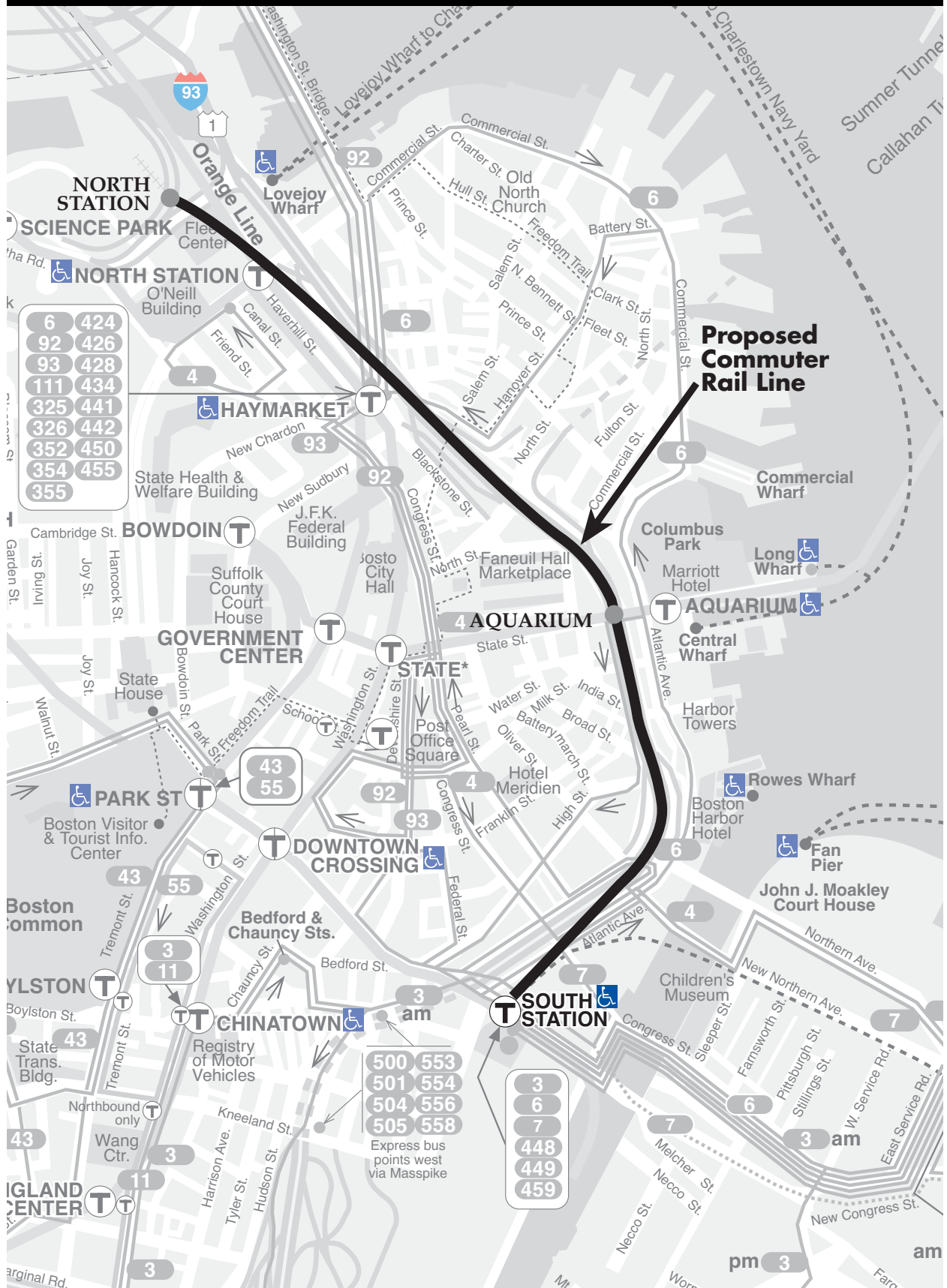
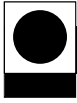


Multi-State Expansion Projects

MAP 5C-53 NORTH-SOUTH RAIL LINK





NORTH-SOUTH RAIL LINK

Description

This project would provide a connection through downtown Boston between the rail lines that terminate at North Station and those that terminate at South Station, allowing through-routing of trains between North Side and South Side lines.

Capital Features

This project would consist of a four-track tunnel over one mile long, with new underground stations in the vicinities of North Station, South Station and a new central station near the Aquarium rapid transit station.

Capital Cost	\$8.7 billion (MBTA Planning Dept. estimate)
Operating Cost	\$231,000 per weekday (including service changes on entire commuter rail system directly related to the Rail Link)
Daily Ridership Increase on Mode	96,100
Net Increase in Daily Transit Ridership	54,400
Capital Cost per New Transit Rider	\$160,100
Operating Cost per Wkday/New Transit Rider	\$4.20
Capital Cost/Travel Time Benefit	\$490,700 per hour
Operating Cost/Travel Time Benefit	\$13.00 per hour
Travel Time Savings	17,730 hours per weekday

Assessment

Overall, this project is rated high-priority. It would attract the largest numbers of commuter rail riders and new transit users of all commuter rail projects examined for the PMT. In absolute terms, it would be by far the costliest project examined, but because of the high ridership, the cost per new transit rider would be at the upper end of the mid-range among commuter rail projects. It would improve distribution of commuter rail passengers within downtown Boston, open up new possibilities for travel between points on North Side and South Side commuter rail lines, improve efficiency of train operations, and help relieve capacity constraints at the Boston terminals. It would result in the largest absolute travel time savings of any commuter rail project examined for the PMT. It would also be beneficial to projects to restore intercity rail passenger service to points north of Boston, both within Massachusetts and beyond. Consequently, it is expected that it would be funded at least in part through sources dedicated for intercity transportation improvements. It is rated high priority in economic and land use impacts because the new central station would be in a state-designated revitalization area, where local plans call for mixed-use transit-oriented development. This would include industrial and high-density residential uses.

Type of Project	Utilization	Mobility	Cost-Effectiveness	Air Quality	Service Quality	Economic/Land Use Impacts	Environ. Justice
Line Extension	●	▸	▸	▸	▸	●	▸



EXTEND COMMUTER RAIL FROM PROVIDENCE TO T. F. GREEN (RI)

Description

This project would extend commuter rail service along the Amtrak Northeast Corridor route between Providence, Rhode Island and T. F. Green Airport in Warwick, Rhode Island. Passenger service making local stops on this line segment was last operated in 1981, and had consisted of only one round trip per day for many years before that. This project is an ACO legal commitment (see table 2-2).

Capital Features

This would be an 8.5-mile extension, with one new station, including a major park-and-ride facility near the airport, with a people-mover connection to the airline terminals. Trains would operate either on the existing Northeast Corridor tracks or on an adjoining freight by-pass track being planned by the state of Rhode Island. Capital costs would be mostly those for rolling stock and for the terminal station.

Capital Cost	\$42.8 million (Based on 2001 South County Commuter Rail Service Study adjusted to 2003)
Operating Cost	\$10,400 per weekday
Daily Ridership Increase on Mode	1,500
Net Increase in Daily Transit Ridership	900
Capital Cost per New Transit Rider	\$66,667
Operating Cost per Wkday/New Transit Rider	\$11.52
Capital Cost/Travel Time Benefit	\$149,700 per hour
Operating Cost/Travel Time Benefit	\$36.20 per hour
Travel Time Savings	286 hours per weekday

Assessment

The overall rating of this project is medium priority. Ridership would be near the lower end of the mid-range among commuter rail extension projects examined. It would restore rail transit service to an area that is now served by much slower bus connections to commuter rail at Providence, and would also improve options for travel to the largest airport in the state of Rhode Island. This airport also has many users from Massachusetts, but because of scattered origins, not all would be able to take advantage of rail service. This project was initiated by the state of Rhode Island, and is contingent on arrangement of funding by that state. A feasibility study conducted for Rhode Island indicates that for operational reasons the extension should continue at least as far as Wickford Junction, 19.3 miles from Providence, rather than terminating at the airport. This would increase the capital and operating costs, but would also attract much greater ridership, according to the study. Many of these riders would, however, be traveling entirely within Rhode Island, and would be best served by trains on different schedules from those running through to Boston.

Type of Project	Utilization	Mobility	Cost-Effectiveness	Air Quality	Service Quality	Economic/Land Use Impacts	Environ. Justice
Line Extension	▸	●	▸	▸	▸	○	○



EXTEND COMMUTER RAIL FROM HAVERHILL TO PLAISTOW, NH

Description

This project would implement commuter service on an existing rail freight and intercity passenger service line, from the end of the Haverhill Line to Plaistow, New Hampshire. Commuter service was last operated on this line in 1967. Intercity service from Portland, Maine was restored in 2001 after extensive track upgrading.

Capital Features

Commuter rail service would be extended for 5.4 miles beyond its present limit, but no additional track upgrading would be needed. One new station with parking facilities would be built in Plaistow. One additional train set would be required to maintain schedules because of the increased running time.

Capital Cost	\$21.8 million (CTPS estimate)
Operating Cost	\$7,100 per weekday
Daily Ridership Increase on Mode	1,700
Net Increase in Daily Transit Ridership	1,300
Capital Cost per New Transit Rider	\$16,600
Operating Cost per Wkday/New Transit Rider	\$5.40
Capital Cost/Travel Time Benefit	\$77,100 per hour
Operating Cost/Travel Time Benefit	\$24.80 per hour
Travel Time Savings	282 hours per weekday

Assessment

Overall, this project is rated medium priority. It would attract substantial total and new ridership relative to the increased route length. It would provide direct rail service to an area that now has infrequent express bus service to Boston, but is also close to the existing Haverhill terminal. The total capital cost and cost per new transit rider would be among the lowest of any commuter rail expansion projects, because the route has recently been upgraded for intercity passenger service. It would be among the better projects in air quality improvements because of the large number of auto diversions and the small number of additional train-miles. Almost all of the riders would be New Hampshire residents, so this project would be contingent on arrangement of funding by New Hampshire.

Type of Project	Utilization	Mobility	Cost-Effectiveness	Air Quality	Service Quality	Economic/Land Use Impacts	Environ. Justice
Line Extension	●	○	●	●	○	○	○



EXTEND COMMUTER RAIL FROM LOWELL TO NASHUA

Description

This project would implement commuter service on an existing rail freight line from the end of the Lowell Line to Nashua, New Hampshire. Passenger service was last operated on this line in 1981.

Capital Features

This would be a 13-mile extension, including one new station in Massachusetts at North Chelmsford and one or two new stations in New Hampshire. Extensive upgrading of tracks and signals would be required.

Capital Cost	\$35.5 million (Nashua Regional Planning Commission estimate)
Operating Cost	\$29,000 per weekday
Daily Ridership Increase on Mode	3,100
Net Increase in Daily Transit Ridership	2,200
Capital Cost per New Transit Rider:	\$16,100
Operating Cost per Wkday/New Transit Rider	\$13.10
Capital Cost/Travel Time Benefit	\$98,100 per hour
Operating Cost/Travel Time Benefit	\$80.20 per hour
Travel Time Savings	362 hours per weekday

Assessment

Overall, this project is rated medium priority. It would be one of the better commuter rail expansion projects examined in terms of the numbers of new transit riders and total riders served, and would serve an area with very limited existing transit service. It would also be one of the better commuter rail expansion projects in terms of air quality impacts. Emissions of CO, CO₂, and VOC would be reduced, but those of NO_x would increase. Capital costs for this project would be in the mid-range of costs among commuter rail extensions examined. It would be among the more cost-effective projects in terms of capital and operating costs per new transit rider. This would be a joint project with the state of New Hampshire, and would be contingent on arrangement of funding by New Hampshire.

Type of Project	Utilization	Mobility	Cost-- Effectiveness	Air Quality	Service Quality	Economic/ Land Use Impacts	Environ. Justice
Line Extension	●	●	◐	●	○	○	○