

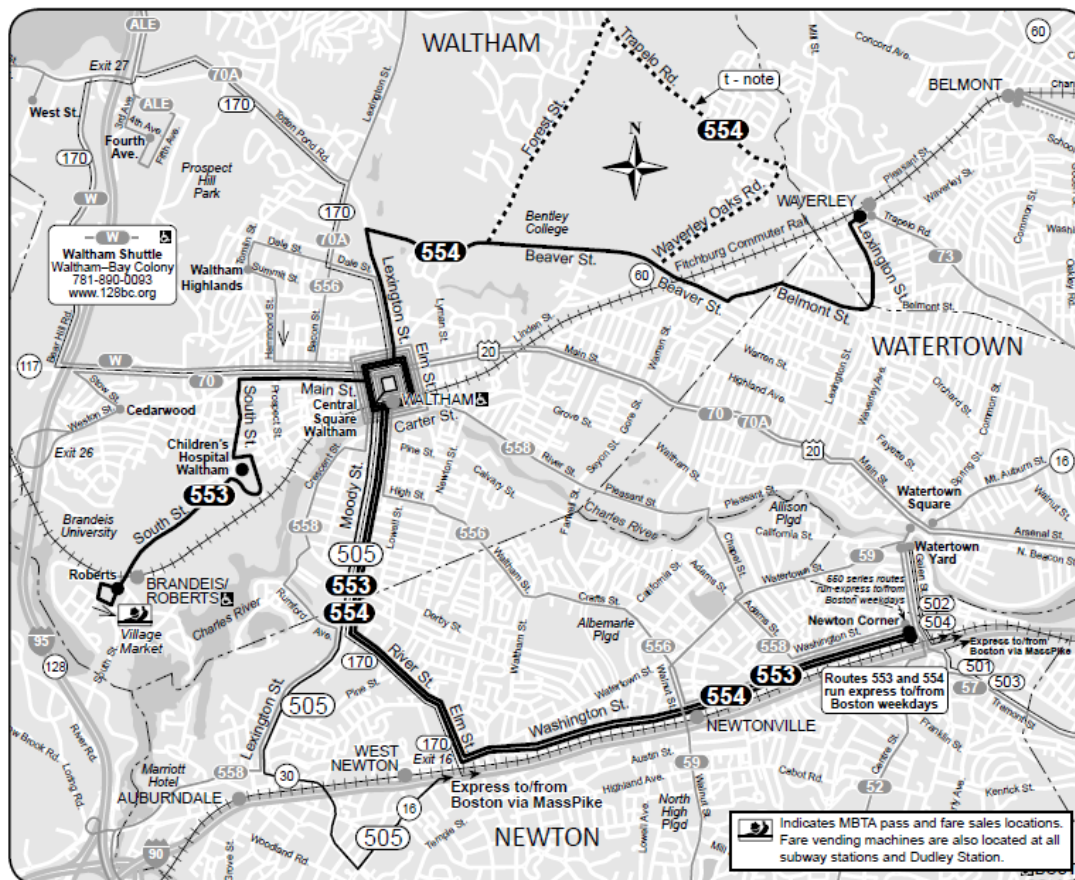
Route 554

Waverley Square – Downtown Boston

Route Overview

Route 554 Waverley Square – Downtown Boston is a local route providing service between Waverley Square in Belmont and Downtown Boston via Waltham Central Square and the Mass Pike (see Figure 1). Route 554 operates along the same alignment as Route 553 Roberts-Downtown Boston between Waltham Center and Newton Corner or Downtown Boston, and in most respects the two routes act as a single route with different outer branches.

Figure 1 | Service Map

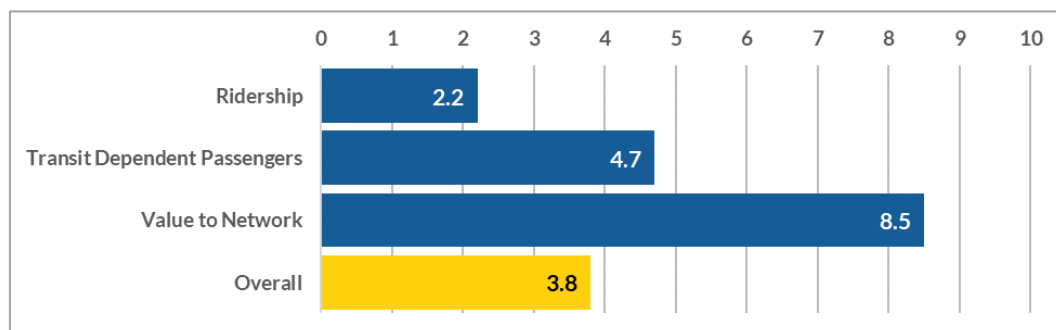


Network Importance

Route 554 is of moderately low importance within the MBTA bus network (see Figure 2). On a relative scale of 0 to 10, the route rates 2.2 in terms of ridership, 4.7 in terms of

transit dependent ridership, and 8.5 in terms of its value to the network (which reflects the number of people who are uniquely served, the number of jobs and other important destinations, and the number of transferring passengers). Its overall score, which gives a 70% weighting to overall ridership and a 15% weight to both other measures, is 3.8.

Figure 2 | Relative Importance within MBTA Bus Network (on a scale of 0 to 10)



Service Overview

Table 1 | Schedule Statistics

SERVICEDAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	5:51 AM to 8:19 PM			
Sunrise	-	-	-	-
Early AM	5:51 AM to 6:59 AM	24	24	0/3
AM Peak	7:00 AM to 8:59 AM	30 - 60	43	3/1
Midday Base	9:00 AM to 1:29 PM	60	60	5/5
Midday School	1:30 PM to 3:59 PM	60 - 65	63	2/2
PM Peak	4:00 PM to 6:29 PM	57 - 68	63	3/3
Evening	6:30 PM to 8:19 PM	1 trip	-	1/0
Late Evening	-	-	-	-
Night	-	-	-	-
Saturday	-	-	-	-
Sunday	-	-	-	-

Note: Span of service reflects the time the first bus begins service until the time the last bus finishes service.

Schedule

Route 554 operates only on weekdays, from 5:51 AM to 8:19 PM (see Table 1). It operates:

- Every 24 to 35 minutes until 8:10 AM.
- Every 54 to 68 minutes for the rest of the day, but mostly every 60 minutes.

Route 554 does not meet the following MBTA Service Delivery Policy standards:

- On weekdays:
 - PM peak services operates every 55 to 68 minutes versus the standard of at least every 30 minutes for peak period service.
 - Some midday trips operate every 65 minutes apart versus the minimum standard of every 60 minutes for off-peak service.
- No service is provided on weekends.

Service Patterns

Service pattern 554.0 makes most trips, operating as shown with the solid black line in Figure 1 between Waverley Square and Waltham Center via Beaver Street.

Service Pattern 554.2 makes the first three outbound and last three inbound trips, making a three-mile deviation off of Beaver Street via Waverley Oaks Road, Trapelo Road, and Forest Street to serve Bentley College’s North Campus.

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS per WKD	TRIPS per SAT	TRIPS per SUN
INBOUND				14	-	-
554.0	Waverley Commuter Rail Station	Downtown Boston	Via Beaver Street	11	-	-
554.2	Waverley Commuter Rail Station	Downtown Boston	Via Trapelo Street	3	-	-
OUTBOUND				14	-	-
554.0	Downtown Boston	Waverley Commuter Rail Station	Via Beaver Street	11	-	-
554.2	Downtown Boston	Waverley Commuter Rail Station	Via Trapelo Street	3	-	-

Ridership

Route 554 carries 640 passengers per weekday.

Ridership by Stop

Route 554 serves a combination of local riders in Waltham and Newton and those traveling to and from downtown Boston. On weekday inbound trips (see Figure 3).

- 40 passengers board at the first stop in Waverley Square at Waverley Commuter Rail Station.
- 10 passengers board and fewer than five4 alight at the six stops on Lexington Street, Belmont Street, and Warren Street.
- 20 passengers board and fewer than 10 alight at the five stops along Beaver Street.

- Five passengers board and only one alight on the three trips that deviate off of Beaver Street along Waverley Oaks Road, Trapelo Road, and Forest Street. This is fewer than two passengers per trip.
- Fewer than 10 passengers board and fewer than five alight at the two stops on Lexington Street before Waltham Commuter Rail Station. In total, there are fewer than 85 boardings between Waverley Commuter Rail Station and Waltham Commuter Rail Station.
- 30 passengers board and 10 alight at Waltham Commuter Rail Station.
- 40 passengers board and 20 alight at the six stops along Moody Street.
- 30 passengers board and fewer than 10 alight at the eight stops along Lexington Street, River Street, and Elm Street between Moody Street and Washington Street.
- 140 passengers board and 60 alight at the 17 stops along Washington Street and Elm Street.
- 210 passengers, or two-thirds of all inbound riders, alight at the two stops in Downtown Boston.

Ridership by Trip

Route 554's ridership is relatively high on inbound AM peak trips and PM outbound trips and low at other times (see Figure 4 and Figure 5). On inbound trips:

- 40 to over 50 passengers ride the first three trips. The first two have loads that are close to the MBTA's maximum load standards. High ridership on the first trip indicates likely demand for earlier service, although earlier service on Route 553 is available on most of the route.
- Ridership then declines to 21 passengers or fewer for the rest of the day.

On outbound trips:

- With the exception of the 8:10 AM trip that carries 35 passengers, all trip before 1:00 PM carry fewer than 20 passengers.
- After 1:00 PM, ridership per trip climbs to 34 at 4:05 PM.
- It then spikes to 60 on the 5:05 PM trip and then falls to 30 on the last trip at 6:10 PM.

Figure 3 | Weekday Inbound Ridership by Stop Map

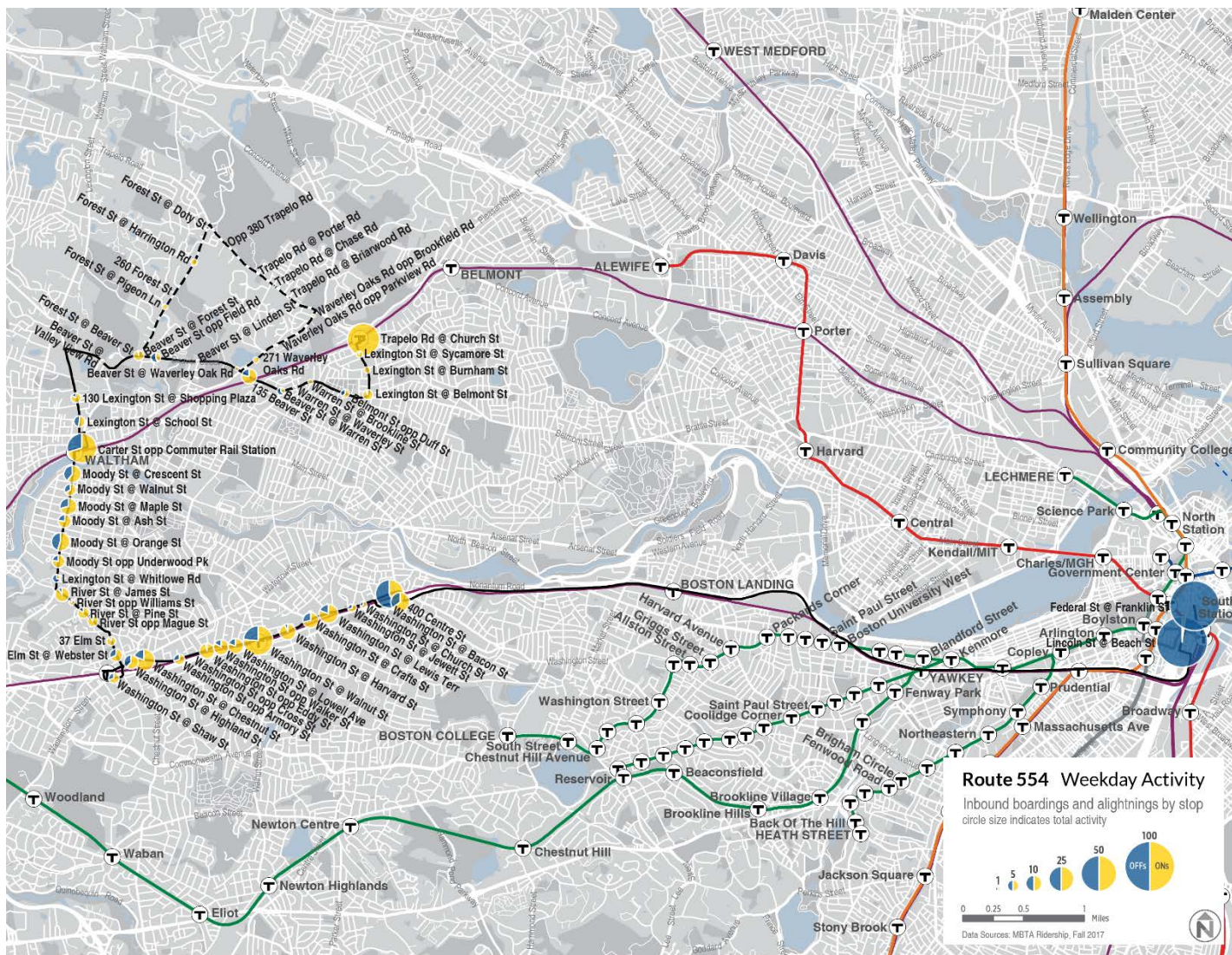


Figure 4 | Weekday Ridership by Trip: Inbound

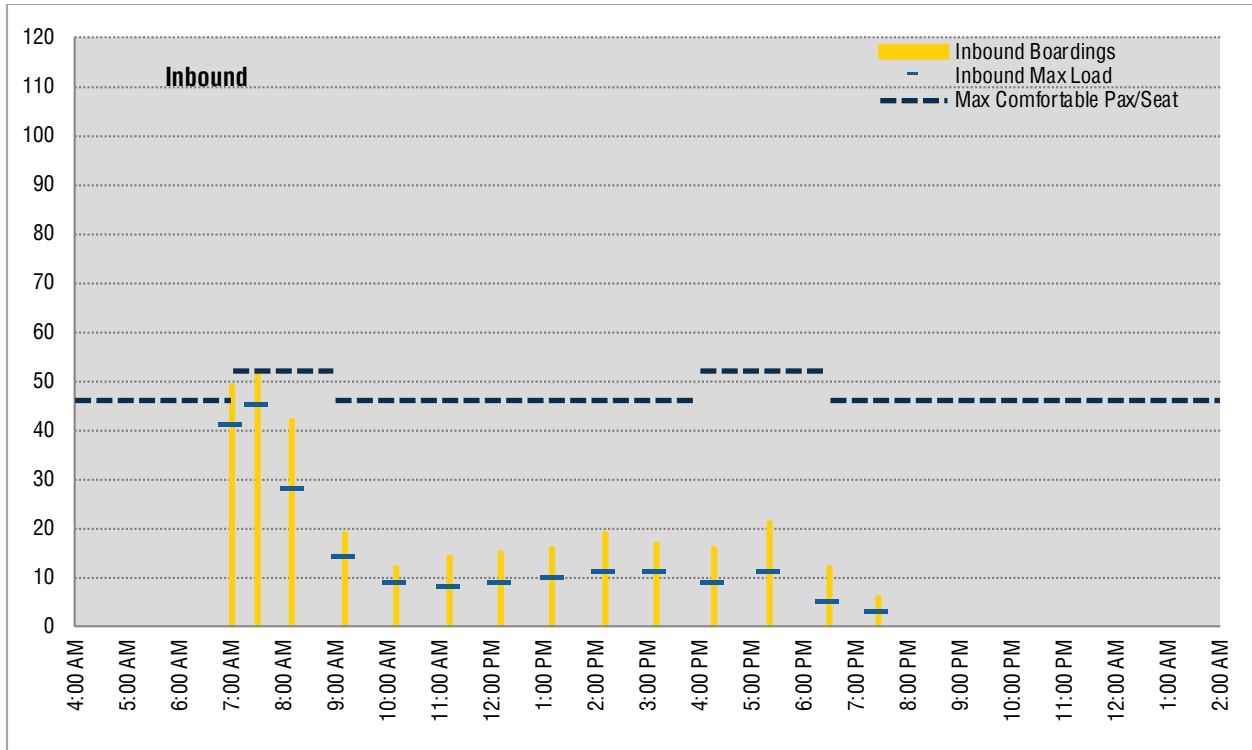
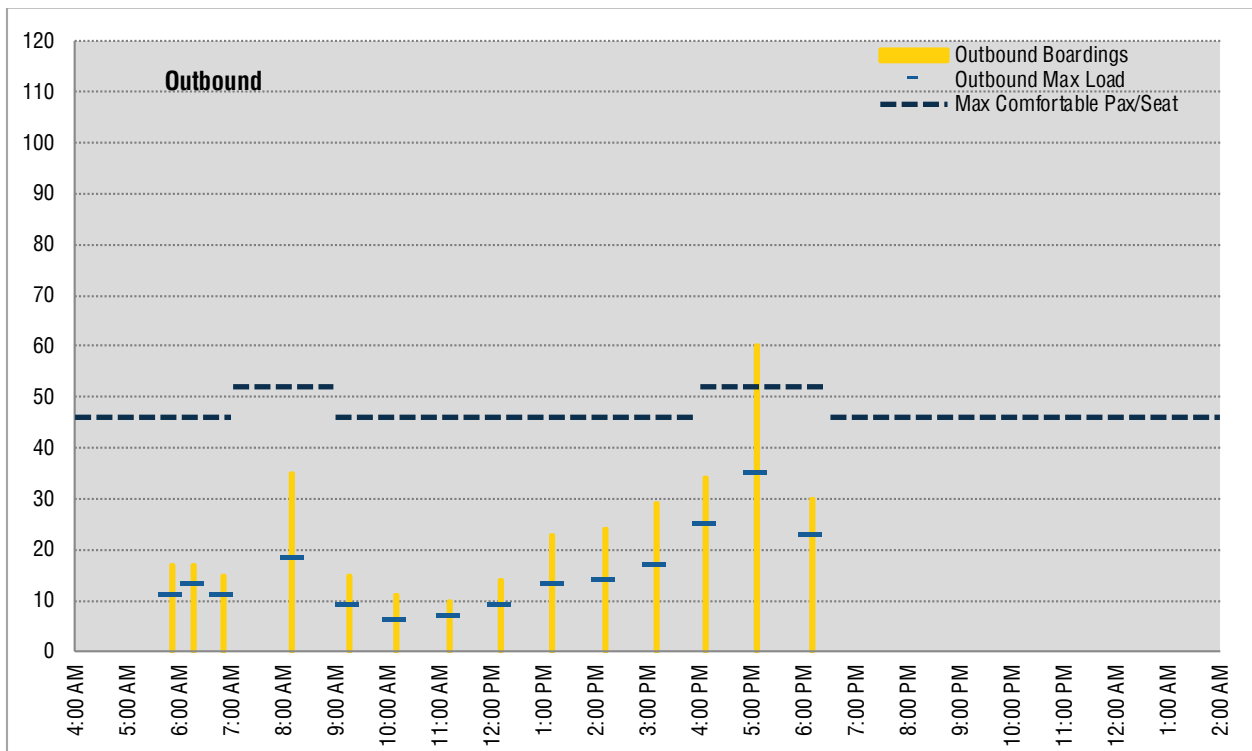


Figure 5 | Weekday Ridership by Trip: Outbound



Passenger Comfort

The MBTA desires that passengers travel in relatively comfortable conditions. At the same time, the MBTA's definition of comfort reflects the very high volume environment in which the MBTA operates, and that some passengers may have to stand for a portion of their trip. More specifically, at least 92% of passengers' travel times should be in comfortable conditions, and ideally, at least 96% of travel times should be in comfortable conditions. Comfortable conditions are considered to be 140% or less of seated capacity during high volume periods and 125% or less during other periods.

Data on the actual amount of time passengers travel in comfortable conditions is not available for Route 554.

Reliability and Speed

Reliability

Route 553's overall reliability is very poor at only 52%, which is well below the minimum standard of 70% (see Table 3). As described in the next section, poor reliability, to a significant extent, is because scheduled times are significantly shorter than actual times.

Table 3 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	52%	52%	52%	0.1%
Saturday	-	-	-	-
Sunday	-	-	-	-

Running Times

Scheduled running times are shorter than actual times for most of the day in both directions, and up to 10 minutes shorter during peak periods (see Figure 6 and Figure 7).

Stop Spacing

Route 553 has nearly seven stops per mile west of Newton Corner, which is at the high end of the four to seven stops per mile recommended for urban areas and the four to five recommended for suburban areas. Stop consolidation could speed service and improve reliability.

Figure 6 | Scheduled & Median Travel Time by Trip: Route 554 Inbound

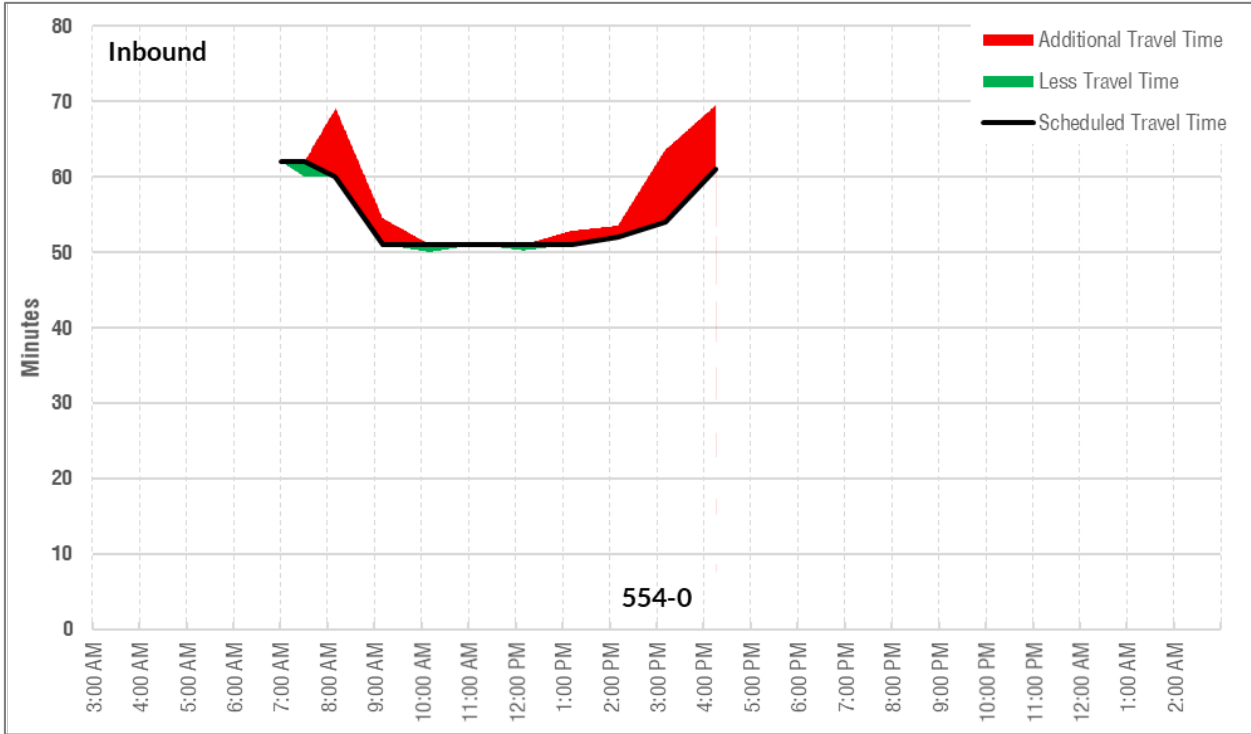
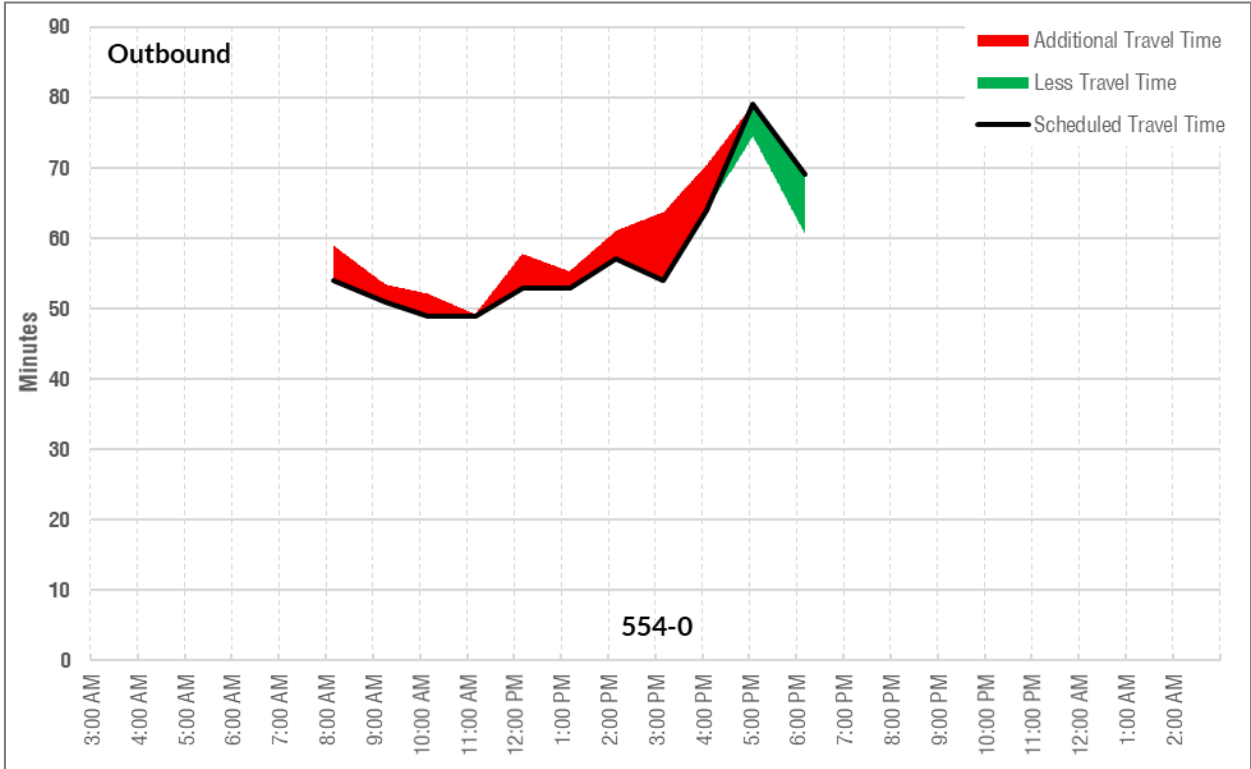


Figure 7 | Scheduled and Median Travel Time by Trip: Route 554 Outbound



Summary

Route 554 provides a combination of local service within Waltham and Newton and commuter service to and from Downtown Boston. It is closely related to Route 553 Roberts-Downtown Boston, which provides the same service between Waltham Center and Boston (and the two routes alternate trips for most of the day on weekdays). The most significant issues include:

- The route does not meet many Service Deliver Policy standards, including weekday peak period and midday service that does not meet frequency standards, and no Saturday or Sunday service.
- On-time performance is very poor, in large part due to schedules that do not reflect actual running times.
- Low ridership between Waverley Commuter Rail Station and Waltham Commuter Rail Station, including extremely low ridership on the deviation to and from Trapelo Road.
- Less than ideal schedule coordination with Route 553 Roberts-Downtown Boston.