



MBTA Old Colony Commuter Rail Tie Replacement Project

Overview
May 2010





Project Description

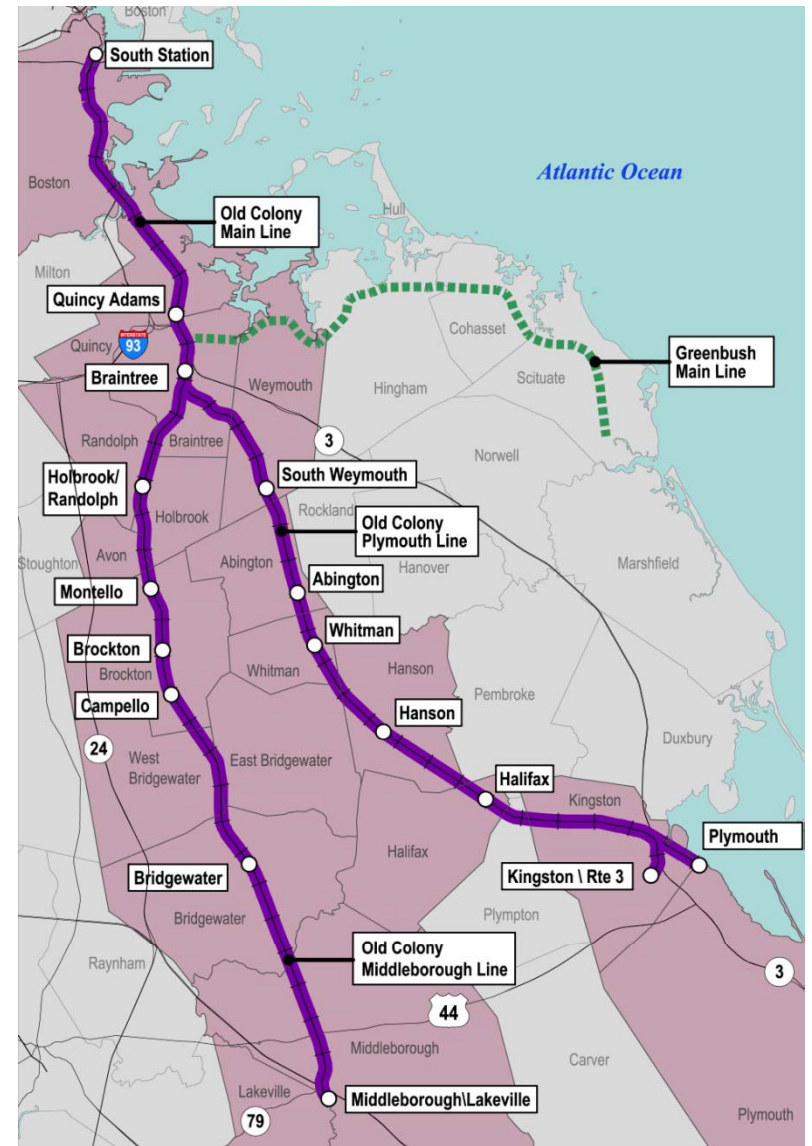
- Emergency maintenance project to replace failing concrete ties with new timber ties





Project Limits

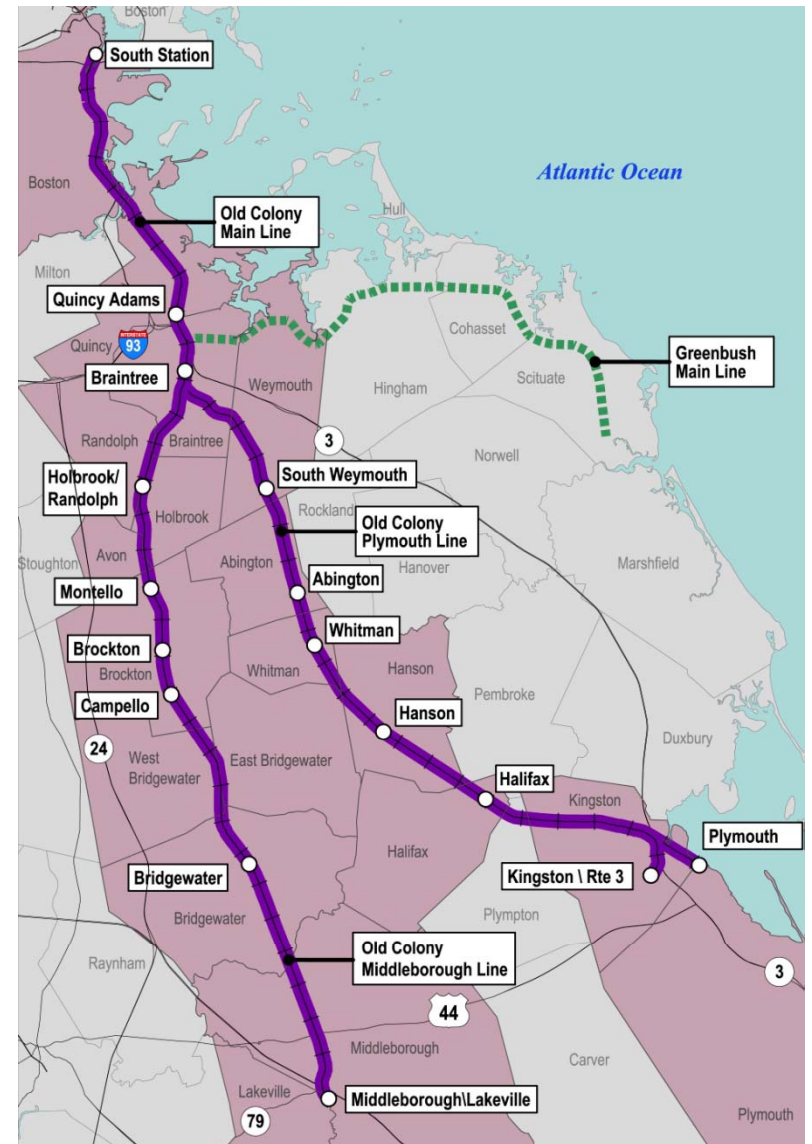
- Old Colony Lines
 - Main Line (4.1 miles)
 - Middleborough Line (25.1 miles)
 - Plymouth Line (26.0 miles)
 - Kingston Branch (1.7 miles)
- 56.9 Miles of Concrete Tie Replacement





Construction in 19 Communities

- Boston
- Quincy
- Braintree
- Randolph
- Holbrook
- Avon
- Brockton
- West Bridgewater
- East Bridgewater
- Bridgewater
- Middleborough
- Lakeville
- Weymouth
- Abington
- Whitman
- Hanson
- Halifax
- Kingston
- Plymouth





Project History

- Failure of Existing Concrete Ties
 - Operational impacts (speed restrictions and schedule adjustments)
 - Failure rate outpaces tie maintenance program
 - Eminent failure of all concrete ties expected





Timeline

- Fall 1997: OCCR lines open for revenue service
- Spring 2007: Tie failures observed
- Winter 2007/8: Failure rate increases
- Spring 2008: Meet with manufacturer Rocla; Amtrak experiences same issue
- Fall 2008: Failure rate appears stable
- Winter 2008/9: Rapid increase in failures resulting in operations impacts
- Spring 2009: Independent Test Lab determines insufficient steel reinforcing is the cause
- Fall 2009: Speed restrictions posted
- Winter 2010: Preparing Bid Documents and procuring wood ties
- Spring 2010: Continued negotiations with tie manufacturer



Concrete Tie Failure



- Manufacturer design error
- Inadequate steel reinforcing
- Lateral failure
- All ties expected to fail
- Amtrak experienced same failures on N.E.C.



OCCR Tie Replacement Project

- 149,855 existing concrete ties to be removed
- 187,000 new timber ties to be installed
- 15,000 cubic yards of ballast
- 56.9 miles of track requiring new ties
- 56 grade crossings
- 19 communities





Construction Methodology

- Traditional tie gang to change out ties individually
 - 2 to 3 tie gangs (25 to 30 workers per gang)
 - Up to 2,500 to 3,000 ties per week
 - Up to one grade crossing per week
- Surface and alignment of tracks
- Inspections prior to revenue service





Service Shutdowns

- Weekdays: 9 AM to 4 PM (non-peak service)
 - Middleborough Line – 8 non-peak trains affected
 - Plymouth Line – 7 non-peak trains affected
- Weekends: Saturday & Sunday shutdown
 - Limited weekend shutdowns for Main Line construction; shutdown Middleborough, Plymouth & Greenbush Lines
- Night construction for most grade crossings



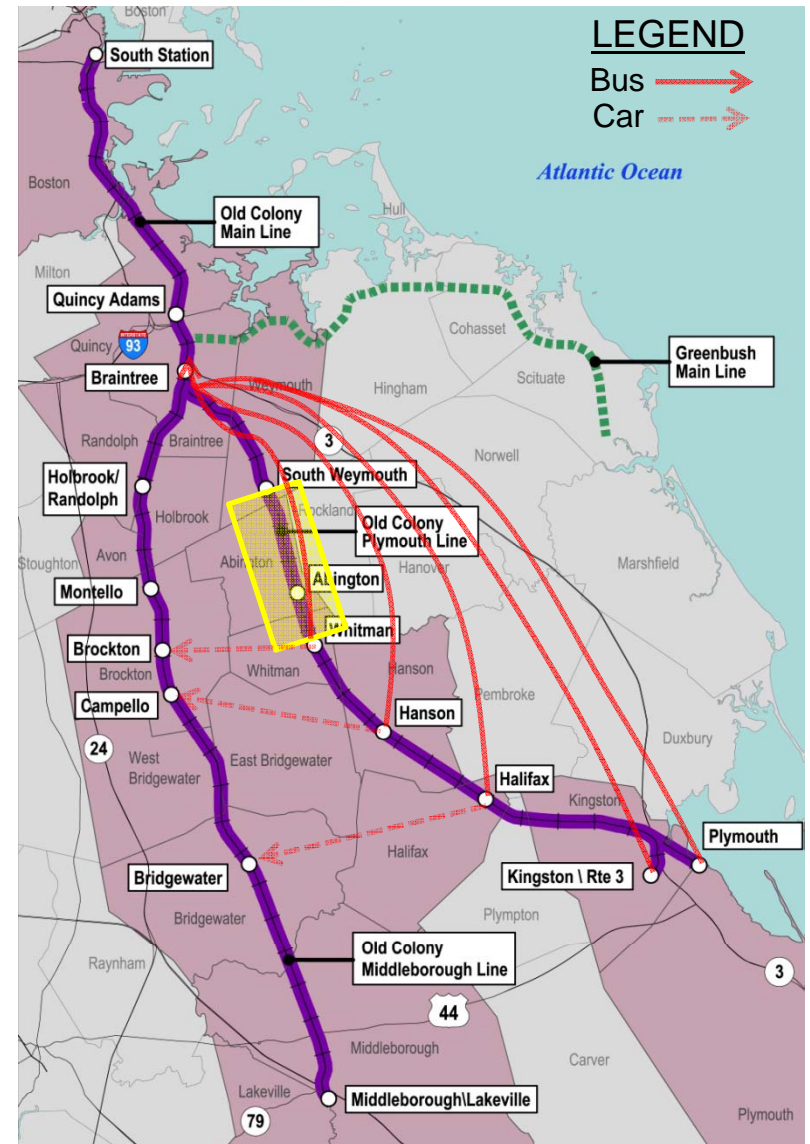
Substitute Transit Service - Bus

- Weekdays: 9 AM to 4 PM
 - 10-20 boardings per station per train
 - Bus service from affected stations to Braintree Red Line Station
 - Buses will be ADA accessible
- Weekends: Saturday & Sunday
 - No substitute transit service provided



Substitute Transportation Example-Plymouth

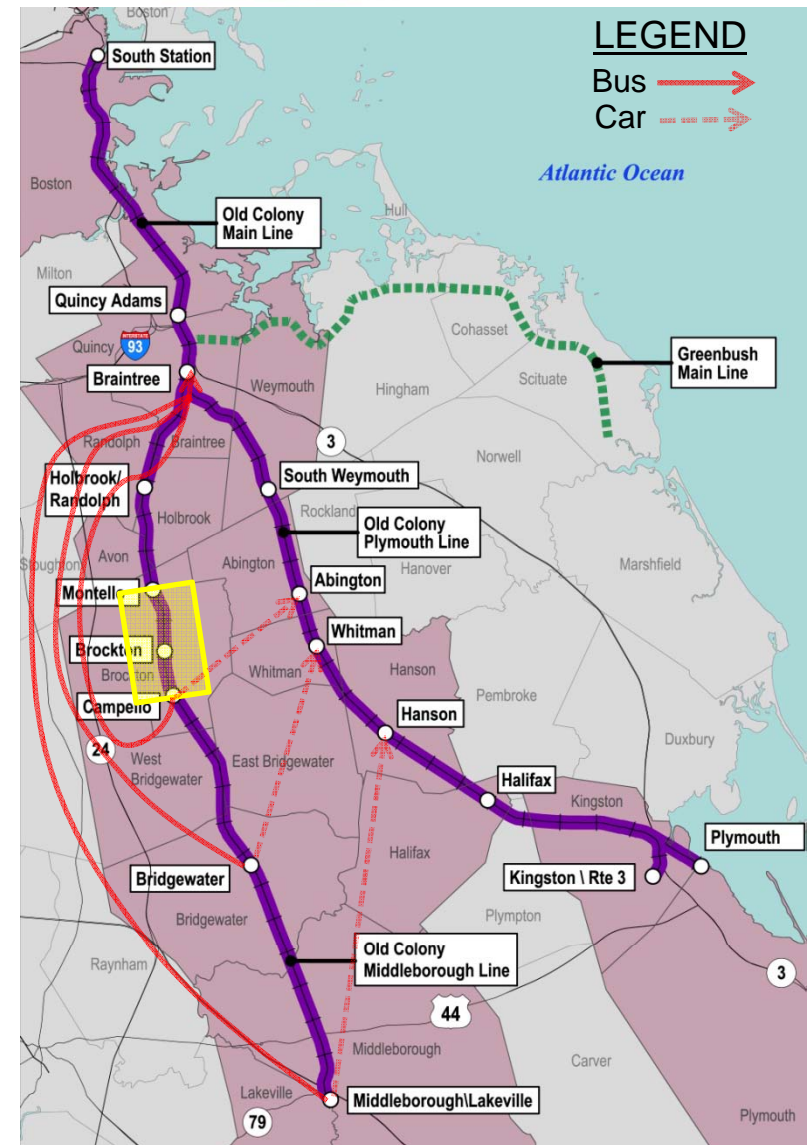
- Customer Options
 - Take bus from affected station to Braintree
 - Drive to nearest open rail station, i.e. South Weymouth Station
 - Drive to Middleborough Line Station, i.e. Bridgewater, Campello, or Brockton Stations





Substitute Transportation Example-Middleborough

- Customer Options
 - Take bus from affected station to Braintree
 - Drive to nearest open rail station, i.e. Montello Station
 - Drive to Plymouth Line Station, i.e. Abington, Whitman, or Hanson Stations





Schedule

- Construction August/September 2010 through May 2012
 - Middleborough Line – 6 Months
 - Plymouth Line – 7 Months
 - Main Line
 - Double Track – 16 to 20 Weeks
 - Single Track – 8 Weekends



Coordination

- MBCR
- 19 municipalities
 - Traffic Management Plans
 - Conservation Commissions – Notification Letter
 - Buses will be ADA accessible



Public Outreach

- Hotline Number
- MBTA Alerts
- Legislative Progress Reports
- Website Updates
- Flyers
- Newspaper Notices
- Bulletin Information