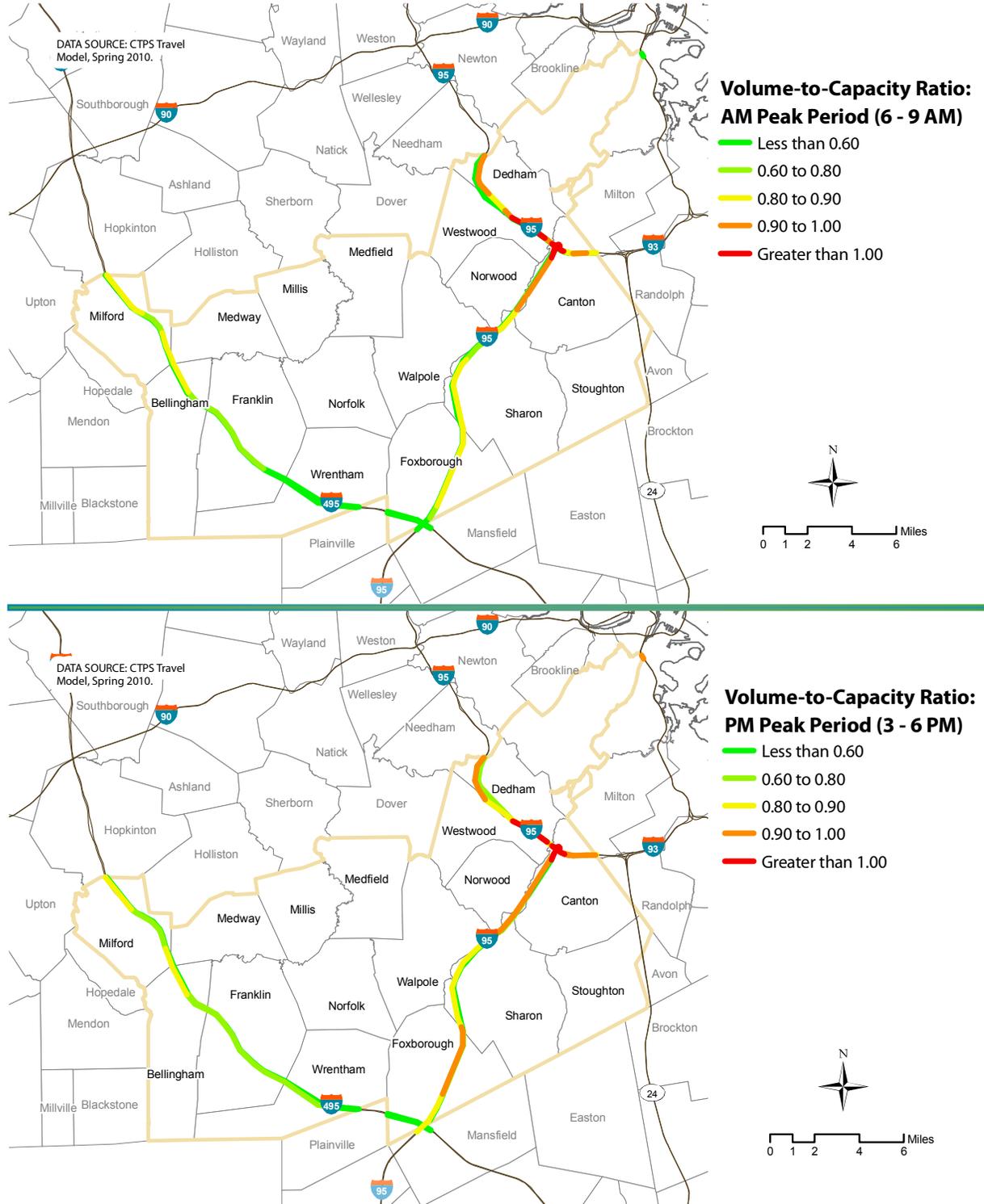
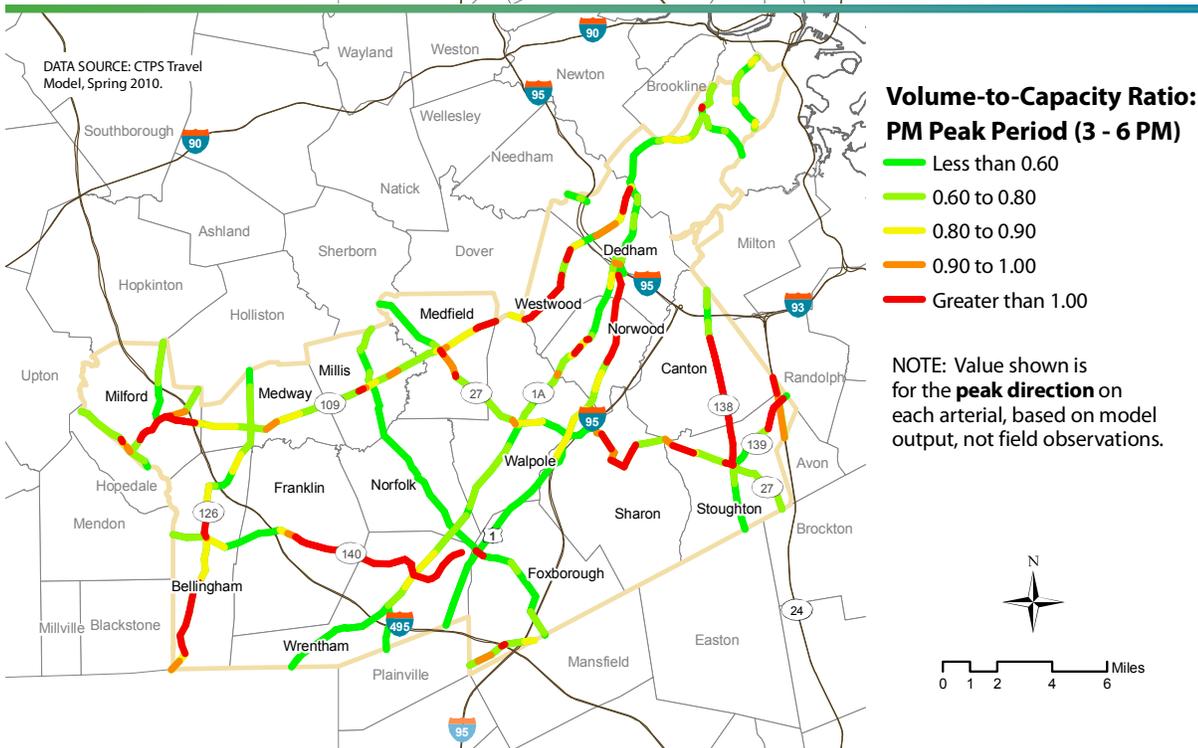
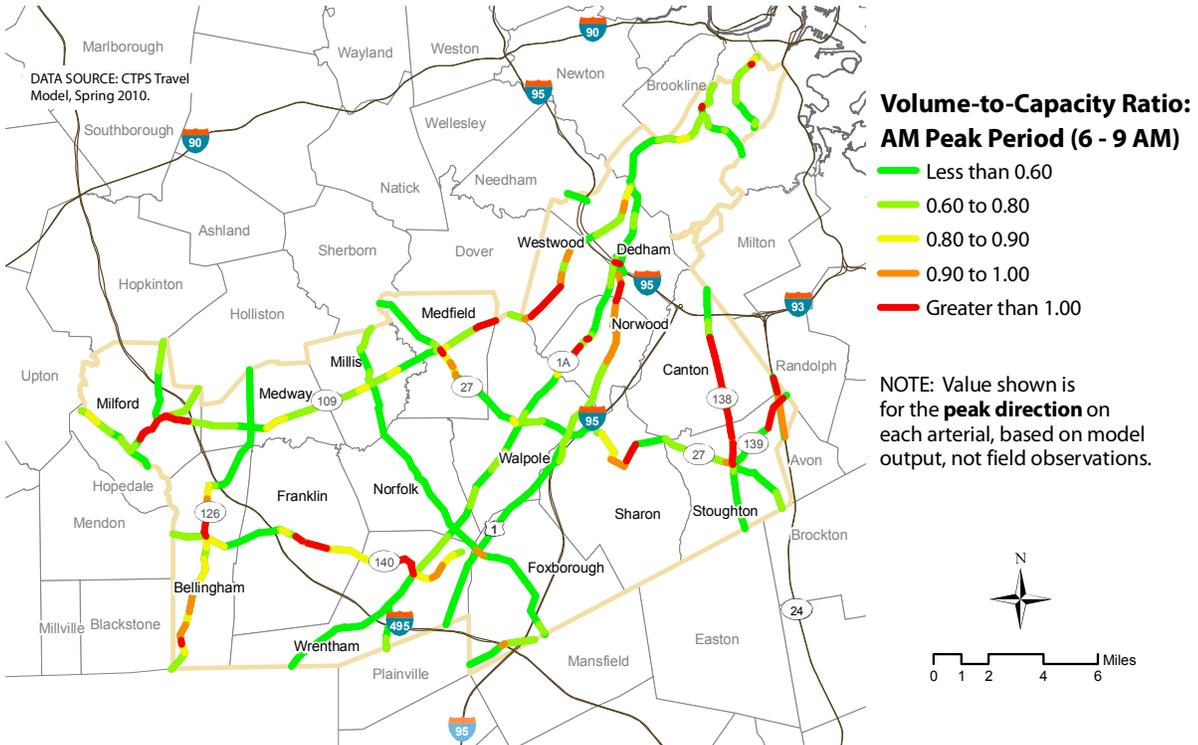


FIGURE 6-14

ARTERIAL VOLUME-TO-CAPACITY RATIO  
2030 No-BUILD, AM AND PM: SOUTHWEST CORRIDOR



### CMP Priority Intersections

The CMP identifies the intersections in the region that, on the basis of certain criteria, should be given priority for receiving improvements. An intersection is categorized as a priority if it meets at least one of the following criteria: it has a high incidence of crashes, the average delay on its major approaches is greater than 80 seconds per vehicle as monitored by the CMP (all state-numbered routes are monitored), or it has been identified in an MPO study as needing improvement.

The Southwest Corridor intersections that have been given priority by the CMP are shown in Figure 6-15. The roadways in the corridor that have clusters of priority intersections are (in roughly geographical order):

- Route 203/Jamaicaway in Boston
- Route 1 between Boston and Norwood
- Route 109 in Dedham, Westwood, and Medfield, and Milford
- Route 16 in Milford
- Route 126 in Bellingham
- Route 1A in Westwood and Norwood
- Route 138 in Canton and Stoughton
- Route 139 in Stoughton
- Route 140 in Franklin
- Route 27 North/South Main Street in Sharon

Many of the clusters of priority intersections are on Class III arterials with the worst travel speed indexes (as determined by the CMP).

### *Worst Highway Bottlenecks in the Southwest Corridor*

Table 6-15 shows the locations that have been identified as the worst bottlenecks in the Southeast Corridor based on the three types of information presented above. This table indicates the criteria by which the location was identified as a bottleneck.



**TABLE 6-15**

**WORST BOTTLENECK LOCATIONS**

EXPRESS HIGHWAYS	SPEED INDEX	VOLUME TO CAPACITY	PRIORITY INTERSECTIONS
Rte. 24 from the town line to the Rte. 139 interchange (Stoughton)	•		
I-95/93 (Dedham, Westwood, Canton)	•	•	
I-95 (Canton, Norwood)	•	•	
ARTERIALS			
Rte. 1/VFW Pkwy (various segments in Dedham, Boston, Norwood, Westwood)	•	•	•
Route 1A (Westwood, Norwood)			•
Route 16 (Milford)			•
Rte. 27 between Depot St. and Canton St. (Sharon)		•	•
Route 109 (Dedham, Westwood, Medfield, and Milford)	•	•	•
Rte. 138 between Stoughton Center and the I-93 interchange (Stoughton, Canton)	•	•	•
Rte. 139 from the Rte. 24 interchange to the Turnpike St. intersection (Stoughton)		•	•
Rte. 140 between Wrentham and Franklin		•	•
Rte. 203/Jamaicaway between Willow Pond Rd. and the Forest Hills Rotary and at the Rte. 9 ramps (Boston)	•		•
Rte 126 (Bellingham)		•	•

**Transit Mobility Needs Identified by the MBTA for the Southwest Corridor**

Various factors affect transit mobility, including capacity issues related to vehicle loads, service reliability, infrastructure and/or vehicle condition, and parking availability. Also affecting mobility is connectivity among modes and with other RTAs, private-carrier services, and TMA shuttles.

**Vehicle Load and Service Reliability Issues**

The ratio of passengers to seats on a vehicle is an indication of whether or not additional capacity is needed on a rail line or bus route. The MBTA’s *Service Delivery Policy* defines acceptable vehicle loads by mode and by time period. The maximum allowable ratio of riders to seats on buses is 140% during peak travel periods and 100% during the off-peak. For light and heavy rail, the peak and off-peak maximum ratios of riders to seats varies according to the configuration of the various types of cars. For commuter rail, the vehicle load standard is set for peak periods at 110% and for the off peak at 100%.<sup>3</sup>

According to the most recent passenger counts available, the part of the Orange Line

<sup>3</sup> For bus, light rail and heavy rail, the vehicle load standard is based on the ratio of passengers to seated capacity at maximum load for each trip, averaged over 30 minutes during the peaks and 60 minutes during off-peak periods. For commuter rail and ferry services, the load standard is based on the ratio of boarding passengers per vehicle to seated capacity.

that operates in the Southwest Corridor meets its vehicle load standard of an average of no more than 131 passengers per car at the peak load points during the AM and PM peaks.

Recent data also show that none of the commuter rail trips on any of the lines that serve the corridor exceed the vehicle load standards. Tables 6-16 through 6-20 show the peak-period vehicle load ratios for the Franklin, Providence/Stoughton, Needham, and Fairmount lines, respectively.

**TABLE 6-16**

**FRANKLIN LINE VEHICLE LOAD**

INBOUND AM PEAK							
Arrive South Station	6:15 AM	6:50 AM	7:09 AM	7:41 AM	7:59 AM	8:40 AM	8:54 AM
Assigned Seats	750	1,014	816	1,128	1,260	750	1,014
Peak Load	181	499	726	647	1,179	608	672
Peak Load/Seats	24%	49%	89%	57%	94%	81%*	66%
OUTBOUND PM PEAK							
Depart South Station	3:55 PM	4:20 PM	4:45 PM	5:10 PM	5:40 PM	6:15 PM	
Assigned Seats	816	684	684	1,260	1,014	948	
Peak Load	615	550	436	1,066	1,020	642	
Peak Load/Seats	75%	80%	64%*	85%	101%	68%	

\* Short-turn trains: Walpole inbound, Norwood Central outbound

**TABLE 6-17**

**PROVIDENCE/STOUGHTON: PROVIDENCE LINE VEHICLE LOAD**

INBOUND AM PEAK							
Arrive South Station	6:20 AM	6:40 AM	7:19 AM	7:45 AM	8:07 AM	8:16 AM	8:51 AM
Assigned Seats	1,260	750	948	1,374	1,260	1,260	1,260
Peak Load	570	459	832	1,096	1,049	1,150	1,364
Peak Load/Seats	45%	61%	88%	80%	83%*	91%	108%
OUTBOUND PM PEAK							
Depart South Station	3:45 PM	4:35 PM	5:00 PM	5:40 PM	6:10 PM		
Assigned Seats	1,014	1,260	1,374	1,260	1,260		
Peak Load	770	1,315	1,385	1,342	949		
Peak Load/Seats	76%	104%	101%	107%	75%		

\* Mansfield short-turn trains

**TABLE 6-18**

**PROVIDENCE/STOUGHTON: STOUGHTON LINE VEHICLE LOAD**

INBOUND AM PEAK						
Arrive South Station	7:04 AM	7:33 AM	8:32 AM	9:03 AM		
Assigned Seats	684	750	1,014	750		
Peak Load	510	706	807	373		
Peak Load/Seats	75%	94%	80%	50%		
OUTBOUND PM PEAK						
Depart South Station	3:30 PM	4:05 PM	4:50 PM	5:15 PM	5:45 PM	6:30 PM
Assigned Seats	1,128	684	750	1,128	684	1,128
Peak Load	190	534	590	844	657	359
Peak Load/Seats	17%*	78%	79%	75%	96%	32%

\* Canton Center short-turn train

**TABLE 6-19**

**NEEDHAM LINE VEHICLE LOAD**

INBOUND AM PEAK					
Arrive South Station	6:50 AM	7:30 AM	8:15 AM	8:42 AM	9:13 AM
Assigned Seats	684	750	816	684	816
Peak Load	272	546	733	545	324
Peak Load/Seats	40%	73%	90%	80%	40%
OUTBOUND PM PEAK					
Depart South Station	4:00 PM	4:40 PM	5:20 PM	5:55 PM	6:25 PM
Assigned Seats	948	1128	816	684	750
Peak Load	203	413	718	565	437
Peak Load/Seats	21%	37%	88%	83%	58%

**TABLE 6-20**

**FAIRMOUNT LINE VEHICLE LOAD\***

INBOUND AM PEAK					
Arrive South Station	7:02 AM	7:32 AM	8:25 AM	8:52 AM	
Assigned Seats	570	750	684	750	
Peak Load	53	125	178	36	
Peak Load/Seats	9%	17%	26%	5%	
OUTBOUND PM PEAK					
Depart South Station	3:30 PM	4:30 PM	5:10 PM	5:40 PM	6:30 PM
Assigned Seats	702	1,260	702	750	750
Peak Load	18	9	33	88	25
Peak Load/Seats	3%	1%	5%	12%	3%

\* Excluding through trains from the Franklin Line

The buses with the highest ridership that operate in a significant portion of the route in the Southwest Corridor are:

- BRT Route SL5: Silver Line Washington Street (Dudley Station - Downtown Crossing) - 14,700 average daily boardings
- Route 39 (Forest Hills Station - Back Bay Station) - 14,400 average daily boardings
- Route 23 (Ashmont Station- Ruggles Station) - 11,100 average daily boardings
- Route 28 (Mattapan Station - Ruggles Station) - 10,600 average daily boardings

Table 6-21 presents data on the performance of the Southwest Corridor bus routes. As shown by the routes' maximum load ratios (based on recent ridership counts) seven of the routes in the Southwest Corridor fail the load standard. As shown in Table 6-21, these include Routes 19, 23, 36, 39, 47 and 66. Service adjustments have been made on Routes 19, 23, 36, 47, and 66, and the MBTA is monitoring service on Route 39. Table 6-21 also shows the number of trips and percent of scheduled trips on each bus route serving the Southwest Corridor that were operated during the month of October 2010. These columns give an indication of which routes operate with a high frequency of service and the degree to which scheduled trips are not run.

In addition, Table 6-21 lists the percent of timepoints on each route (for all trips operated during October) at which the buses were on time, and gives an indication of whether or not the route might pass the schedule adherence standard. In the *Service Delivery Policy*, the schedule adherence standard establishes a two-step process. First, the standard measures whether or not the bus is on time at various timepoints along the route. The definition of "on time" at any given timepoint on a route varies by time period and by the frequency of service and depends on whether the timepoint is at the beginning of the route, mid-route, or at the end of the route. Second, a requirement that 75% of trips be "on time" is applied to individual time periods, and a route fails the standard if it fails during any time period during the day.

In Table 6-21, the 75% threshold has been applied to all timepoints on all trips operated during the month of October 2010, and so the result is not an official schedule adherence designation. It does, however, give an idea of how well individual routes are performing and provides a comparative indication of which routes have the worst problems and are most in need of operational improvements. The MBTA now employs various types of monitoring systems, including real-time vehicle locators and electronic passenger counters, to generate data that can be used to improve service reliability. MBTA Service Planning is currently using automatic vehicle locator (AVL) data to refine bus schedules to better represent actual running times. This should improve on-time performance.

TABLE 6-21

PERFORMANCE OF BUS ROUTES

					BASED ON ALL TRIPS OPERATED DURING OCTOBER 2010			
TYPE	ROUTE	ROUTE NAME	VEHICLE LOAD STANDARD	MAXIMUM LOAD RATIOS	% TIME-POINTS ON TIME	SCHEDULE ADHERENCE STANDARD	% OF SCHEDULED TRIPS OPERATED	# TRIPS OPERATED
BRT	SL5	Dudley Sta. - Downtown Crossing		58%	82%		99.4%	3,459
Local	1	Harvard - Dudley Sta. via Mass. Ave.	Fail	146%	71%	Fail	99.4%	2,343
Local	8	Harbor Pt./UMass - Kenmore Sta.		102%	54%	Fail	99.4%	1,001
Local	14	Roslindale Sq. - Heath Street Sta.		80%	57%	Fail	100.0%	410
Local	15	Kane Sq. - Ruggles Sta.		131%	68%	Fail	99.0%	2,028
Local	16	Forest Hills Sta. - U Mass.		129%	61%	Fail	99.3%	1,219
Local	19	Fields Corner Sta. - Kenmore Sta.	Fail	148%	52%	Fail	99.0%	713
Local	21	Ashmont Sta. - Forest Hills Sta.		121%	73%	Fail	98.8%	1,275
Local	22	Ashmont Sta. - Ruggles Sta. via Jackson		120%	71%	Fail	99.2%	1,870
Local	23	Ashmont Sta. - Ruggles Sta. via Wash.	Fail	144%	73%	Fail	99.4%	2,648
Local	24	Wakefield Ave. - Mattapan Sta.		94%	71%	Fail	99.4%	710
Local	26	Ashmont Sta. - Norfolk & Wash. Belt		74%	67%	Fail	99.5%	1,086
Local	27	Mattapan Sta. - Ashmont Sta.		56%	83%		99.7%	570
Local	28	Mattapan Sta. - Ruggles Sta. via Dudley		140%	69%	Fail	99.7%	2,331
Local	29	Mattapan Sta. - Ruggles Sta.		105%	56%	Fail	99.0%	823
Local	30	Mattapan Sta. - Roslindale Sq.		114%	68%	Fail	99.7%	826
Local	31	Mattapan Sta. - Forest Hills Sta.		121%	80%		98.5%	1,981
Local	32	Wolcott Sq. - Forest Hills Sta.		126%	71%	Fail	98.6%	3,570
Local	33	River & Milton Sts. - Mattapan Sta.		123%	66%	Fail	100.0%	462
Local	34/34E	Dedham Line/Walpole Ctr. - Forest Hills Sta.		119%	66%	Fail	98.5%	2,265
Local	35	Dedham Mall - Forest Hills Sta.		125%	52%	Fail	99.3%	834
Local	36	Charles River Loop - Forest Hills Sta.	Fail	145%	58%	Fail	99.2%	1,104
Local	37	Baker & Vermont Sts. - Forest Hills Sta.		110%	61%	Fail	99.7%	754
Local	38	Wren Street - Forest Hills Sta.		102%	81%		99.7%	649
Local	39	Forest Hills Sta. - Back Bay Sta.	Fail	179%	73%	Fail	98.9%	2,668
Local	40	Georgetowne - Forest Hills Sta.		133%	55%	Fail	99.7%	510
Local	41	Centre & Elliot Sts. - JFK/UMass Sta.		85%	57%	Fail	99.9%	764
Local	42	Forest Hills Sta. - Ruggles via Wash.		102%	71%	Fail	99.4%	1,177
Local	43	Ruggles Sta. - Park & Tremont Sts.		102%	64%	Fail	99.1%	1,430
Local	44	Jackson Sta. - Ruggles Sta. Via Humboldt		100%	67%	Fail	99.6%	1,261
Local	45	Franklin Park - Ruggles Sta. via Blue Hill		116%	63%	Fail	99.3%	1,361
Local	47	Central Sq. - Broadway Sta.	Fail	154%	67%	Fail	99.8%	983
Local	48	Centre & Eliot Sts. - Jamaica Plain Loop		13%	57%	Fail	99.8%	262
Local	50	Cleary Sq. - Forest Hills Sta.		109%	71%	Fail	99.8%	577
Local	51	Cleveland Circle - Forest Hills Sta.		102%	65%	Fail	99.8%	608
Local	52	Dedham Mall - Watertown Sq.		98%	59%	Fail	99.8%	440
Local	66	Harvard Sq. - Dudley Sta. via Brookline	Fail	162%	70%	Fail	99.4%	1,968
Express	170	Oak Park - Dudley Sta.		30%	63%	Fail	ND	ND
Local	171	Dudley Sta. - Logan Airport		47%	21%	Fail	ND	ND
Local	CT1	Central Sq. - So. End Medical Area		140%	64%	Fail	100.0%	722
Local	CT3	Longwood Medical Area - Andrew Sta.		89%	57%	Fail	99.7%	726

Bus schedule adherence can be affected by various factors, most notably the level of traffic on the roadway. However, the size and condition of the fleet also affect service reliability and capacity. A sufficient number of vehicles must be available to operate the regular service with spare vehicles to cover breakdowns and other unusual events. The generally accepted industry standard for spare vehicles is 20% of the active bus fleet. Currently, the spare ratio for buses systemwide and at the Arborway garage (out of which most of the bus routes in the corridor operate) meet this spare ratio standard. The current bus fleet is fairly new and in good condition, as is indicated by the measure of mean miles between vehicle failures. The MBTA's November 2010 ScoreCard (which reports on performance during the months of June through October 2010) shows the mean miles between failures for the bus fleet to be 12,437. This greatly exceeded the goal of 6,000.

Orange Line rapid transit service from June through September met the MBTA's schedule adherence standard of 95% on-time performance, according to the November 2010 ScoreCard. However, the average daily vehicle availability was below the required level of 102 cars in July and August, 2010, and the mean miles between failures were below the target level of 32,000 in July and August. This may be, at least in part, a reflection of the age of the Orange Line fleet, which will reach the end of its useful life in 2015<sup>4</sup>.

The ScoreCard shows that, while the Fairmount commuter rail line met the schedule adherence standard, which requires that 95% of all trips departing and arriving at terminals be within five minutes of the scheduled departure and arrival times, the Franklin, Providence/Stoughton, and Needham Lines did not meet the schedule adherence standard. For locomotives, the average daily vehicle availability meets the minimum requirement to operate the scheduled service, and the mean miles between failures is well below acceptable levels (4,705 vs. the goal of 10,200). The MBTA is currently in the process of procuring 75 new bi-level commuter rail coaches and 22 locomotives. This should improve capacity and reliability in the Southwest Corridor and systemwide.

### Mobility Issues Identified in the Program for Mass Transportation (PMT)

In addition, the MBTA's PMT, approved in December 2009, identified the following specific transit capacity needs and other issues regarding mobility in the Southwest Corridor:

- Based on projections in the PMT, investments will be needed to ensure sufficient capacity is available to serve current and projected travel demand.
- By 2030, large growth in intracity trips is projected for Stoughton, Canton, Norwood, and Walpole. In addition to commuter rail service in these four communities, Norwood and Walpole are currently served by local bus Route 34E, Canton by Route 716, and Stoughton by Brockton Area Transit (BAT).

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<sup>4</sup> MBTA Program for Mass Transportation, December 2009, p. 5-3.

- By 2030, modeling projections suggest that 12 bus routes in the Southwest Corridor may cause passenger-crowding levels that would trigger the need for additional service. These include routes 15, 19, 21, 22, 28, 37, 40, 43, 47, 66, CT1, and CT3.
- Some significant destinations in the Southwest corridor do not have direct rail service to Boston. Though it is currently beyond the boundaries of the MBTA's service area, Fall River was considered in this assessment, and it was determined that it could benefit from service extensions.
- Very densely populated areas in the corridor are currently served by MBTA bus Routes 23 and 28 but do not have frequent rapid transit access within a reasonable walking distance. In addition, travel times on Routes 23 and 28 are long and unreliable, and Route 23 has difficulty meeting demand since it uses 40-foot buses in mixed traffic.
- Bus Route 39 is the most heavily used route in a busy corridor.
- Many of the commuter rail trains that pass through Ruggles Station cannot stop there, because one of the three tracks does not have a platform.
- Transit access to Milford is limited (only a few MetroWest RTA trips in the peaks), and Milford serves as a regional employment center.
- The new economic development projects at Gillette Stadium in Foxborough warrant consideration of regular commuter rail service.
- The capacity of the Franklin Line is constrained by single track near Readville.
- Some single-track sections limit service capacity on the Stoughton and Needham Lines.

#### Transit Station Parking Issues

- The current park-and-ride inventory shows that the following stations are utilized at 85% of capacity or greater:
  1. Forest Hills (Needham Line and Orange Line)
  2. Endicott (Franklin Line)
  3. Sharon and Route 128 (Providence/Stoughton Line)

#### Connections with Other Regional Transit Authorities' Services

The Greater Attleboro Taunton Regional Transit Authority (GATRA), the Brockton Area Transit Authority (BAT) and the MetroWest Regional Transit Authority (MWRTA) all serve portions of the Southwest Corridor; however, current schedules provide few close connections between RTA and MBTA services. In general, RTA bus routes do not function well as commuter rail feeders, as they serve different purposes and populations. Most RTA routes provide local service on even headways, while commuter rail provides long-distance commuter service

and operates on uneven headways due to a number of equipment and operational constraints. In addition, because RTA routes have frequent stops and many do not provide direct service to stations, using them to access stations is much slower than driving.

### ***Freight Mobility Issues***

#### **Vertical Clearance of Railroad Bridges**

The desired vertical clearance for bridges over rail lines is 20 feet 8 inches. This allows double-stack trains to operate on the tracks. Of the 78 bridges over rail lines in the corridor, 69 (88%) do not meet this desired height.

#### **Transport of Hazardous Materials by Trucks**

There is a long-standing prohibition against trucks carrying hazardous cargoes traveling in tunnels. The expressway segments impacted by this prohibition include Interstate 90 from the Prudential Center to Logan Airport, Interstate 93 through the Tip O'Neill Tunnel, including the Zakim Bridge, and Route 1 passing under City Square in Charlestown and over the Tobin Bridge. The process of establishing alternate routes involves federal, state, and municipal regulations, and the alternate route system is undergoing review as of this writing. The route designation that emerges from this process can have a material impact on the costs and efficiencies of regional fuel transportation. Restrictions have an effect on regional trucking patterns.

### ***Bicycle and Pedestrian Mobility Issues***

According to the Regional Bicycle Plan, 66% of all transportation trips in the region are under five miles. Thus, there is potential to increase the percentage of short trips by bicycle. However, in order for more trips by bicycle to occur, users need safe access. According to the Regional Bicycle Plan, 76% of respondents to MAPC's bicycle survey rated the bicycling conditions in their community as "fair" or "poor" and 45% indicated that they would bicycle more often if provided with a safer route as their top response.

Currently, gaps in the Southwest Corridor's bicycle network limit users' ability to safely connect to their destinations. The Southwest Corridor Trail, from Jamaica Plain to Back Bay, and bicycle lanes along Washington Street in Roslindale provide bicycle access into Boston, but facilities do not extend to communities outside the Central Area and few east-west connections exist. The limited bicycle network prevents users from accessing activity generators, including transit stations, schools, recreation destinations, and commercial areas.

Although providing bicycle parking at stations and racks on buses encourages riders to access transit services by bicycle, poor access to stations limit their utilization. Currently, the Southwest Corridor Trail and bicycle lanes provide very good bicycle access to most of the Orange Line Stations of the rapid transit system. However, the Franklin Line and Providence/Stoughton Line of the commuter rail system has poor bicycle access, as there are no bicycle facilities that connect to commuter rail stations.



The Southwest Corridor's pedestrian network is more developed than the bicycle network, but it also varies. Sidewalk coverage in the corridor ranges from a low of 24% coverage in Wrentham to a high of 72% coverage in Norwood. Gaps in the pedestrian network limit users' access to activity generators, including transit stations, schools, recreation destinations, elderly services, and commercial areas. The Southwest Corridor has very good pedestrian access to Orange Line Stations along the rapid transit system, but inconsistent pedestrian access to commuter rail stations. Pedestrian access varies from poor access at Dedham Corporation Center Station to good access at Norwood Station on the Franklin Commuter Rail Line. Some of the issues limiting pedestrian access at stations are associated with crosswalks, sidewalks, and station signage.

### Safety Issues

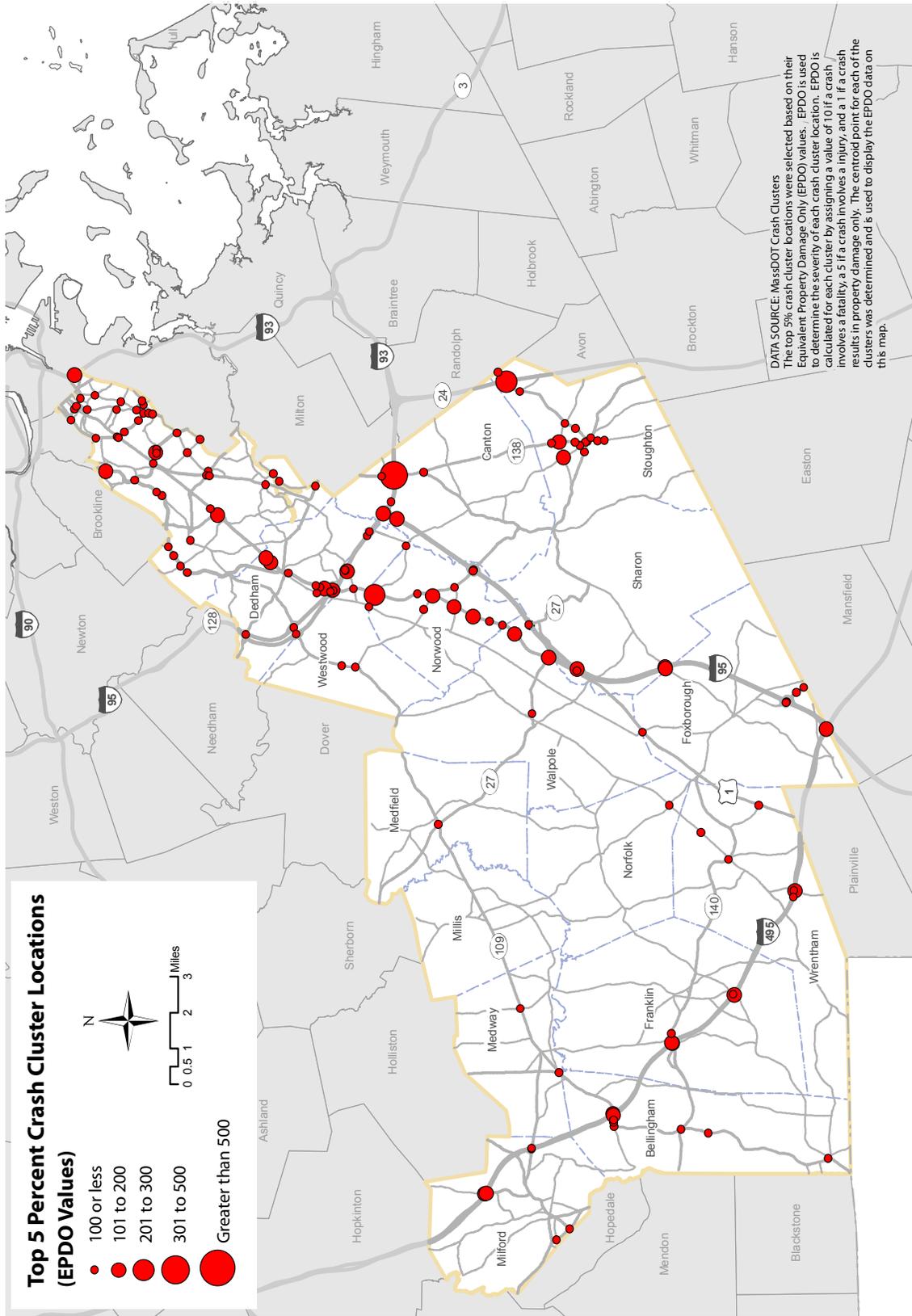
MassDOT identifies "crash clusters" based on crash reports provided by its Registry of Motor Vehicles. The clusters are ranked based on the sum of the Equivalent Property Damage Only (EPDO) values of the crashes within the clusters. EPDO values are calculated by giving a crash a 10 if it involves a fatality, a 5 if a personal injury is involved, and a 1 if the crash results in property damage only. MassDOT applies a spatial algorithm to generate the clusters. EPDO values are used by the MPO in selecting locations for safety-based studies and in the LRTP and TIP project selection process.

Figure 6-16 identifies the top crash cluster locations in the Southwest Corridor. It shows that the locations in this corridor with the highest EPDO values are located on Interstates 93 and 95. Specifically, the locations with the highest EPDO values (shown in parentheses below) are:

- Interstate 93 at Route 138 (Washington Street), Canton (309)
- Route 139 (Lindelof Avenue) at Route 24, Stoughton (218)
- Route 1 at Everett Street, Norwood (203)
- Washington Street and Central Street, Stoughton (180)
- Route 1 at Dean Street, Norwood (179)

**FIGURE 6-16**

**TOP FIVE PERCENT OF CRASH CLUSTER LOCATIONS - SOUTHWEST CORRIDOR**



## Environmental Issues

Figures 6-17 through 6-19 provide an overview of environmental constraints in the Southwest Corridor. They include:

- Department of Environmental Protection–designated wetlands
- FEMA flood zones
- Public water supplies
- Surface Water Protection Areas
- Natural Heritage and Endangered Species Program Priority Habitats
- Protected open space

The Southwest Corridor has two Areas of Critical Environmental Concern (ACEC):

- Canoe River Aquifer and Associated Areas located in Easton, Foxborough, Mansfield, Norton, Sharon, and Taunton has 17,200 acres and was designated in 1991
- Fowl Meadows and Ponkapoag Bog located in portions of Boston, Canton, Dedham, Norwood, Sharon, and Westwood has 8,350 acres and was designated in 1992

The locations of projects being considered for inclusion in the LRTP are overlaid on these environmental constraint maps. This information is then used during the project selection process. These environmental constraints are further addressed during project design and mitigation.

## Transportation Equity Issues

The MPO's transportation equity program considers the needs of persons in environmental justice areas. The MPO defines these areas as those that have both a population that is over 50% minority and a median household income at or below 60% of the region's median income (at or below \$33,480). The environmental justice areas located in the Boston Region MPO portion of the Southwest Corridor include the Boston neighborhoods of Roslindale, Roxbury, Jamaica Plain, Hyde Park, and the town of Milford. MPO staff meet with social service and community contacts and conduct surveys to identify needs within these environmental justice areas. Table 6-22 outlines issues and needs and suggested responses identified by contacts in the environmental justice areas in the Southwest Corridor.

FIGURE 6-17

DEP WETLANDS/FEMA FLOOD ZONES - SOUTHWEST

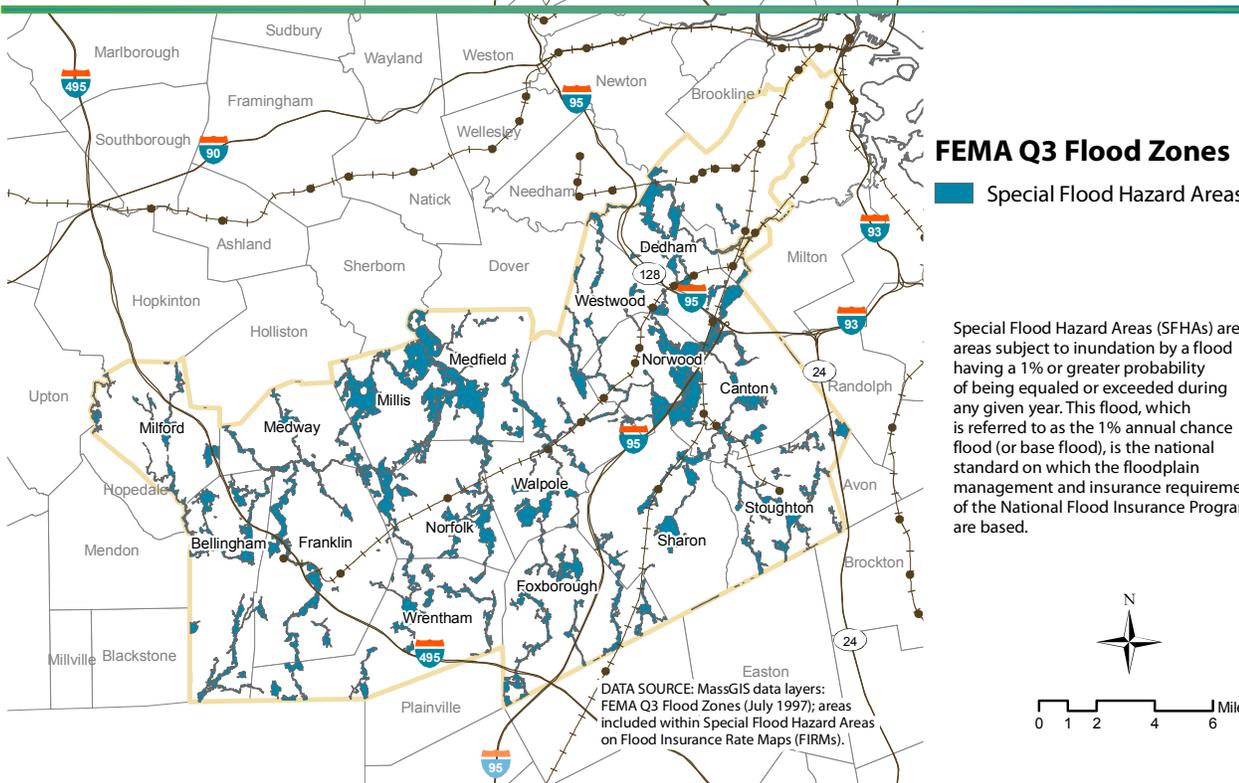
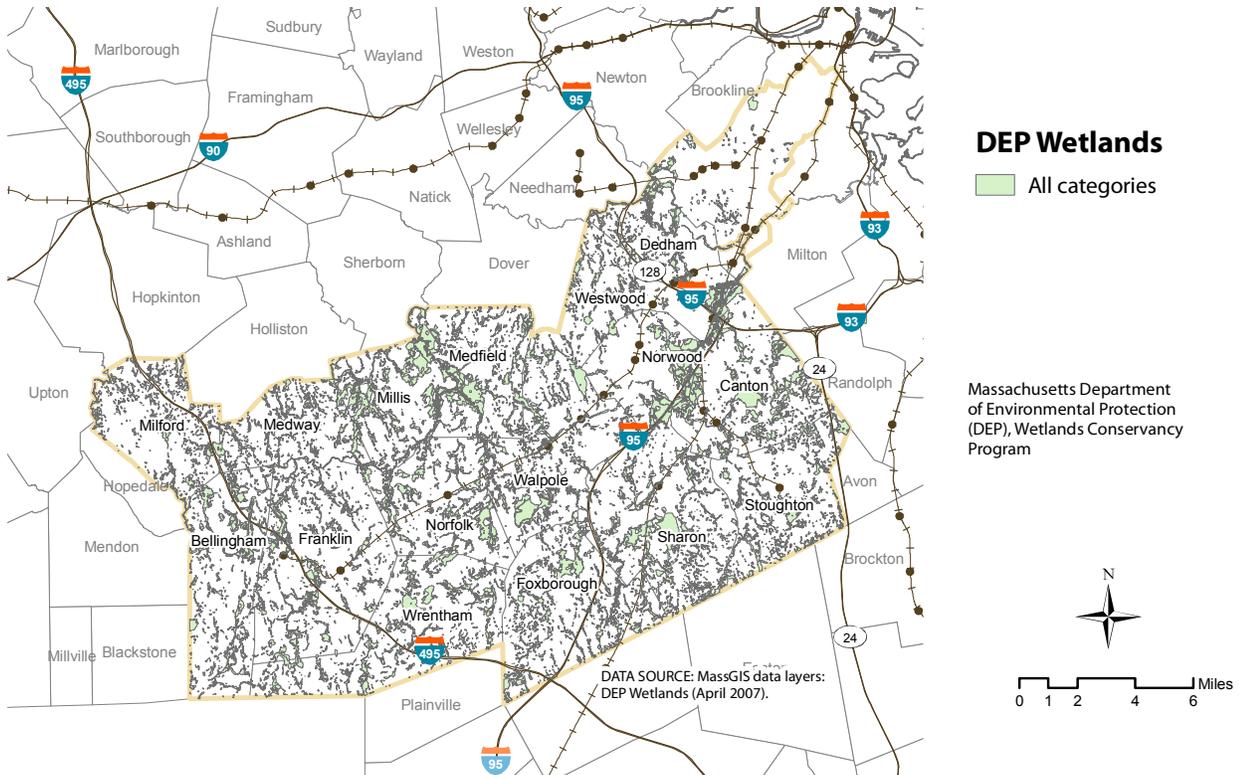


FIGURE 6-18

PUBLIC WATER SUPPLY/SURFACE WATER PROTECTION AREAS - SOUTHWEST

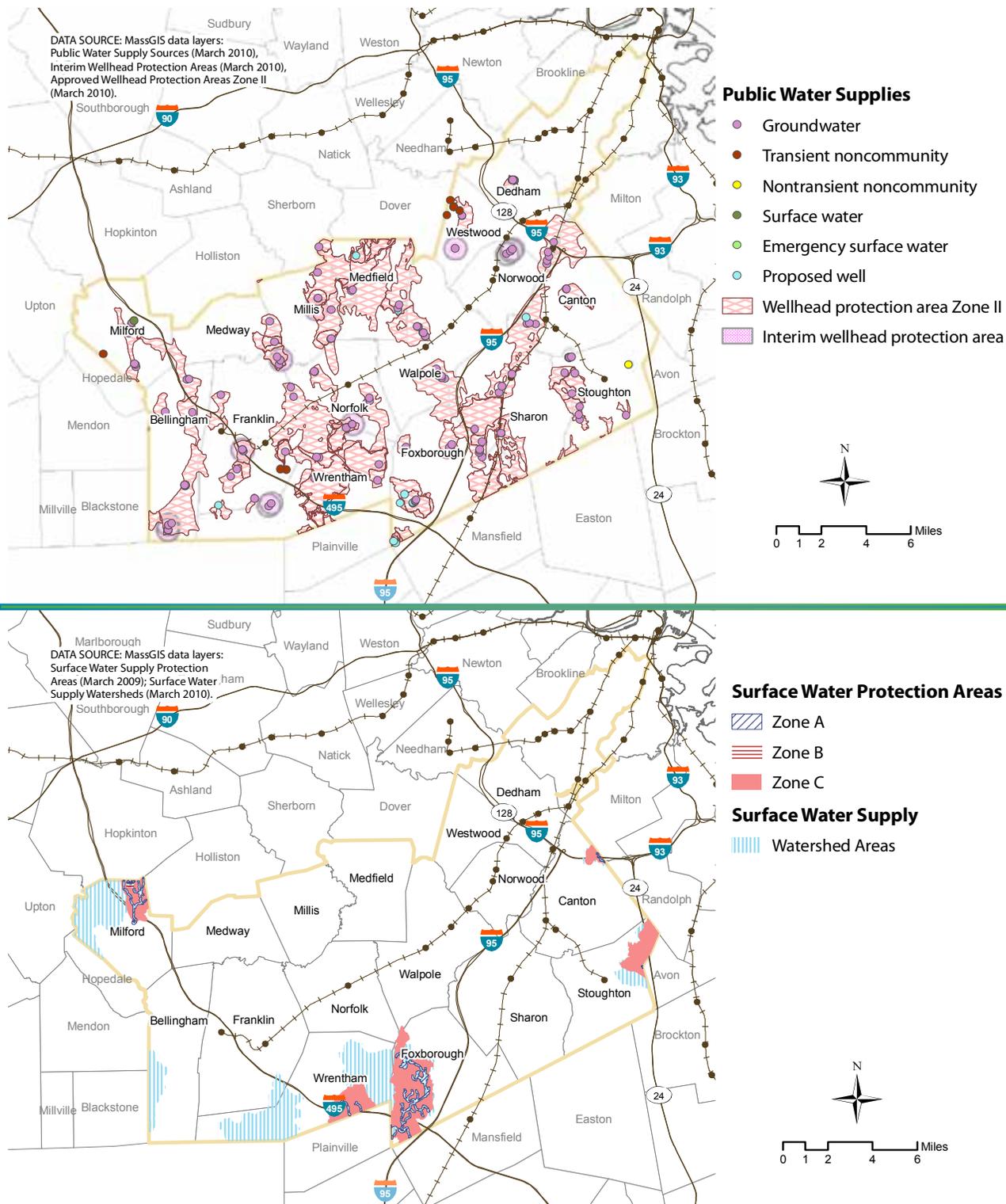
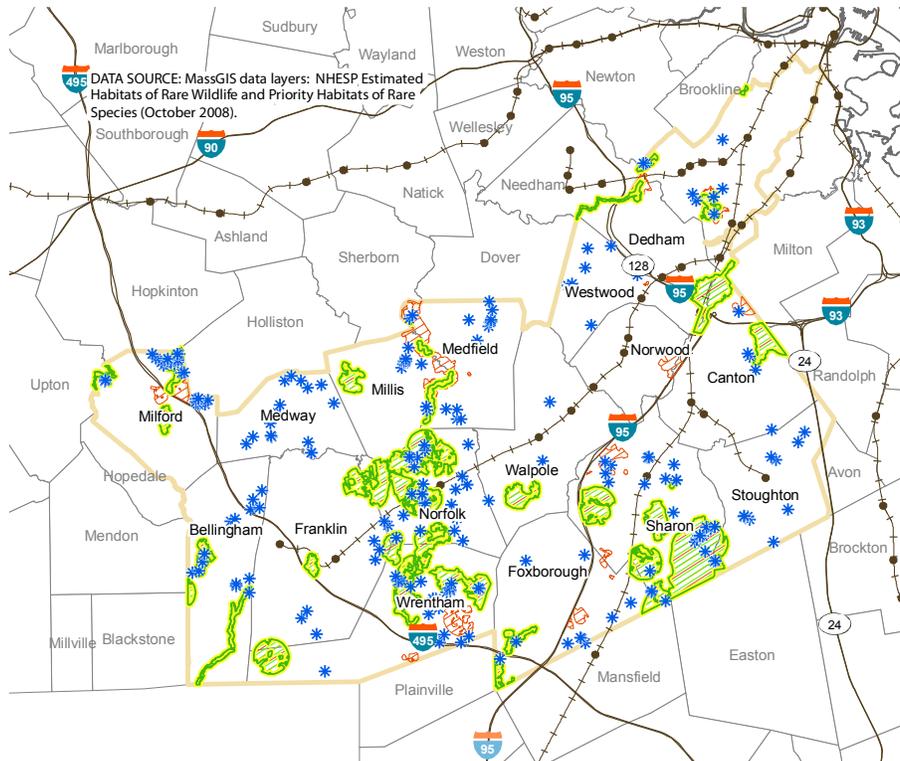


FIGURE 6-19

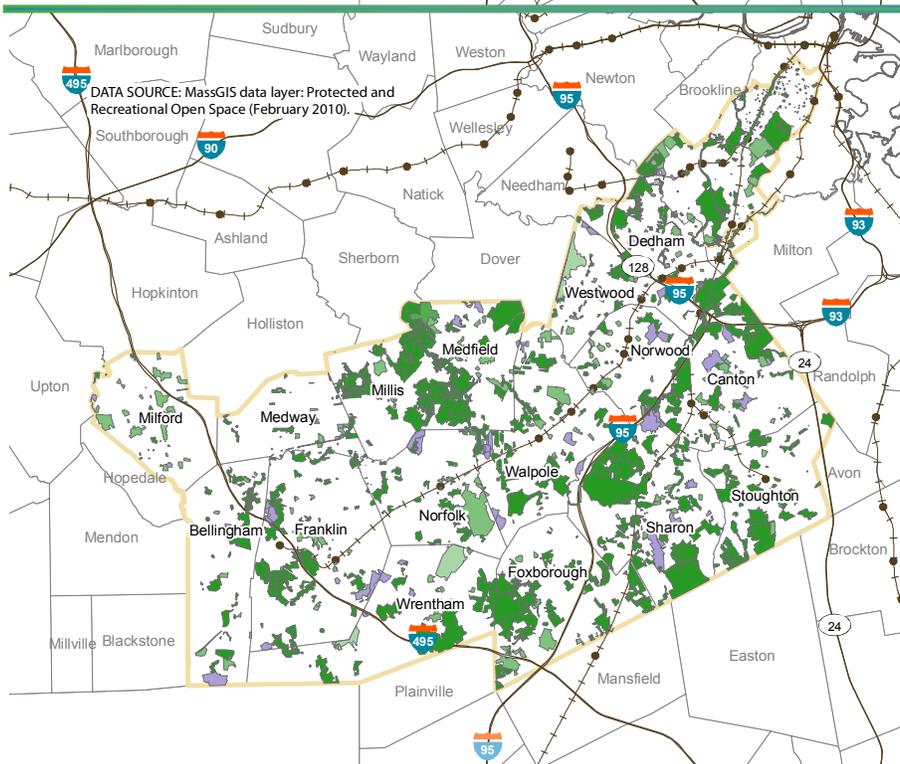
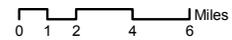
NHESP HABITATS/PROTECTED OPEN SPACE - SOUTHWEST



**NHESP Priority Habitats**

- \* Certified vernal pool
- Estimated habitat of rare wildlife
- Rare species habitat

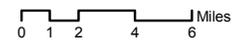
Natural Heritage and Endangered Species Program (NHESP) is a part of the Massachusetts Division of Fish and Wildlife.



**Protected Open Space**

Level of Protection

- In perpetuity
- Temporary
- Limited
- Unknown
- None



**TABLE 6-22**

**IDENTIFIED TRANSPORTATION EQUITY ISSUES**

COMMUNITY	REPORTED ISSUES	POSSIBLE SOLUTIONS*
All	Pedestrians and bicyclists need a safer environment and better infrastructure. Traffic calming and complete streets design principles would help. Traffic speeds are too fast on neighborhood streets.	
Jamaica Plain	The Arborway yards are a burden and any development that takes place must be environmentally safe for community use	MBTA and City of Boston are engaged in ongoing conversation to provide good project design.
Jamaica Plain	The Casey Overpass at Forest Hills should be removed and the area should be more friendly for pedestrians.	
Jamaica Plain	The community is very interested in transit-oriented development around the Orange Line stations, but wants to keep housing affordable.	
Jamaica Plain	There are gaps in the pedestrian and bicycle network along the Emerald Necklace.	
Jamaica Plain and Roxbury	Better circumferential transit is needed to connect Jamaica Plain and Roxbury with points to the west and north, such as Brookline, Cambridge, and Somerville.	
Jamaica Plain and Roxbury	Areas previously served by the elevated Orange Line no longer have access to rapid transit within a reasonable walking distance. Transit travel destined for downtown Boston often requires connections to the Orange Line.	
Jamaica Plain and Roxbury	Many of the buses operating in the Southwest Corridor neighborhoods of Jamaica Plain and Roxbury are crowded or operate at slow speeds.	
Hyde Park	Transit service in the area is inadequate.	<p>Provide more frequent service and late night and weekend service on the Fairmount Line.</p> <p>MBTA and MassDOT are reviewing service options and discussing in consideration of budget review.</p> <p>Improve on-time performance on the Fairmount Line.</p> <p>Increase service to Readville for access to industrial jobs.</p> <p>Provide more stops on the Fairmount Line.</p> <p>Fairmount Line improvements are under design and construction.</p> <p>Provide more transit police on the buses and at bus stops and train waiting areas.</p>
Hyde Park	Train fares to Fairmount Station seem inequitable.	Reduce the fare to Fairmount Station.
Hyde Park	The Fairmount Avenue bridge is dangerous.	Improve the maintenance of the Fairmount Avenue Bridge.
Hyde Park	Trains idling at the Readville yards are an environmental burden.	
Milford	The limited-service MetroWest bus is the only public transportation available in Milford.	Public transportation service both within Milford and between towns.
Milford	Access to jobs in Milford, which is an employment center for the subregion, is limited.	Extend the Franklin commuter rail line to Milford.

\* These ideas are proposed by transportation equity contacts responding to MPO outreach. Not all solutions have been studied and some may not be feasible.

## SUMMARY OF SOUTHWEST CORRIDOR NEEDS

The preceding sections have laid out the corridor's existing transportation infrastructure, land use conditions, travel characteristics and patterns, and transportation-related needs. This section summarizes the corridor's needs that are the most pressing as assessed in light of the MPO's visions established for *Paths to a Sustainable Region* and the available information on the needs. Many needs identified in the preceding sections stand out. In addition to passenger transportation needs by mode, this summary includes issues related to freight transportation, land use, and transportation equity.

*Paths to a Sustainable Region* envisions a system that is well maintained, has less congestion and fewer accidents on its roadways, offers attractive alternatives to driving, produces very little of the emissions that cause climate change and health problems, offers easy connections between nonmotorized modes and transit, efficiently moves freight, and supports development in areas where it already exists as a strategy to encourage alternatives to driving and to preserve open space.

### Highway

*Paths to a Sustainable Region* envisions a highway system that is well maintained and has less congestion and fewer severe crashes. The Southwest Corridor needs assessment identifies bridge and roadway maintenance needs and significant bottleneck and crash locations. The identified needs and problems listed below will promote the realization of the vision:

- Of the 378 bridges in the Southwest Corridor, 79 (21%) are considered functionally obsolete (do not meet current traffic demands or highway standards), and 18 (5%) are considered structurally deficient (deterioration has reduced the load-carrying capacity of the bridge).
- Highway bottlenecks cause congestion and accidents and result in higher emissions of pollutants. The express highway and arterial bottleneck locations listed below were identified by at least two of the three methods described in the highway mobility section of this chapter:
  - I-95/I-93 in Dedham, Westwood and Canton
  - I-95 in Canton and Norwood
  - Route 1/VFW Parkway (various segments in Boston Dedham, Norwood, and Westwood)
  - Route 27 between Depot Street and Canton Street in Sharon
  - Route 109 in Dedham, Westwood, Medfield, and Milford
  - Route 126 in Bellingham
  - Route 138 between Stoughton Center and the I-93 interchange in Canton
  - Route 139 from the route 24 interchange to the Turnpike Street intersection in Stoughton

- Route 140 between Wrentham and Franklin
- Route 203/Jamaicaway between Willow Pond Road and the Forest Hills Rotary and at the Route 9 ramps in Boston
- The top crash locations in the Southwest Corridor were identified by the weighted Equivalent Property Damage Only (EPDO) index, which takes into consideration fatalities, injuries, and property damage. The top crash locations, in descending order of severity, are:
  - Interstate 93 at Route 138 (Washington Street), Canton (309)
  - Route 139 (Lindelof Avenue) at Route 24, Stoughton (218)
  - Route 1 at Everett Street, Norwood (203)
  - Washington Street and Central Street, Stoughton (180)
  - Route 1 at Dean Street, Norwood (179)

## Transit

*Paths to a Sustainable Region* envisions a transit system that, like the envisioned highway system, is safe and maintained in a state of good repair. However, unlike the vision for the highway system the vision for transit calls for more use in order to reduce auto dependency and emissions causing climate change. In addition to projects that will bring the system into a state of good repair, addressing the needs and problems identified below will promote the realization of the vision:

- New Orange Line cars need to be purchased to replace the current fleet from 1979-1981.
- On the Silver Line Washington Street, the CNG vehicle fleet needs a mid-life overhaul.
- Two bridges on the Providence/Stoughton Line are rated as structurally deficient.
- Transit reliability throughout the Southwest Corridor is poor. Only four of the 39 bus routes (10%), and one of the four commuter rail lines (Fairmount), meet the MBTA's schedule adherence standards.
- Seven commuter rail stations in the corridor are not ADA accessible.
- Very densely populated areas in Boston served by MBTA bus Routes 23 and 28 do not have frequent rapid transit access within a reasonable walking distance. Travel times on these routes are long and unreliable.
- Many of the commuter rail trains that pass through Ruggles Station cannot stop there because one of the three tracks does not have a platform.
- The capacity of the Franklin, Stoughton, and Needham Lines are constrained by single tracks.

- Milford is a regional employment center, yet transit access is limited.
- Twelve bus routes (15, 19, 21, 22, 28, 37, 40, 43, 47, 66, CT1, and CT3) in the Southwest Corridor are predicted to have crowding levels in 2030 that would require additional service.
- Four commuter rail station park and ride lots in the corridor and the Forest Hills lot on the Orange Line are utilized at 85% of their capacity or greater.
- Higher density areas in parts of Dedham, Norwood, and Milford do not have direct access to MBTA transit services, but Milford is served by the MetroWest Regional Transit Authority (MWRTA).

Issues to watch:

- Higher transit demand resulting from the implementation of the MetroFuture land use plan will require investments to increase capacity.
- Bus Route 39 is the most heavily used route in a busy corridor.
- Large economic development projects are planned near Gillette Stadium in Foxborough.

## Freight

*Paths to a Sustainable Region* envisions a transportation system in which all freight modes operate efficiently. Addressing the needs and problems identified below will promote the realization of this vision:

Issues to watch:

- As demand for rail freight increases, tracks carrying that freight in the Southwest Corridor may need to be upgraded to accommodate the industry standard of 286,000 pounds. Currently the capacity is 263,000 pounds. This restriction increases costs for shippers.
- 77% of highway bridges and 88% of railroad bridges do not meet the desired vertical clearance.

## Bicycle/Pedestrian

*Paths to a Sustainable Region* calls for linking bicycle, pedestrian, and transit facilities in a network; increasing the use of sustainable modes; and improving transportation options and accessibility for all modes of transportation. Addressing the needs and problems identified below will promote the realization of this vision:

- There are no on-road bicycle facilities connecting to commuter rail stations.
- Few roads (less than 2%) in the Southwest Corridor provide bicycle accommodations.
- About 57% of the non-interstate roads in the Southwest Corridor do not have a sidewalk on at least one side of the roadway.

- The Southwest Corridor lacks major bicycle connections for circumferential - Central Area travel.

## Transportation Equity

*Paths to a Sustainable Region* envisions a transportation system that provides affordable transportation options and accessibility to people of all incomes, ages, races, and language backgrounds and does not inequitably burden any particular group. Addressing the needs and problems identified below will promote the realization of this vision:

- Traffic calming and complete streets design principles will create a safer environment for pedestrians and bicyclists.
- Better circumferential transit is needed.
- Densely populated areas in Roxbury and Jamaica Plain lack access to rapid transit within a reasonable walking distance.
- Several bus routes in the Southwest Corridor operate at slow speeds.
- The MBTA's Arborway Yard in Jamaica Plain is an eyesore.
- Transit service is limited in Milford and the Hyde Park neighborhood of Boston.
- Commuter rail fares and overnight idling of locomotives are a burden on Hyde Park.
- The elderly population is expected to grow substantially between now and 2035. Meeting their mobility needs will be an important issue to address during this time period.

## Land Use

*Paths to a Sustainable Region* shares the MetroFuture vision of a region in which new development is focused in developed areas already well served by infrastructure. As the work toward realization of this vision proceeds, issues to watch include:

- Areas expected to grow the most between now and 2035 are those along the commuter rail lines. Transit capacity may need to increase in order to handle service demands.
- The largest development planned in the corridor is Westwood Station with 1,000 housing units, 1 million square feet of retail space, 1.5 million square feet of office space, and two hotels.
- Auto dependency in the corridor is high. The average household owns 2.0 autos and drives 68.6 miles per day, well above the regional average of 46.7 miles.