

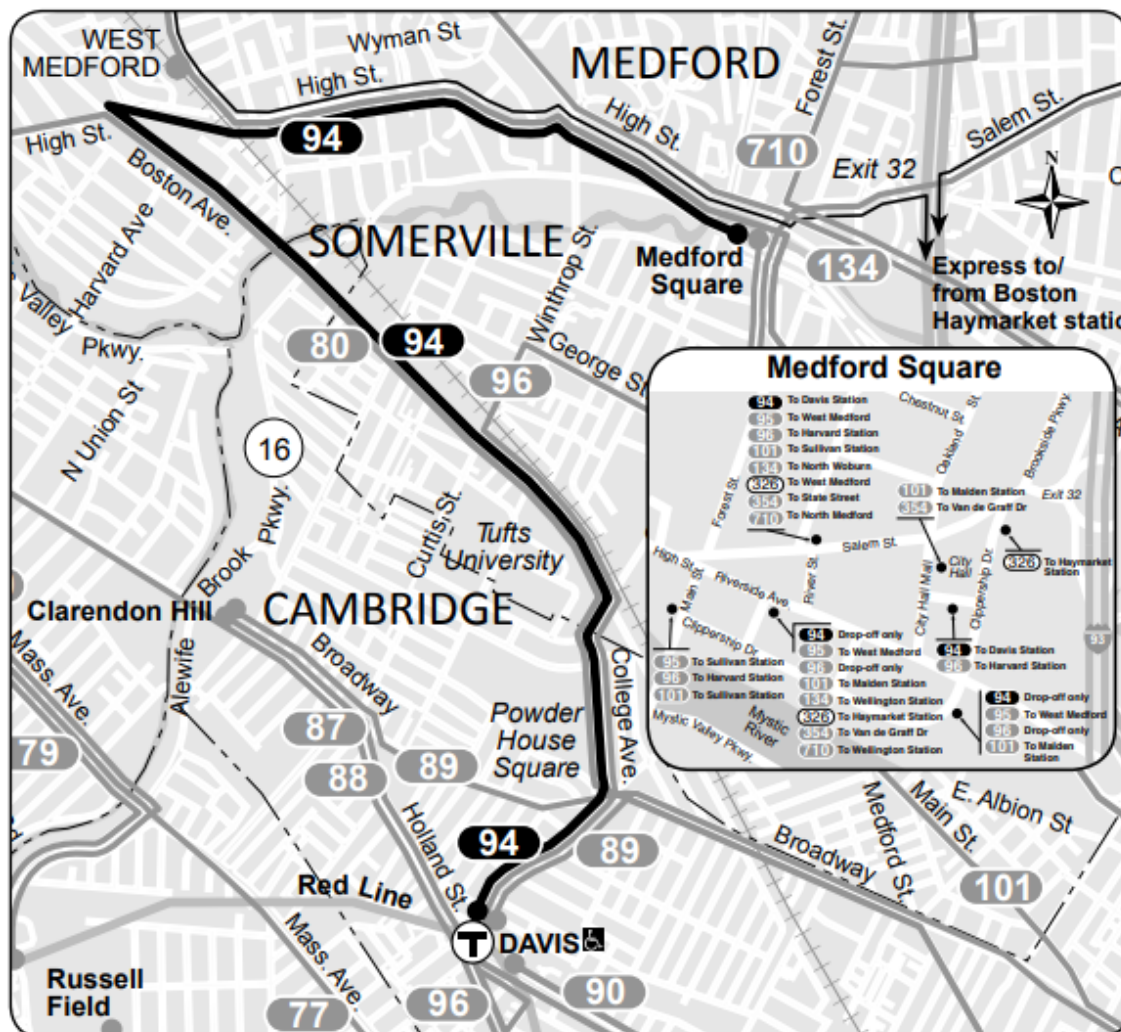
Route 94

Medford Square – Davis Square

Route Overview

Route 94 Medford Square – Davis Square is a Local route that connects Medford Square and Davis Square via West Medford and Tufts University (see Figure 1). It operates seven days per week. Route 94 operates almost exclusively on streets served by multiple routes, specifically Route 95 West Medford – Sullivan Square Station on High Street and Route 80 Arlington Center – Lechmere Station on Boston Avenue.

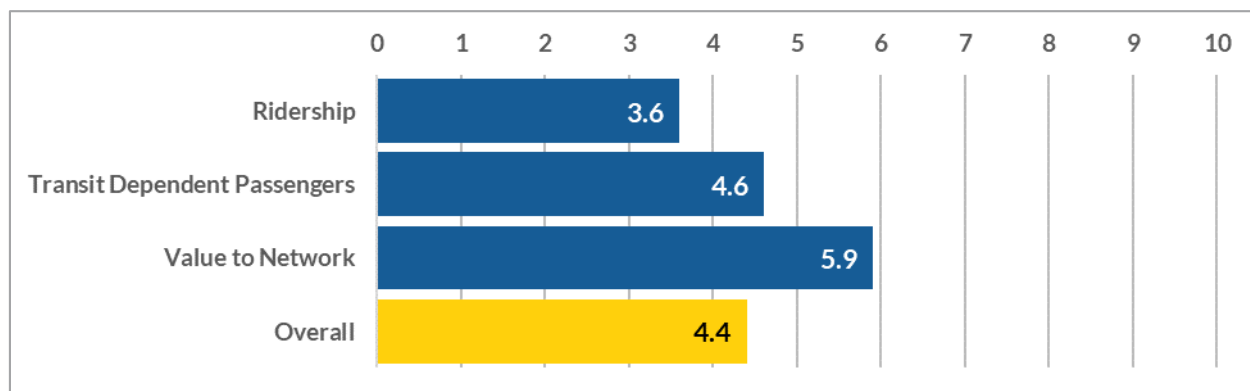
Figure 1 | Service Map



Network Importance

Route 94 is of moderate importance within the overall MBTA bus network (see Figure 2). On a scale of 0 to 10, the route rates 3.6 in terms of ridership, 4.6 in terms of transit dependent ridership, and 5.9 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% weight to overall ridership and a 15% weight to both other measures, is 4.4.

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



Service Patterns

Schedule

Route 94 provides somewhat frequent weekday peak-period service, infrequent weekday off-peak service, and very infrequent weekend service (see Table 1).

On weekdays, Route 94 operates from 5:19 AM to 12:59 AM at the following frequencies:

- From the start of service through the AM peak, Route 94 operates at inconsistent frequencies ranging from 15 to 45 minutes. Inbound trips generally run at least every 20 minutes, but outbound trips have a 45-minute gap between 7:10 AM and 7:55 AM.
- Every 35 minutes from about 9:00 AM to 3:00 PM, and then every 40 to 45 minutes from 3:00 PM to about 4:30 PM.
- Every 20 minutes from 4:30 PM to about 7:00 PM
- Every 30 to 50 minutes from 7:00 PM until the end of service. Inbound frequencies vary during this period, while outbound trips generally depart every 40 minutes.

On Saturdays, Route 94 operates from 6:45 AM to 12:51 PM, with trips every 50 to 62 minutes, but mostly every 50 minutes. On Sundays, Route 94 operates from 6:45 AM to 12:52 AM, with trips every 38 to 72 minutes.

Route 94 meets MBTA span of service standards, but fails multiple frequency standards:

- There is a 45-minute gap between the 7:10 AM and 7:55 AM outbound trip, in excess of the 30-minute standard for weekday peak service.
- There is a 62-minute gap between the first and second outbound trips on Saturday, in excess of the 60-minute standard for weekend service.
- On Sundays, Route 94 operates at frequencies in excess of the 60-minute standard for most of the service day.

Table 1 | Schedule Statistics

SERVICEDAY	SPSAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	5:19 AM to 12:59 AM			39/38
Sunrise	5:19 AM to 5:59 AM	1 Trip	1 Trip	1/1
Early AM	6:00 AM to 6:59 AM	15 – 44	22	4/2
AM Peak	7:00 AM to 8:59 AM	16 – 55	25	5/5
Midday Base	9:00 AM to 1:29 PM	29 – 35	35	8/8
Midday School	1:30 PM to 3:59 PM	33 – 45	38	4/4
PM Peak	4:00 PM to 6:29 PM	20 – 40	21	7/6
Evening	6:30 PM to 9:59 PM	22 – 45	34	6/7
Late Evening	10:00 PM to 11:59 PM	30 – 50	40	3/3
Night	12:00 AM to 12:20:AM	35 – 50	35	1/2
Saturday	6:45 AM to 12:51 AM	50 – 62	50	21/21
Sunday	6:45 AM to 12:52 AM	38 – 72	59	18/18

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

Service Patterns

All weekday and weekend Route 94 trips run the full route from Medford Square to Davis Square (Pattern 94.1), with one exception (see Table 2). A single weekday morning outbound trip deviates from the main route to serve Medford High School, before continuing with regular service along the remainder of the route (Pattern 94.2).

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
INBOUND				39	21	18
94.1	Medford Square	Davis Square	Primary service pattern	39	21	18
OUTBOUND				38	21	18
94.1	Davis Square	Medford Square	Primary service pattern	38	21	18
94.2	Davis Square	Medford Square	Via Medford High School	1	-	-

Ridership

Route 94 serves about 1,600 passengers on weekdays, 700 passengers on Saturdays, and 400 passengers on Sundays.

Ridership by Stop

The vast majority of passengers use Route 94 to access Davis Station, where they can transfer to and from the Red Line and other bus services (see Figure 3). On weekday inbound trips:

- 156 passengers board and four passengers alight at the first four stops, all of which are in Medford Square. This represents just over half of Route 94 boardings that occur before the route meets with Route 80 just west of West Medford Square.
- 138 passengers board and 28 passengers alight at the nine stops between Medford Square and Boston Avenue, just west of West Medford Square. Most of these stops are also served by Route 95.
- 406 passengers board and 56 passengers alight at the 11 stops on Boston Avenue, which are also served by Route 80. Only 13% of passengers that board between Medford Square and the end of Boston Avenue alight before Route 94 buses turn onto College Avenue.
- 100 passengers board and 44 passengers alight at the six stops on College Avenue before Davis Square.
- 27 passengers board and 676 passengers alight at four stops in Davis Square. The vast majority of alightings occur at College Avenue at Highland Avenue, which is the first stop adjacent to Davis Station.

Outbound ridership is roughly the reverse of inbound ridership on weekdays. Weekend ridership patterns are similar, but with lower volumes.

Figure 3 | Weekday Inbound Ridership by Stop Map



Ridership by Trip

Route 94 ridership by trip follows traditional commuting patterns, with high ridership on peak-period peak-direction trips and low ridership at other times. On weekday inbound trips (see Figure 4):

- The first three trips carry fewer than 20 passengers each.
- The five trips between 6:50 AM and 7:50 AM carry over 40 passengers each. The 7:30 AM trip carries almost 60 passengers, the highest ridership of any inbound trip, and is just one passenger below the MBTA's peak period crowding threshold.
- The four trips between 7:50 AM and 8:50 AM see a decline in ridership to roughly 30 passengers.
- Ridership fluctuates between 15 and 30 passengers on most trips between 8:50 AM and 3:10 PM.
- From 3:10 PM onward, ridership is below 20 riders on all trips except for one trip at 5:16 PM, which carries 25 passengers.

On weekday outbound trips (see Figure 5):

- Ridership is under 20 passengers per trip through 12:50 PM, with the exception of one trip at 7:00 AM.
- The four trips between 12:30 PM and 2:30 PM carry 15 to 20 passengers.
- From 3:00 PM to 5:00 PM ridership increases to almost 50 passengers per trip.
- The two trips between 5:00 PM and 6:00 PM each carry about 40 passengers.
- The 6:05 PM trip carries 50 passengers, representing the peak in outbound ridership.
- Ridership declines gradually over the remainder of the day, with most trips carrying between 10 and 30 passengers. Trips at 10 PM and slightly before 1:00 AM carry approximately 10 passengers.

On Saturday, inbound ridership is low on the first four trips of the day (see Figure 6). Ridership spikes at over 40 on the 10:05 AM trip and thereafter declines. Trips between 11:00 AM and 5:00 PM carry between 10 and 25 passengers. Trips between 5:00 PM and the end of the service day carry 15 or fewer passengers, with most trips carrying fewer than 10 passengers. Outbound ridership increases up to a peak of approximately 20 trips at 4:00 PM and 6:00 PM and declines thereafter (see Figure 7).

On Sundays, inbound ridership is low before 10:00 AM (see Figure 8). Between 10:00 AM and 1:30 PM, trips carry approximately 25 passengers. Ridership declines after 1:30 PM, and trips after 5:00 PM carry fewer than 10 passengers. Outbound ridership is very low in the morning and increases to a peak of 25 passengers at 5:30 PM, and remains high until 7:30 PM (see Figure 9). Ridership then declines through the end of service.

Figure 4 | Weekday Ridership by Trip: Inbound

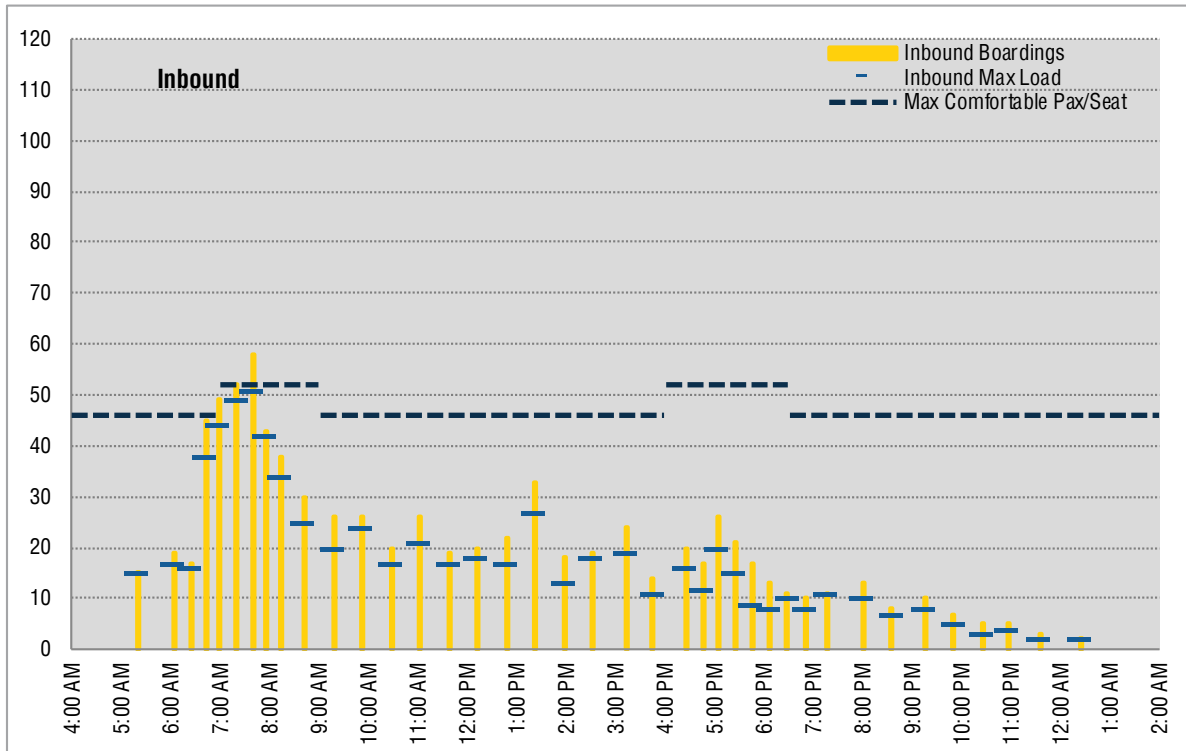


Figure 5 | Weekday Ridership by Trip: Outbound

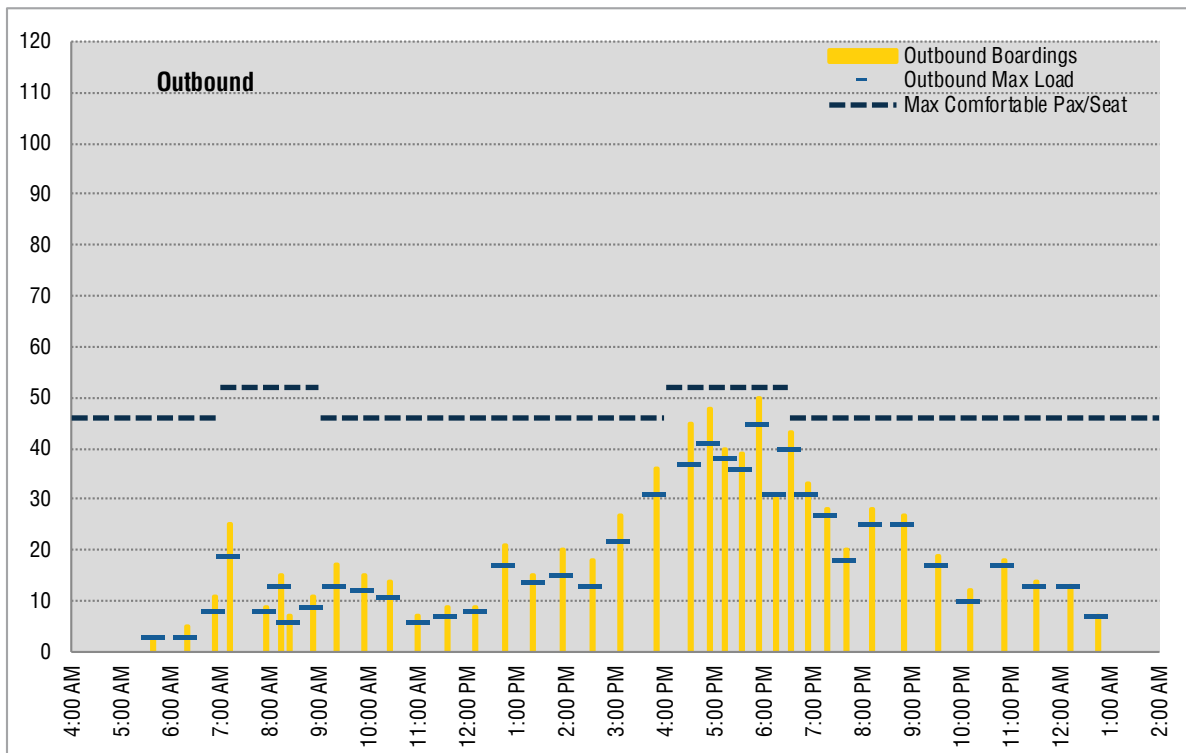


Figure 6 | Saturday Ridership by Trip: Inbound

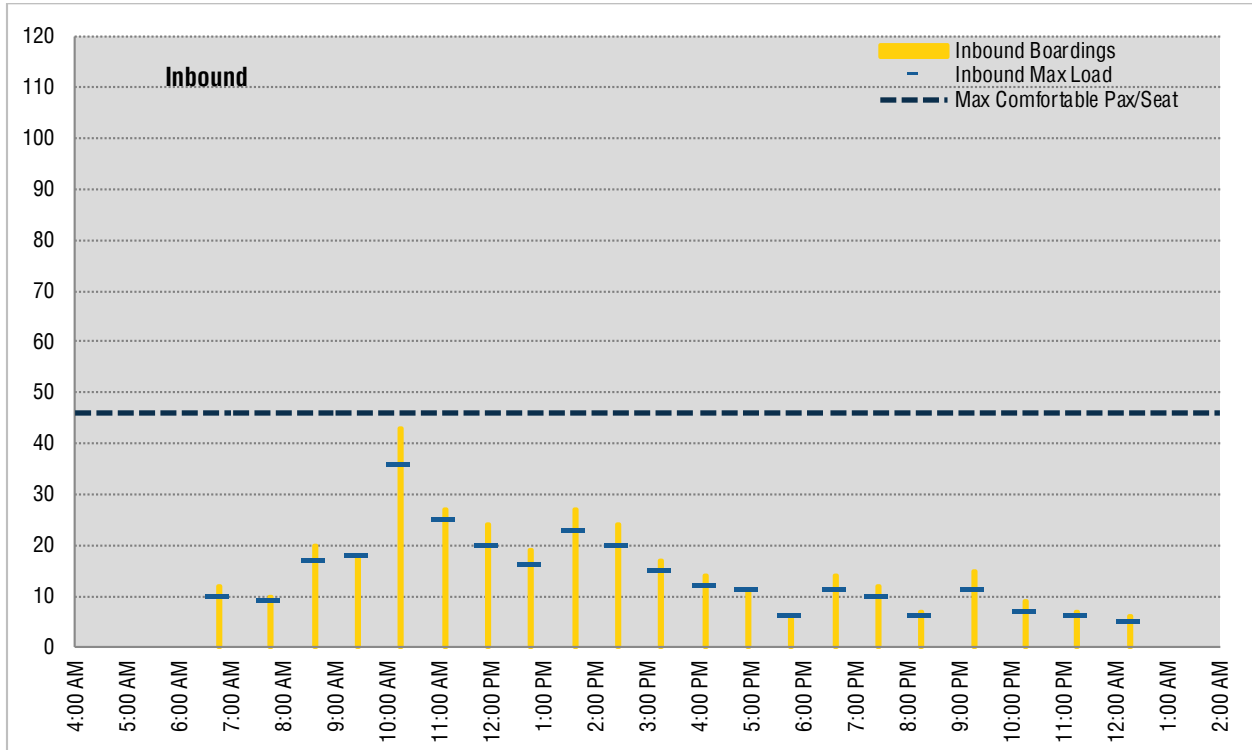


Figure 7 | Saturday Ridership by Trip: Outbound

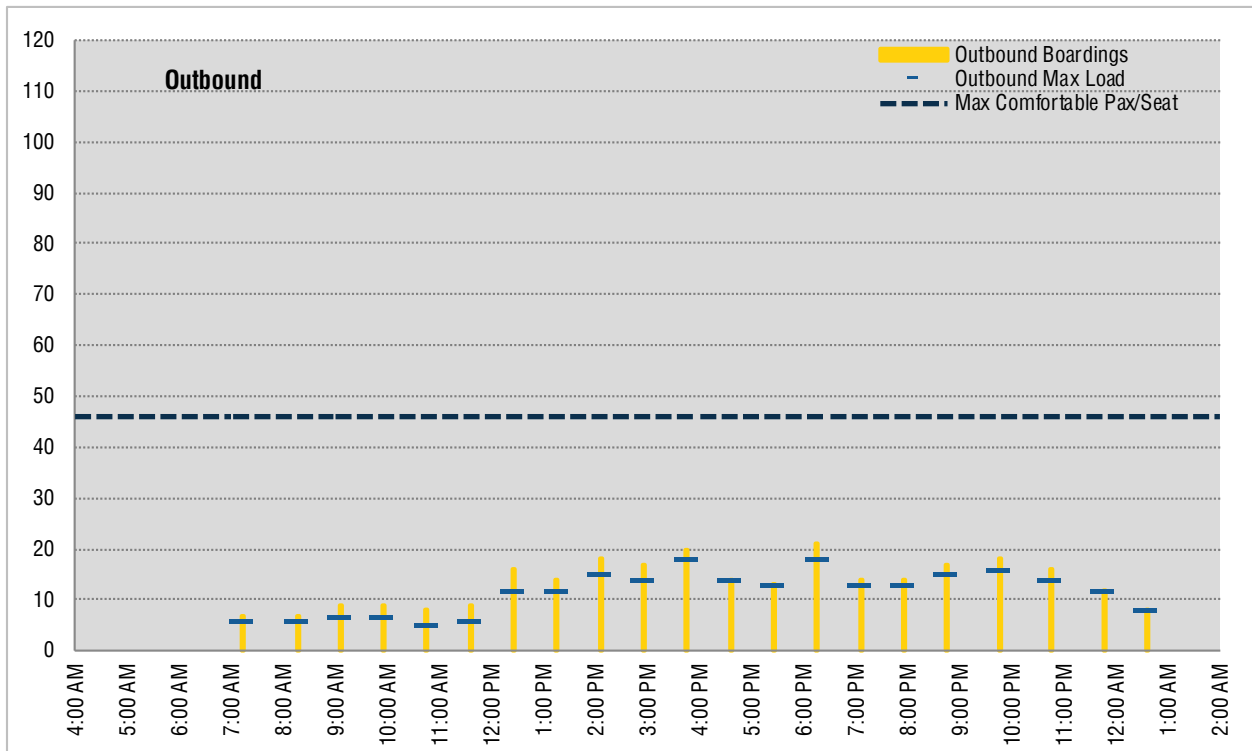


Figure 8 | Sunday Ridership by Trip: Inbound

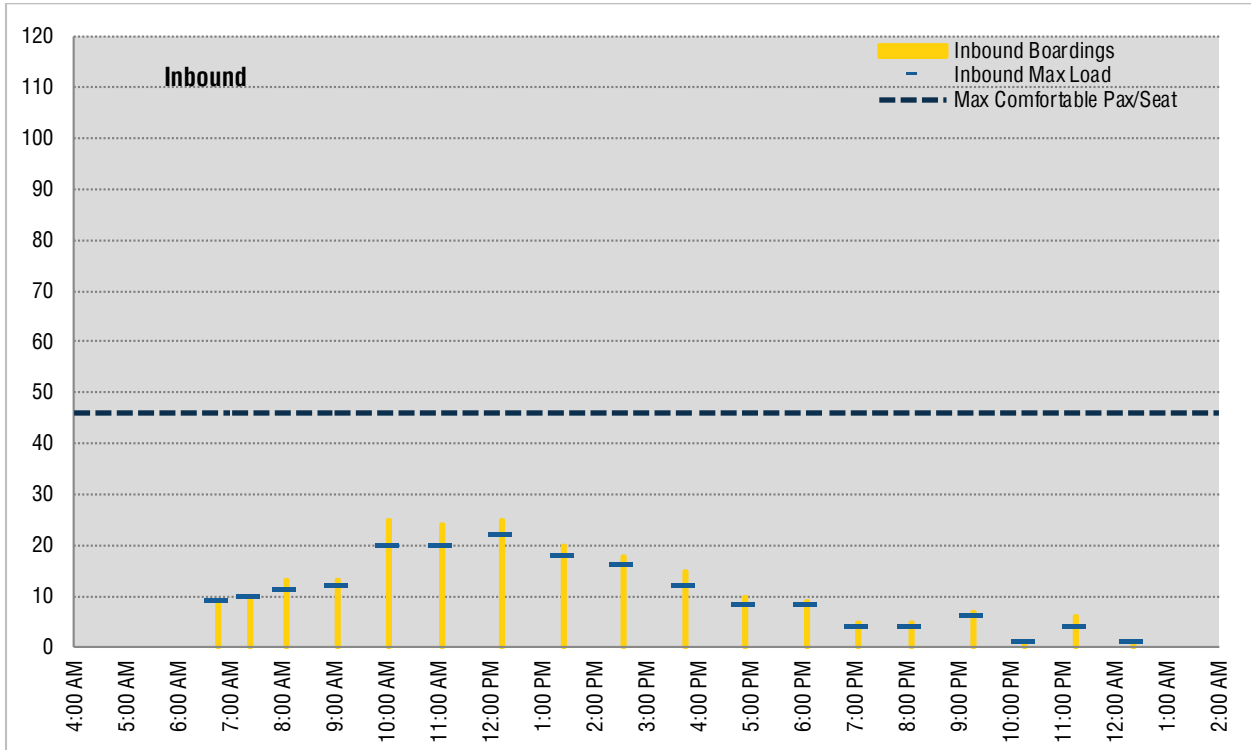
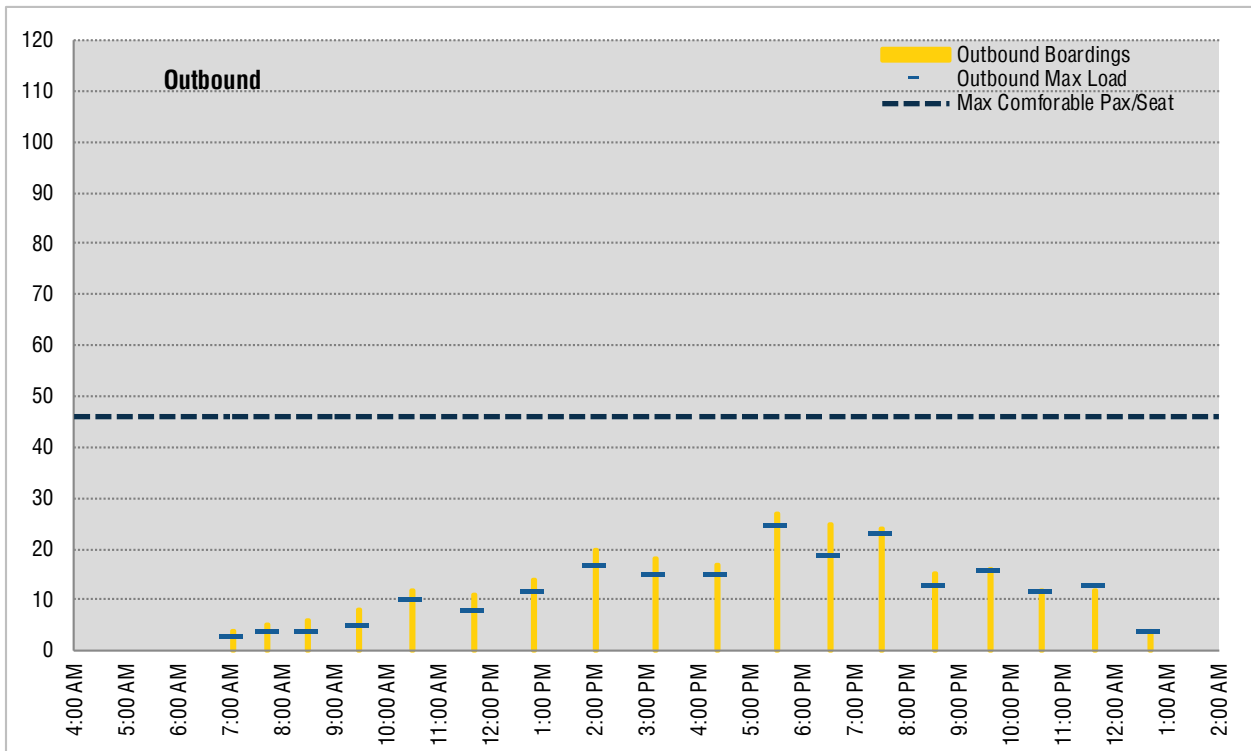


Figure 9 | Sunday Ridership by Trip: Outbound



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 94, 95.5% of passenger minutes are in comfortable conditions, which is above the minimum standard of 92%, but just below the target of 96% (see Table 3).

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	95.5%	100%	100%

Reliability and Speed

Reliability

Route 94 has an overall weekday reliability of 70%, which meets the MBTA’s minimum standard (see Table 4). Saturday and Sunday overall reliability is somewhat better, at 74% and 77% respectively. Only 0.1% of trips are dropped, which suggests that passengers are rarely impacted by service disruptions and that reliability is likely impacted by congestion or other delays along the route.

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	74%	42%	70%	0.1%
Saturday	79%	50%	74%	-
Sunday	82%	52%	77%	-

Running Times

Route 94 trips regularly exceed their scheduled running times throughout the day, but particularly in the mid-afternoon and late night periods. Most trips run between five and 10 minutes longer than scheduled, while those in the mid-afternoon and late night periods run 10 to 20 minutes longer than scheduled (see Figure 10 and Figure 11).

Figure 10 | Scheduled & Median Travel Time by Trip: Route 94 Inbound

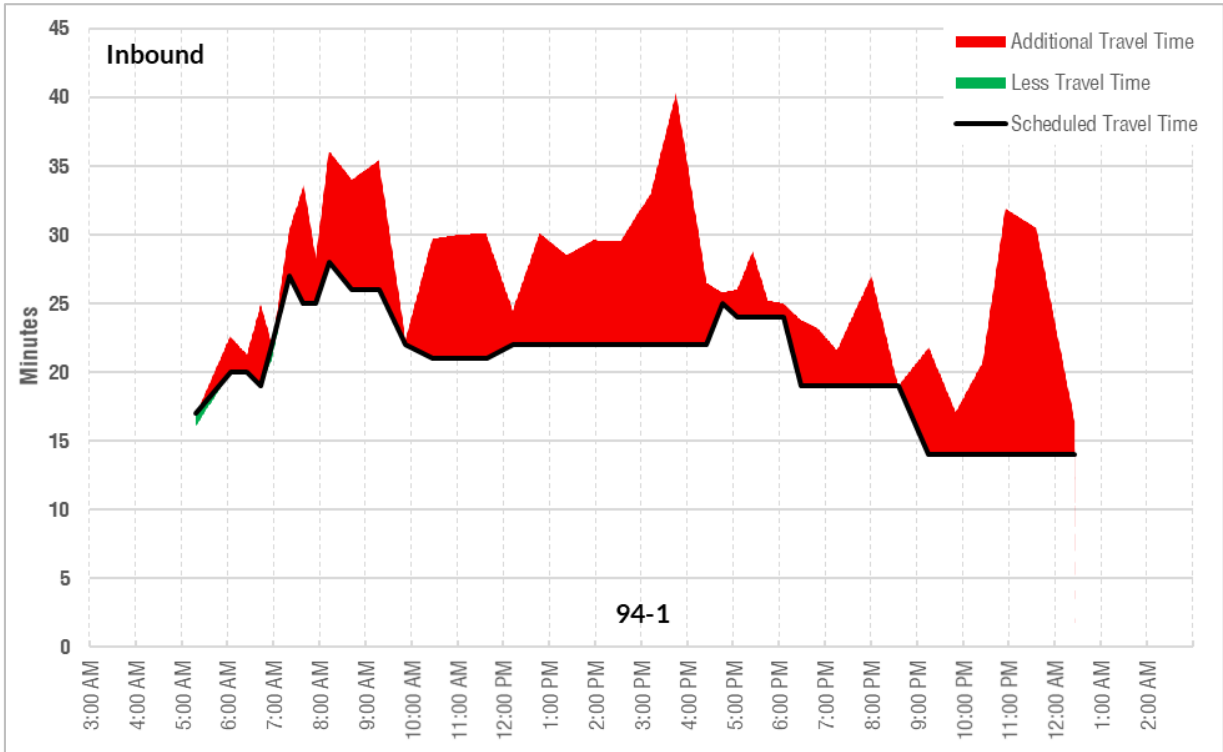
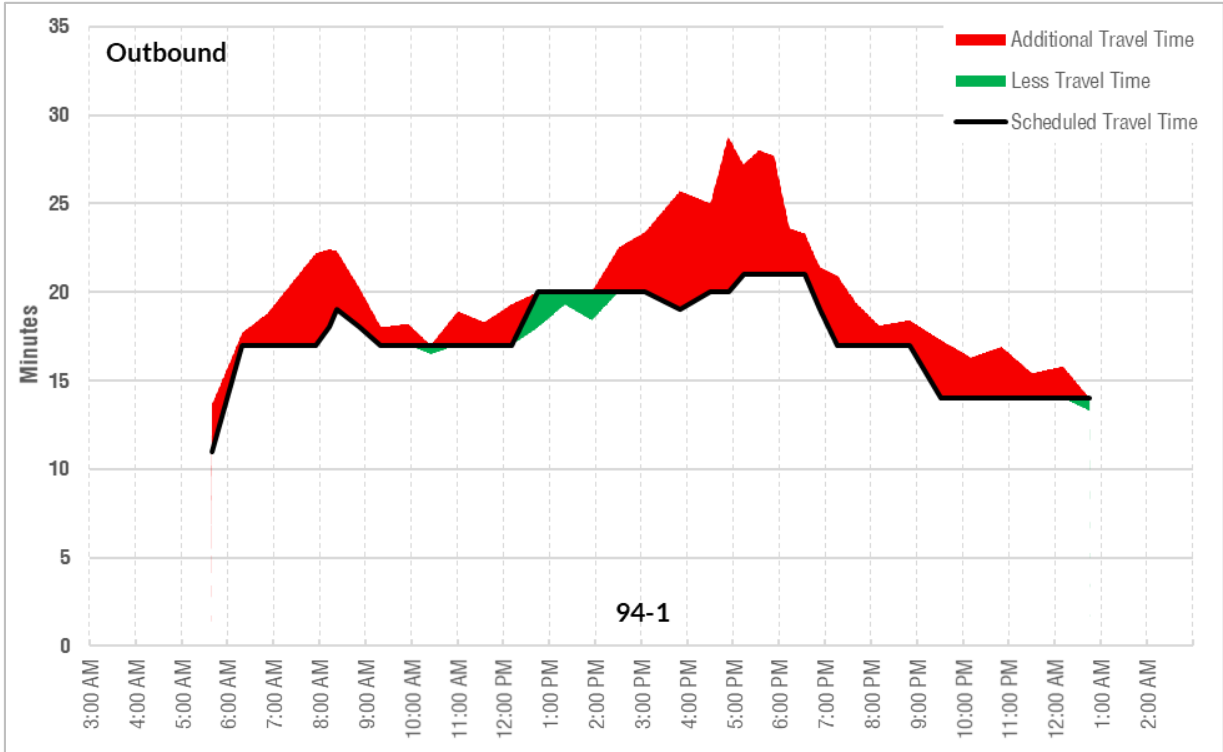


Figure 11 | Scheduled & Median Travel Time by Trip: Route 94 Outbound



Stop Spacing

Overall, Route 94 has an average of nine stops per mile, which is above the four to seven stops per mile recommended for urban areas under MBTA guidelines. Two stops that are spaced particularly close together are at Powder House Square and at Boston Avenue at College Avenue.

Summary

Route 94 connects Medford Square to Davis Square via West Medford Square and Tufts University. The route operates almost exclusively on corridors served by other bus routes, specifically Route 95 on High Street and Route 80 on Boston Avenue. Route 94 provides the most direct service to a rapid transit station on these corridors, and thus has high ridership during peak periods. Ridership at other times is relatively low. Route 94 is also very unreliable, with running times regularly exceeding the schedule.