

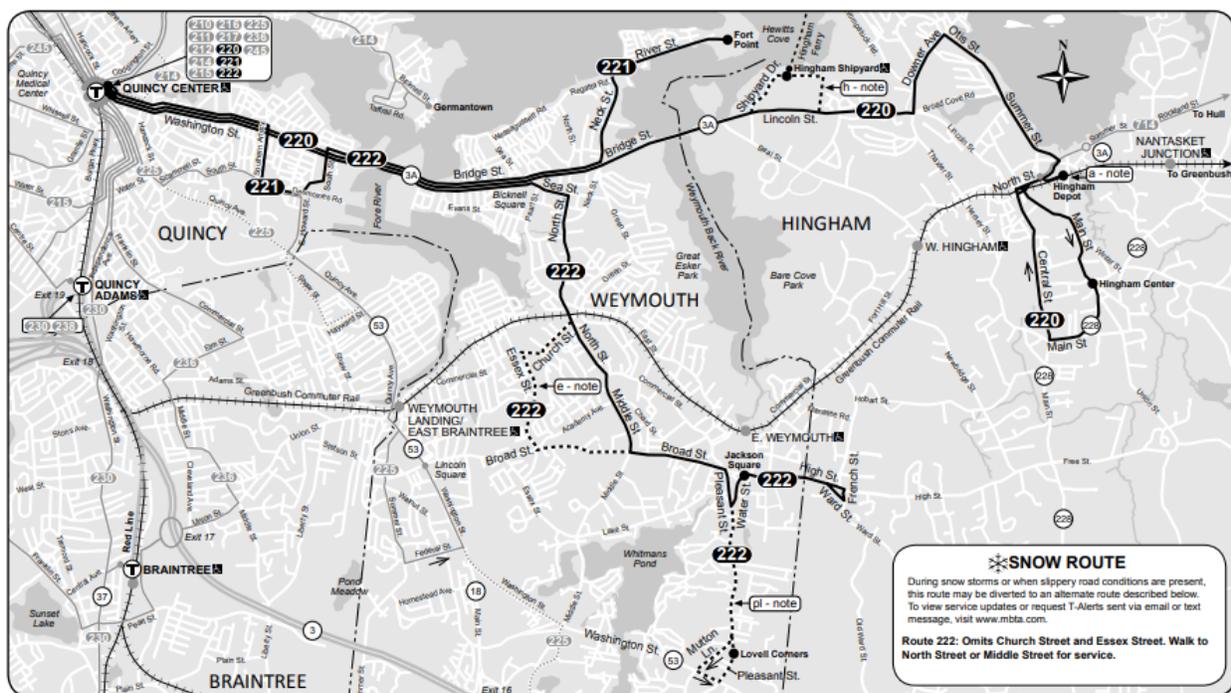
Route 220

Hingham Depot – Quincy Center Station

Route Overview

Route 220 Hingham Depot – Quincy Center Station is a Local bus route that operates between Hingham Depot, Hingham Center, and Quincy Center Station, largely along Route 3A. Route 220's major purpose is to connect residents of Hingham, northern Weymouth, and Quincy to Quincy Center and the Red Line.

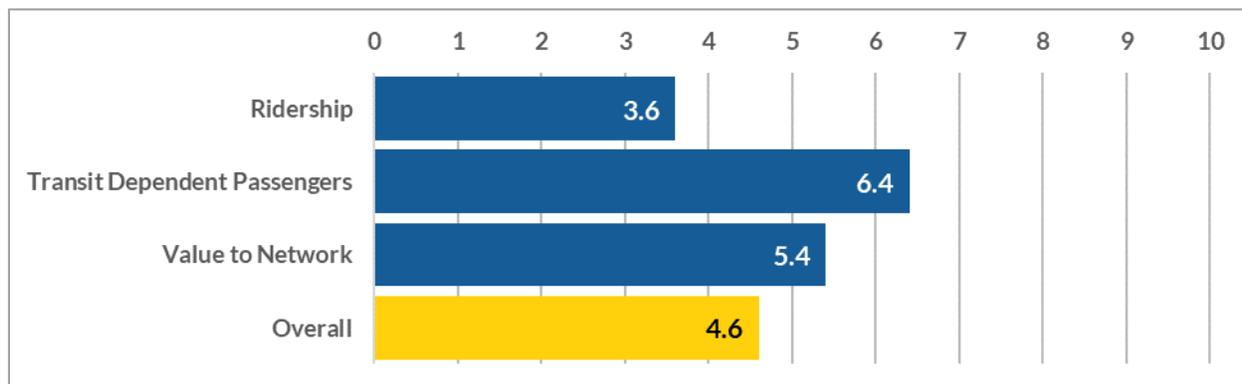
Figure 1 | Service Map



Network Importance

Route 220 has moderate importance within the overall system (see Figure 2). On a scale of 0 to 10, route 220 rates 3.6 in terms of ridership, 6.4 in terms of transit dependent ridership, and 5.4 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 destination, 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 4.6.

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



Service Overview

Schedule

Route 220 operates seven days a week. On weekdays, it provides moderately frequent service from the early morning until evening, and then less frequent service later at night (see Table 1). During peak periods, service operates 17 to 20 minute, most off-peak service averages 30 minutes, and evening service operates every 60 minutes. On Saturdays, Route 220 provides average headways of 38 minutes, and on Sundays it operates every 60 minutes.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	5:33 AM to 1:11 AM			42/42
Sunrise	5:33 AM to 5:59 AM	27	27	1/3
Early AM	6:00 AM to 6:59 AM	11 - 27	17	4/5
AM Peak	7:00 AM to 8:59 AM	11 - 30	20	7/5
Midday Base	9:00 AM to 1:29 PM	30 - 41	35	7/7
Midday School	1:30 PM to 3:59 PM	30 - 40	36	4/6
PM Peak	4:00 PM to 6:29 PM	10 - 30	17	9/9
Evening	6:30 PM to 9:59 PM	10 - 60	34	6/4
Late Evening	10:00 PM to 11:59 PM	55 - 60	58	3/2
Night	12:00 AM to 1:11 AM	60	60	1/1
Saturday	6:00 AM to 12:48 AM	27 - 90	38	30/30
Sunday	8:25 AM to 12:59 AM	60 - 69	60	17/17

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

Route 220’s inner end operates along the same alignment as Route 221 Fort Point - Quincy Center and Route 222 East Weymouth - Quincy Center between Bicknell Square and Quincy Center Station. Route 220 provides a similar amount of service as, and for the most part, alternates trips with, Route 222. However, there are some times when there are two Route 222 trips between Route 220 trips. Route 221 provides very limited service (eight weekday trips). The schedules of the three routes are not coordinated.

Route 220 meets or exceeds the MBTA span of service and frequency standards on weekdays. On Saturdays and Sundays, the span of service standard is met, and enough service is provided to meet the frequency standard of every 60 minutes. However, because some service is scheduled irregularly, actual headways are as long as 90 minutes on Saturdays and 69 minutes on Sundays.

Service Patterns

On all days, all Route 220 inbound service departs from Hingham Depot and operates directly to Quincy Center Station via the alignment shown in Figure 1. Outbound service operates in the reverse. In addition:

- On weekdays, service before 9:30 AM and most service between 2:30 PM and 7:00 PM (all except one trip) operates beyond Hingham Depot around the Hingham Center loop and back to Hingham Depot (see Table 2). During the midday, typically only every other trip serves the loop.
- On Saturdays, service after 8:00 AM and before 7:00 PM operates beyond Hingham Depot around the Hingham Center Loop and back to Hingham Depot (see Table 2). Between those times every other trip serves the loop.
- On Sundays, no trips serve the Hingham Center loop.

In addition, two AM trips and two PM trips operate to the Hingham Shipyard for connections with the Hingham Ferry (Pattern 220.5 and 220.9). (In total, connections are provided with only four of the Hingham Ferry’s 32 one-way trips.)

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS per WKD	TRIPS per SAT	TRIPS per SUN
INBOUND				42	30	17
220.3/4	Hingham Depot	Quincy Center	Skips Hingham Shipyard	40	30	17
220.5	Hingham Depot	Quincy Center	Via Hingham Shipyard	2	-	-
OUTBOUND				42	30	17
220.3	Quincy Center	Hingham Depot	Skips Hingham Shipyard and Hingham Center Loop	13	19	17
220.4	Quincy Center	Hingham Depot	Skips Hingham Shipyard Hingham Center Loop	27	11	-
220.9	Quincy Center	Hingham Depot	Via Hingham Shipyard and Hingham Center Loop	2	-	-

Ridership

Route 220 carries 1,600 passengers on weekdays, 950 passengers on Saturday, and 585 passengers on Sunday.

Ridership by Stop

Most Route 220 riders use Route 220 to travel to and from Quincy Center, with the largest numbers, by far, traveling to and from the Red Line at Quincy Center Station (see Figure 3 and Figure 4). On weekdays, for passengers traveling inbound:

- 161 passengers board at Hingham Depot. This is the largest boarding stop on inbound trips.
- 124 passengers board and 15 alight at other Hingham Stops. Of these, only five board before Broad Cove Road and only 15 board on the jog up Otis Street and back down Downer Avenue. Only two passengers alight at the Hingham Shipyard for connections to the Hingham Ferry.
- 167 passenger board and 34 alight at stops in Weymouth.
- 359 passengers board and 851 alight at stops in Quincy. Of these:
 - 70 alight at each of the two stops just before and after Coddington Street in Quincy Center.
 - 640 alight at Quincy Station

Outbound patterns through Hingham Depot are similar. In addition, a total of seven passengers board and 13 passengers alight on the Hingham Center loop.

Ridership activity on weekends follow the same patterns, although with about 40% fewer passengers on Saturday and 60% fewer passengers on Sundays.

Figure 3 | Weekday Inbound Ridership by Stop Map

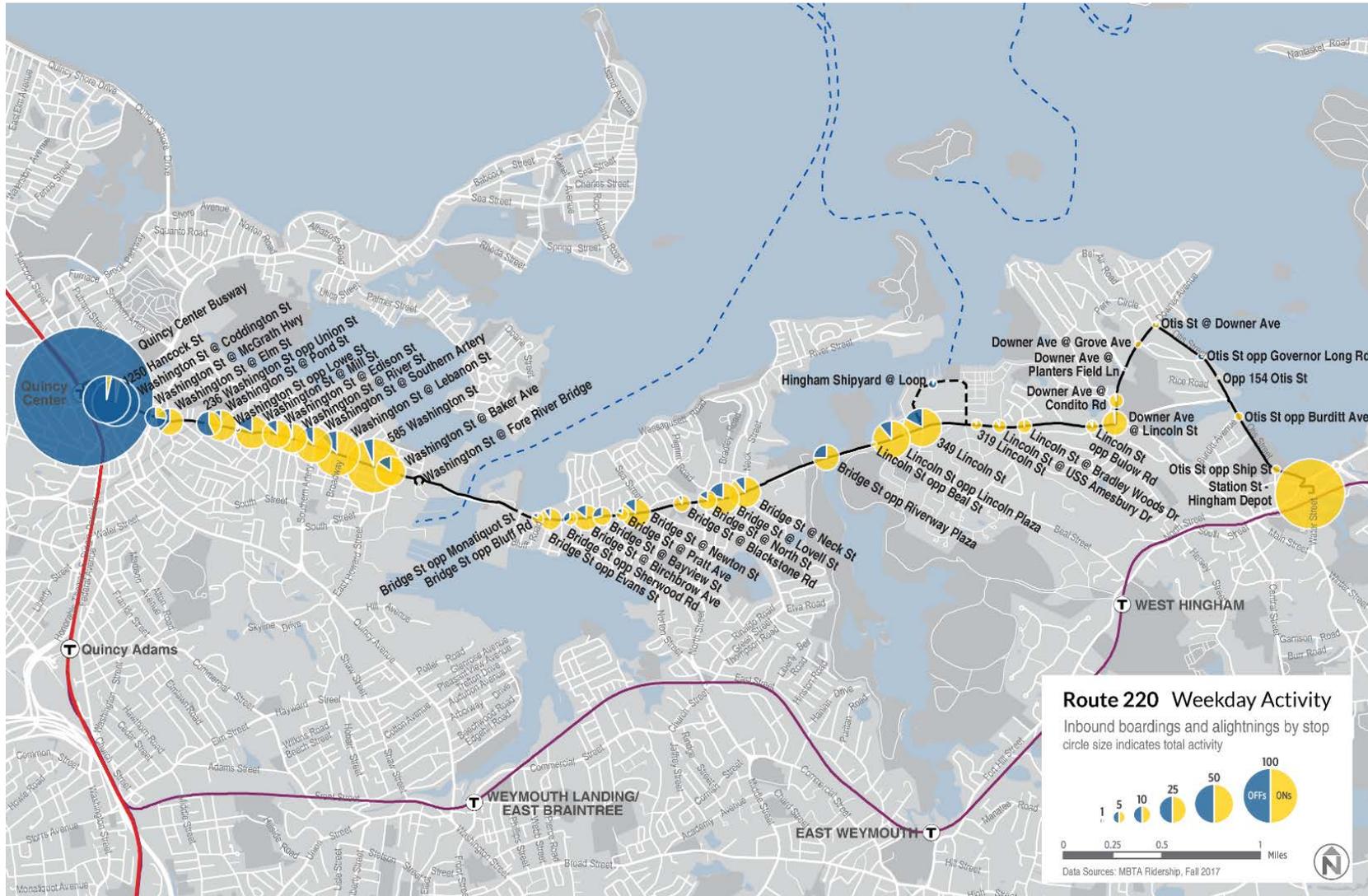
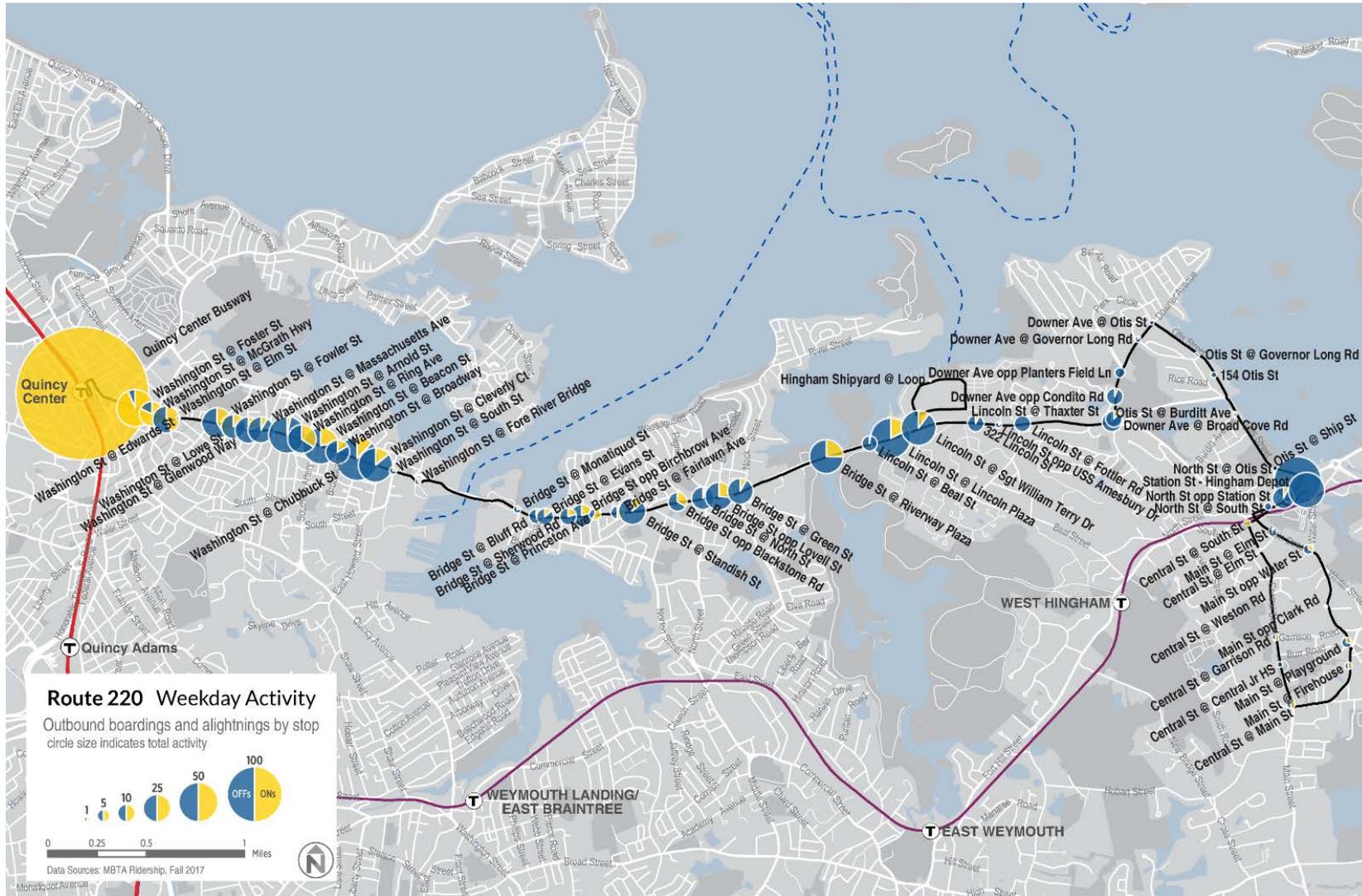


Figure 4 | Weekday Outbound Ridership by Stop Map



Ridership by Trip

Route 220 ridership generally follows typical commuting patterns, with the highest ridership inbound during the AM peak and outbound during the PM peak. However, route 220 also has fairly strong midday ridership. On weekday trips (see Figure 5 and Figure 6):

- Inbound, ridership from the start of service until just before 8:00 AM is mostly over 30 passengers per trip. The first trip of the day at 5:33 AM carries 38 passengers, which indicates demand for earlier service. Midday ridership generally varies from 20 to 30 passengers per trip. In the PM peak, it drops to fewer than 10 passengers per trip. In evening, it picks up to 14 to 22 passengers until 11:00 PM, when it drops to less than 10.
- Outbound ridership is very low until approximately 6:30 AM, when it then increases to around 20 passengers per trip until around 2:30 PM. It then increases to 30 to 40 passengers until about 3:30 PM, when it drops to less than 30 on most PM peak trips (although as high as 52 on one trip). The drop-off in ridership is because many outbound passengers can use either Route 220 or Route 222 East Weymouth - Quincy Center Station from Quincy Center Station, and many Route 220 trips are scheduled to depart closely after a Route 222 trip. From 7:30 PM until the end of service, ridership declines steadily from 35 passengers per trip to 10.
- Nearly all trips operate with loads that are well below MBTA set maximums. The highest average maximum loads are 40 on an AM inbound trip and 47 on a PM outbound trips. Most maximum loads are 30 or lower.

Saturday and Sunday ridership is fairly consistent throughout the day and averages 20 boardings per trip (see Figure 7 through Figure 10).

Figure 5 | Weekday Ridership by Trip: Inbound

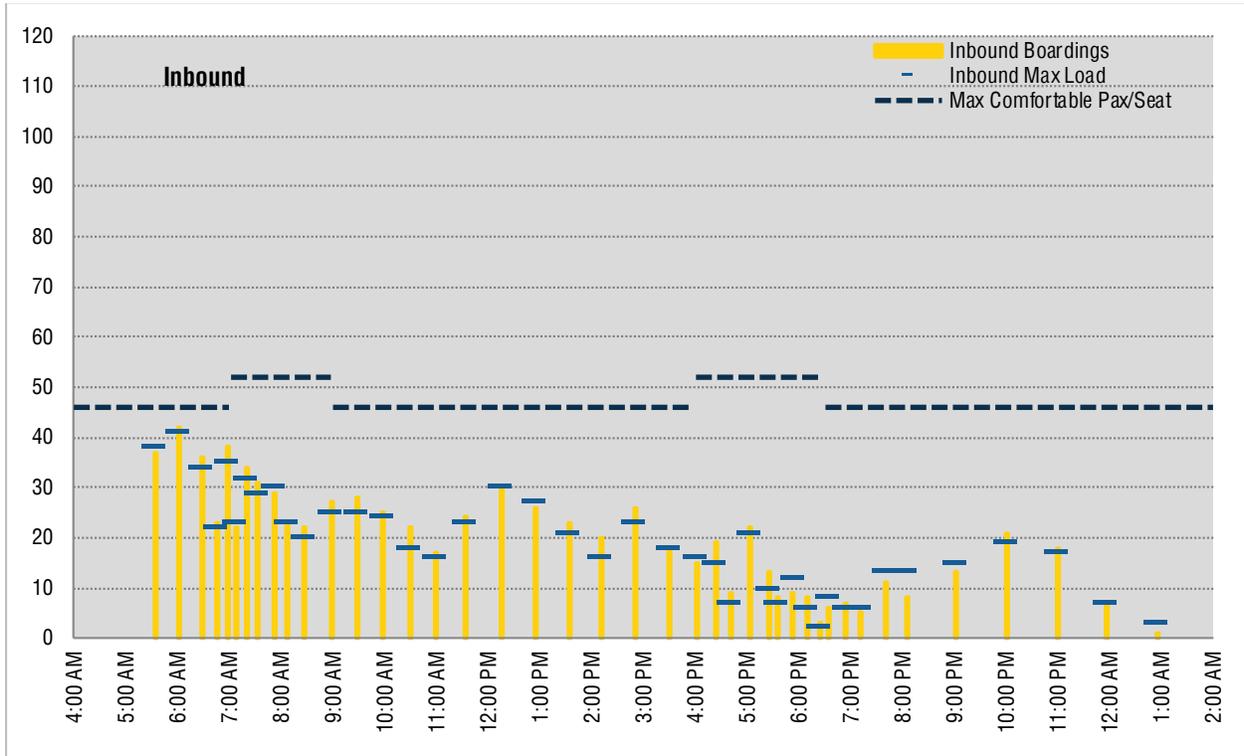


Figure 6 | Weekday Ridership by Trip: Outbound

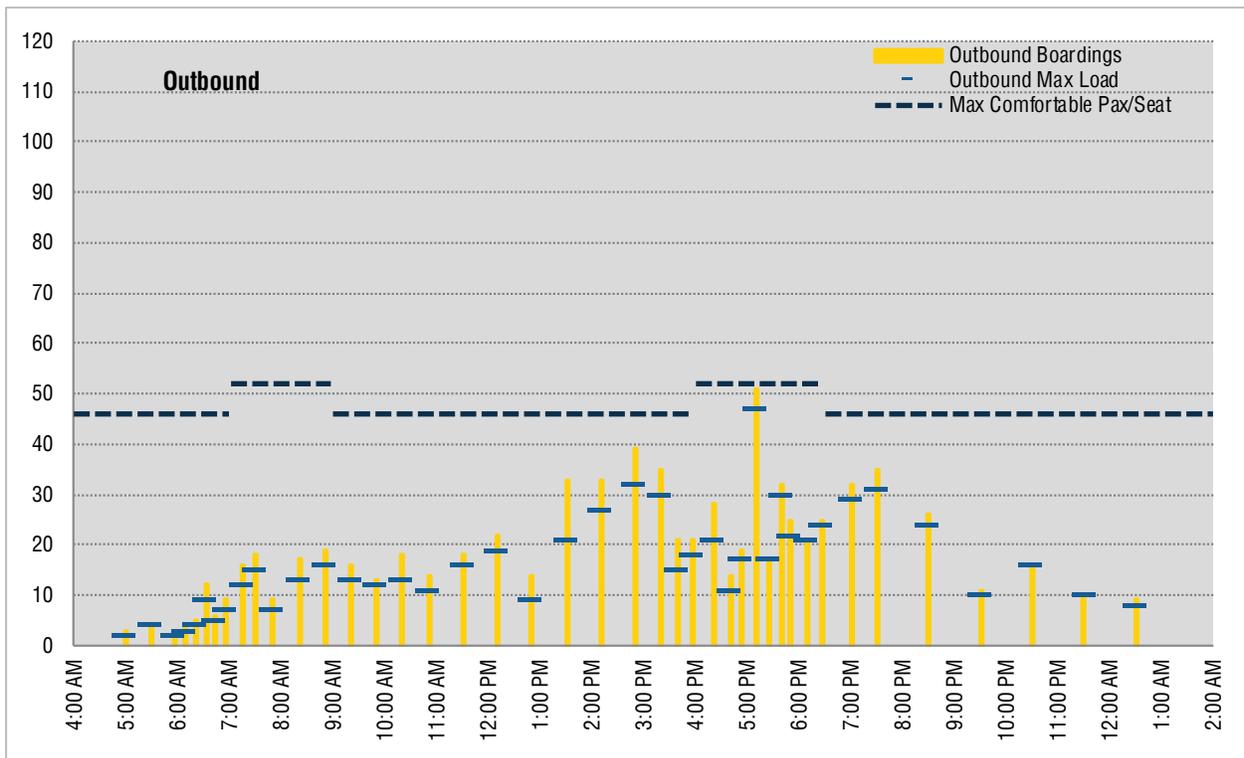


Figure 7 | Saturday Ridership by Trip: Inbound

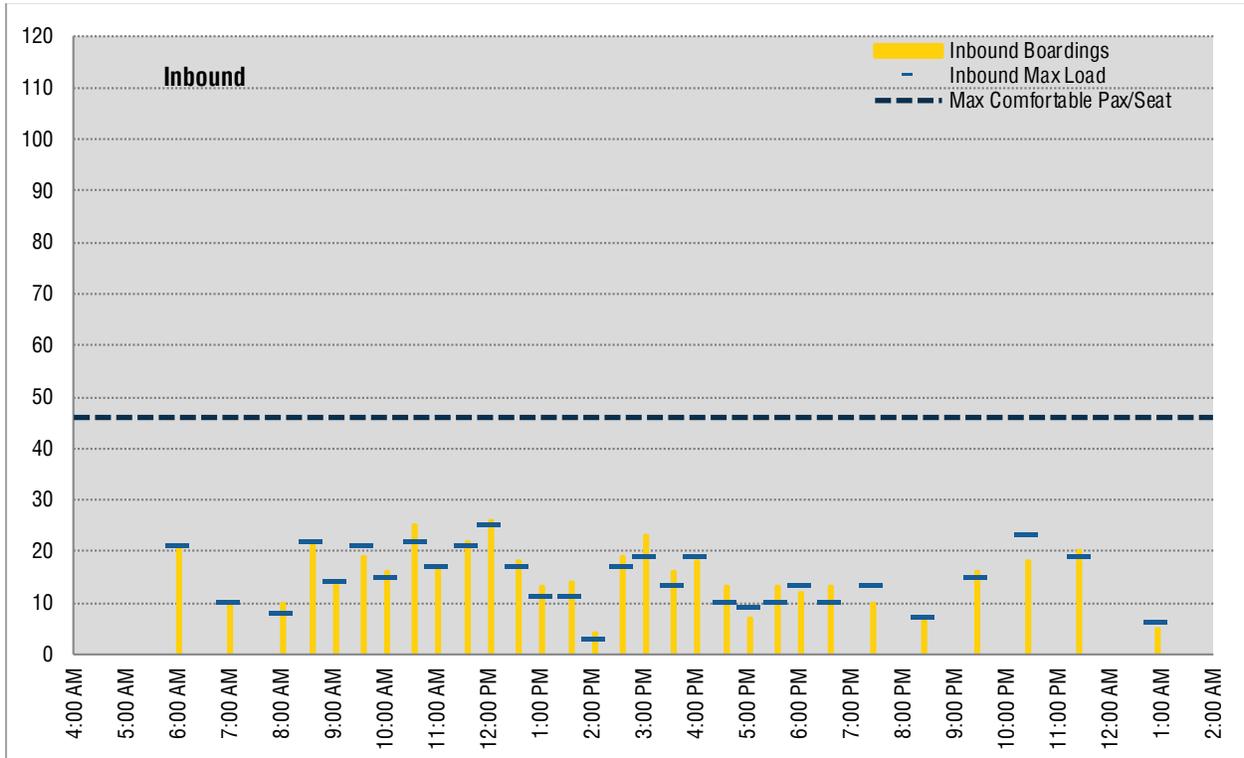


Figure 8 | Saturday Ridership by Trip: Outbound

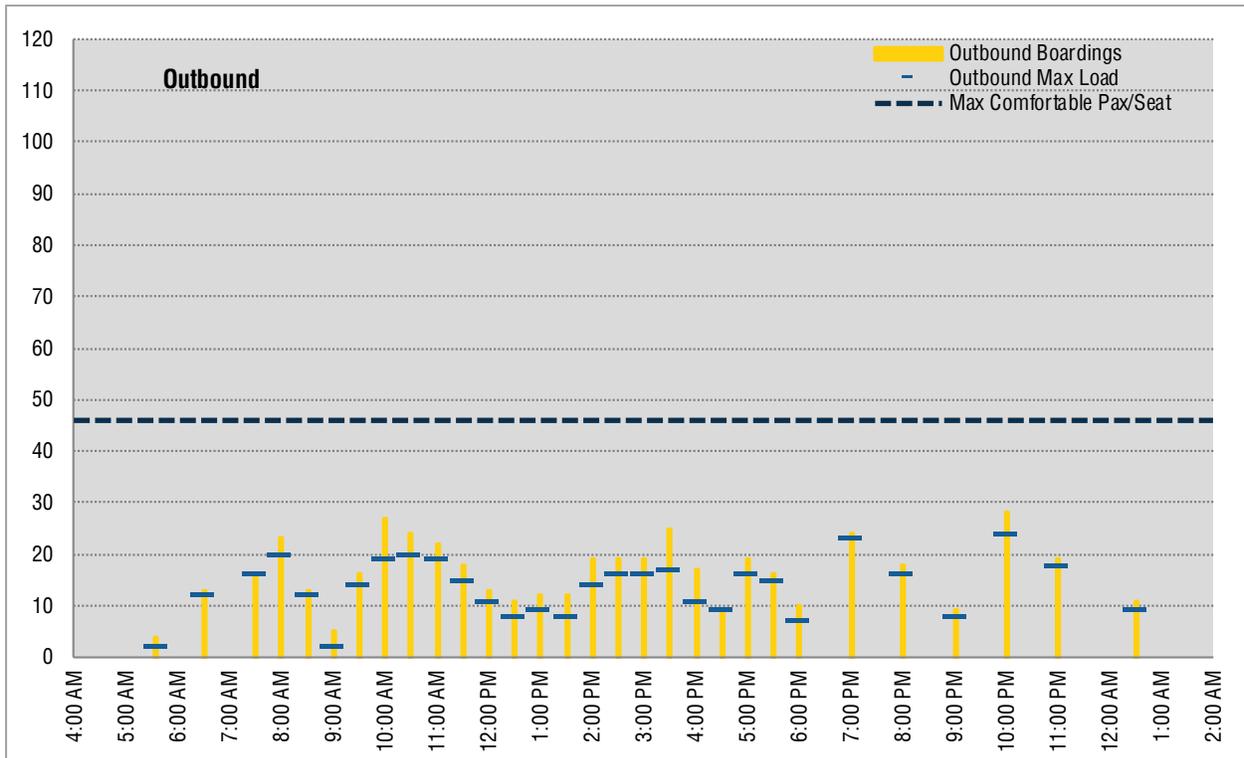


Figure 9 | Sunday Ridership by Trip: Inbound

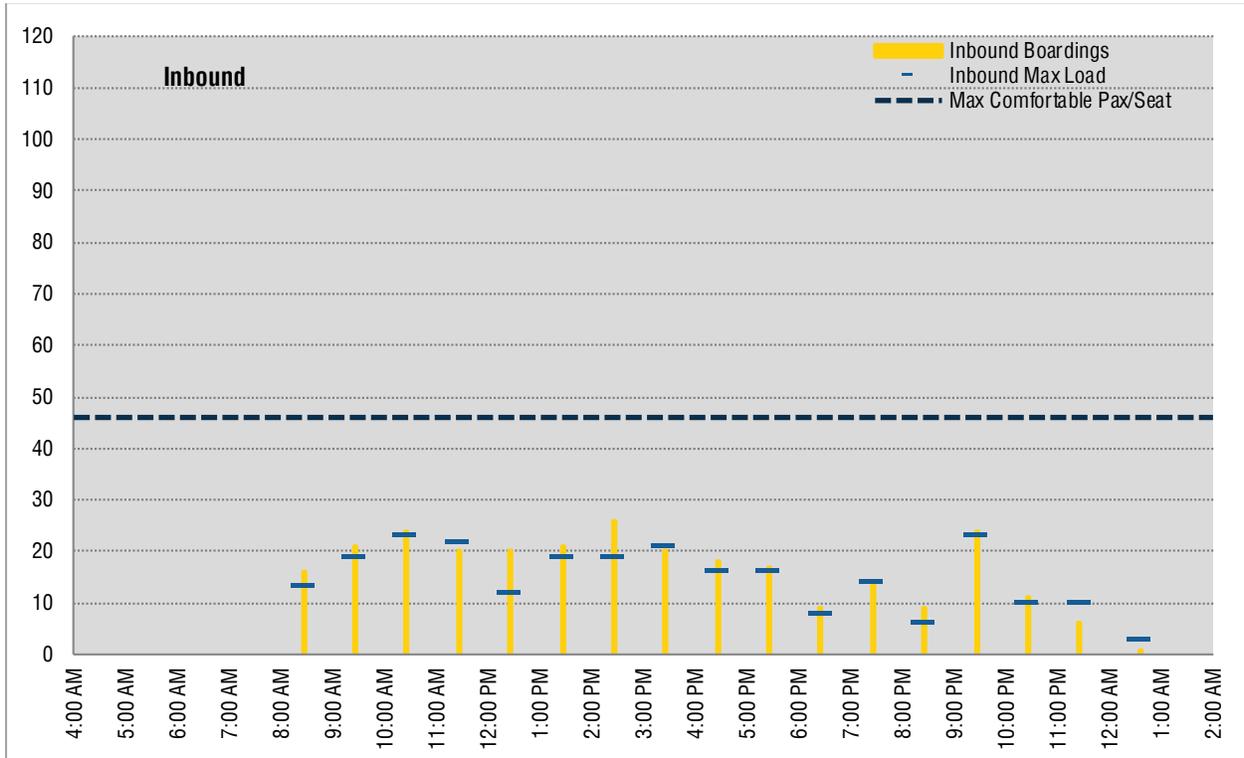
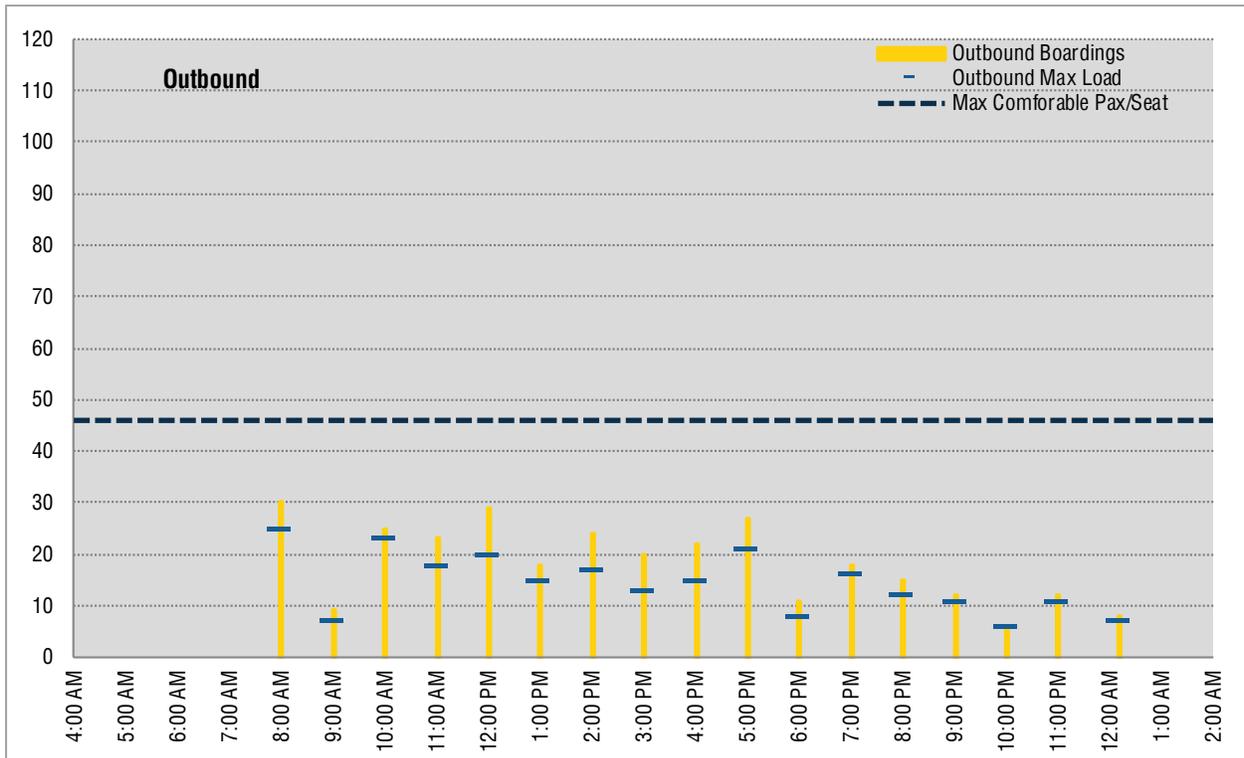


Figure 10 | Sunday Ridership by Trip: Outbound



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 220, 99.0% of passenger minutes are in comfortable conditions, which is above the minimum standard of 96.0% (see Table 3).

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92.0%	92.0%	92.0%
Target	96.0%	96.0%	96.0%
Actual	99.0%	100.0%	100.0%

Reliability and Speed

Reliability

Route 220's service is unreliable, with just over 60% of scheduled trips operating on time. On average, 65% of weekday trips are on time, while 63% of Saturday and 61% of Sunday trips are on time (see Table 4).

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	64%	72%	65%	0.6%
Saturday	62%	65%	63%	-
Sunday	60%	70%	61%	-

Running Times

Service often operates five minutes behind schedule prior to 10:00 AM and after 3:00 PM. Midday service operates almost 10 minutes early between 10:00 AM and 2:00 PM (see Figure 11). Dropped trips are a minor issue with approximately 0.6% of trips not operated in Fall 2017.

Figure 11 | Scheduled & Median Travel Time by Trip: Route 220 Inbound

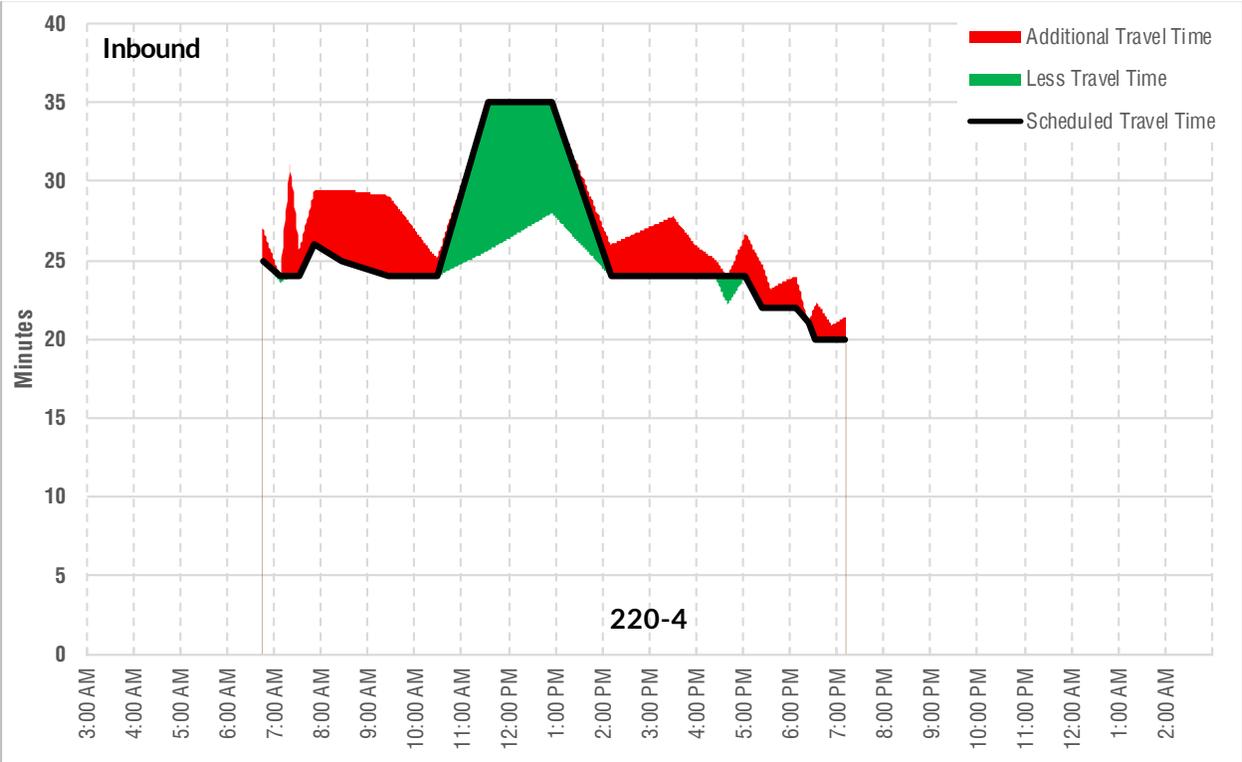
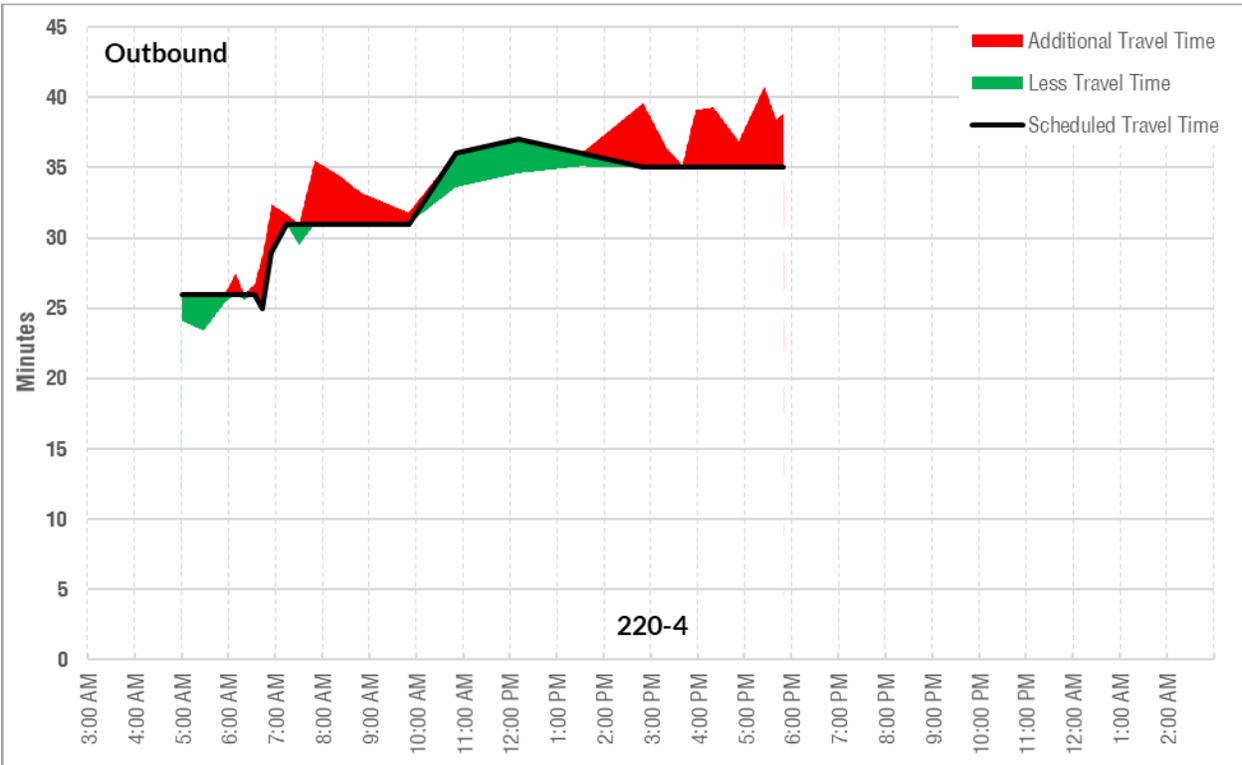


Figure 12 | Scheduled & Median Travel Time by Trip: Route 220 Outbound



Stop Spacing

Route 220 has close stop spacing, at approximately eight stops per mile. This is in excess of the four to seven stops per mile recommended for urban areas under MBTA guidelines. Customers can walk between stops with this spacing in about two to three minutes. As people will typically walk at least five minutes to access a Local bus route, this spacing is unnecessarily close, while making service slower and less reliable.

There are two locations along route 220 where stops are particularly close together:

- There are nine stops along the 0.9 mile commercial corridor on Bridge Street east of the Fore River Bridge.
- There are 15 stops along the 1.6 mile corridor of Washington Street between Quincy Center and Quincy Point, an area with good pedestrian conditions.

Summary

Route 220 provides an important connection between Hingham Depot and Quincy Center and overall it performs well. However, Route 220 also has a number of weaknesses, which are:

- Poor on-time performance
- Off-route alignments in Hingham that serve few riders.
- Lack of coordination with Route 222 East Weymouth - Quincy Center Station

There also appears to be unmet early AM inbound demand.