

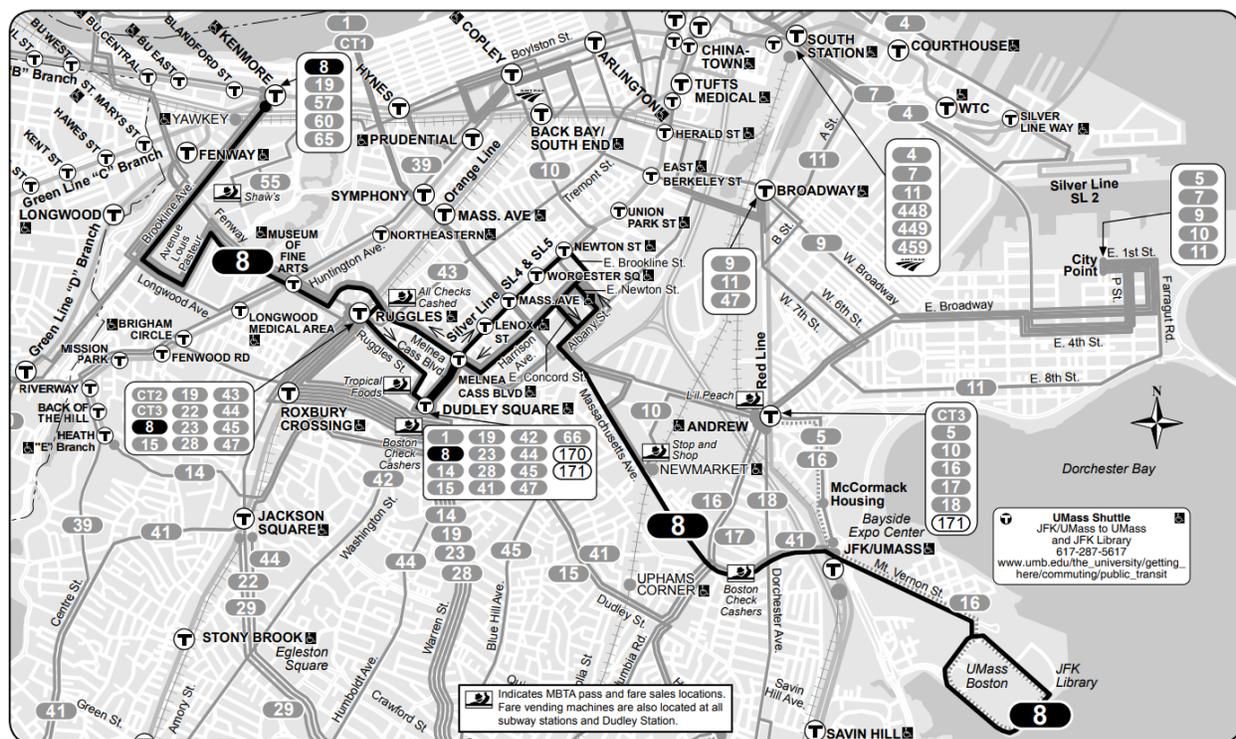
Route 8

Harbor Point/UMass – Kenmore Station

Route Overview

Route 8 Harbor Point/UMass – Kenmore Station is a Local route that provides crosstown service between the UMass/Boston campus on Columbia Point and Kenmore Square via Boston University Medical Campus area and the Longwood Medical Area (LMA) (see Figure 1).

Figure 1 | Service Map

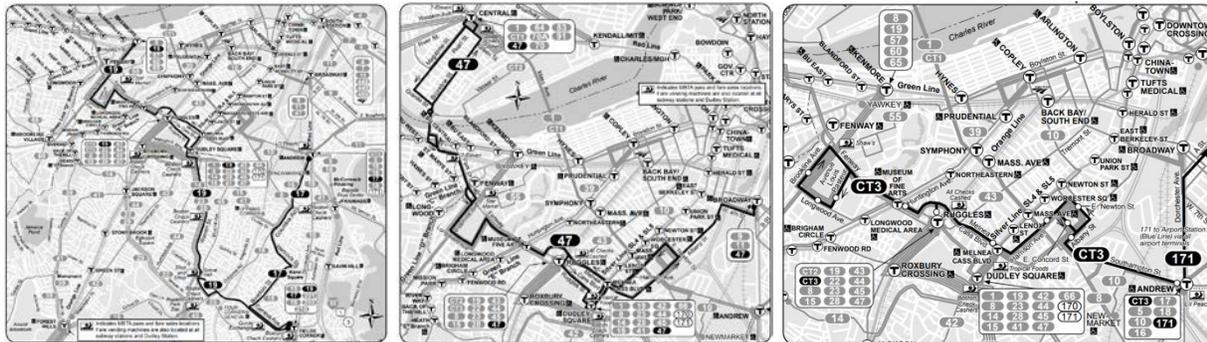


Route 8 is similar in many respects to three other routes (see Figure 2):

- Route 19 Fields Corner-Kenmore or Ruggles, which operates along the same alignment between Dudley Station and Kenmore Station. At its eastern/southern end, it operates to Fields Corner Station instead of JFK/UMass Station and Harbor Point.
- Route 47 Central Square, Cambridge-Broadway Station, which uses the same alignment between the BU Medical Campus and the Longwood Medical Area. At its western end beyond the LMA, it operates to Central Square, Cambridge instead of Kenmore Station.

- Route CT3 Beth Israel Deaconess or BU Medical Campus-Andrew Station, which operates along the same alignment between the LMA and the BU Medical Campus except that it bypasses Dudley Square. Beyond the BU Medical Campus, it operates to Andrew Station instead of JFK/UMass Station and Harbor Point.

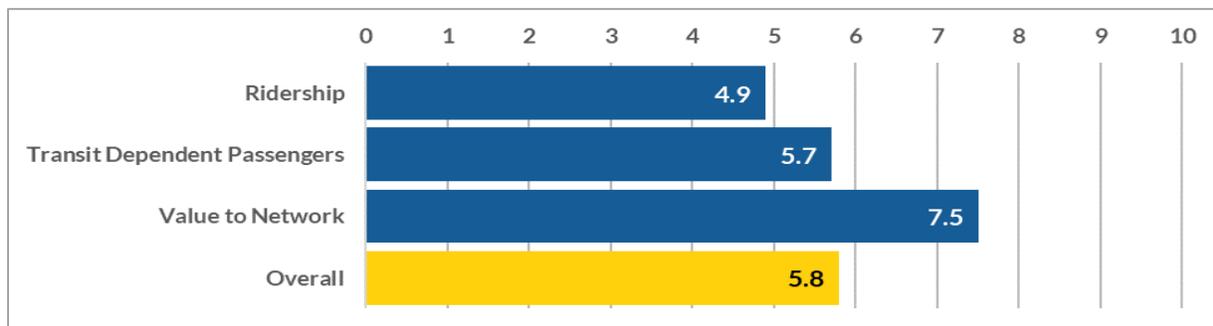
Figure 2 | Similar Service on Routes 19, 47, and CT3



Network Importance

Route 8 is moderately important within the MBTA bus network (see Figure 3). On a relative scale of 0 to 10, the route rates 4.9 in terms of ridership, 5.7 in terms of transit dependent ridership, and 7.5 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 5.8. A key reason for the relatively low rating is duplication with other routes, as described above.

Figure 3 | Relative Importance within MBTA Bus Network (on a scale of 0 to 10)



Service Overview

Schedule

Route 8 provides moderately frequent service on weekday mornings and infrequent service at all other times (see Table 1). On weekdays, inbound service operates from 5:15 AM to 12:25 AM:

- Every 20 minutes from the beginning of service until 6:11 AM.
- Every 12 to 16 minutes from 6:11 AM until 7:35 AM, including one school trip between Ruggles and Kenmore Station at 7:21 AM.
- Every 15 minutes from 7:35 AM until 8:20 AM.
- Every 23 to 25 minutes from 8:20 AM until 9:30 AM.
- Every 49 to 60 minutes from 9:30 AM until 1:53 PM.
- Every 28 to 43 until the end of service at 12:25 AM, but predominantly every 35 minutes.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	5:15 AM to 12:56 AM			41/41
Sunrise	5:15 AM to 5:59 AM	16 - 20	19	3/2
Early AM	6:00 AM to 6:59 AM	12 - 16	13	4/4
AM Peak	7:00 AM to 8:59 AM	2 - 23	15	8/7
Midday Base	9:00 AM to 1:29 PM	22 - 60	48	6/7
Midday School	1:30 PM to 3:59 PM	30 - 50	32	4/6
PM Peak	4:00 PM to 6:29 PM	23 - 35	32	5/5
Evening	6:30 PM to 9:59 PM	23 - 37	33	6/6
Late Evening	10:00 PM to 11:59 PM	33 - 43	36	4/3
Night	12:00 AM to 12:56 AM	43	43	1/1
Saturday	6:30 AM to 1:01 AM	35 - 60	43	24/24
Sunday	6:30 AM to 1:01 AM	40 - 55	43	24/24

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

Route 8 operates with a similar span of service on Saturdays and Sundays, from 6:30 AM to 1:01 AM. Service frequencies on both average 43 minutes.

Route 8 meets the MBTA’s service span and frequencies standards on all days.

Service Patterns

As shown in Figure 1, Route 8’s alignment is very circuitous, and this is primarily because it deviates from more direct routings to provide “front door” service to multiple locations in the BU Medical Campus Area and the LMA, plus to Dudley Station. Pattern 8.9 is the primary service pattern, operating the full length of the route as shown in Figure 1 plus a deviation through South Bay Center that is not shown. Exceptions to this operation are (see Table 2):

- Pattern 8.1 makes up early and late service, and does not operate through South Bay Center. On weekdays, this includes inbound trips before 8:40 AM and outbound trips before 8:00 AM and all trips from 11:00 PM on. On Saturdays, this

includes trips before 9:00 AM and after 11:00 PM. On Sundays, this includes trips before 12:00 noon and after 6:45 PM.

- Pattern 8.3 makes an inbound school trip on weekdays, running from Ruggles Station to Kenmore Station departing at 7:21 AM, and an outbound trip departing at 7:06 AM and operating to Ruggles Station. As of Fall 2018, this trip is now part of a Route 22 Service Pattern.
- Pattern 8.2 makes an outbound school trip on weekdays that runs from Kenmore Station to Dudley Square, departing at 2:30 PM. As of Fall 2018, this trip is now part of a Route 57 Service Pattern.

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS per WKD	TRIPS per SAT	TRIPS per SUN
INBOUND				41	24	24
8.1	UMass/Boston	Kenmore Station	Skips South Bay Center	16	5	15
8.3	Ruggles Station	Kenmore Station	AM school trip	1	-	-
8.9	UMass/Boston	Kenmore Station	Via South Bay Center	24	19	9
OUTBOUND				41	24	24
8.1	Kenmore Station	UMass/Boston	Skips South Bay Center	13	5	15
8.2	Kenmore Station	Dudley Station	PM school trip	1	-	-
8.3	Kenmore Station	Ruggles Station	AM school trip	1	-	-
8.9	Kenmore Station	UMass/Boston	Via South Bay Center	26	19	9

Ridership

Route 8 carries 3,050 passengers on weekdays, 1,270 on Saturdays, and 920 on Sundays.

Ridership by Stop

Route 8 has high ridership to and from many locations. These include the combination of stops on Columbia Point, JFK/UMass Station, the BU Medical Campus area, Dudley Station, Ruggles Station, the LMA, and Kenmore Station. On weekday inbound trips (to Kenmore Station) (see Figure 4):

- 250 passengers, or 17% of the all inbound passengers, board on the Columbia Point peninsula. The two major stops include UMass/Boston with 70 boardings, and Mount Vernon Street at South Point Drive, with 80 boardings. This is the only segment that is served uniquely by Route 8.
- 110 passengers, or 44% of all passengers who board on Columbia Point, alight at JFK/UMass Station, 100 passengers board at JFK/UMass Station.
- 290 passengers board and 80 alight at the 13 stops between JFK/UMass Station and the BU Medical Campus area. This includes 90 who board and 30 who alight at the three stops in South Bay Center.

- 110 passengers board and 120 alight at the five stops in the BU Medical Campus area.
- 50 passengers board and 50 alight at the four stops between the BU Medical Campus area and Dudley Station.
- 260 passengers board and 70 alight at Dudley Station.
- 30 passengers board and 20 alight at the three stops between Dudley Station and Ruggles Station.
- 260 passengers board and 70 alight at Ruggles Station.
- 130 passengers board and 330 alight at the six stops in the Longwood Medical Area.
- 30 passengers board and 210 alight at the five stops between the LMA and Kenmore Station.
- 220 passengers alight at Kenmore Station.

Outbound patterns are similar but in the reverse. Weekend patterns are also similar but with lower volumes.

Ridership by Trip

On weekdays, Route 8's ridership per trip is high throughout most of the day, moderate in the evening, and low at night. On weekday inbound trips (see Figure 5):

- Ridership on the first two trips at 5:15 AM and 5:35 AM carry 24 and 26 passengers.
- Ridership between 5:50 AM and 11:30 AM is around 40 passengers per trip.

Figure 4 | Weekday Inbound Ridership by Stop Map

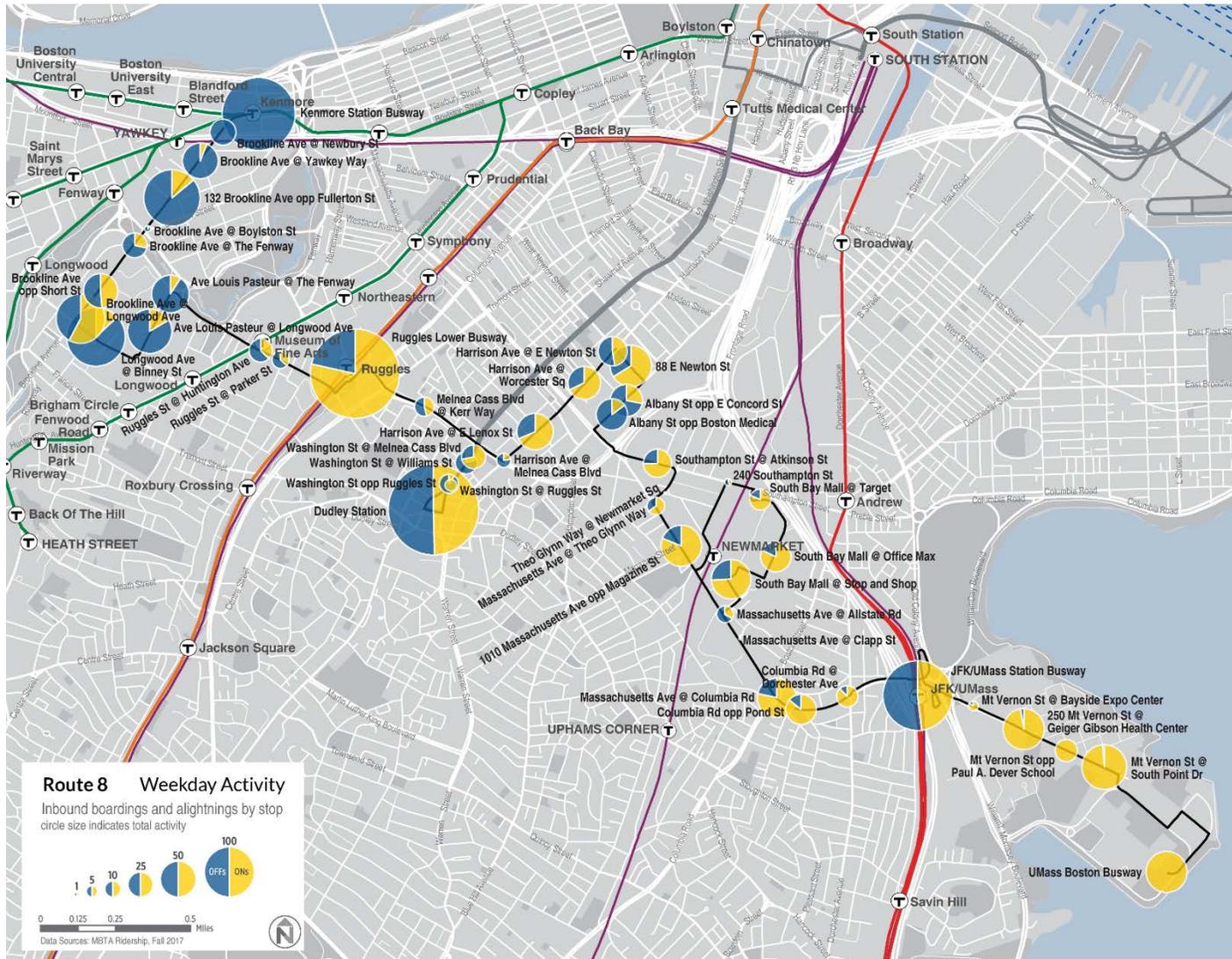
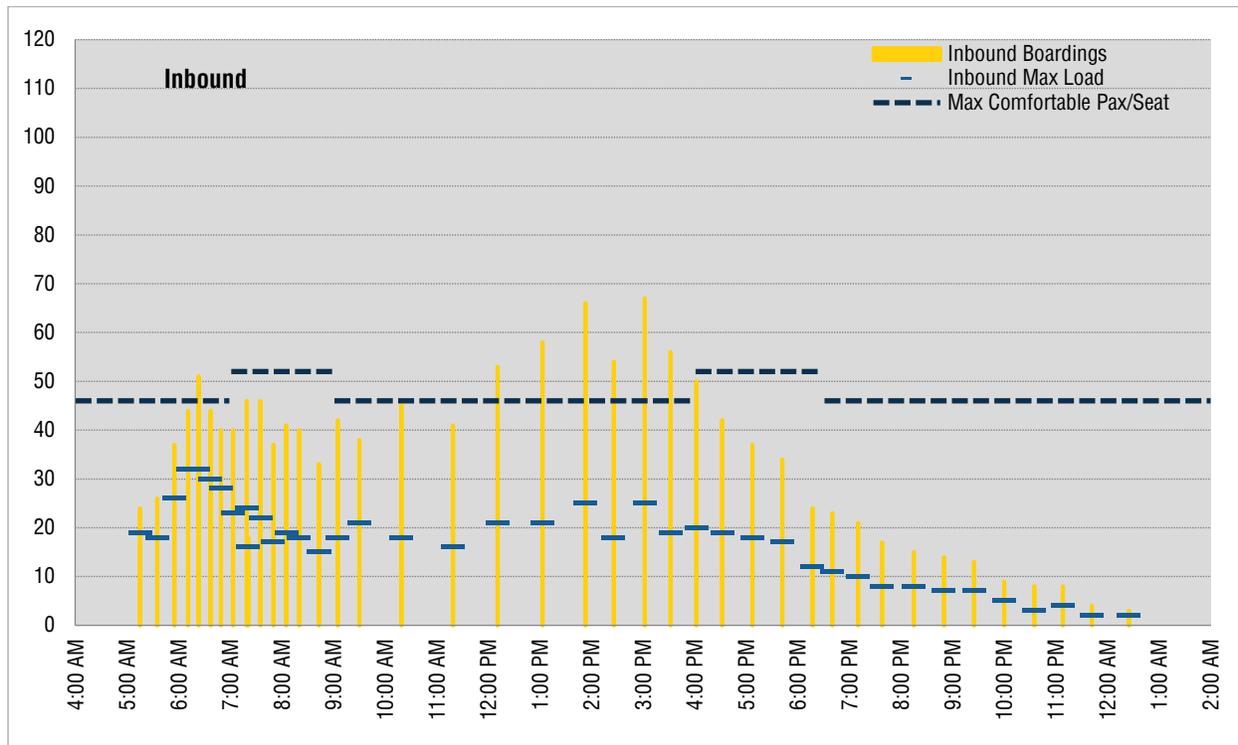


Figure 5 | Weekday Ridership by Trip: Inbound



- Between 11:30 AM and just after 4:00 PM, ridership per trip increases to 50 to over 60. Ridership is during this period because service operates infrequently (averaging only 48 minutes in the Midday Base period), but none of the trips have loads that, on average, exceed loading standards because turnover is also high.
- Ridership per trip then declines steadily from 41 passengers at 4:32 PM to 21 at 7:10 PM.
- It is then less than 20 for the rest of the service day.

On outbound trips (see Figure 6):

- Ridership per trip ranges from 30 to 40 on most trips through 9:30 AM.
- Ridership per trip then increases to close to 50 at 9:35 AM to over 70 at 1:31 PM.
- It then ranges from 60 to 80 through 4:50 PM. Some trips are crowded, but because of high turnover along the route, none have loads that, on average, exceed loading standards.
- Ridership per trip then ranges from 30 to 40 through 9:30 PM.
- It then declines to less than 10 on the last trip at 12:20 AM.

Saturday ridership ranges from 20 to 40 for most of the day inbound and 30 to 50 outbound, with the highest ridership in the middle of the day (see Figure 7 and Figure 8).

Sunday ridership averages 10 to 30 passengers for trip in both directions, also with the highest ridership in the middle of the day (see Figure 9 and Figure 10).

Figure 6 | Weekday Ridership by Trip: Outbound

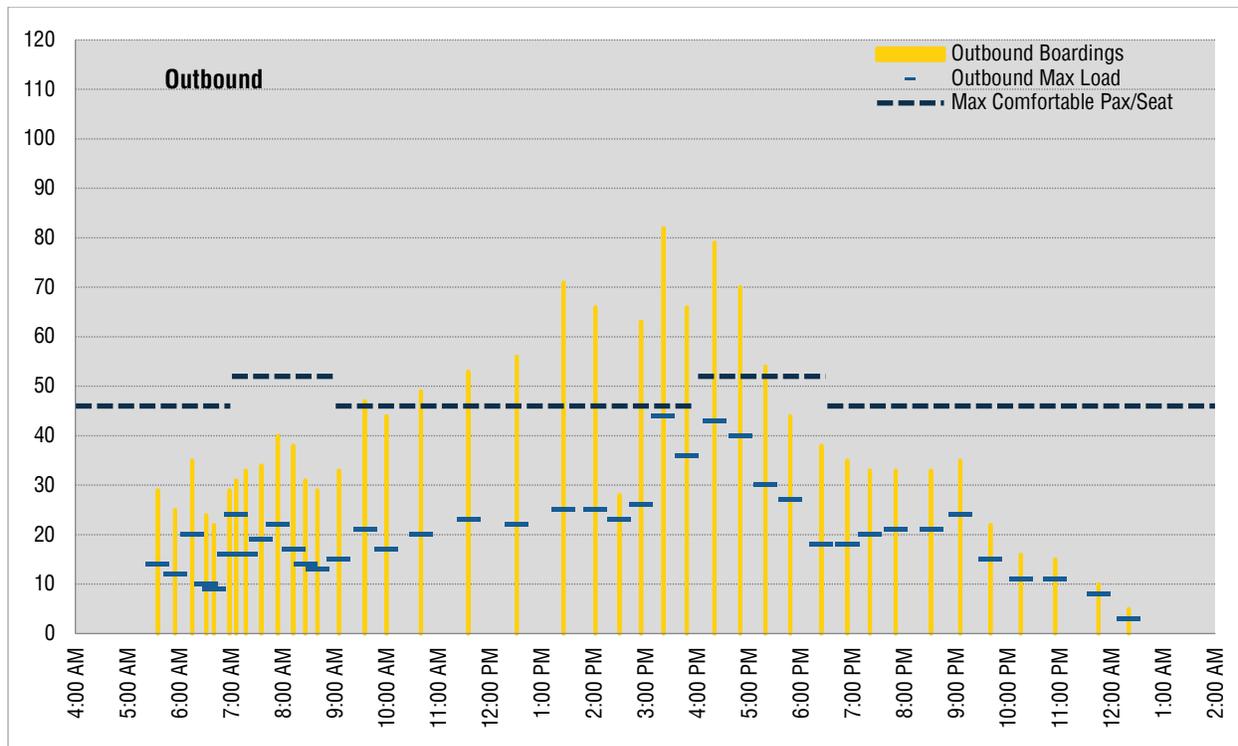


Figure 7 | Saturday Ridership by Trip: Inbound

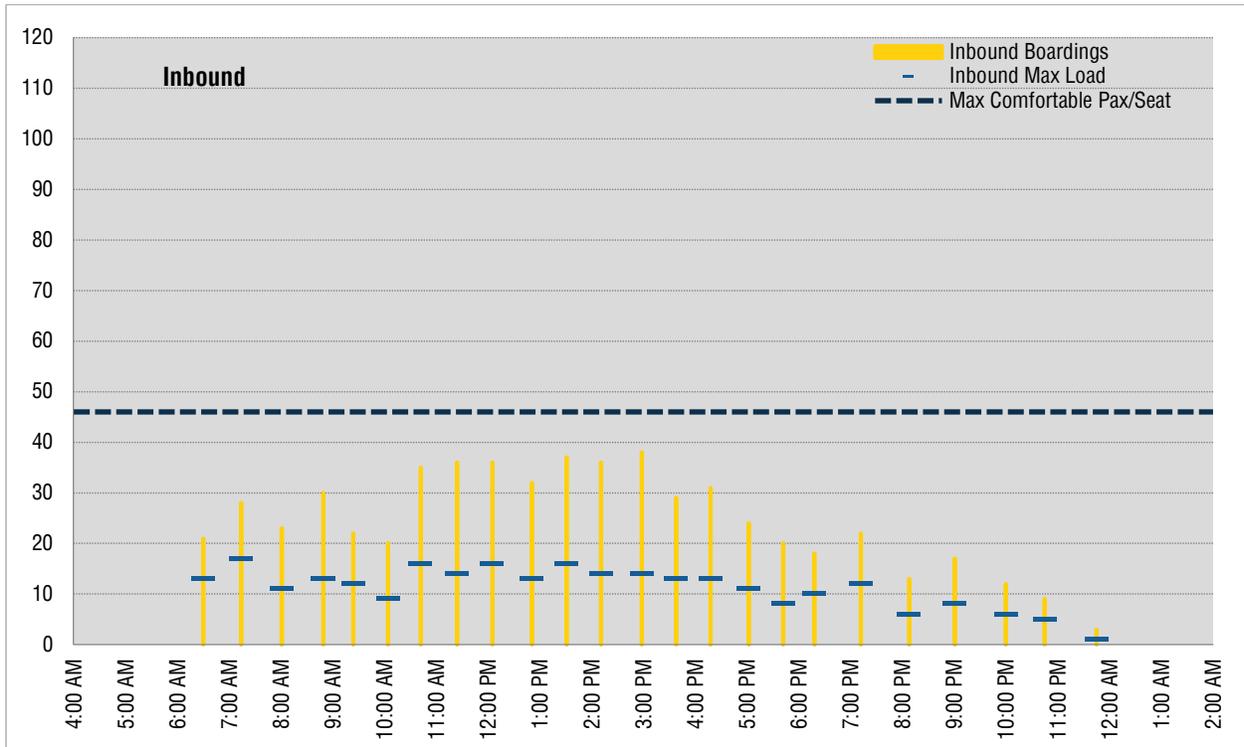


Figure 8 | Saturday Ridership by Trip: Outbound

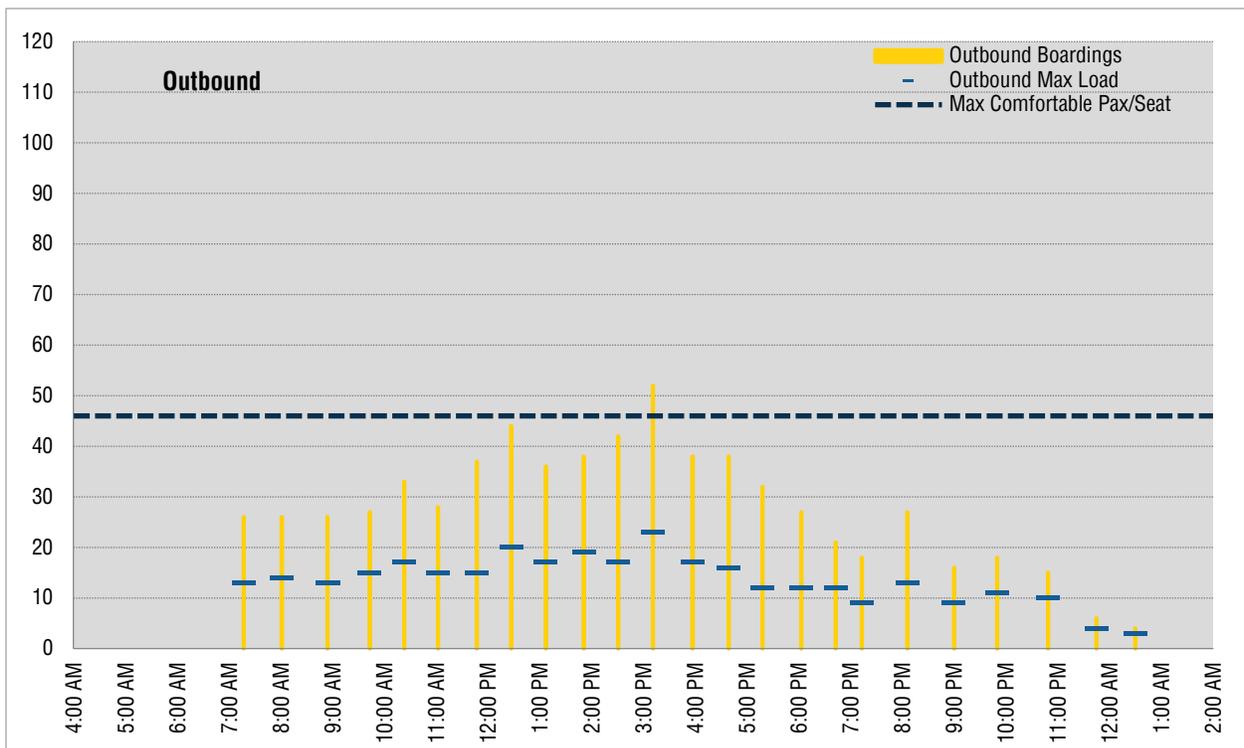


Figure 9 | Sunday Ridership by Trip: Inbound

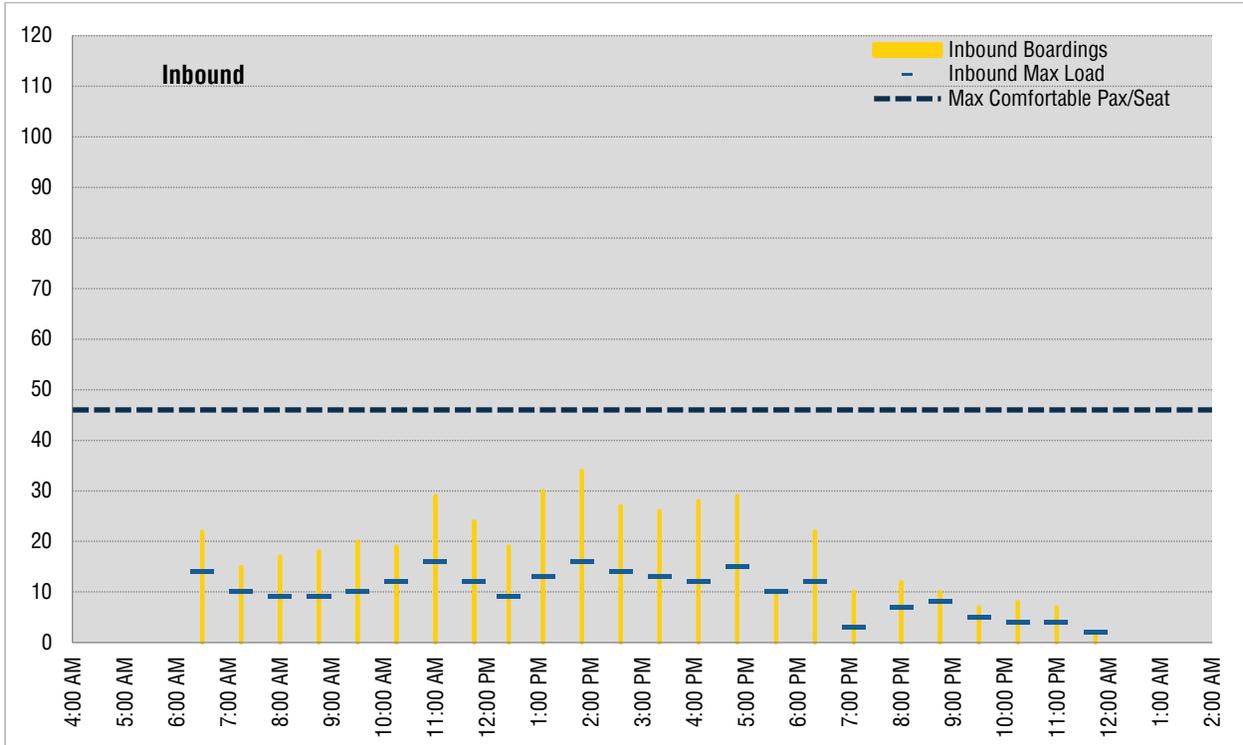
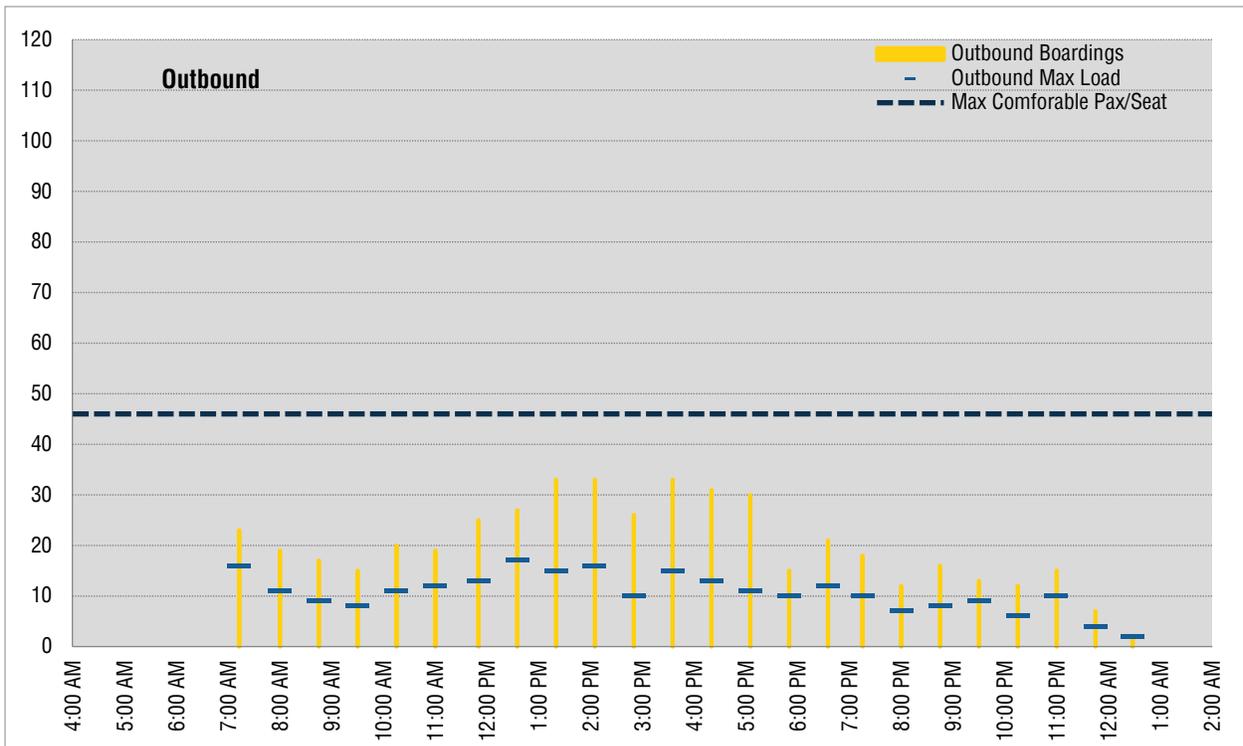


Figure 10 | Sunday Ridership by Trip: Outbound



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 8, 98% of passenger minutes are in comfortable conditions, which is above the target of 96% (see Table 3). Even though weekday total ridership per trip is very high, turnover is also very high and thus buses do not become overcrowded.

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	98.2%	-	-

Reliability and Speed

Reliability

Route 8's weekday overall reliability is very poor at only 51% (see Table 4). Weekend reliability is better, but below the minimum standard of 70%.

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	50%	61%	51%	1.1%
Saturday	67%	68%	67%	-
Sunday	69%	61%	66%	-

Running Times

Route 8's actual running times routinely exceed scheduled times for much of the day. However, the differences are smaller on Route 8 than on many other routes, with significant differences only in the afternoon and PM peak inbound and the PM peak outbound (see Figure 11 and Figure 12).

Stop Spacing

Route 8 has an average of 5.4 stops per mile, which is well within the four to seven stops per mile recommended for urban areas under MBTA guidelines.

Figure 11 | Scheduled & Median Travel Time by Trip: Route 8 Inbound

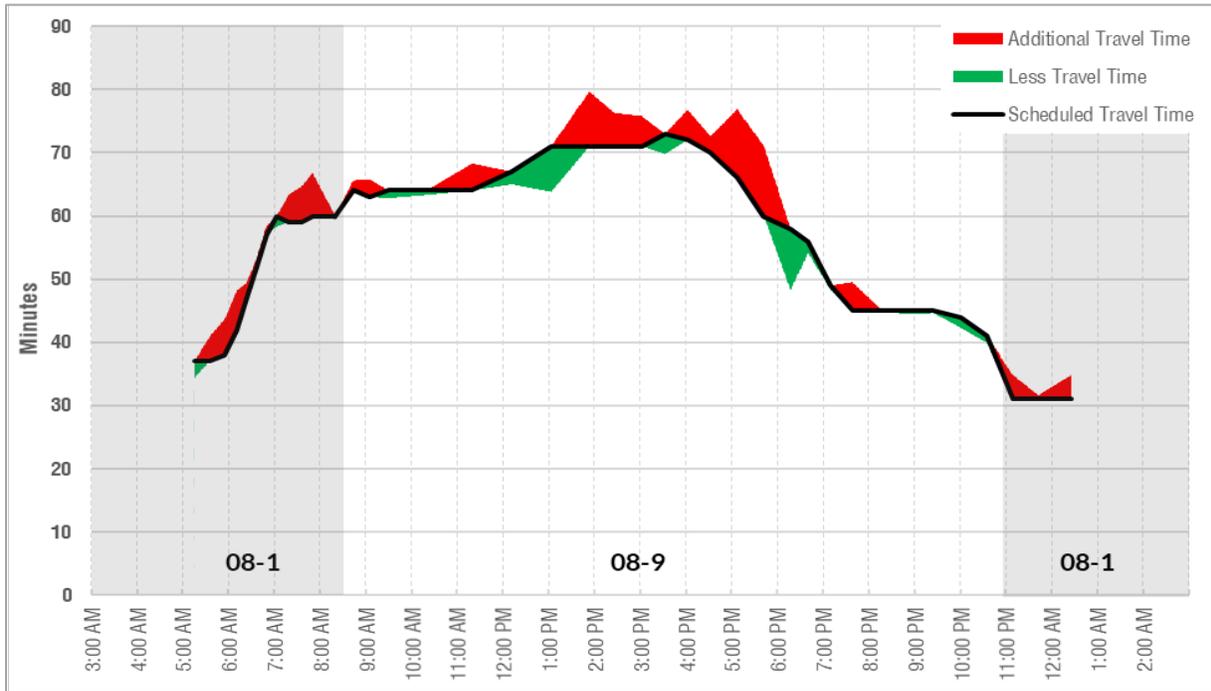
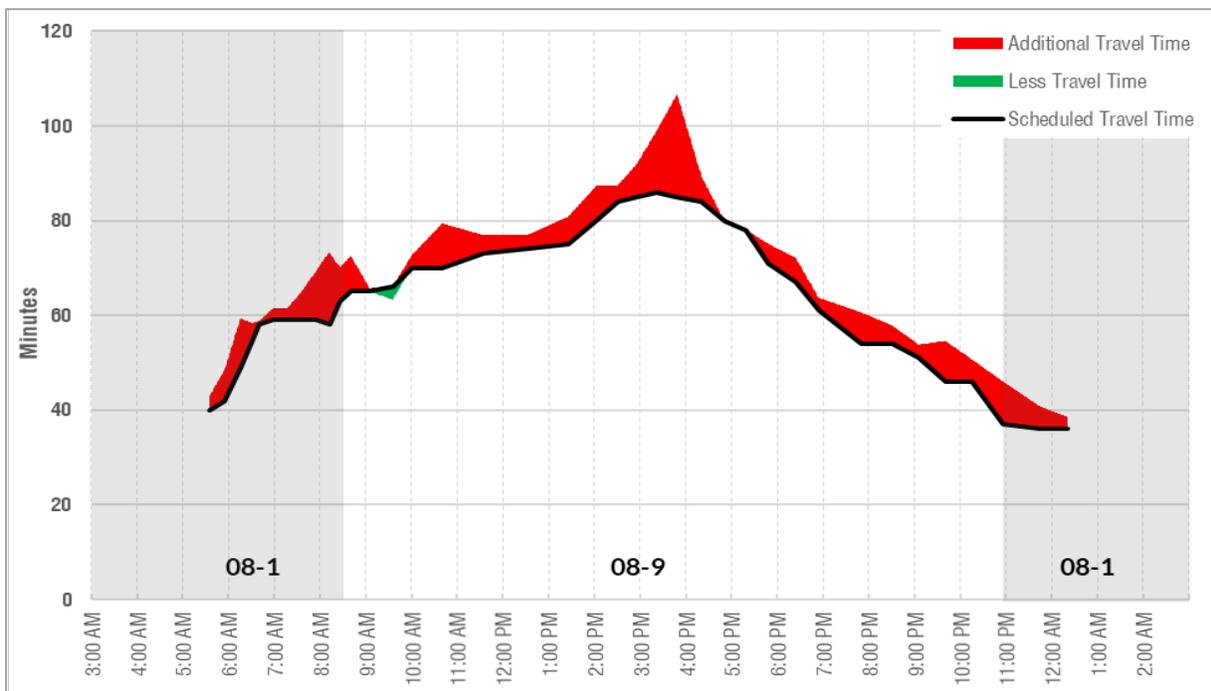


Figure 12 | Scheduled & Median Travel Time by Trip: Route 8 Outbound



Summary

Route 8 is one of four routes that provide similar service, with the others including:

- Route 19 Fields Corner-Kenmore or Ruggles
- Route 47 Central Square, Cambridge-Broadway Station
- Route CT3 Beth Israel Deaconess or BU Medical Campus-Andrew Station

With the exception of Route CT3, all generate high ridership, but do not provide consistent coordinated service (except Route 19 PM peak trips) along the shared segments. The service structure is also complex, with four routes providing similar service but in different ways.

As with the other three routes, Route 8 is circuitous as it deviates to provide front door service to many different locations in the BU Medical Campus area and the LMA. This contributes to very slow service, and the many turns contribute to poor reliability.