

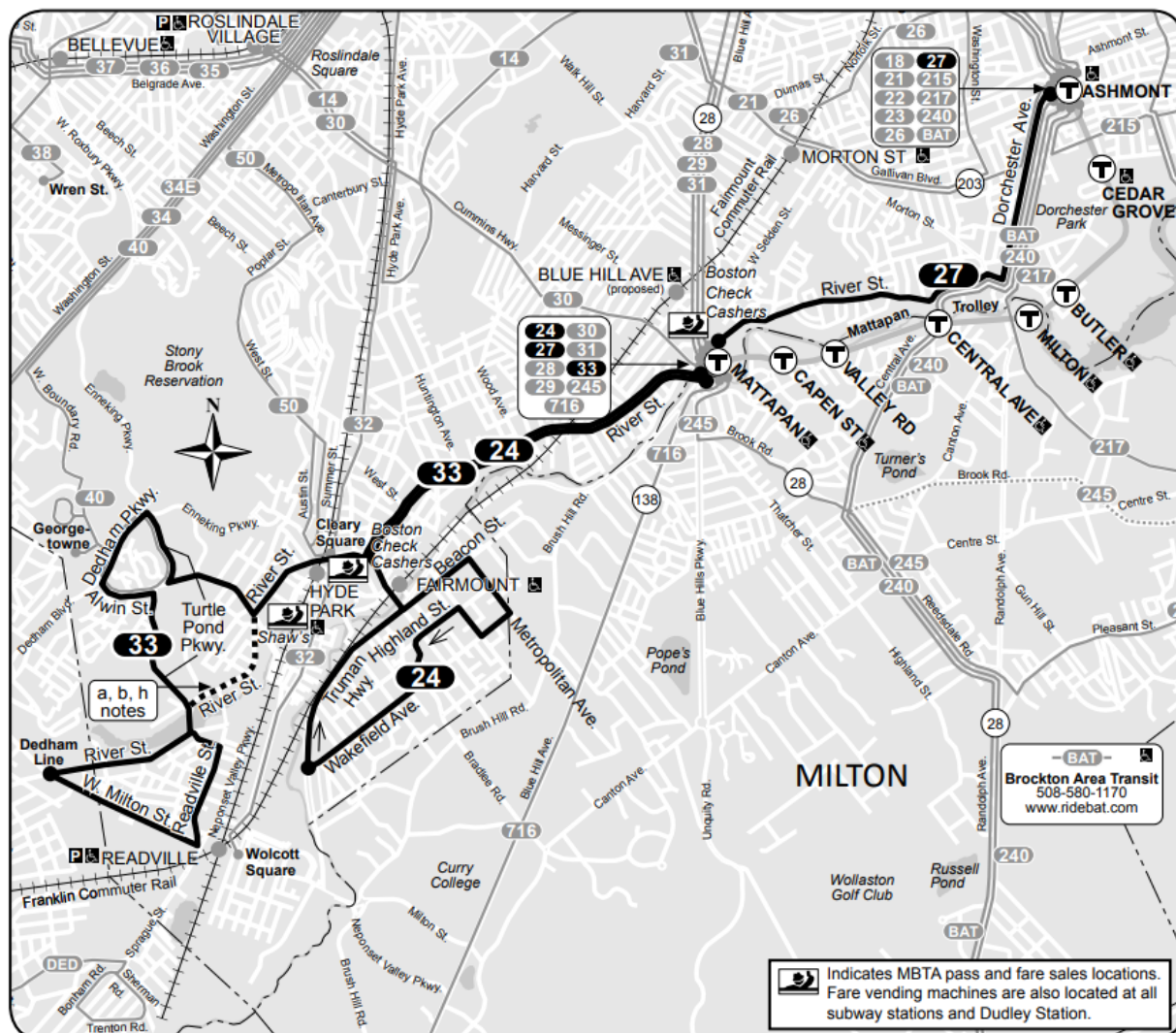
Route 24

Wakefield Avenue & Truman Highway-Mattapan Station

Route Overview

Route 24 Wakefield Avenue & Truman Highway-Mattapan Station is a Local route that operates between Fairmount Hill, Hyde Park, and Mattapan Station during the day on weekdays, and between Fairmount Hill and Ashmont Station on weekday evenings and weekends (see Figure 1). Route 24 is one of two routes that serve River Street between Cleary Square and Mattapan Station, the other being Route 33 Dedham Line-Mattapan Station.

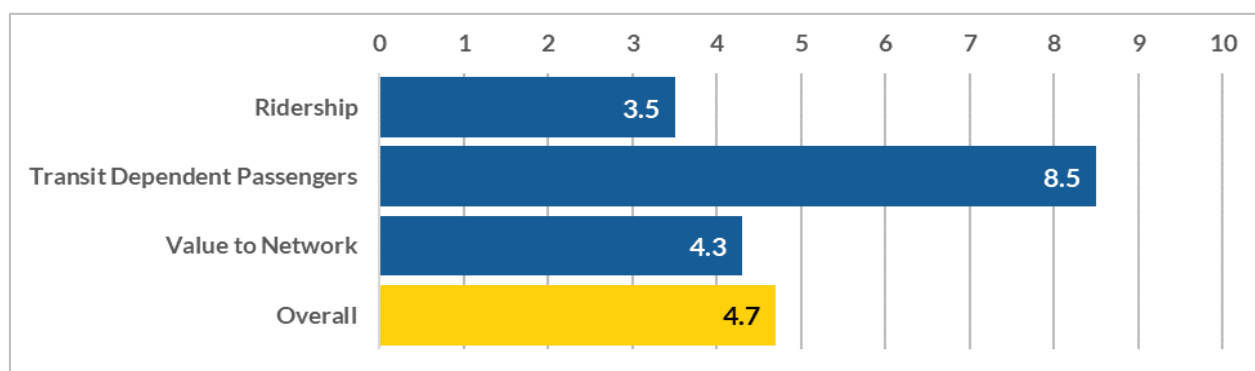
Figure 1 | Service Map



Network Importance

Route 24 is of moderate importance within the overall system (see Figure 2). On a relative scale of 0 to 10, the route rates 3.5 in terms of ridership, 8.5 in terms of transit dependent ridership, and 4.3 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 4.7.

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



Service Overview

Schedule

On weekdays, Route 24 provides moderately frequent service during peak periods and the shoulder of the AM peak, and infrequent service during all other periods (see Table 1). On weekends, it provides infrequent service.

On weekdays, service operates from 5:07 AM to 1:04 AM:

- Every 23 to 32 minutes before 6:00 AM.
- Every 18 to 32 minutes during the shoulder of the AM Peak and the AM Peak period, but generally every 20 minutes.
- Every 20 to 57 minutes during the Midday Base period, but mostly every 50 minutes.
- Every 20 to 50 minutes during the Midday School period, but mostly every 35 minutes.
- Every 25 to 30 minutes during the PM Peak, but mostly every 30 minutes.
- Every 30 to 65 minutes during the Evening period, but every 30 minutes from 6:30 PM to 7:30 PM and every 60 to 65 minutes from 7:30 PM to 10:00 PM.

- Every 58 to 60 minutes during the Late Evening and Night periods, but mostly every 60 minutes.

Table 1 | Schedule Statistics

SERVICEDAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	5:07 AM to 1:04 AM			34/34
Sunrise	5:07 AM to 5:59 AM	23 – 32	28	2/1
Early AM	6:00 AM to 6:59 AM	18 – 32	19	3/4
AM Peak	7:00 AM to 8:59 AM	20	20	6/5
Midday Base	9:00 AM to 1:29 PM	20 – 57	50	6/5
Midday School	1:30 PM to 3:59 PM	20 – 50	30	4/5
PM Peak	4:00 PM to 6:29 PM	25 – 30	30	5/5
Evening	6:30 PM to 9:59 PM	30 – 65	49	5/5
Late Evening	10:00 PM to 11:59 PM	58 – 60	59	2/2
Night	12:00 AM to 1:04 AM	58	58	1/2
Saturday	5:40 AM to 1:04 AM	30 – 60	42	27/27
Sunday	9:35 AM to 8:55 PM	65	65	12/12

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

On Saturdays, service operates from 5:40 AM to 1:04 AM, which is similar to the weekday span of service. Service operates every 30 to 60 minutes throughout the day. Most service operates every 40 minutes, with 30-minute frequencies before 7:00 AM and 60-minute frequencies after 7:00 PM. On Sundays, service operates from 9:35 AM to 8:55 PM, every 65 minutes throughout the day.

Route 24 meets the MBTA’s span of service on all days and frequency standards for weekdays and Saturdays. However, it does not meet the frequency standard for Sundays, when service operates every 65 minutes versus the standard of 60 minutes.

As described above, Routes 24 and 33 both serve River Street between Cleary Square and Mattapan Station. However, Route 33 runs less frequently and has many variants, and as a result, the schedules of the two routes are not coordinated.

Service Patterns

On weekdays, service operates as Route 24, with most service between Truman Avenue at Wakefield Avenue and Mattapan Station (see Table 2). On weekday evenings and weekends, service operates as Route 24/27, which is a combination of Route 24 and Route 27 Mattapan Station - Ashmont Station that operates along Route 24’s primary alignment and then continues from Mattapan Station to Ashmont Station along the regular alignment of Route 27 (see Figure 1). In more detail:

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
INBOUND				34	27	12
24.0	Truman Highway at Wakefield Avenue	Mattapan Station	Primary pattern	26	-	-
24.2	Truman Highway at Wakefield Avenue	Ashmont Station	Evening and weekend combination of Routes 24 and 27	6	26	12
24.4	Logan Square	Mattapan Station	First two AM trips; from Logan Square	2	-	-
24.5	Logan Square	Ashmont Station	First Saturday trip; from Logan Square	-	1	-
OUTBOUND				34	26	12
24.0	Mattapan Station	Truman Highway at Wakefield Avenue	Primary pattern	27	1	-
24.1	Logan Square	Truman Highway at Wakefield Avenue	First outbound trip; from Logan Square	1	-	-
24.2	Ashmont Station	Truman Highway at Wakefield Avenue	Evening and weekend combination of Routes 24 and 27	6	26	12

Weekdays

- The first two inbound trips at 5:07 AM and 5:30 AM are short-turns that operate between Logan Square and Mattapan Station (Pattern 24.4).
- The first outbound trip at 6:09 AM operates between Logan Square and the outer end of the line (Pattern 24.1).
- All service then operates along the primary alignment until 7:30 PM (Pattern 24.0).
- Beginning at 7:30 PM, service operates as Route 24/27 to and from Ashmont Station (Pattern 24.2).

Saturdays

- The first Saturday inbound trip at 5:40 AM begins at Logan Square (Pattern 24.5).
- All other service operates as Route 24/27 (Pattern 24.2).

Sundays

- All service operates as Route 24/27 (Pattern 24.2).

Ridership

Route 24 carries 1,670 riders on weekdays, 1,280 on Saturdays, and 550 on Sundays.

Ridership by Stop

The large majority of Route 24's ridership is between Cleary Square and Mattapan Station. On weekday inbound trips (see Figure 3):

- In total, 250 passengers board along the Fairmount Hills loop.
 - 120 passengers board at the 23 stops on the “outbound” half of the loop (stops before Wakefield Avenue at Truman Highway) for continuing inbound service. Most stops have fewer than five boardings per day.
 - 130 passengers board at the seven stops on the “inbound” half of the loop.
- 140 passengers board and 50 alight in Cleary Square.
- 410 passengers board and 330 alight at the 13 stops on River Street between Cleary Square and Mattapan Station.
- 430 passengers, or 48% of all inbound riders, alight at Mattapan Station.
- Only 10 passengers board and 50 alight between Mattapan Station and Ashmont Station on the six evening Route 24/27 trips to Ashmont Station.

Outbound ridership is roughly the reverse of inbound ridership on weekdays. Weekend ridership patterns are similar, but with lower volumes and a greater proportion of ridership on Route 24/27 service between Mattapan Station and Ashmont Station.

Ridership by Trip

On weekdays, Route 24 has moderate ridership per trip throughout most of the day. On inbound trips (see Figure 4):

- During the early morning and AM peak, ridership per trip generally ranges between 23 and 33 passengers per trip.
- Between 8:00 AM and 2:00 PM, ridership is generally between 11 and 25 passengers per trip.
- The highest ridership per trip occurs between 3:00 PM and 4:00 PM, when ridership ranges from 31 to 42 passengers per trip. Peak passenger loads occur on the 3:35 PM inbound trip with 42 passengers, just below the vehicle's seated capacity.
- Ridership drops during the PM peak, when it ranges from 15 to 31 passengers per trip.

Figure 3 | Weekday Inbound Ridership by Stop Map

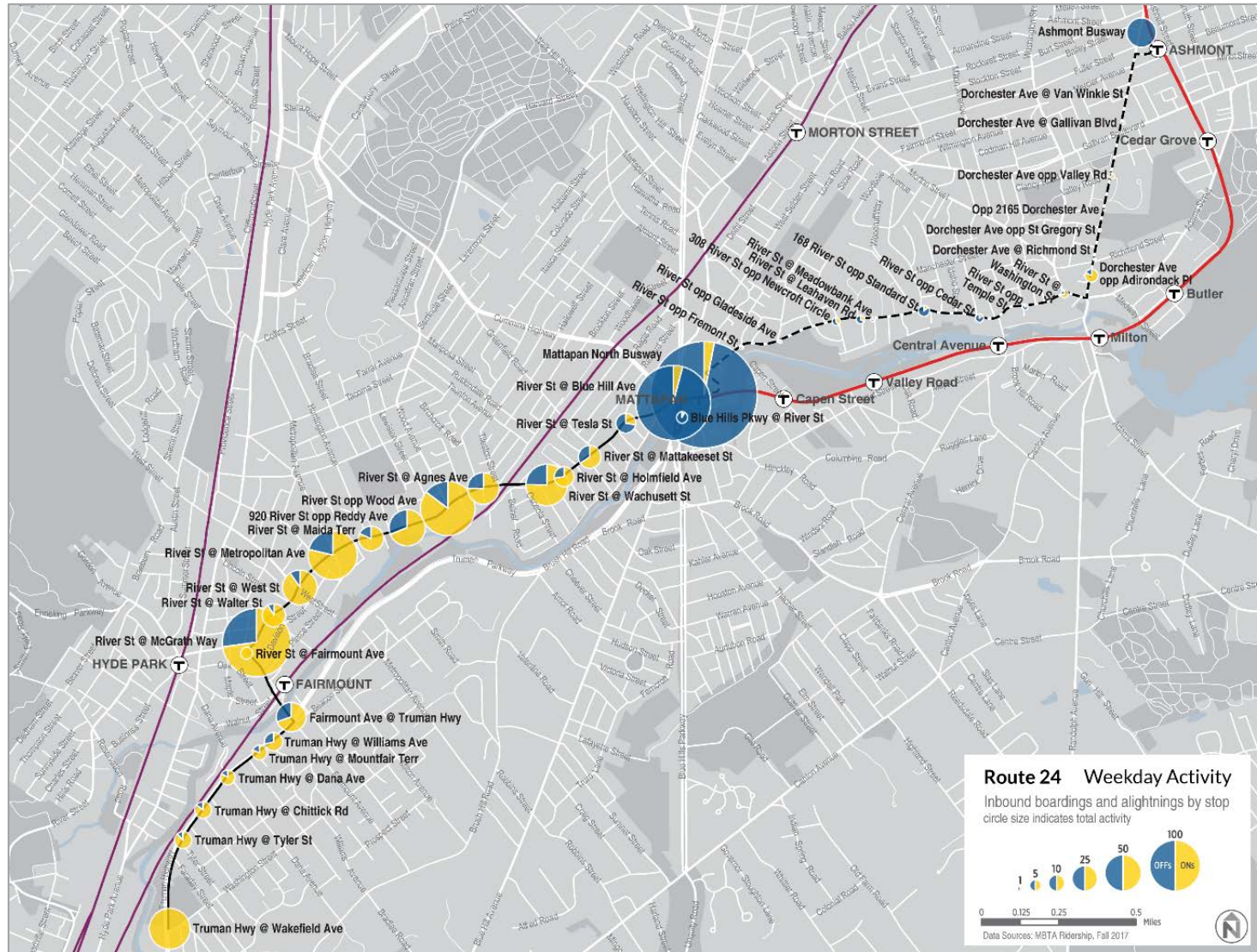


Figure 4 | Weekday Ridership by Trip: Inbound

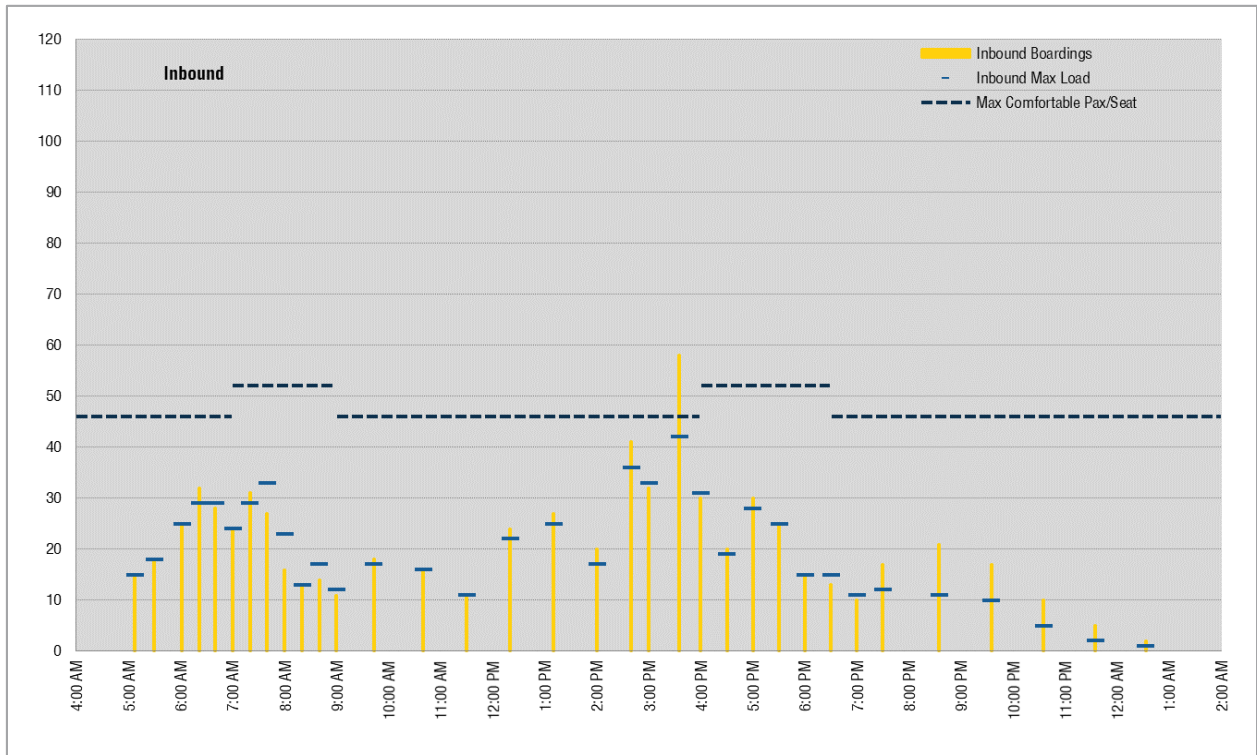
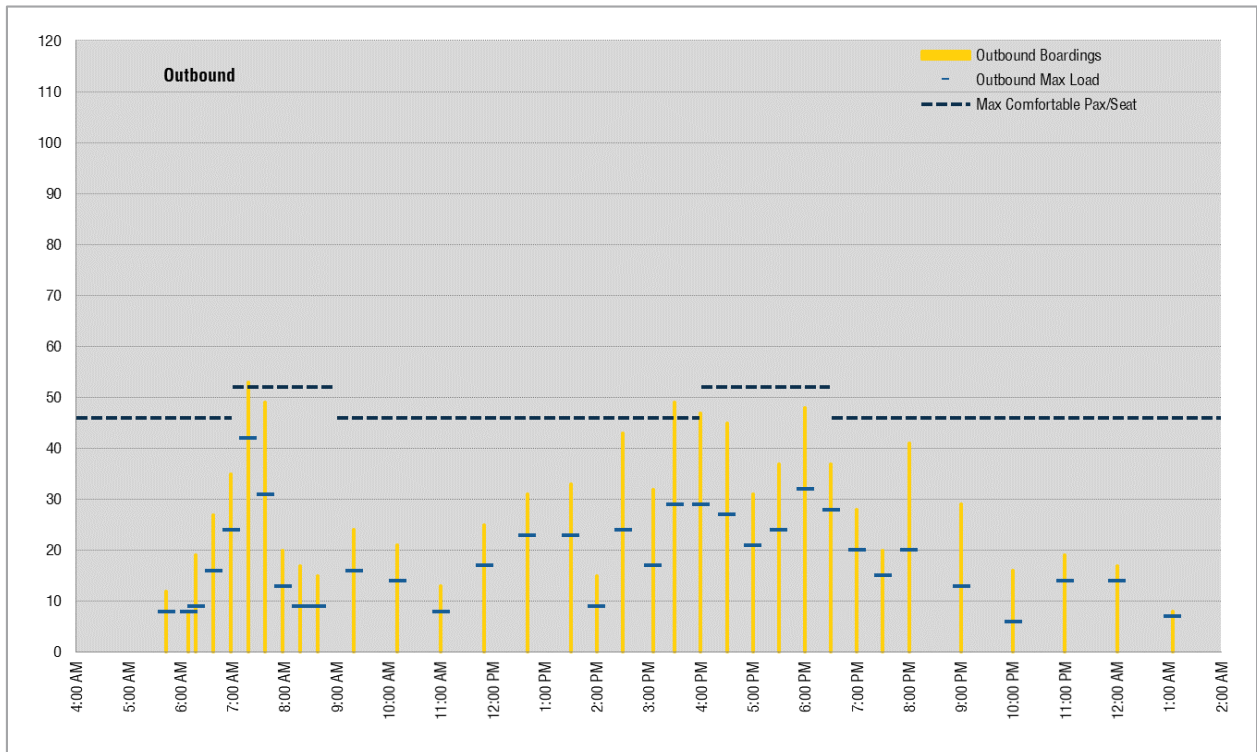


Figure 5 | Weekday Ridership by Trip: Outbound



- It then drops to 10 to 12 passengers through 10:00 PM and fewer than two passengers on the last trip at 12:33 AM.

On weekday outbound trips (see Figure 5):

- Trips carry fewer than 10 passengers through 6:30 AM.
- Ridership then steadily increases during the AM Peak to around 42 passengers per trip by the 7:18 AM outbound trip, before falling to nine riders per trip by the 8:38 AM outbound trip.
- Between 9:00 AM and 12:00 PM, ridership per trip generally ranges between 8 and 17 passengers per trip.
- Between 12:00 PM and 7:00 PM, most trips carry between 12 and 32 passengers. There is little defined ridership peak during the PM Peak.
- Ridership per trip remains moderate between 7:00 PM and 12:00 AM, with 14 to 20 passengers per trip. These numbers are relatively strong considering that service only operates every 60 minutes for most of this period.
- Ridership then declines to seven passengers per trip on the last trip at 1:04 AM.

On Saturdays, inbound ridership is moderate throughout the day, averaging 20 to 35 passengers per trip before 8:00 PM and fewer than 15 riders per trip between 8:00 PM and the last trip at 1:04 AM (see Figure 6). Outbound ridership is slightly higher, with 25 to 35 passengers per trip before 9:00 PM and 12 to 20 passengers per trip after 9:00 PM (see Figure 7).

On Sundays, inbound ridership varies from about 12 to 28 riders per trip throughout the day (see Figure 8). Outbound ridership is slightly higher (see Figure 9).

Figure 6 | Saturday Ridership by Trip: Inbound

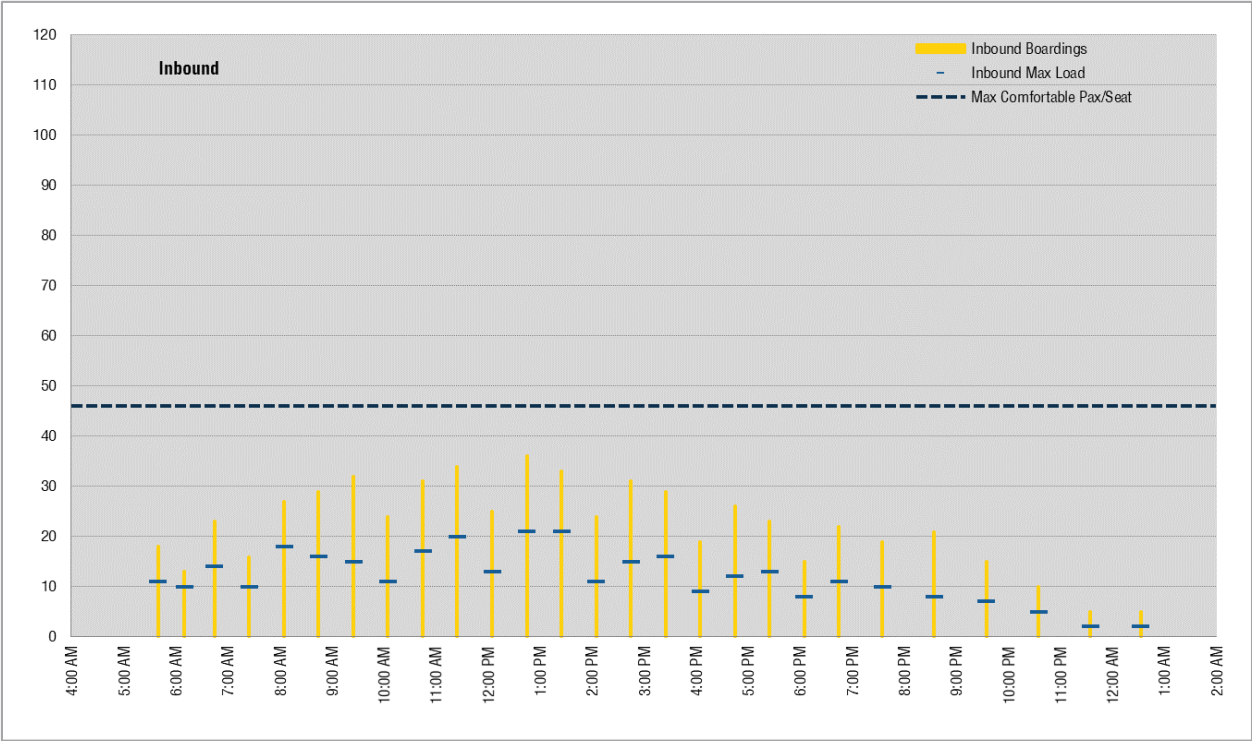


Figure 7 | Saturday Ridership by Trip: Outbound

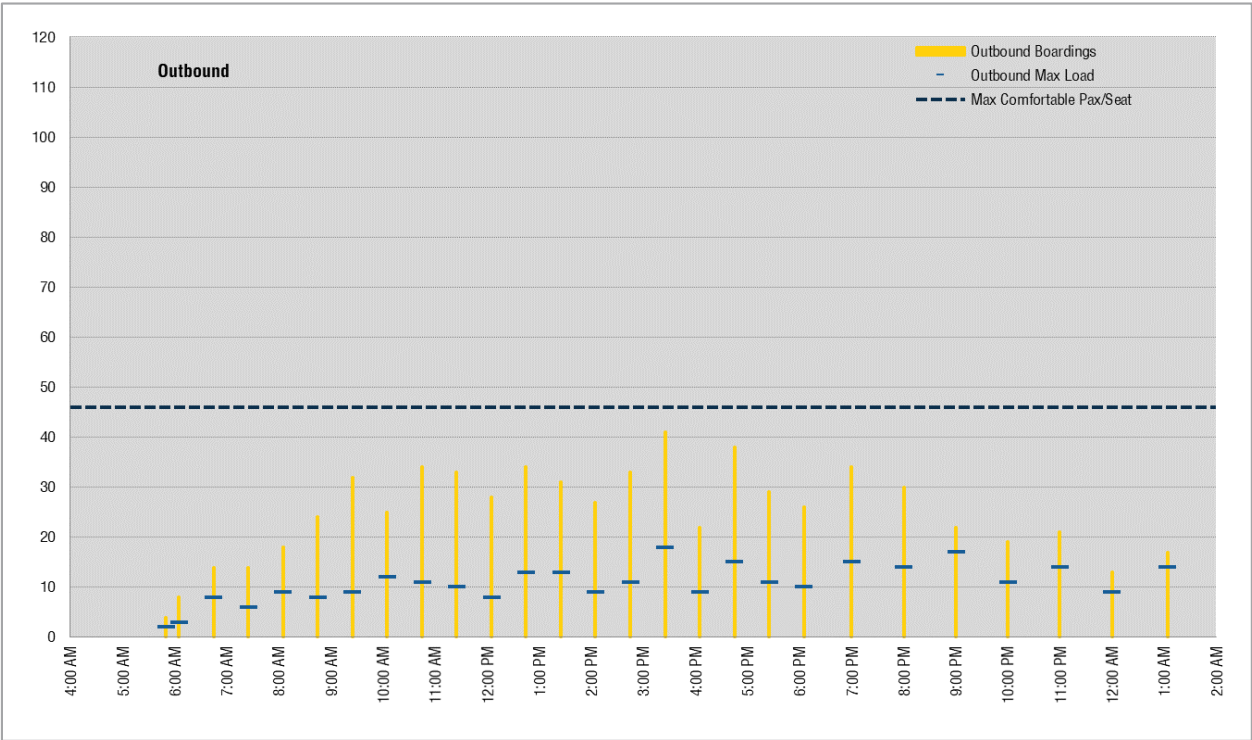


Figure 8 | Sunday Ridership by Trip: Inbound

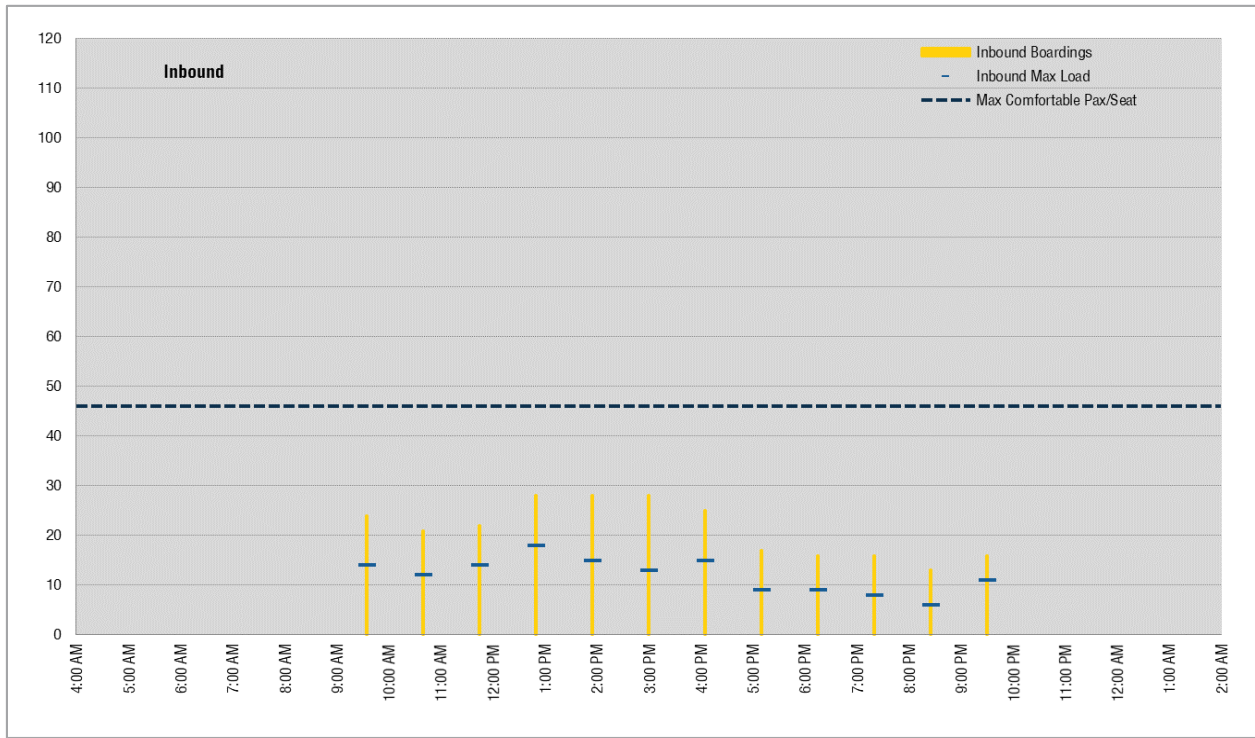
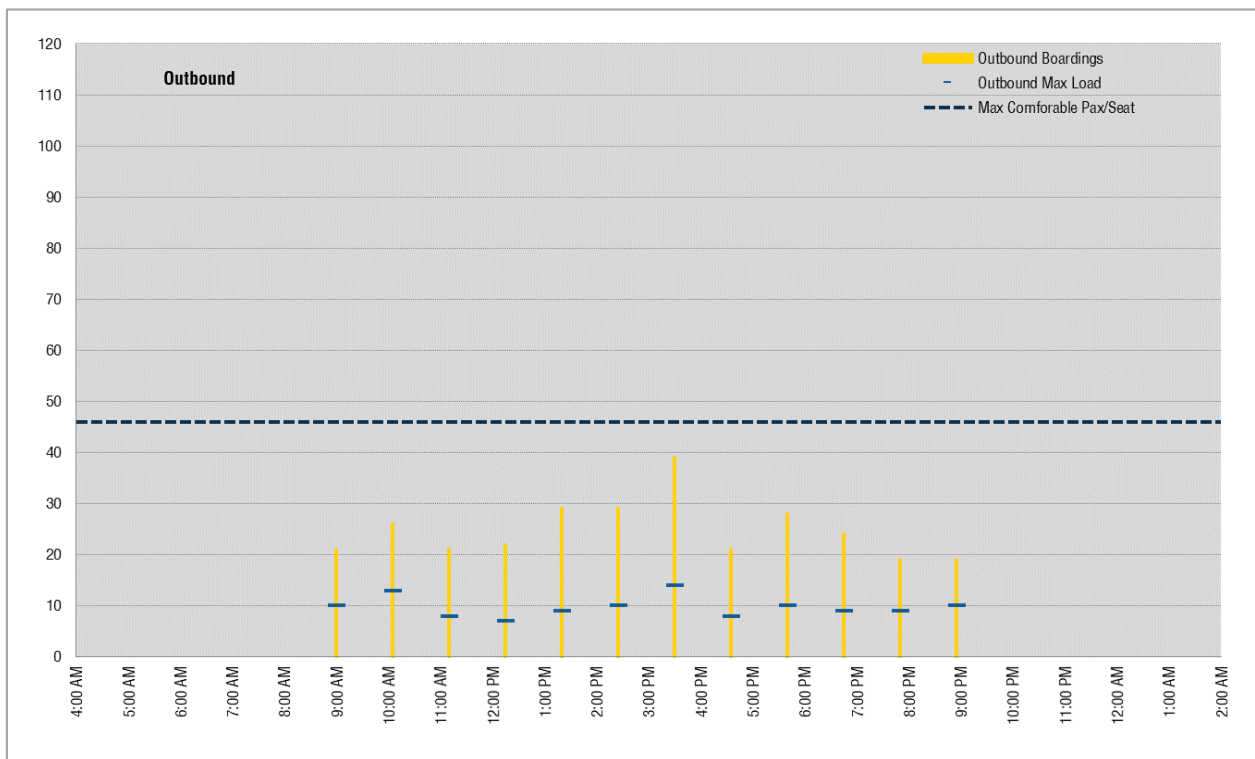


Figure 9 | Sunday Ridership per Trip: Outbound



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 24, 99% of weekday passenger minutes and 100% of Saturday passenger minutes are in comfortable conditions, both of which are well above the minimum standard (see Table 3). Data was not available for Sunday service.

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	99%	100%	-

Reliability and Speed

Reliability

Route 24's overall reliability is 65% on weekdays, 64% on Saturdays, and 70% on Sundays. The weekday and Saturday performance is below the MBTA minimum standard of 70% for Local routes, and Sunday performance is below the target of 75% (see Table 4).

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	65%	63%	65%	0.1%
Saturday	73%	64%	64%	-
Sunday	70%	66%	70%	-

Running Times

Route 24 runs four to six minutes ahead of schedule inbound and two to five minutes behind schedule outbound (see Figure 10 and Figure 11). On a round trip basis, Route 24 runs slightly behind schedule.

Figure 10 | Scheduled & Median Travel Time by Trip: Route 24 Inbound

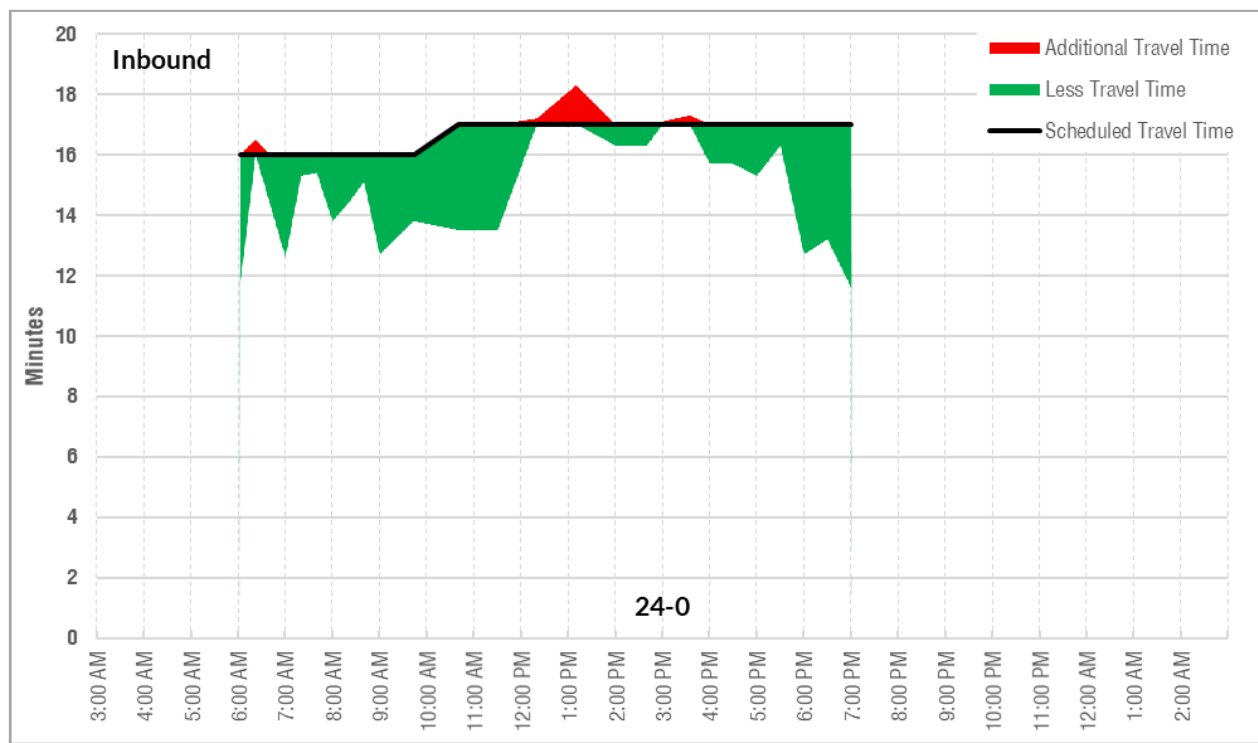
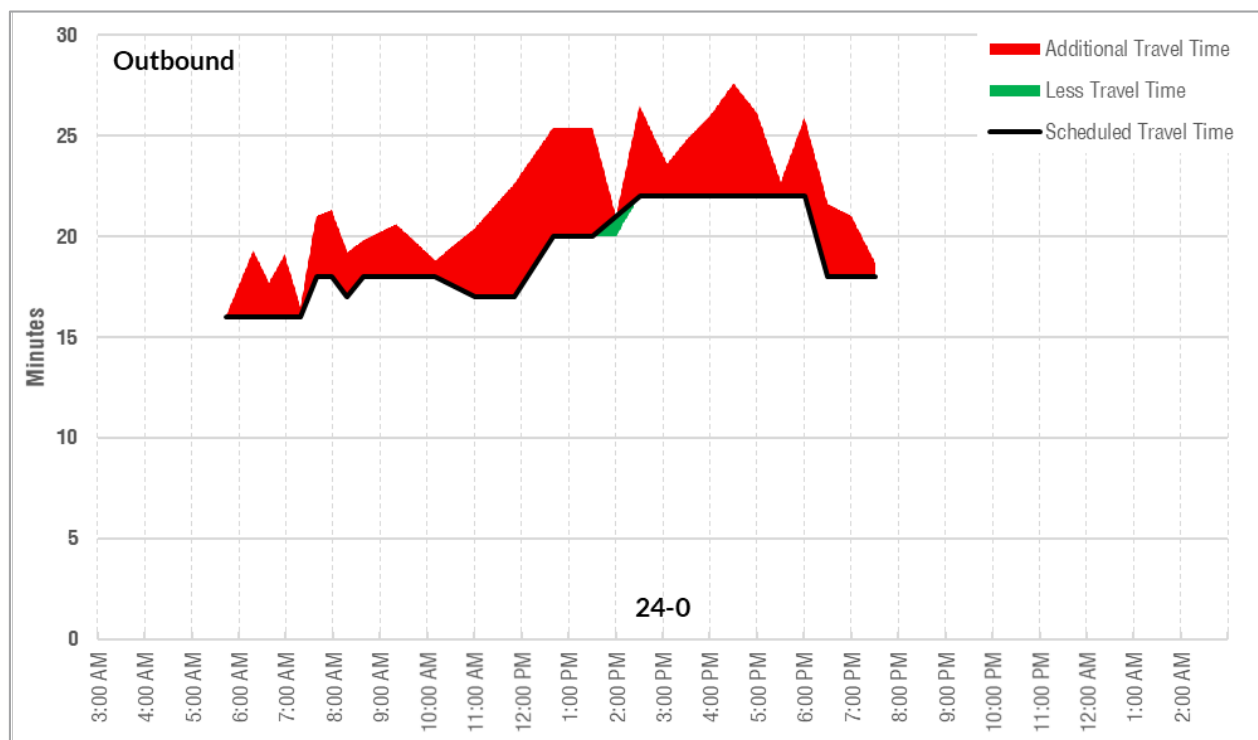


Figure 11 | Scheduled & Median Travel Time by Trip: Route 24 Outbound



Stop Spacing

Route 24 has an average of 7.7 stops per mile, which is greater than the four to seven stops per mile recommended for urban areas under MBTA guidelines. There are a number of places where stops are even closer together:

- On Truman Highway between Tyler Street and Fairmount Avenue, there are six inbound stops spaced an average of 470 feet apart.
- On Wakefield Avenue/Washington Street/Summit Street between Truman Highway and Williams Street, there are nine outbound stops spaced an average of 360 feet apart.
- On River Street between Wachusett Street and Mattakeeset Street, there are three inbound stops spaced an average of 320 feet apart.

Stop consolidation could make service faster and improve reliability.

Summary

Route 24 primarily provides service to the River Street corridor between Cleary Square and Mattapan Station. Its southern end also provides connections between Hyde Park's Fairmount Hill neighborhood and the rest of the MBTA system. Overall, the route performs fairly well. However, weaknesses include uncoordinated service with Route 33 Dedham Line-Mattapan Station, which also serves the River Street corridor, and the inconsistent combination of Route 24 and Route 27 Mattapan Station - Ashmont Station service.