

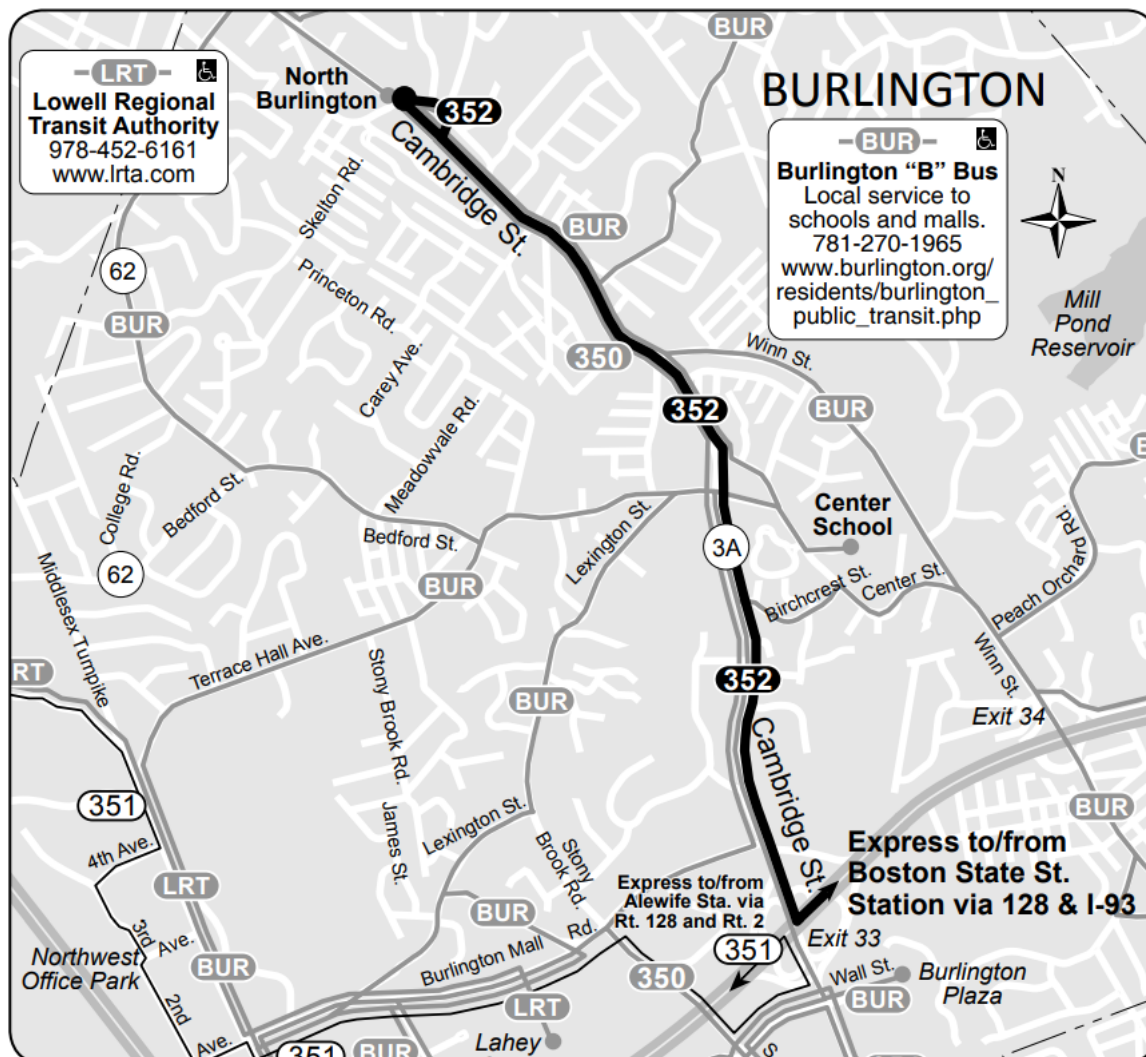
Route 352

Express – Burlington - Boston

Route Overview

Route 352 Express – Burlington – Boston is a Commuter bus route connecting Burlington to Downtown Boston with express service from Cambridge Street to State Station via Route 128 and I-93. After 6:00 PM outbound trips are operated as part of Route 354 Burlington - Downtown Boston.

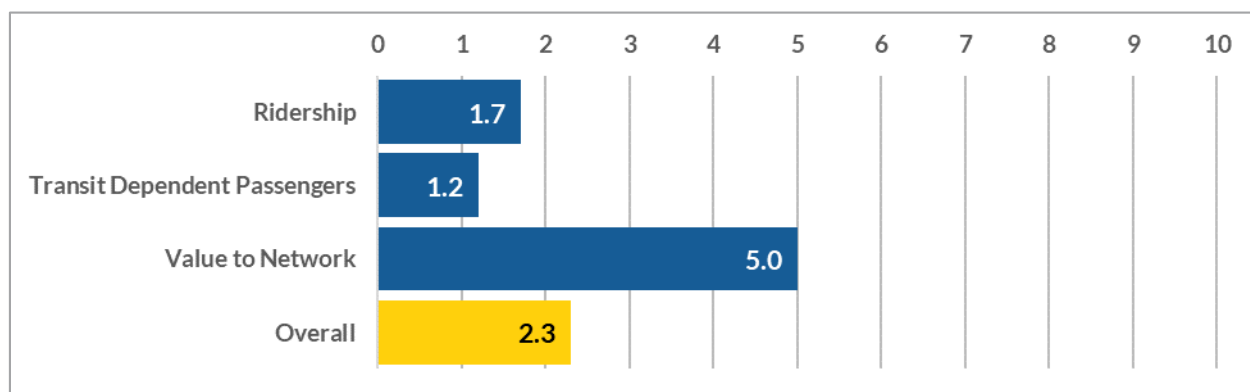
Figure 1 | Service Map



Network Importance

Route 352 is a Commuter route with limited ridership and of lower importance to the overall MBTA bus network (see Figure 2). On a relative scale of 0 to 10, Route 352 rates 1.7 in terms of ridership, 1.2 in terms of transit dependent ridership, and 5.0 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 Patterns

Schedule

On weekdays, Route 352 provides nine inbound between 5:50 AM and 9:02 AM, and eight outbound trips between 3:20 PM and 6:00 PM.

Frequencies are generally every 20 minutes (see Table 1). After 6:00 PM outbound trips are operated as part of Route 354.

Route 352 meets the minimum Span of Service and Frequency standards for MBTA Commuter buses on weekdays.

Route 352 does not operate on weekends.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	5:50 AM to 9:02 AM 3:20 PM to 6:00 PM			9/8
Sunrise	5:50 AM to 5:59 AM	1 trip	-	1/0
Early AM	6:00 AM to 6:59 AM	17 – 25	20	3/0
AM Peak	7:00 AM to 9:02 AM	20 – 32	27	5/0
Midday Base	-	-	-	-
Midday School	3:20 PM to 3:59 PM	25 – 30	28	0/2
PM Peak	4:00 PM to 6:00 PM	20 – 25	21	0/6
Evening	-	-	-	-
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.

Service Patterns

Route 352 operates one service pattern for inbound and outbound commuter trips on weekdays only (See Table 2).

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
INBOUND				9	-	-
352.0	Chestnut Avenue at Cambridge Street	State Street at Washington Mall	Via Cambridge Street, Route 128, and I-93	9	-	-
OUTBOUND				8	-	-
352.0	State Street at Washington Mall	Chestnut Avenue at Cambridge Street	Via Cambridge Street, Route 128, and I-93	8	-	-

Ridership

Route 352 serves 362 riders on weekdays. Route 352 does not operate on weekends.

Ridership by Stop

All AM trips are operated in the inbound direction and provide only pickups:

- The first two stops of Route 352 in Burlington generate 99 boardings, 48 boardings at Chestnut Avenue at Cambridge Street and 51 boardings at Cambridge Street opposite of Wilmington Road.
- Route 352 continues south along Cambridge Street, generating 18 boardings.
- At the commercial zone at Cambridge Street and Terry Avenue 15 passengers board.
- Route 352 passes adjacent to Burlington Town Common at Bedford Street where 27 passengers board.
- Route 352 continues south on Cambridge Street, generating 20 boardings before entering the highway and expressing to downtown Boston

In the PM, all trips are operated in the outbound direction and provide drop-offs only. The ridership pattern is the reverse of inbound service.

Ridership by Trip

No inbound or outbound trip experiences crowding conditions at any point on Route 352. Inbound trips range from 12 boardings to 31 boardings per trip (see Figure 4):

- The first two trips at 5:50 AM and 6:15 AM attract 20 boardings or fewer.
- The 6:38 AM trip is the second busiest trip, with 27 boardings.
- The busiest inbound trip leaves at 7:15 AM and attracts 31 passengers that reach Downtown Boston at 8:04 AM.
- The three trips between 7:35 AM and 8:30 AM serve 20 to 22 passengers each.
- The 9:02 AM trip has only 12 boardings.

Outbound trips range from 13 boardings to 30 boardings per trip (See Figure 5):

- The first two outbound trips (3:20 PM and 3:50 PM) serve fewer than 20 boardings. Every trip thereafter attracts 20 or more boardings.
- The most popular outbound trip leaves at 5:15 PM with 29 passengers.

Figure 3 | Weekday Inbound Ridership by Stop Map

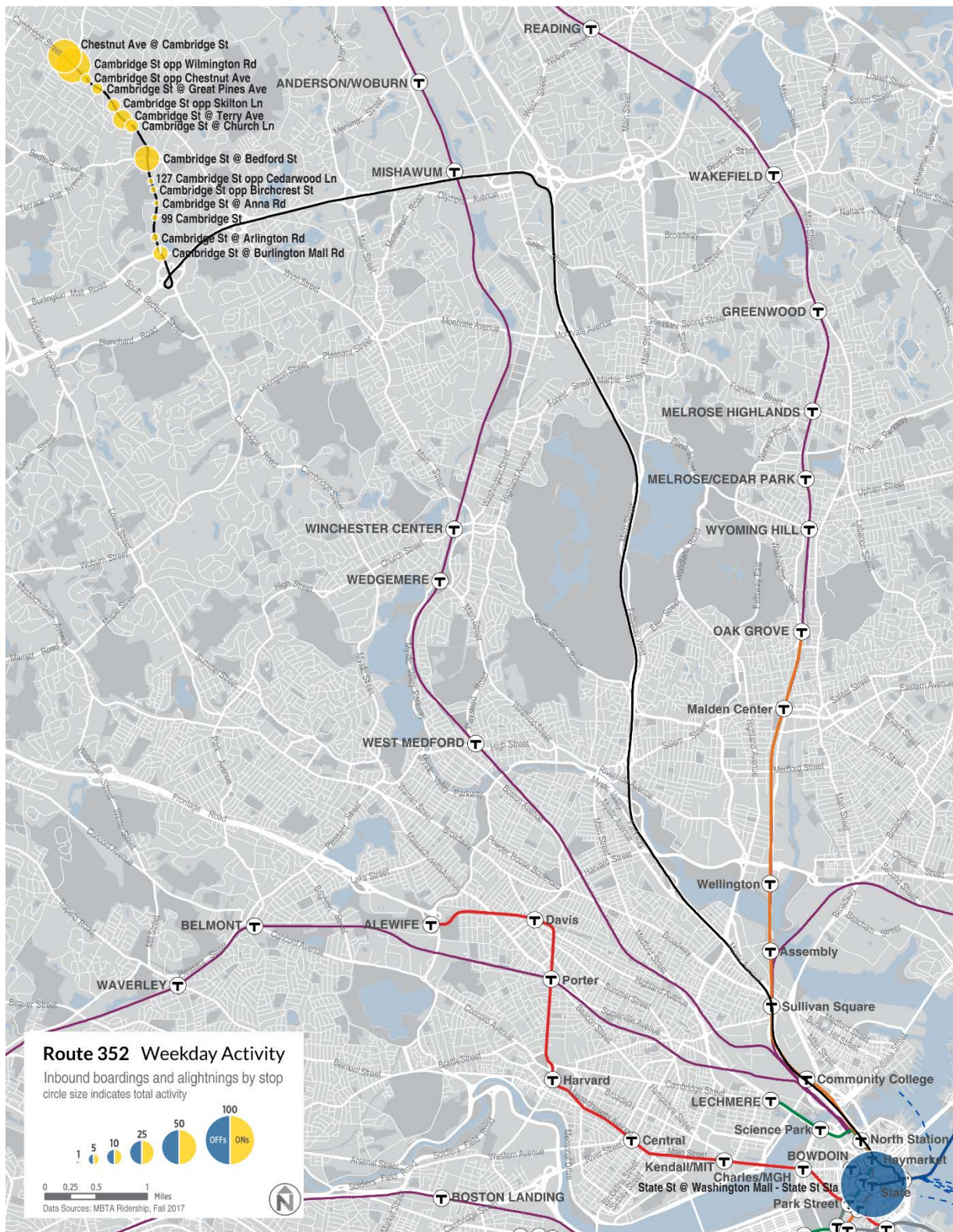


Figure 4 | Weekday Ridership by Trip: Route 352 | Inbound

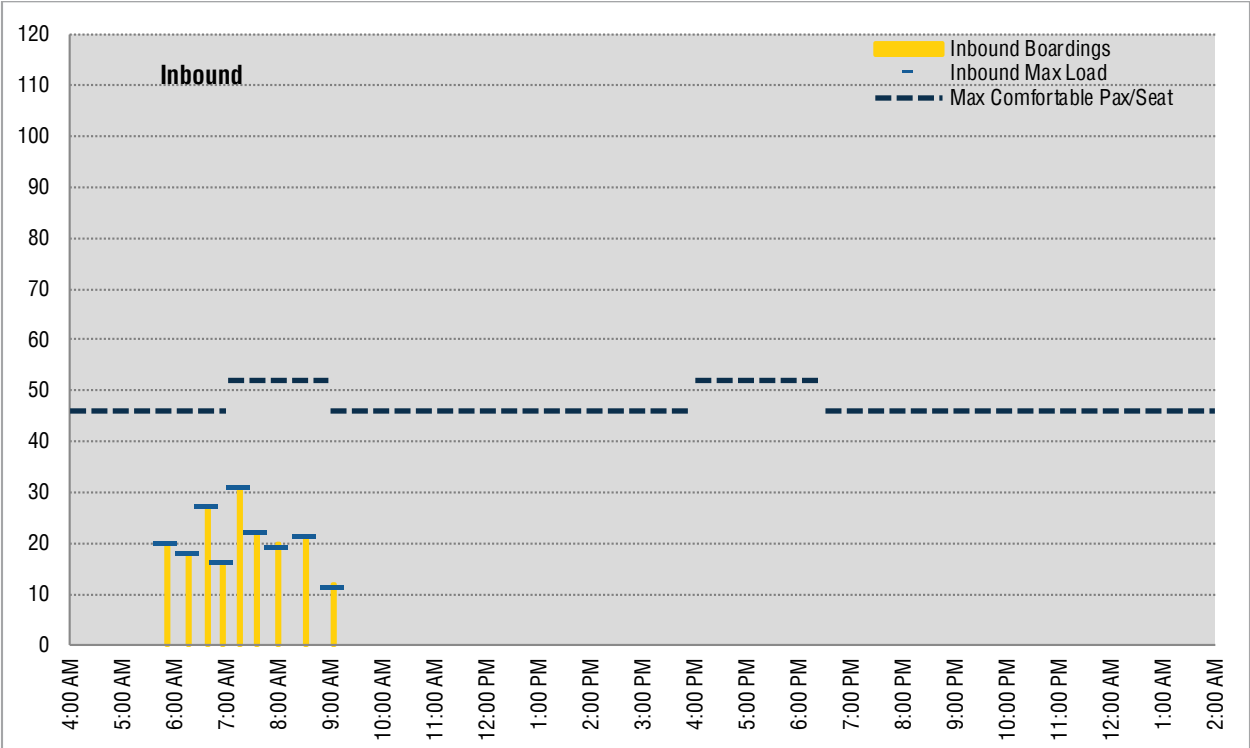
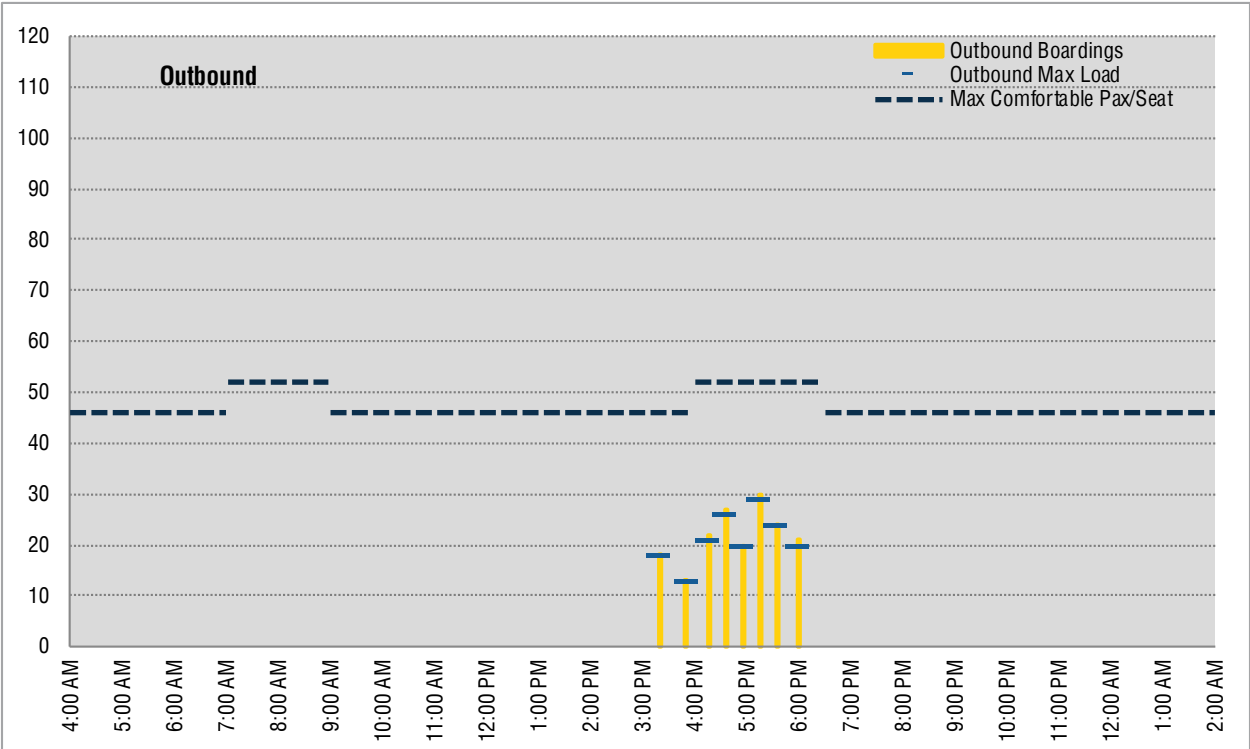


Figure 5 | Weekday Ridership by Trip: Route 352 | Outbound



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 352, 99.1% of passenger minutes are in comfortable conditions, which is above the minimum standard (see Table 3). However, for the rare passenger that is required to stand, the 30 to 45 minute trip can be uncomfortable.

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	99.1%	-	-

Reliability and Speed

Reliability

On commuter-oriented buses like Route 352, passengers most often use published schedules to plan their trip. Route 352 buses leave on time only 63% of the time and arrive on time only 61% of the time (See Table 4). This is well below the MBTA's standard of 70%, largely due to congestion on I-93. When the rare Route 352 trip is dropped (0.1% of trips) because of traffic congestion or when there are not enough vehicles or drivers available to serve the full schedule, riders are severely inconvenienced by the longer headways.

Table 4 | Reliability

SERVICEDAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	63%	55%	61%	0.1%
Saturday	-	-	-	-
Sunday	-	-	-	-

Running Times

The poor on-time performance is due to trip times in the AM and PM Peaks routinely taking longer than scheduled run-times (See Figure 6 and Figure 7). Both inbound and outbound trips can be five minutes longer than scheduled. Evening outbound trips median travel times are longer than inbound trips in the morning.

Figure 6 | Scheduled & Median Travel Time by Trip: Route 352 Inbound

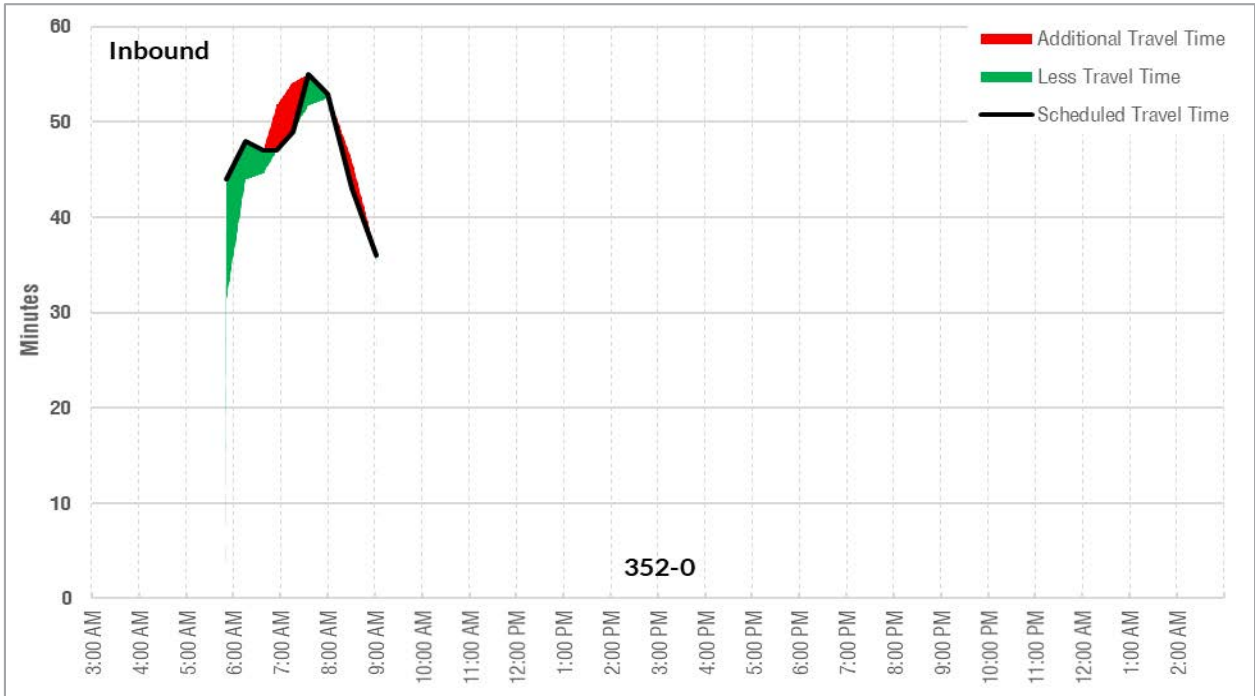
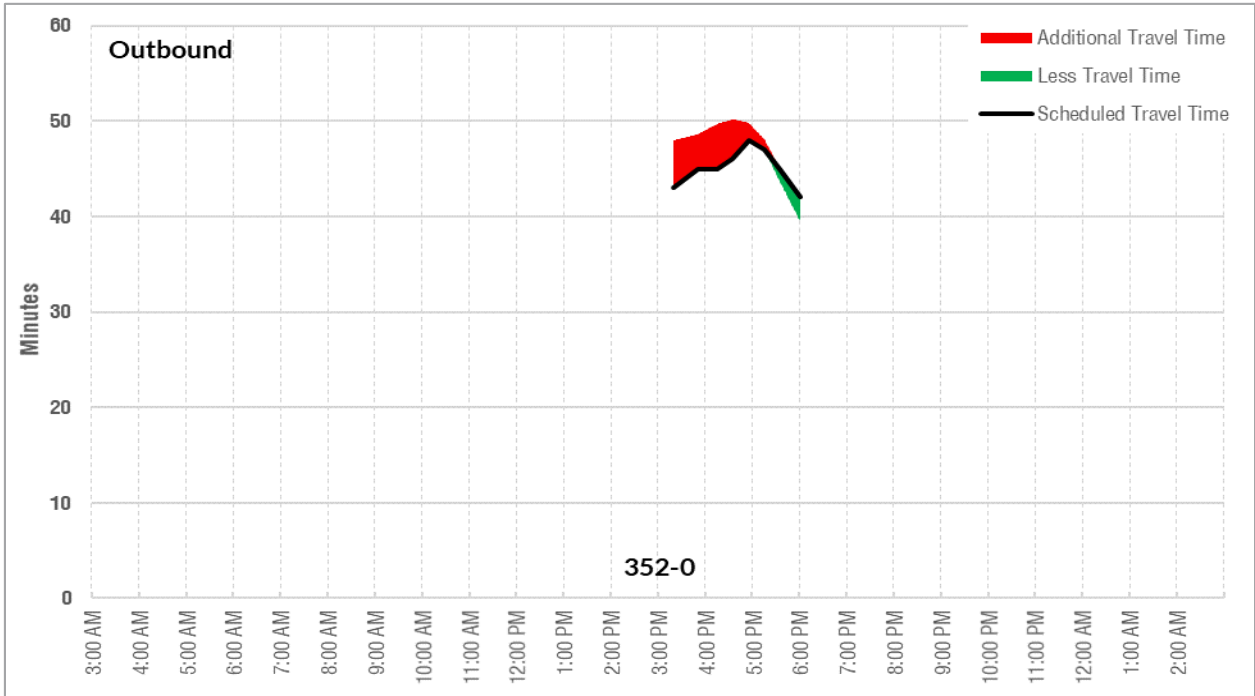


Figure 7 | Scheduled & Median Travel Time by Trip: Route 352 Outbound



Stop Spacing

Route 352 has relatively close stop spacing in both directions though Burlington. Route 352 has approximately 6.5 stops per mile in its local Burlington segment, at the high end 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 2-3 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.

Summary

Route 352 provides relatively frequent peak-direction commuter service from Burlington to Downtown Boston. Nearly all trips serve less than 30 passengers. Route 352 is one of the longest routes in the MBTA bus network, and has a running time that often approaches or exceeds 60 minutes.