

= Orange Line ( MBTA ) =

The Orange Line is one of the four subway lines of the Massachusetts Bay Transportation Authority . It extends from Forest Hills in Jamaica Plain , Boston in the south to Oak Grove in Malden in the north . It meets the Red Line at Downtown Crossing , the Blue Line at State , and the Green Line at Haymarket and North Station . It connects with Amtrak service at Back Bay and North Station , and MBTA Commuter Rail service at Back Bay , North Station , Ruggles station in Roxbury , and Forest Hills . From 1901 to 1987 , it provided the first elevated rapid transit in Boston ; the last elevated section was torn down in 1987 when the southern portion of the line was moved to the Southwest Corridor .

All stations on the Orange Line are handicapped accessible . These stations are equipped with high @-@ level platforms for easy boarding , as well as elevators for easy platform access .

= = History = =

= = = Construction = = =

The Main Line of the electric Boston Elevated Railway opened in segments , starting in 1901 . It proceeded from Sullivan Square along the Charlestown Elevated to the Canal Street Incline near North Station . It was carried underground by the Tremont Street Subway ( now part of the Green Line ) , returning above ground at the Pleasant Street Incline ( now closed , located just south of Boylston station ) . A temporary link connected from there to the Washington Street Elevated , which in 1901 ran from this point via Washington Street to Dudley Square ( which is most of what is now Phase 1 of the Silver Line ) .

Also in 1901 , the Atlantic Avenue Elevated opened , branching at Causeway Street to provide an alternate route through downtown Boston ( along the shoreline , where today there is no rail transit ) to the Washington Street Elevated .

In 1908 , a new Washington Street Tunnel opened , allowing Main Line service to travel from the Charlestown Elevated , underground via an additional new portal at the Canal Street Incline , under downtown Boston and back up again to meet the Washington Street Elevated and Atlantic Avenue Elevated near Chinatown . Use of the parallel Tremont Street Subway was returned exclusively to streetcars .

By 1909 , the Washington Street Elevated had been extended south to Forest Hills . Trains from Washington Street were routed through the new subway , either all the way to Sullivan Square , or back around in a loop via the subway and then the Atlantic Avenue Elevated .

In 1919 , the Charlestown Elevated was extended north from Sullivan Square to Everett , over surface right @-@ of @-@ way parallel to Alford Street / Broadway , with a drawbridge over the Mystic River . The Boston Elevated had long @-@ term plans to continue this extension further north to Malden , a goal which would only be achieved decades later , under public ownership and not via the Everett route .

= = = Closure of Atlantic Avenue Elevated and ownership changes = = =

Following a 1928 accident at a tight curve on Beach Street , the southern portion of the Atlantic Avenue Elevated , between South Station and Tower D on Washington Street , was closed ( except for rush @-@ hour trips from Dudley to North Station via the Elevated ) , breaking the loop ; non @-@ rush @-@ hour Atlantic Avenue service was reduced to a shuttle between North and South Stations . In 1938 , the remainder of the Atlantic Avenue Elevated was closed , leaving the subway as the only route through downtown - what is now the Orange Line between Haymarket and Chinatown stations .

Ownership of the railway was transferred from the private Boston Elevated Railway to the public Metropolitan Transit Authority ( MTA ) in 1947 ; the MTA was itself reconstituted as the modern

Massachusetts Bay Transportation Authority ( MBTA ) in 1964 .

= = = Orange Line naming = = =

The line was known as the Main Line Elevated under the Boston Elevated Railway , and the Forest Hills ? Everett Elevated ( Route 2 on maps ) under the Metropolitan Transportation Authority .

After taking over operations in August 1964 , the MBTA began rebranding many elements of Boston 's public transportation network . On August 26 , 1965 , the four rapid transit lines were assigned colored names related to their history and geography . The Elevated became the Orange Line after Orange Street , an old name for the section of Washington Street immediately south of downtown , under which the Washington Street Tunnel runs . When designing the rebranding , Cambridge Seven Associates originally planned for yellow instead of orange , but yellow was rejected after testing .

In January and February 1967 , the four original Washington Street Tunnel stations were renamed . Transfer stations were given the same name for all lines : Winter and Summer stations plus Washington on the Red Line became Washington , Milk and State plus Devonshire on the Blue Line became State Street after the cross street , and Union and Friend plus Haymarket Square on the Green Line became Haymarket after Haymarket Square . Boylston Street was renamed Essex to avoid confusion with nearby Boylston station on the Green Line .

In May 1987 , Essex was renamed Chinatown after the adjacent Chinatown neighborhood , and Washington renamed Downtown Crossing after the adjacent shopping district . In March 2010 , New England Medical Center station was renamed as Tufts Medical Center two years after the eponymous hospital changed its name .

= = = Rerouting of Charlestown and Everett service = = =

The Boston Transportation Planning Review looked at the line in the 1970s , considering extensions to reach the beltway Route 128 , with termini at Reading in the north and Dedham in the south . As a result of this review , the Charlestown Elevated - which served the Charlestown neighborhood north of downtown Boston and the inner suburb Everett - was demolished and replaced in 1975 .

The Haymarket North Extension rerouted the Orange Line through an underwater crossing of the Charles River . Service in Charlestown was replaced with service along Boston and Maine tracks routed partially beneath an elevated section of Interstate 93 , ultimately to Wellington and then to Oak Grove in Malden , Massachusetts instead of Everett . Rail service to Everett was replaced with buses .

= = = Closure of Washington Street Elevated = = =

Construction of Interstate 95 into downtown Boston was cancelled in 1972 after local protest over the necessary demolition . However , land for I @-@ 95 's Southwest Corridor through Roxbury had already been cleared of buildings ; moreover , the state had already committed to using this vacant land for transportation purposes . As a result , instead of an 8 @-@ lane Interstate highway with a relocated Orange Line running in its median ( in a manner similar to the Chicago Transit Authority 's Dan Ryan and Congress and Jefferson Park lines ) , the space would be occupied by the realigned Orange Line , a reconstructed three @-@ track mainline for Amtrak 's Northeast Corridor and MBTA Commuter Rail trains , and a linear park . After this re @-@ routing was accomplished in 1987 , the Washington Street Elevated was torn down , the last major segment of the original elevated line to be demolished .

Between April 30 and May 3 , 1987 , the Washington Street Elevated south of the Chinatown station was closed to allow the Orange Line to be tied into the new Southwest Corridor . On May 4 , 1987 , the Orange Line was rerouted from the southern end of the Washington Street Tunnel onto the new Southwest Corridor . Instead of rising up to elevated tracks , it now veered west at the

Massachusetts Turnpike and followed the Pike and the old Boston and Albany Railroad right @-@ of @-@ way to the existing MBTA Commuter Rail stop at Back Bay . It then continued along new tracks , partially covered and partially open but depressed , to Forest Hills . This MBTA right @-@ of @-@ way is also shared by Amtrak as part of the national Northeast Corridor intercity passenger rail service .

While ending more or less at the same terminus ( Forest Hills ) , the new routing bypassed significantly to the west of its previous route on Washington Street ; local residents were promised replacement service . Originally , plans provided for light rail vehicles street running in mixed traffic , from Washington Street to Dudley Square , then diverting southeastward on Warren Street towards Dorchester . In 2002 , Phase 1 of the Silver Line bus rapid transit was added to connect Washington Street to the downtown subways , attempting to address this service need . This replacement service was controversial , as many residents preferred the return of rail transportation .

= = = Renovations during the Big Dig = = =

Haymarket and North Station received major renovations during the Big Dig in the 1990s and first decade of the 21st century , as the Causeway Street Elevated portion of the Green Line was buried , its physical connection to the Orange Line was improved to make transfers easier , the Canal Street Incline was finally closed , and the Green Line was re @-@ rerouted through a new portal closer to the river , near the Zakim Bunker Hill Bridge .

= = = Assembly = = =

In the early 2000s , Somerville began planning an infill station between Sullivan and Wellington to serve the new Assembly Square development . The \$ 57 million station was funded by the state 's Executive Office of Housing and Economic Development , FTA Section 5309 New Starts program , and Federal Realty Investment Trust ( the developer of Assembly Square ) . Construction began in late 2011 and finished in mid 2014 . The new station , Assembly , opened on September 2 , 2014 . It was the first new station on the MBTA subway system since 1987 .

= = = Winter issues and resiliency work = = =

During the unusually brutal winter of 2014 @-@ 2015 , the entire MBTA system was shut down on several occasions by heavy snowfalls . The aboveground sections of the Orange and Red lines were particularly vulnerable due to their exposed third rail , which iced over during storms . When a single train stopped due to power loss , other trains soon stopped as well ; without continually running trains pushing snow off the rails , the lines were quickly covered in snow . ( Because the Blue Line was built with overhead lines on its surface section due to its proximity to corrosive salt air , it was not subject to icing issues . )

During 2015 , the MBTA is implementing its \$ 83 @.@ 7 million Winter Resiliency Program , much of which focused on preventing similar issues with the Orange and Red lines . The Southwest Corridor section of the Orange Line is located in a trench and is protected from the worst weather , but the 1970s @-@ built Haymarket North Extension had older infrastructure and was in worse shape . From Sullivan Square north , it is exposed to the weather and largely built on an embankment , rendering it more vulnerable . That section is receiving new heated third rail , switch heaters , and snow fences to reduce the impacts of inclement weather . The work requires bustitution of the line from Sullivan Square to Oak Grove on many weeknights .

= = = Historical routes = = =

= = Station listing = =

= = Rolling stock = =

The " T " previously had a fleet of Pullman @-@ Standard heavy rail cars for the Orange Line . These cars , known as 01100s , had been in service since the 1950s , and saw service on both the elevated and the northern extension before they were retired in 1981 . Several remained on the property for some time before being scrapped . The 01100 cars were a favorite for fans , as the small motorman 's cab enabled passengers to stand at the front for an operator 's @-@ eye view .

The Orange Line is standard gauge heavy rail and uses a third rail for power . The current fleet is the 01200 series , built between 1979 and 1981 by Hawker Siddeley Canada Car and Foundry ( now Bombardier Transportation ) of Thunder Bay , Ontario , Canada . They are 65 feet ( 20 m ) long and 9 ft 3 in ( 2 @.@ 8 m ) wide , with three pairs of doors on each side . They are based on the PA3 model used by PATH in New Jersey . There are 120 cars , numbered 01200 @-@ 01319 . All in @-@ service Orange Line trains run in six @-@ car configurations .

= = = New trains = = =

In late 2008 , the MBTA began the planning process for new Orange and Red Line vehicles . The agency planned for a simultaneous order for 146 Orange Line cars ( to replace the whole fleet ) and 74 Red Line cars ( to replace the older 1500 and 1600 series cars ) . A similar order was used in the late 1970s for the current Orange Line cars and the old Blue Line cars , ordered at the same time and largely identical except for size . In October 2013 , MassDOT announced plans for a \$ 1 @.@ 3 billion subway car order for the Orange and Red Lines , which would provide 152 new cars to replace the current 120 @-@ car fleet and add more frequent service .

On October 22 , 2014 , the MassDOT Board awarded Chinese manufacturer CNR a \$ 566 @.@ 6 million contract to build 152 replacement railcars for the Orange Line , as well as additional cars for the Red Line . CNR will build the Type B cars at a new manufacturing plant in Springfield , Massachusetts , with initial deliveries expected in 2018 and all cars in service by 2023 . In conjunction with the new rolling stock , the remainder of the \$ 1 @.@ 3 billion allocated for the project will pay for testing , signal improvements and expanded maintenance facilities , as well as other related expenses .

While waiting for new cars , service has deteriorated due to maintenance problems with the old cars . The number of trains at rush hour was reduced from 17 ( 102 cars ) to 16 ( 96 cars ) in 2011 ; in the same year , daily ridership surpassed 200 @,@ 000 . Increased running times - largely due to longer dwell times from increased ridership - resulted in headways being lengthened from 5 minutes before 2011 to 6 minutes in 2016 . The increased fleet size with the new trains will allow headways to be reduced to 4 to 5 minutes at peak . In the interim , a 2016 test of platform markings at North Station which show boarding passengers where to stand to avoid blocking alighting passengers , resulted in a one @-@ third decrease in dwell times .

= = = Facilities = = =

The Orange Line has two tracks ( one in each direction ) and a third track between Wellington and the Charles River portal . This track is used to bypass construction on the other two , and for testing newly delivered cars for the Orange and Blue lines . The primary maintenance and storage facility is at Wellington Station . Had the Orange Line been extended to Reading , the third track would have been the northbound local track and the present @-@ day northbound track would have become the express track .