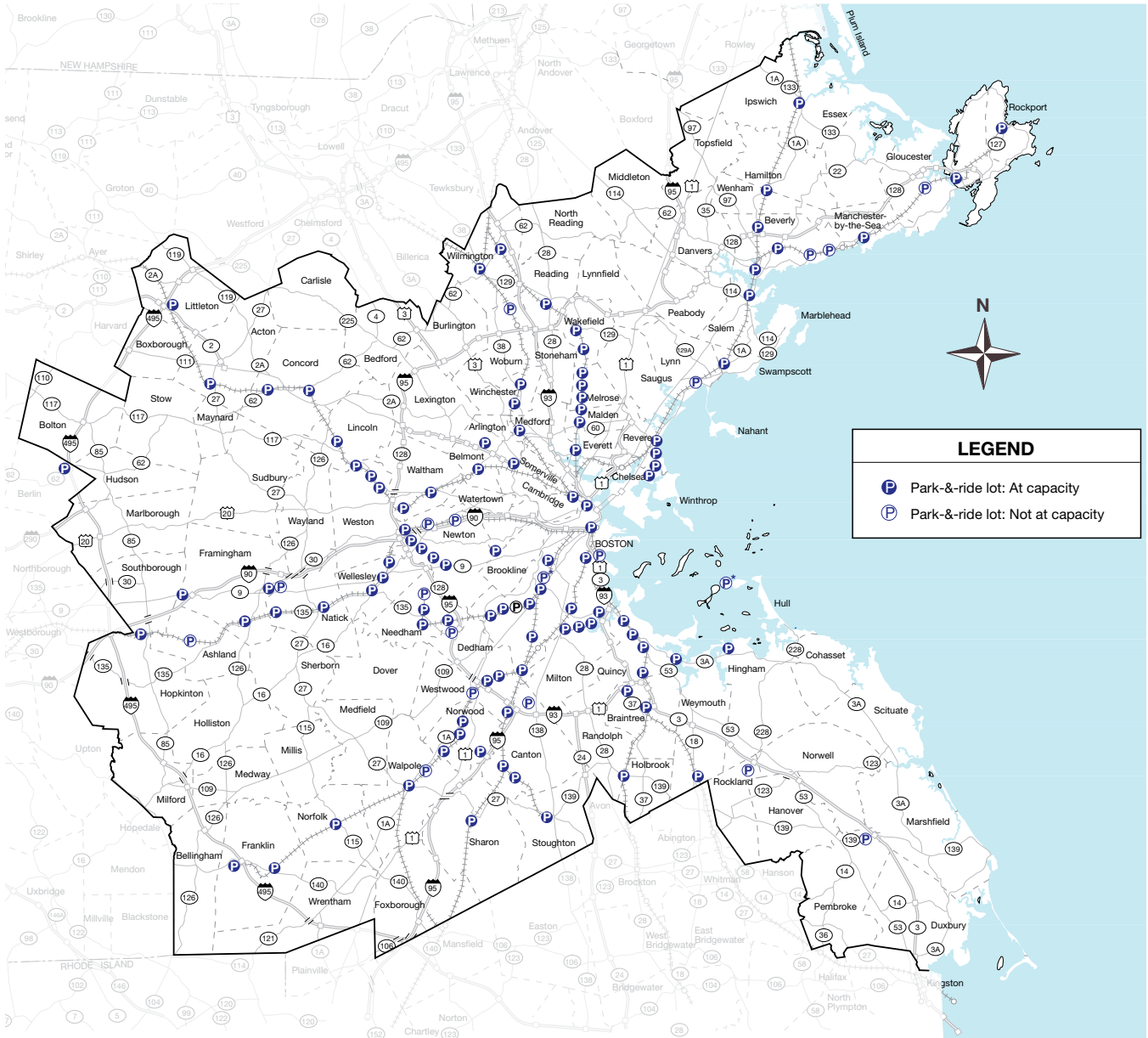


FIGURE 2-6
PARK-AND-RIDE FACILITIES



Current Needs of the Transit System

One of the MBTA's key elements for capital planning is the Program for Mass Transportation (PMT). As one of the country's oldest transit systems, the MBTA has an abundance of needs just to maintain the current system as described above. In the PMT, adopted in 2003, the MBTA evaluated its system preservation needs and listed its highest priorities as follows:

- Installation of automated fare collection system (completed in 2007)
- Revenue vehicle replacement
- Bridge rehabilitation
- Commuter rail and rapid transit track replacement
- Station improvements

The PMT also included an examination of capacity issues of the existing transit system. It found that passenger crowding occurs on all three systems—rapid transit, bus, and commuter rail. On the rapid transit lines, passenger crowding occurs mostly during spans of one hour or less within the morning and evening peak commuting times. On the bus and trackless trolley systems, it was found that bus routes in the urban core are subject to crowded conditions, especially during peak periods and school-commute times. In addition, buses on routes operating in heavy traffic conditions are vulnerable to delays, which can result in long gaps in service and bus bunching. Capacities on commuter rail vary according to the number of cars and the mix of car types in the train.

The capacity of the commuter rail and rapid transit lines is limited not only by the capacity of the trains, but also by the capacities of the modes used to access the trains. For commuter rail lines especially, adequate parking capacity is necessary to divert trips from private automobiles. Capacity issues at MBTA facilities must also be addressed to meet ridership demand. Commuter rail system capacity is also limited by the throughput capacities of the downtown terminal

stations—South Station and North Station. The capacity of the terminal stations also impacts the amount of yard capacity needed for midday or overnight storage of trains.

Bicycle and Pedestrian Transportation

Bicycling and walking are primary modes of transportation for some residents of the MPO region. Many bicycle to reach transit, and almost everyone walks or uses a wheelchair for portions of all trips. According to the PMT, 84 percent of riders walk or bicycle to stations to access the rapid transit system. Facilities for pedestrians include sidewalks, multi-use paths, and street crossings. Bicycle facilities include both off-road paths and on-road improvements, such as designated bike lanes. Roller skaters and joggers also use the road system and multi-use paths.



Municipalities do much of the planning for pedestrian and bicycle facilities. When planning is done at the regional level, pedestrian mobility is determined by the availability of sidewalks, their condition, and the safety and convenience of roadway crossings. Bicycle mobility is affected primarily by

road conditions, such as pavement quality, shoulder width, and traffic speed and volume, although some off-road trails are available in the region.

Trails and Routes

There are 15 regional multi-use paths or trails in the MPO region: the Minuteman Commuter Bikeway, Linear Park (Somerville Community Path), East Boston Greenway, Mystic River Reservation Bike Path, Upper Charles Trail, South Bay Harbor Trail, Dr. Paul Dudley White Bike Path, Charles River Greenway, Marblehead Rail Trail, Battle Road Trail, Neponset River Greenway, Muddy River Bike Path, Jamaica Pond Paths, Assabet River Rail Trail (the Hudson and Marlborough segment is in the MPO region), and Southwest Corridor Bikeway (see Figure 2-7). Most trails are built on abandoned railroad rights-of-way or along natural corridors such as rivers. The Minuteman Commuter Bikeway is an example of the former, and the Dr. Paul Dudley White Bike Path is an example of the latter.

One signed, long-distance bicycle route exists in the MPO region and continues outside the region to Falmouth and Provincetown, which are on Cape Cod. The 135-mile-long Claire Salton-



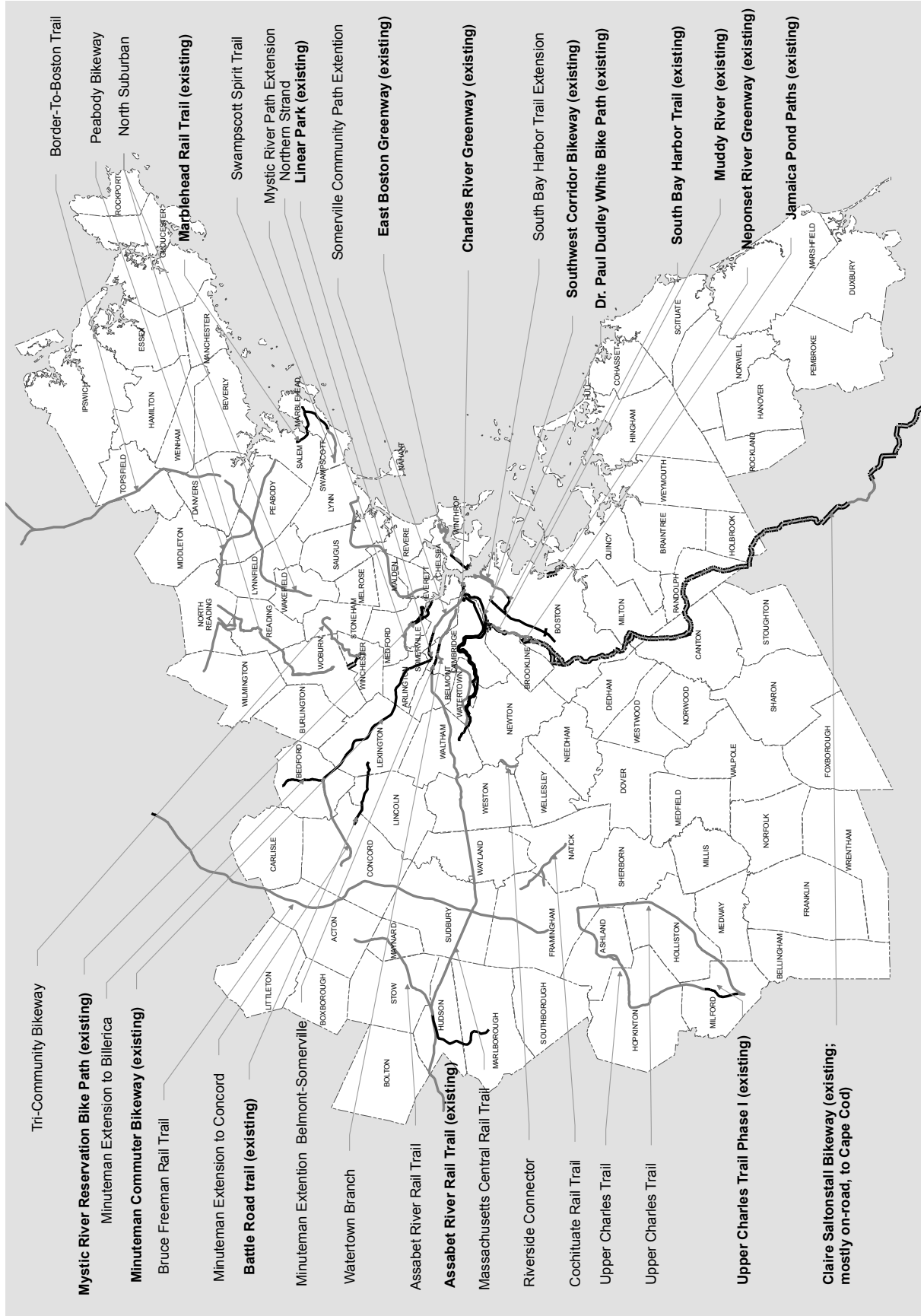
stall Bikeway, also known as Bikeway Route 1, is primarily an on-road, signed route that includes some trail segments.

Trails allow users to be separated from motor-vehicle traffic. They are used not only by experienced commuter bicyclists heading to work, but also for recreation, by both adults and children. Trails have proven to be popular with a wide range of users.

Regional trails in the Boston area that are either in the planning stage or under construction include the following (see Figure 2-7):

- Northern Strand (also known as Bike-to-the-Sea; in Everett, Malden, Revere, Saugus, and Lynn)
- Tri-Community Bikeway (Winchester, Woburn, and Stoneham)
- Border-to-Boston Trail (Danvers, Wenham, and Topsfield)
- Assabet River Rail Trail (Hudson, Stow, Maynard, and Acton)
- Mass. Central Rail Trail (Hudson, Sudbury, Wayland, Weston, Waltham, and Belmont)
- Bruce Freeman Rail Trail (Carlisle, Acton, Concord, Sudbury, and Framingham)
- Upper Charles Trail (Milford, Hopkinton, Ashland, Holliston, and Sherborn)
- Peabody Bikeway
- Swampscott Rail Trail
- Minuteman Extension to Concord (Bedford and Concord)
- Minuteman Extension to Billerica (Bedford)
- South Bay Harbor Trail Extension (Boston)
- Somerville Community Path Extension
- Mystic River Path Extensions (Somerville, Arlington, and Medford)
- Neponset River Trail Extension (Boston and Milton)

FIGURE 2-7
EXISTING AND PROPOSED MULTI-USE PATHS



- Belmont/Cambridge/Somerville Project
- Watertown Branch
- Cochituate Rail Trail (Framingham and Natick)
- North Suburban Bike Plan Paths (Wakefield, Lynnfield and Wilmington)
- Riverside Connector (Newton and Wellesley)

Sidewalks

Safe pedestrian use of our transportation network requires sidewalks, crosswalks, and other street crossing infrastructure, and the enforcement of laws to protect pedestrians. While sidewalks may not be absolutely necessary for some low-volume local streets, the presence or absence of sidewalks is a good indicator of whether roadways in a community have been designed to give pedestrians equal access to all adjacent uses served by autos.



The percentage of all roadways in a transportation analysis zone (TAZ) with sidewalks on one or both sides of a roadway are shown in Figure 2-8 (limited-access highways and other roads that exclude pedestrians are not included). A TAZ

is an aggregation of census geography used in the MPO's transportation demand model based on demographic information and numbers of trips produced and attracted within its borders. Most urban areas and some community centers provide sidewalks along most of their roadways. However, for most TAZs within the Boston MPO region, almost 80 percent of existing roadways have no sidewalks.

In the past, MassHighway guidance on project design required that pedestrian and bicycle accommodations be considered in all roadway projects. MassHighway's current *Project Development and Design Guide* requires pedestrian mobility to be given the same importance as all other uses.

Local interest in walkable communities can be seen in the response to the MPO's Walkable Community Workshop program. Since 2004, the MPO has sponsored more than eight workshops in cooperation with host communities, and is expected to conduct at least six workshops per year in the future. The MPO supports more detailed studies and technical support for municipalities through the study of bicycle and pedestrian improvements in both small-town and urban centers. MAPC is developing a regional Pedestrian Plan proposed to be adopted in 2009.

Road Travel

Chapter 90E, Section 2A, of the Massachusetts General Laws (Chapter 87, of the Acts of 1996) requires consideration of bicyclist and pedestrian needs regarding roadways whenever feasible. The intent of this law is to make travel as safe as practical for bicyclists and pedestrians. In some cases, restriping may be all that is necessary, but space for bicyclists can also be provided by adding bicycle lanes or paved shoulders, or by striping wide outside travel lanes.

Access to Other Modes

Many people bicycle or walk to other modes. Those who bicycle to transit connections either park their bicycle or take it on board in accor-