

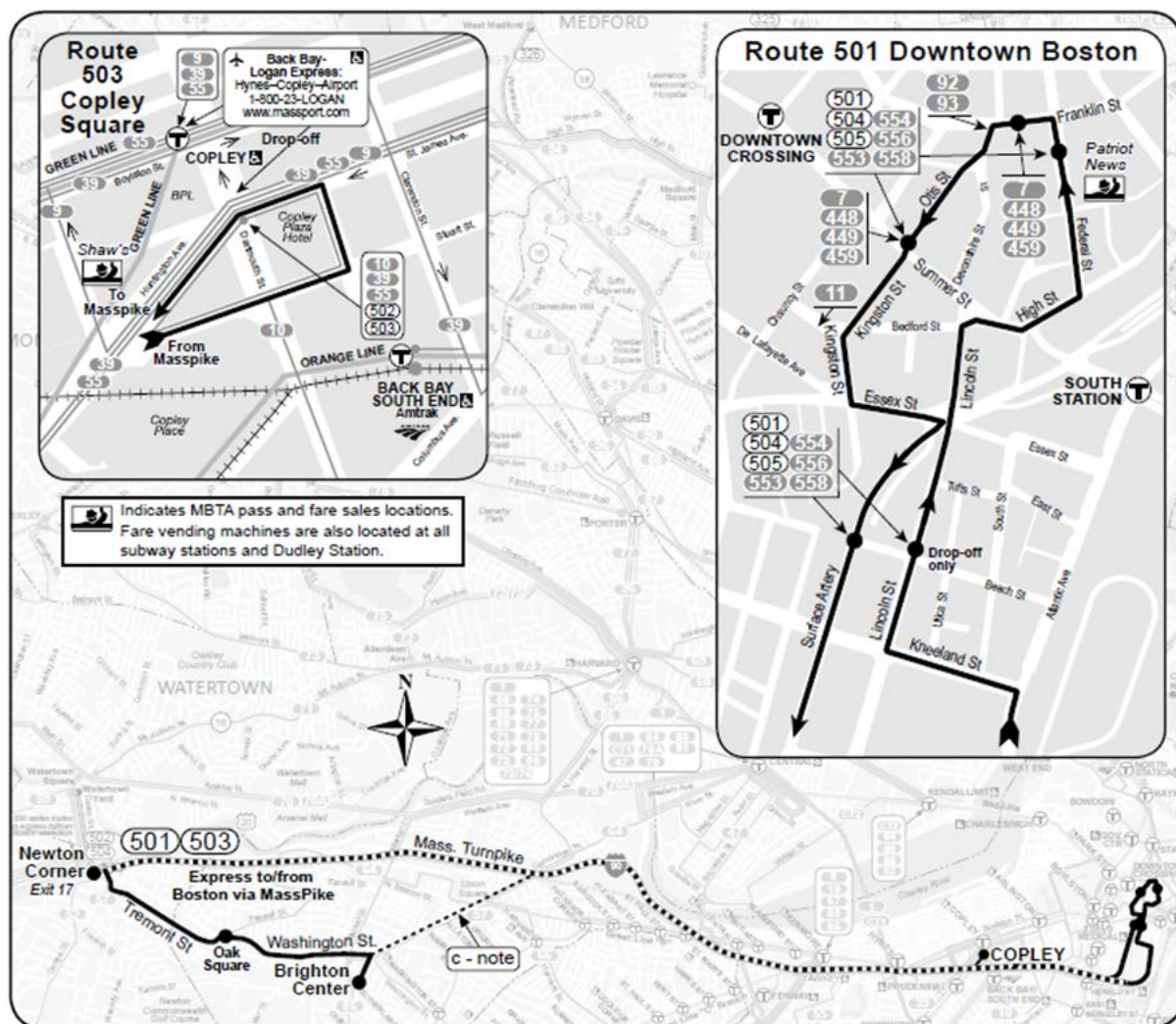
# Route 503

Express Bus – Brighton Center – Copley Square

## Route Overview

Route 503 Brighton Center – Copley Square is an Express route that operates between Brighton Center and Copley Square via the Mass Pike (see Figure 1). The outer section of the route overlaps a large portion of Key Bus Route 57/57A.

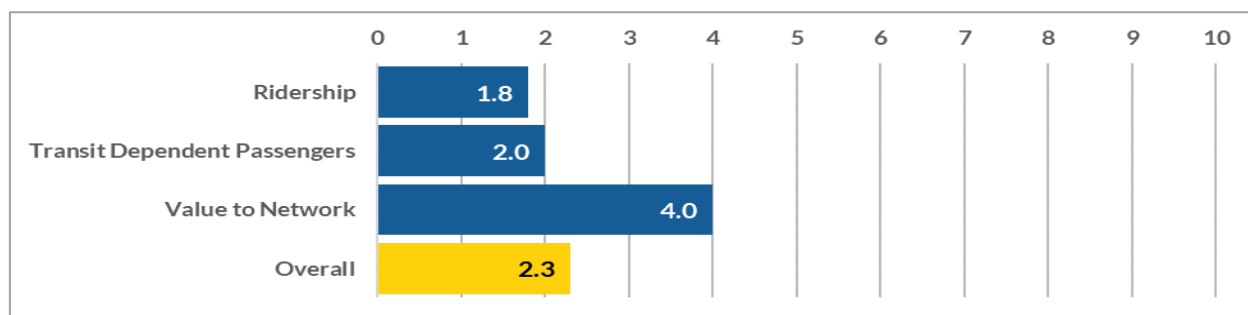
Figure 1 | Service Map



## Network Importance

Route 503 is of low importance within the overall MBTA bus network, providing only weekday commuter service on a limited number of trips (see Figure 2). On a relative scale of 0 to 10, the route rates 1.8 in terms of ridership, 2.0 in terms of transit dependent ridership, and 4.0 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 2.3.

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



## Service Overview

### Schedule

Route 503 operates on weekdays during peak periods and the shoulders of the peaks, from 6:40 AM to 8:55 AM and from 4:20 PM to 7:34 PM (see Table 1). AM inbound service operates every 15 to 20 minutes. PM outbound service operates significantly less frequently, at every 30 to 37 minutes.

Table 1 | Schedule Statistics

SERVICEDAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
<b>Monday-Friday</b>	<b>6:40 AM to 8:55 AM</b> <b>5:20 PM to 7:34 PM</b>			<b>13/12</b>
Sunrise	-	-	-	-
Early AM	6:40 AM to 6:59 AM	1 trip	-	1/0
AM Peak	7:00 AM to 8:55 AM	15 - 20	17	8/6
Midday Base	-	-	-	-
Midday School	-	-	-	-
PM Peak	4:20 PM to 6:29 PM	30 - 37	33	3/4
Evening	6:30 PM to 7:34 PM	31 - 34	33	1/2
Late Evening	-	-	-	-
Night	-	-	-	-

SERVICEDAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
<b>Saturday</b>	-	-	-	-
<b>Sunday</b>	-	-	-	-

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

Route 503 exceeds the MBTA span of service and frequency standards for Commuter routes that there be at least three AM inbound and three PM outbound trips.

### Service Patterns

Route 501 operates with the following patterns:

- All AM inbound and PM outbound trips operate between Brighton Center and Downtown Boston via Newton Corner as shown with the solid line in Figure 1 and via the Mass Pike.
- All AM outbound and PM inbound trips operate between the Mass Pike and Newton Corner via Cambridge Street as shown in Figure 1 with the dotted line labeled “c-note.” These, in effect, are deadhead trips.

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS per WKD	TRIPS per SAT	TRIPS per SUN
<b>INBOUND</b>				<b>13</b>	-	-
503.0	Winship Street at Union Street	Copley Square	Via Newton Corner	9	-	-
503.1	Winship Street at Union Street	Copley Square	Via Union Square (Allston)	4	-	-
<b>OUTBOUND</b>				<b>12</b>	-	-
503.0	Copley Square	Winship Street at Union Street	Via Union Square (Allston)	6	-	-
503.1	Copley Square	Winship Street at Union Street	Via Newton Corner	6	-	-

### Ridership

Route 503 carries 400 passengers per weekday.

### Ridership by Stop

Nearly all ridership is on AM inbound trips and PM outbound trips. On inbound trips (see Figure 3):

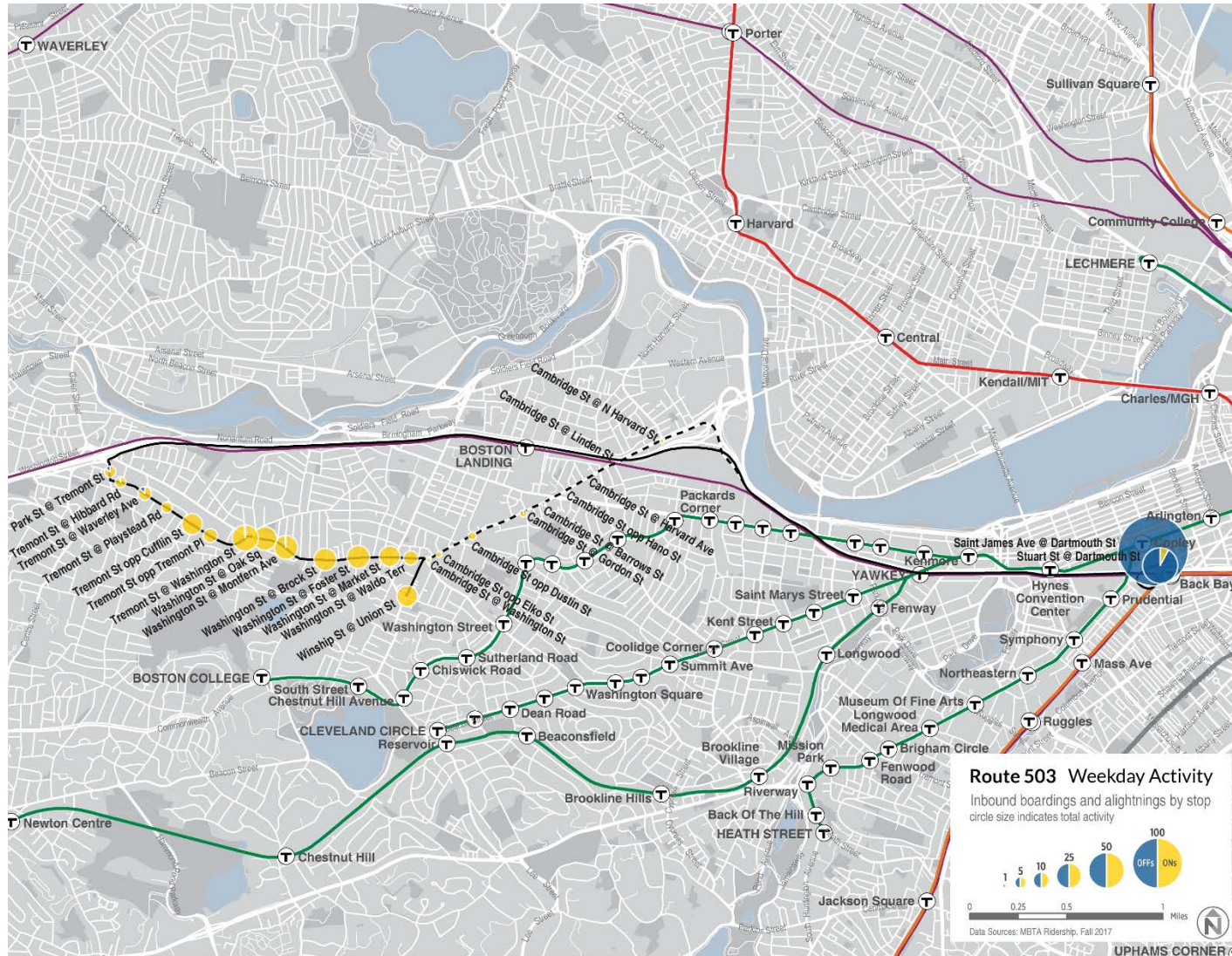
- 20 passengers board at Route 503’s first stop at Winship Street and Union Street.
- 110 passengers board and none alight along Washington Street.
- 70 passengers board and none alight along Tremont Street.

- Fewer than 10 passengers board on the PM inbound trips via Cambridge Street.
- Nearly all passengers alight in Copley Square.

Outbound ridership is generally the reverse of inbound ridership. One exception, however, is higher AM outbound ridership along Cambridge Street, at 40 boardings and fewer alightings. This is primarily student ridership to Brighton High School.



Figure 3 | Weekday Inbound Ridership by Stop Map



## Ridership by Trip

As expected for a Commuter route, Route 503 ridership is heavily oriented toward AM inbound and PM outbound trips (see Figure 4 and Figure 5). In more detail:

- No trips, on average, have loads that exceed the MBTA’s maximum load standards, and most carry less than seated loads.
- The inbound trips at 7:50 AM and 8:10 AM carry the highest number of riders, at 37 and 34. All other inbound trips carry fewer than 30 total passengers, and most carry fewer than 20. This indicates that more service is provided than is necessary to meet demand.
- Only two PM outbound trips carry more than 30 passengers and the others carry 21 or fewer. This also indicates that more service is provided than is necessary to meet demand.

Figure 4 | Weekday Ridership by Trip: Inbound

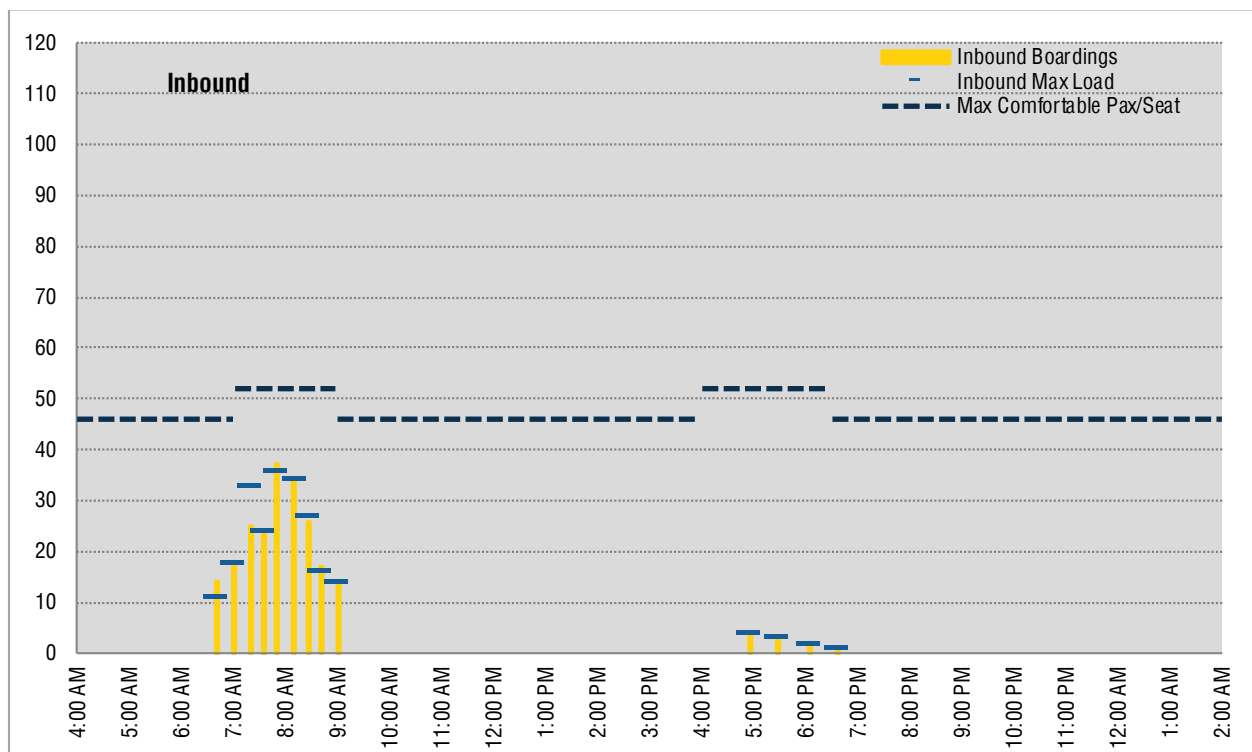
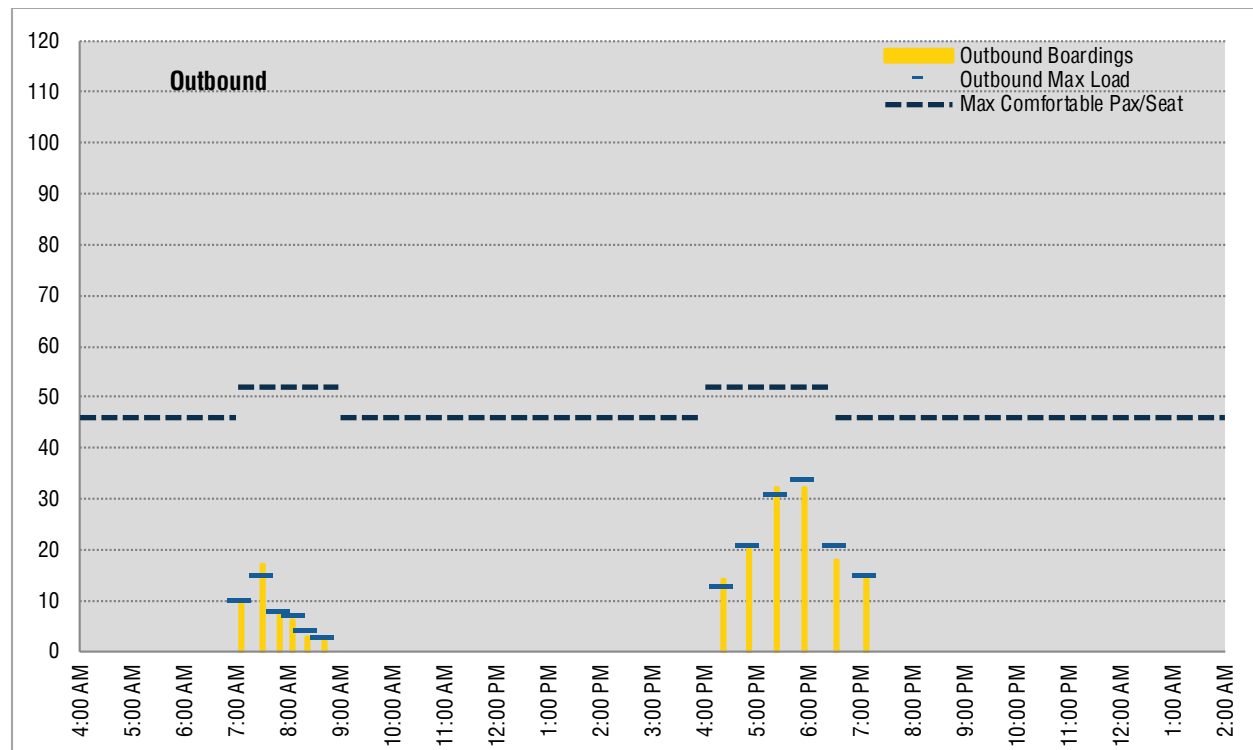


Figure 5 | Weekday Ridership by Trip: Outbound



### 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.

On Route 503, 95.8% of passenger minutes are in comfortable conditions, which is above the minimum standard and very close to the target standard (see Table 3).

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
<b>Minimum Standard</b>	92%	92%	92%
<b>Target</b>	96%	96%	96%
<b>Actual</b>	95.8%	-	-

## Reliability and Speed

### Reliability

Route 503's overall reliability is 72% (see Table 4). This is above the MBTA's minimum standard of 70% but below the target of 75%. Dropped trips, however, are an issue, with 0.9% of trips dropped in the Fall of 2017.

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	70%	77%	72%	0.9%
Saturday	-	-	-	-
Sunday	-	-	-	-

### Running Times

Route 503's actual running times are generally close to scheduled times (see Figure 6 and Figure 7).

Figure 6 | Scheduled & Median Travel Time by Trip: Route 503 Inbound

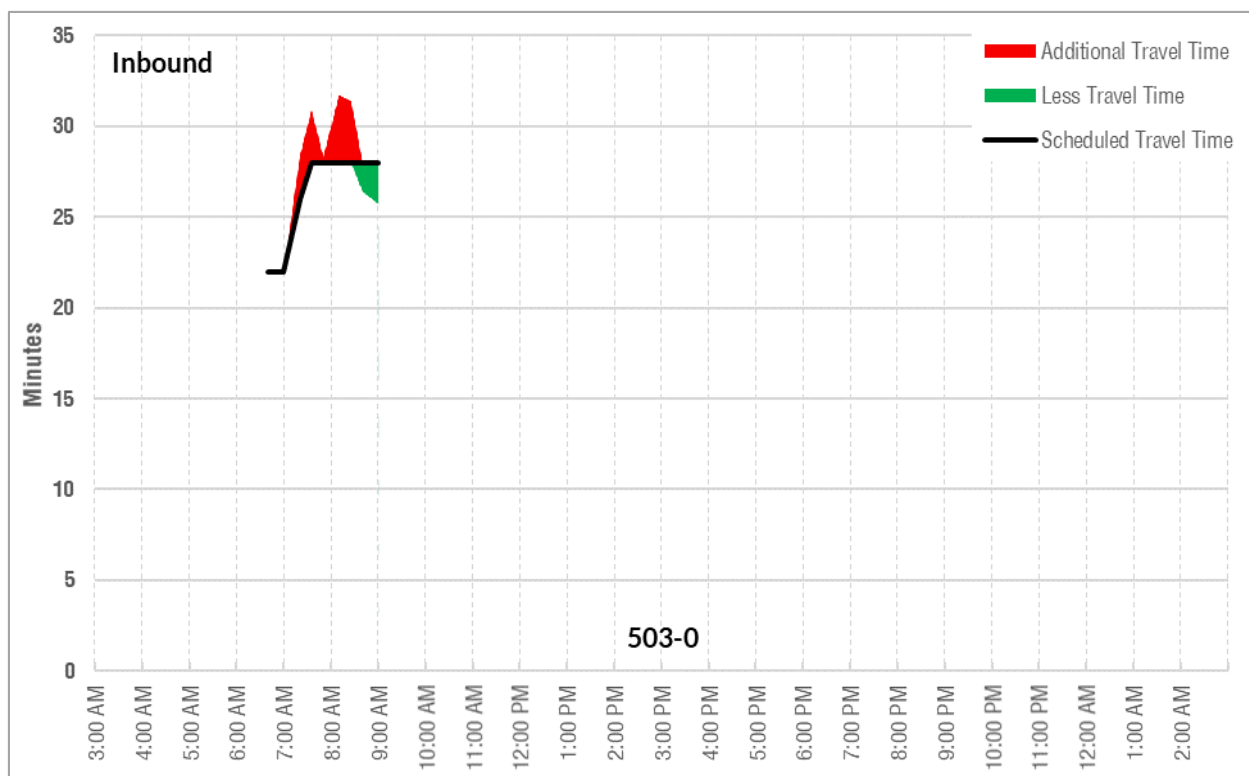
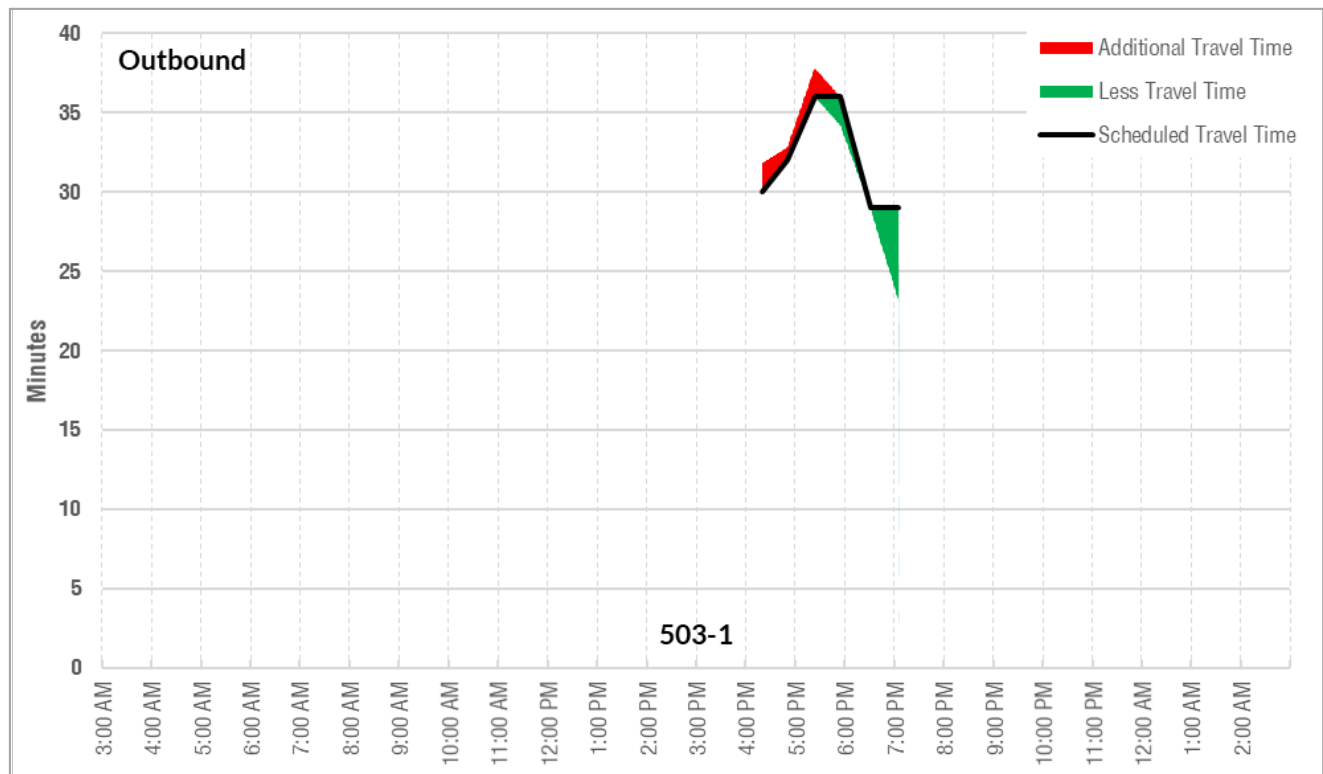




Figure 7 | Scheduled & Median Travel Time by Trip: Route 503 Outbound



### Stop Spacing

Stops are too closely spaced along Route 503’s Washington/Tremont corridor, where there are 13 stops along the 1.7 mile alignment, an average stop spacing of 690 feet.

The southernmost stops along Cambridge Street are also too closely spaced. There is an average of 375 feet between the stops along Cambridge Street between Winthrop Street and Dustin Street. Close stop spacing slows down service and results in inconsistent ridership patterns.

## Summary

Route 503 is a Commuter route that provides 10 AM inbound trips and six PM outbound trips. Issues include:

- Stops are too close together in some areas.
- On-time performance is below the MBTA's target level.
- PM service is significantly less frequent than AM service, and thus is less convenient.