

PROJECT DESCRIPTIONS FOR 2000 BASE YEAR AND 2030 NO-BUILD PROJECTS

2000 BASE YEAR PROJECTS

Highway Projects

Route 53, Phase I (Hanover): Widening of Route 53 from Route 3 to Mill Street (Hanover) was completed by MassHighway in 1994. This project widened Route 53 from a two-lane to a five-lane roadway segment.

HOV Lane on I-93 (Mystic Avenue): This MassHighway project is an extension of the existing southbound HOV lane to the Sullivan Square (Somerville) off-ramp. The HOV lane is for vehicles with two or more occupants and is a total of 2.03 miles in length. The extension was opened in September 1994.

HOV Lane on the Southeast Expressway: This six-mile HOV lane is between Furnace Brook Parkway (Quincy) and Freeport Street (Dorchester, Boston). The facility opened in November 1995. It uses contra-flow technology, in which a travel lane is reallocated from the off-peak side of the expressway to the peak side for the duration of the peak period. Originally the HOV lane was for vehicles with three or more persons. The required occupancy was reduced to two or more persons via a sticker program and then later instituted as two or more by right in 1999.

Ted Williams Tunnel: The Ted Williams Tunnel (aka the Third Harbor Tunnel) extends 1.6 miles of which .75 miles is under water from South Boston (Boston) to Logan Airport property (East Boston). It opened for commercial traffic on December 15, 1995. The approximate cost for the tunnel was \$1.5 billion.

South Boston Bypass Road (aka Haul Road): The roadway segment runs from the Ted Williams Tunnel (South Boston) to near the I-93/Massachusetts Avenue interchange (Boston). The roadway is restricted to commercial vehicles. It was opened in July 1993. This roadway project is part of the Central Artery/Tunnel project.

Blue Hill Avenue Signal Coordination: This MassHighway project involved the coordination of signals along the Blue Hill Avenue corridor in Boston.

Brighton Avenue Signal Coordination: This MassHighway project involved the coordination of signals along the Brighton Avenue corridor in Boston.

Marrett Road Signal Coordination: This MassHighway project consists of reconstructing Route 2A (Marrett Road) from I-95 (Route 128) west to beyond the Massachusetts Avenue extension.

Beverly Salem Bridge: Replace a drawbridge over the Danvers River/Beverly Harbor connecting the cities of Beverly and Salem with an elevated fixed structure. The bridge opened for traffic on August 2, 1996.

Route 20, Segment 1 (Marlborough): Widen a 1.1-mile section of Route 20 from two lanes to four lanes. The project extends from just west of Farm Road to the Raytheon traffic lights just east of DiCenzo Boulevard. The project includes the replacement of traffic signals at the intersection of Route 20 and Farm Road and Wilson Street, the installation of traffic signals at DiCenzo Boulevard (West), and the coordination of these two signals and existing signals at Hager Street and Raytheon Company Drive. This project opened to traffic in October 1999.

Leverett Circle Bridge (Charlestown): A part of the Central Artery/Tunnel project, these new ramps connect the Tobin Bridge via a parallel four-lane bridge with Storrow Drive and the Leverett Circle area on the northwestern edge of downtown Boston with points north of the Charles River.

I-495 Interchange (Marlborough and Southborough): Construct an interchange to Interstate 495 between Route 9 and Route 20. Major elements of the work include the construction of four entrance/exit ramps for I-495 with two bridges and a connector road from the ramps to

Crane Meadow Road, as well as the reconstruction and signalization of Crane Meadow Road. This project was advertised in September 1998 and work is ongoing.

I-93/Industriplex Interchange (Woburn): Construct an interchange to Interstate 93 between Interstate 95 and Route 129. Major elements of the work include the construction of four entrance/exit ramps for I-93 with two bridges and a connector road from the ramps to Commerce Way, as well as the reconstruction and signalization of the Commerce Way intersection. This project was advertised in June 1997 and was opened to traffic in October 2000.

Quincy Center Concourse, Phase I (Quincy): Construct the Quincy Center Concourse Bridge connecting Burgin Parkway to Parking Way. The work also includes the reconstruction of sections of Burgin Parkway, the Granite Street Connector, and Parking Way, including the installation of an interconnected traffic signal system. The 2025 No-Build Scenario does not include the final two phases of the Quincy Center Concourse project—the connection of Burgin Parkway to Hancock Street (the Westside Link) and the connection of Hancock Street to Mechanic Street/Revere Road (the Eastside Link). This project was advertised in October 1998.

Route 62 and Middlesex Turnpike (Burlington): Make traffic safety improvements to Route 62 between the Route 3 overpass and Network Drive (formerly Kent Road) and to Middlesex Turnpike from Lexington Street to Terrace Hall Avenue and Network Drive. The improvements to Route 62 include the installation of a traffic signal and the reconstruction of two others, the widening of the roadway from two to four lanes, and the installation of a sidewalk along one side of the roadway. Work on Middlesex Turnpike includes the installation of two traffic signals and the reconstruction of two others, the widening of the roadway from two to four lanes, including an additional left turn lane at three separate locations, and the installation of a sidewalk along one side of the roadway.

Route 9 (Wellesley): Widen Route 9 from four to six lanes from Willow Street to the Interstate 95 (Route 128) northbound on-ramp. This project was advertised in July 1999 and completed in 2000.

Route 138 (Canton): Widen Route 138 from two to four lanes from the Route 128 Interchange (the northern limit of the Washington Street Bridge) to 200 meters north of the intersection of Route 138 and Royal Street/Blue Hill River Road. This project was advertised in August 1999 and was open to traffic in October 2000.

Bridge Street (Salem): Widening of Bridge Street from Flint Street to St. Peter Street to two lanes in each direction, including the reconstruction of the Washington Street rotary. The benefits of the project include a lessening of traffic congestion, operational improvements, improved access to the commuter rail station, and improved safety.

Transit Projects

Urban Ring Bus Service: This MBTA cross-town bus service was begun in 1994. It consists of three limited-stop bus routes providing connections among the Red Line, Orange Line, and Green Line branches. The three services are:

- CT1: Central Square (Cambridge) to B.U. Medical Center (Boston)
- CT2: Kendall Square (Cambridge) to Ruggles Station (Boston) via Longwood Medical Area. The service extension to Sullivan Square began in 2000.
- CT3: Andrew Station (South Boston) to Longwood Medical Area (Boston) via Ruggles Station.

Worcester Commuter Rail, Partial Service:

This MBTA commuter rail service from Framingham Station to Worcester Station, with no intermediate stops, began in September 1994. This includes four inbound trains from Worcester in the morning and one in the afternoon, and four outbound trains from Framingham in the afternoon and one in the evening. This service

includes Grafton Station, which opened in February 2000.

Additional Park-and-Ride Spaces: These are the new parking spaces added between January 1, 1991, and December 31, 2000. Parking spaces were added at commuter rail stations, including Needham Heights, Worcester, Lowell, Lynn, Readville, and West Concord.

South Station Transportation Center: This MBTA improvement is the intercity bus terminal above the commuter rail tracks and platforms at South Station. The facility was opened in October 1995. The facility serves intercity bus carriers, major regional carriers, and commuter bus operators. The bus concourse has 23 sawtooth docks, four pull-through docks, and two airport link docks. This does not include a pedestrian connector between the bus station and the railway station.

Amtrak Northeast Corridor Electrification:

This Federal Railroad Administration/Amtrak project involves the electrification of the Northeast Corridor rail line from Boston to New Haven, Connecticut, the purchase of high-speed train sets, and expansion of Boston–New York passenger-train service. Service using the electrified track began in 2000. High-speed Acela service began in December 2000.

Newburyport Commuter Rail Service: Extension of the MBTA commuter rail line from Ipswich Station (Ipswich) to Newburyport, a total length of 9.6 miles. There is an intermediate stop, with a new station and associated parking, at Rowley. The service opened in October 1998. The additional parking at Rowley and Newburyport Stations is included in the 15,931 New Parking Spaces project. The service includes 13 inbound and 13 outbound trips during the week, and 6 inbound and 6 outbound trips on the weekend.

Old Colony Commuter Rail (two lines): This MBTA commuter rail service includes the restoration of two of the Old Colony lines. Service runs from South Station to Middleborough/Lakeville,

with six intermediate stops, and service from South Station to Kingston and Cordage/Plymouth, with six intermediate stops. Service on the two lines began in September 1997. The additional parking at the stations is included in the 15,931 New Parking Spaces project. This project does not include the proposed Greenbush branch of the Old Colony commuter rail line.

Route 128 Amtrak Station: This project jointly constructed by Amtrak and the MBTA will consist of a new station for the Northeast Corridor Amtrak service and the MBTA Attleboro service. At full-build, the station will have an associated parking garage with 2,750 parking spaces (550 reserved for Amtrak). Electrified trains (Amtrak) began serving the station in 2000. Full-build is not expected until 2005, with the completion of an access road to Route 128.

Hingham Ferry: The Hingham Ferry provides commuter boat service from the Hingham Shipyard to Rowes Wharf, in downtown Boston. Service has been provided since the late 1970s, and in the late 1990s, high-speed catamarans were introduced to the service. This project is a substitute for the Greenbush Line SIP commitment until the line is in service.

Improved Service on the Haverhill Commuter Rail Line: In July 1997, increased service was enacted on the Haverhill commuter rail line. Increased service included the running of eight additional trains each day, including express trains that shorten peak-period travel time. This project is a substitute for the Greenbush Line SIP commitment until the line is in service.

Salem–Boston Express Bus: Express bus service between Salem and Boston was introduced in the fall of 1997. Service is provided from the North Shore via Lynn Central Square and Logan Airport's Terminal C, providing direct, one-seat service between the North Shore and the South Boston Piers area, the Financial District, and Downtown Crossing. This project is a substitute for the Greenbush Line SIP commitment until the line is in service.

2030 No-BUILD PROJECTS

Highway Projects

Central Artery: The Central Artery/Tunnel project is the largest, most complex, and most technologically challenging highway project in American history. The estimated cost of the project is \$14 billion, with a final completion date estimated at April 2005. This Massachusetts Turnpike Authority project is highlighted by the construction of an eight to ten lane, limited-access, 1.5-mile long underground expressway to replace the existing elevated I-93 highway. Other components of the project are the Ted Williams Tunnel from South Boston to Logan Airport, an extension of I-90 from near South Station to Logan Airport and Route 1A in East Boston, four major highway interchanges, a cable-stayed bridge across the Charles River, and the reconstruction of an additional 2.1-mile segment of I-93. In all the project is building or rebuilding 161 lane-miles of urban highway, about half in tunnels, in a 7.5-mile corridor. Approximate completion dates are:

- Ted Williams Tunnel (opened December 15, 1995, —included in 2000 Base Case)
- South Boston Bypass Road (opened in 1993—included in 2000 Base Case)
- Charlestown/Leverett Circle Bridge (opened October 7, 1999—included in 2000 Base Case)
- I-90 Extension to the Ted Williams Tunnel (opened in January 2003)
- I-93 Northbound (opened in March 2003)
- I-93 Southbound (opened approximately in April 2004)
- Project completion (approximately April 2005)

Massachusetts Avenue/Lafayette Square, (Cambridge): This project realigns the intersection of Massachusetts Avenue, Main Street, and Columbia Street. The signalized intersection will be moved to a realigned four-way intersection opposite Sidney Street on the south side of the intersection.

Cambridgeport Roadways: Street patterns in Cambridgeport from Massachusetts Avenue to Memorial Drive will be realigned, including Sidney Street, Waverly Street, Albany Street, and Brookline Street. The benefits of the project include the diversion of traffic away from neighborhood streets, traffic-flow improvements, and economic development opportunities.

I-95 (SB)/Dedham Street On-ramp (Canton): Construction of a new southbound ramp to I-95 from Dedham Street. There is no signal at the on-ramp. This project will provide direct access to Interstate 95 (South) from Westwood's University Avenue industrial area. The benefits of the project include a reduction in congestion and delays at the current access point (Blue Hill Drive) and improved access for commuters wishing to use the Route 128 commuter rail station.

Route 140 (Franklin): Route 140 will be widened from one lane in each direction to two lanes in each direction from I-495 to Garelick Farms. The alignment of Route 140 will also be altered to accommodate an improved diamond interchange. The length of Route 140 affected is 1.2 miles. The benefits of the project include a lessening of traffic congestion, operational improvements at the affected interchange, associated travel-time savings, and economic development opportunities.

Route 139 (Marshfield): This MassHighway project consisted of the reconstruction, widening, and installation of traffic signals on Route 139 in Marshfield from the Route 3 off-ramp to the Pembroke town line.

Route 20, Segments 2 and 3 (Marlborough): From Farm Road to the Sudbury line, Route 20 will be widened from one lane in each direction to two lanes. The 0.9-mile portion of Route 20 from Felton Street to Ames Street will also be widened from one lane in each direction to two lanes in each direction. The installation of a new signal is also included at the intersection of Route 20 and Williams Street.

Bridge Street Bypass (Salem): Construction of a new road along the North River from Veteran's Memorial Bridge to the vicinity of St. Peter Street and Bridge Street.

Route 128 Additional Lanes (Randolph to Wellesley): Widening Route 128 from three lanes in each direction to four lanes in each direction from Randolph to Wellesley. The lane volumes for this corridor are the highest of any portion of Route 128.

Route 38 (Wilmington): This MassHighway project consists of widening and reconstructing Route 38 from Route 129 (Richmond Street) to Middlesex Avenue. Signalization improvements will be made at the intersections of Route 38/Clark Street, Route 38/Wilmington Plaza, and Route 38/Richmond Street.

Route 1 and Associated Improvements

(Foxborough): As a result of a directive from the Massachusetts Legislature, MassHighway will oversee a project to improve access to the new CMGI Field, which is being built adjacent to Foxboro Stadium. Contract #1 focuses on the area from the intersection of Route 1 and North Street to the intersection of Route 1 and Pine Street, in the town of Foxborough. A grade-separated interchange is to be built at the north end of the stadium on Route 1. A flyover bridge/ramp will be built on the south side of the stadium to Route 1. A new access drive will be built from North Street into the stadium. The cost of this contract is \$10 million. Contract #2 deals with improvements along Route 1 between the two nearest interstate highways. A new slip ramp is to be constructed at the Route 1/Interstate 95 interchange in Sharon. New sidewalks will be built on North Street from the access road to the Walpole town line. The shoulder along Route 1 in Foxborough and the Route 1/Interstate 495 ramps in Plainville will be widened. Regional and local signage improvements are also part of this contract. The cost for Contract #2 is \$4 million.

Route 3 North: The project widens Route 3 along a 21-mile stretch from Burlington to the

New Hampshire border. The affected towns are Bedford, Billerica, Chelmsford, Westford, Tyngsborough, and Burlington. The highway is currently two lanes in each direction and will be expanded to three lanes. There will also be full right and left shoulders in each direction. All of the bridges along the corridor will be reconstructed to accommodate a potential fourth lane in each direction. The average daily traffic volumes for the New Hampshire border end of the project area were 63,800 vehicles in 1999. On the Billerica portion of the project area, the average daily traffic volumes were 84,000 vehicles. The MEPA approval process is complete. The design-build agreement was approved by MassHighway on August 2, 2000. There is an approximate 42-month design/build schedule. The cost and programming for this project is being carried in the Northern Middlesex Council of Governments Transportation Plan.

Route 53 (Hanover): Widen the one-mile section of Route 53 between Mill Street and Rawson Road from two lanes to five lanes: two lanes in each direction and a two-way center turn lane. A six-foot sidewalk will be added to the west side of the roadway. Some driveway entrances will be relocated or consolidated with other driveways. Pond Street will be relocated and realigned, approximately 210 feet north of its current location, to intersect Route 53 opposite Old Washington Street, creating a four-way intersection. The existing traffic signal at the Route 53/Old Washington Street intersection will be upgraded to accommodate this new configuration.

Burgin Parkway (Quincy): The project creates new ramps at the Route 3/Burgin Parkway interchange. A grade separation will allow the Burgin Parkway southbound movement (toward Route 3) to pass over Centre Street. Beginning on Burgin Parkway just south of Penn Street, the outbound roadway splits. Southbound traffic staying left continues to the existing at-grade intersection at Centre Street. Traffic bearing right and continuing south along Burgin Parkway passes over Centre Street enroute to the Route 3/Route 128/I-93 ramp system. The grade-separated section

provides two travel lanes and will be constructed with a maximum grade of less than 7percent. A viaduct section will be constructed over Centre Street. The viaduct will merge with the existing viaduct carrying outbound traffic from the Quincy Adams MBTA station.

Construct a new ramp from Crown Colony Drive at its intersection with Congress Street that carries traffic from Centre Street to I-93 north and Route 128. The ramp joins the southbound flow from Burgin Parkway downstream of the MBTA ramp and the Burgin Parkway merge location. Traffic using this ramp will not be required to weave with other traffic using Burgin Parkway, which will minimize traffic weaving conditions on the Route 128/I-93 ramps. Construction of a channelized ramp will allow northbound Crown Colony Drive traffic to bypass the Crown Colony Drive/Centre Street and Burgin Parkway/Centre Street intersections and connect with southbound Burgin Parkway ramps.

Route 53/228 (Hingham and Norwell): Reconstruct the Route 53/Route 228 intersection in Hingham (Queen Anne's Corner) to widen all four approaches to three-lane roadways, including a center left-turn lane. Intersection improvements will also be done at the High Street/Grove Street intersection in Norwell. A center left-turn lane will be added between the two intersections (approximately one-half mile).

Crosby Drive (Bedford): Reconstruction of Crosby Drive, widening it from one to two lanes in each direction with a shared center left-turn lane. The roadway cross-section width increases to 66 feet, and the total right-of-way width to 80 feet. Each direction consists of a 14-foot outside travel lane and a 12-foot inside lane, with a 14-foot shared turning lane. The north side of the roadway has a 3-foot grass strip with a 5-foot sidewalk. The south side has a 6-foot grass strip.

Interstate 93/Ballardvale Interchange (Wilmington): The construction of a new northbound I-93 on-ramp from Route 125 West. Route 125 will be widened to accommodate the new ramp between Ballardvale Street and the interchange.

Transit Projects

North Station Improvements: This MBTA project includes the relocation of the aboveground portion of the Green Line to Lechmere Station to underground. The new rapid transit station includes a superstation platform with direct transfers between the Green and Orange lines.

Blue Line Modernization: The modernization program to allow for six-car operation is underway. Modernization of stations from Wood Island to Wonderland is complete. Aquarium Station will be renovated in conjunction with the Central Artery/Tunnel project work.

Additional Park-and-Ride Spaces: Included in the recommended plan is the addition of at least 1,050 new surface parking spaces. At an average cost of \$5,000 per space, the total cost is approximately \$5.2 million. Additional proposed spaces are located at the following commuter rail sites within the Boston Region MPO area: Hamilton, West Gloucester, North Wilmington, Walpole, and Sharon. An additional 1,685 spaces outside of the MPO region were included in the travel-demand model analysis. Locations included Mansfield, Middleborough, Halifax, and Lowell. These figures do not include parking associated with the Worcester or Greenbush commuter rail extensions. The 2,100 park-and-ride spaces being built by the Massachusetts Turnpike Authority at Interchanges 9–16 on the Massachusetts Turnpike are also included.

Worcester Commuter Rail, Full Service including New Stations: This MBTA service includes intermediate stops in Westborough, Southborough, and Ashland. Each stop includes a new commuter rail station with associated parking. This service will replace the interim service provided between Framingham and Worcester. The stations were opened in 2002. The stations were proposed as a substitute for the Greenbush Line SIP commitment until the line is in service.

Silver Line Washington Street, Phase 1: The MBTA's Silver Line runs along Washington Street from Dudley Square in Roxbury to Downtown Crossing in the city of Boston. The vehicles used on the route are 60-foot articulated compressed-natural-gas (CNG) buses, and their low-floor design makes them accessible to people with disabilities. The buses operate in mixed traffic from Dudley Square to Melnea Cass Boulevard, where they enter a reserved lane. At the Massachusetts Turnpike, the reserved lane ends and the vehicles enter mixed traffic again. Proposed stations for the Silver Line include Dudley Square, Melnea Cass Boulevard, Lenox Street, Newton Street, Cathedral, and East Berkeley Street. Additionally, vehicles will make stops at Herald Square, New England Medical Center, Chinatown, and Downtown Crossing. This project is a Central Artery/Tunnel commitment.

Silver Line Transitway, Phase 2: This MBTA transitway provides service via tunnel from South Station (Boston) to the World Trade Center (in the vicinity of Viaduct Street), with an intermediate station stop at Courthouse Station (in the vicinity of Northern Avenue and Farnsworth Street). Service began in 2003. It also includes a surface route from the D Street portal to City Point (South Boston).

Mattapan Refurbishment: This MBTA project involves refurbishing the existing PPC (Presidential Conference Committee) cars currently running on the Mattapan High-Speed Line (Boston, Mattapan, and Milton). There are no scheduled run-time or frequency improvements associated with this project.

Airport Intermodal Transit Connector: (\$35 million) This project would provide a new transit service in Boston from South Station Intermodal Center to the Logan Airport terminals. There would be approximately eight vehicles that would be similar to those used in the Silver Line Transitway Section A, except that these vehicles have more luggage storage space. The service would use the MBTA South Boston Piers Transitway

tunnel from South Station to South Boston, and then the Ted Williams Tunnel to the five Logan Airport terminals. The capital portion of this service would be sponsored by Massport. This service would provide for enhanced connection between the Red Line and Logan Airport. There would continue to be AITC bus service between the Blue Line's Airport Station and the Logan airport terminals. This project must be completed by June 2004 as part of the administrative consent order between EOTC and the Executive Office of Environmental Affairs (EOEA).

Industriplex Intermodal Center (Woburn):

This is a joint agency (MassHighway, Massport, and MBTA) project. The Industriplex in Woburn provides an intermodal facility for the northern suburbs that combines MBTA commuter rail, Massport's Logan Express shuttles, a 2,400-space parking lot, and a station on Amtrak's future service to Portland, Maine. Ground was broken on the Industriplex in 2000. MassHighway has completed a new interchange with Interstate 93 that improves access to the facility. In addition to its intermodal component, Industriplex provides improved access to both I-93 and Route 128, is adjacent to growing employment centers, and increases parking capacity. The increase in parking partially addresses the SIP commitment of new park-and-ride spaces. The Intermodal Center opened in September 2001.

New Commuter Rail Station at JFK/UMass Station:

This station was added to the Old Colony commuter rail service lines and provides connections to the MBTA Red Line, local bus service, and shuttle service. Access is also provided to UMass Boston and the JFK Library. This project is a substitute for the Greenbush Line SIP commitment until the line is in service.

Greenbush Commuter Rail Service: This project will restore rail service on a third branch of the Old Colony lines, diverging from the route of the Middleborough/Lakeville and Plymouth/Kingston lines in Braintree and following a com-

ination of active and inactive rail freight routes to the Greenbush section of Scituate.

CAPITAL INVESTMENTS NOT AFFECTING THE TRAVEL MODEL

Green Line Vehicles – Type 8: In 2006, the MBTA completed the procurement with the receipt of 85 new Green Line vehicles from the manufacturer. The vehicles feature a low-floor design that allows mobility-impaired riders to access them at any of the Green Line stations that have been designated as key stations. The Type 8 vehicles also feature interior message displays, electronic exterior route indicators, and recorded station announcements.

Blue Line Vehicles: The MBTA will purchase new six-car trainsets for the Blue Line. These vehicles can be used on the Blue Line once the reconstruction of stations has been completed. The Blue Line is the only of the three subway lines to operate only four-car trainsets during peak periods. Reconstruction of the existing stations involves lengthening platforms so that the longer trains can be accommodated.

Low-Emission Buses: The MBTA is committed to the purchase of 314 compressed-natural-gas (CNG) buses for systemwide use. The new vehicles are required to be purchased by 2004 in the consent order agreed to by EOTC and the Executive Office of Environmental Affairs in 2000 relating to the fulfillment of Central Artery/Tunnel project mitigation commitments.

Dorchester Branch Modernization: The MBTA will reconstruct four stations on the Dorchester branch of the Red Line. The four stations included in the project are Savin Hill, Field's Corner, Shawmut, and Ashmont—all located within the Boston neighborhood of Dorchester. In addition to the station work, some older bridges along the Ashmont branch will be rehabilitated.

Charles Street Station Modernization: This project involves the reconstruction of the Charles Street Station on the Red Line. Goals of the

project are to make the station accessible and to improve its relationship to the surrounding Charles Circle/Cambridge Street area.

Bus Maintenance Facilities: The MBTA's purchase of 314 new CNG buses marks the first time this type of vehicle will be used in the system. In order to service these alternative-fuel vehicles, the MBTA will build new facilities and will retrofit existing facilities to maintain the CNG fleet.

Automated Fare Collection: This project involves complete replacement of the MBTA's current fare-collection equipment on all subway, trolley, trackless trolley, and bus vehicles. The new automated-fare-collection (AFC) equipment will provide several benefits to the MBTA and its riders. In addition to the current monthly pass system, riders will be able to purchase a stored value card (CharlieCard). The CharlieCard acts as a debit card, allowing passengers to use any mode in the system provided that the dollar value remaining on their card is sufficient to pay the fare. Value can be added to CharlieCards after they are purchased, either at fare collector booths or at automatic vending machines (AVM). They are beneficial to less frequent riders because they provide the convenience of a pass without the investment in an unlimited-ride monthly pass. They also reduce the amount of cash transactions in the system. AFC fare gates will be better able to provide accurate data on fare collection and revenue for the MBTA. Since AFC equipment has both read and write capabilities, the MBTA can use them as a paperless method of providing transfers.

Green Line Accessibility: This project involves the completion of the Green Line's key station program. The key station program will put the Green Line in compliance with the Americans with Disabilities Act (ADA). Copley, Arlington, and Government Center Stations in the central subway will be made accessible. In addition, several key stations along the Green Line's surface routes will be made accessible through the construction of elevated platforms.

AMTRAK Service to Portland, Maine: In 2001, AMTRAK reintroduced service between Boston and Portland, Maine. The service uses North Station as its Boston terminus. Other stops include Haverhill, Massachusetts; Exeter, Dover and Durham, New Hampshire; and Old Orchard Beach, Wells, and Saco, Maine. The travel time between Boston and Portland is approximately two and half hours.

Orange Line Signal Improvements and Additional Coaches: Signal improvements along the Orange Line to allow for an additional 18 coaches have been completed by the MBTA. The additional coaches are scheduled to be in revenue service by December 31, 2015.

Project descriptions for the 2030 Build Projects in the recommended plan are included in Chapter 13, The Recommended Transportation Plan.