

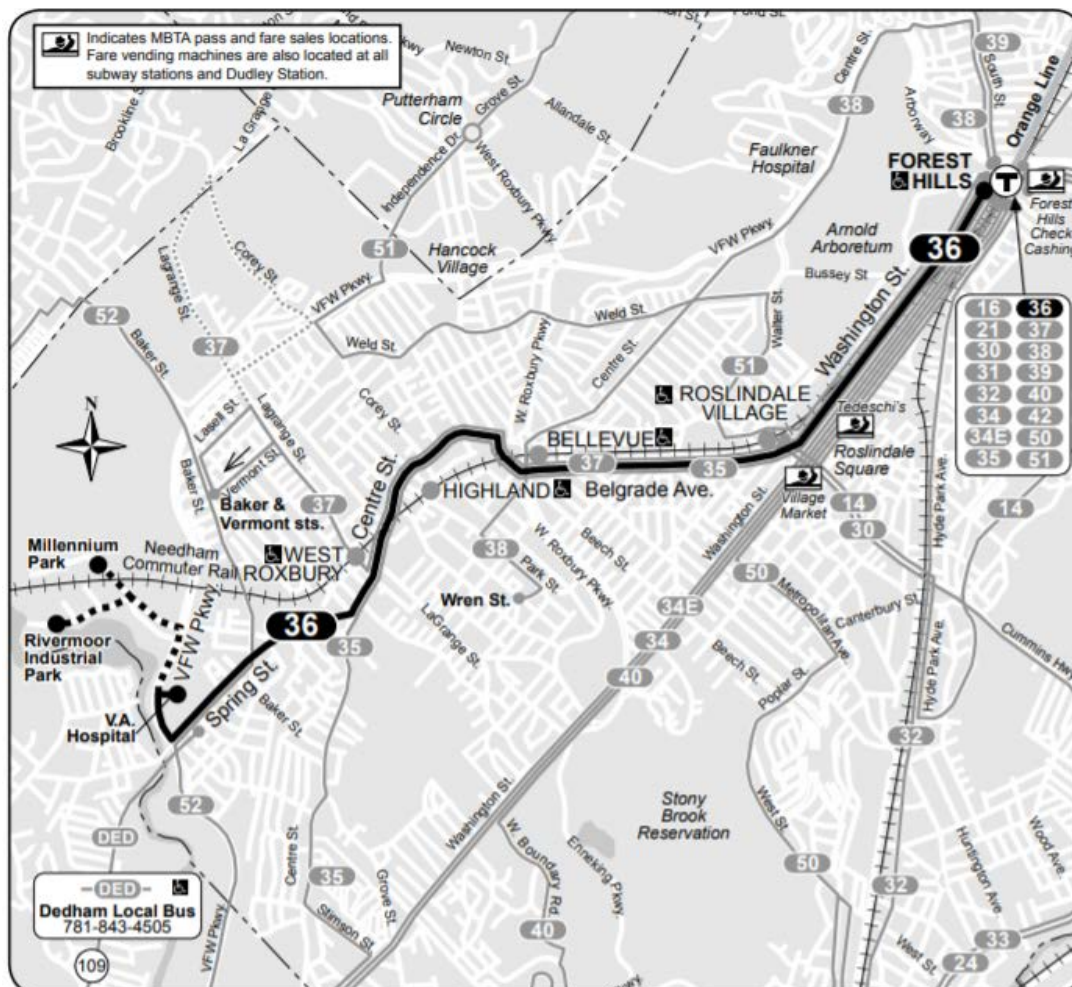
Route 36

Charles River Loop or VA Hospital - Forest Hills Station

Route Overview

Route 36 Charles River Loop or VA Hospital - Forest Hills Station is a Local route that operates between either the Charles River Loop or the V.A. Hospital in West Roxbury and Forest Hills Station via Spring Street, Centre Street, Belgrade Avenue, and Washington Street (see Figure 1). The route operates along the same alignment as Route 35 Dedham Mall/Stinson Street-Forest Hills Station and Route 37 Baker and Vermont Streets-Forest Hills Station between the intersection of Lagrange Street at Centre Street and Forest Hills Station. The three routes combine to provide frequent service between Roslindale's Centre Street/Belgrade Avenue corridor and Forest Hills Station.

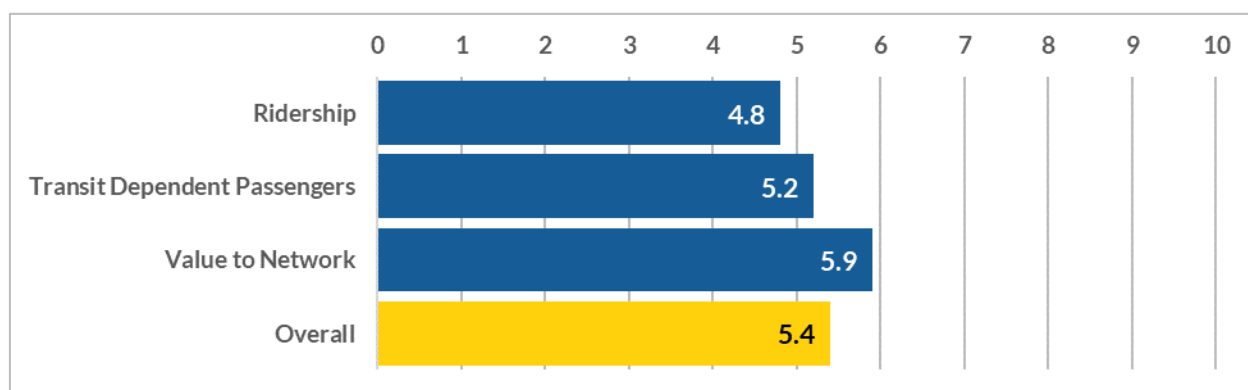
Figure 1 | Service Map



Network Importance

Route 36 is of moderate importance within the overall system (see Figure 2). On a scale of 0 to 10, the route rates 4.8 in terms of ridership, 5.2 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 5.4.

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



Service Overview

Schedule

Route 36 operates seven days per week (see Table 1). On weekdays, Route 36 operates between 4:37 AM and 1:30 AM:

- Every 15 to 25 minutes from the start of service until 6:00 AM.
- Every seven to 18 minutes during the AM Peak period, but predominantly every 10 to 12 minutes.
- Very irregularly (every 11 to 52 minutes) with no predominating pattern from 8:30 AM until 6:00 PM.
- Every 35 to 40 minutes after 6:00 PM until the end of service, but predominantly every 30 minutes.

On Saturdays, Route 36 operates from 4:37 AM to 1:28 AM, every 30 minutes from the start of service until 8:40 AM, every 35 minutes through the midday and until 7:30 PM, then every 25 to 35 minutes through the evening. On Sundays, service runs from 5:25 AM to 1:28 AM, every 60 to 70 minutes early in the morning until 8:30 AM and then every 30 minutes throughout the rest of the day.

Table 1 | Schedule Statistics

SERVICEDAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	4:37 AM to 1:30 AM			59/58
Sunrise	4:37 AM to 5:59 AM	20 - 23	21	4/5
Early AM	6:00 AM to 6:59 AM	11 - 15	10	4/6
AM Peak	7:00 AM to 8:59 AM	4 - 18	12	10/8
Midday Base	9:00 AM to 1:29 PM	16 - 49	38	7/8
Midday School	1:30 PM to 3:59 PM	1 - 49	19	8/7
PM Peak	4:00 PM to 6:29 PM	10 - 31	16	9/10
Evening	6:30 PM to 9:59 PM	5 - 30	23	9/7
Late Evening	10:00 PM to 11:59 PM	26 - 30	29	5/4
Night	12:00 AM to 1:30 AM	25 - 40	33	3/3
Saturday	4:37 AM to 1:28 AM	22 - 70	33	37/38
Sunday	5:25 AM to 1:28 AM	25 - 60	32	38/37

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

As described above, Route 35 and Route 37 operate along the same alignment as Route 36 between the intersection of Lagrange Street and Washington Street. However, all three routes are scheduled independently, and as such, schedules are not coordinated (see Table 2).

Table 2 | Existing Headways on Routes 35, 36, and 37

	RT 35 EXISTING HEADWAY	RT 36 EXISTING HEADWAY	RT 37 EXISTING HEADWAY
Monday-Friday			
Sunrise	20	20 - 23	17 - 17
Early AM	5 - 20	11 - 15	6 - 21
AM Peak	12 - 39	4 - 18	18 - 30
Midday Base	17 - 49	16 - 49	18 - 43
Midday School	5 - 42	1 - 49	17 - 40
PM Peak	12 - 17	10 - 31	9 - 24
Evening	12 - 60	5 - 30	9 - 26
Late Evening	No service	26 - 30	No service
Night	No service	25 - 40	No service
Saturday	30 - 60	22 - 70	25 - 60
Sunday	60 - 70	25 - 60	No service

Route 36 meets the MBTA's span of service and frequency standards on weekdays and Sundays. However, Saturday service fails to meet the MBTA's minimum frequency standard, when some trips operate 70 minutes apart versus the minimum standard of every 60 minutes.

Service Patterns

Route 36 operates with several different service patterns (see Table 3). On weekdays:

- The majority of trips operate at least between the Charles River Loop and Forest Hills Station.
- Pattern 36.1 operates on about one-third of Route 36’s daily weekday trips, operating south of the Charles River Loop to and from Millennium Park to provide service to West Roxbury Academy. There is no regular pattern of service to and from Millennium Park other than a concentration of trips in the middle of the day.
- Pattern 36.8 operates on about one-quarter of trips, traveling south of Charles River Loop to and from the V.A. Hospital. There is no clear pattern to this service.
- Pattern 36.6 operates on one AM peak outbound trip as a short turn that begins service in Roslindale Square and operates to Millennium Park. This is part of a school trip operating from Ashmont via Routes 27 and 30.
- Pattern 36.2 operates on one AM peak inbound trip and one midday outbound trip traveling between the Charles River Loop and Boston Latin Academy in Roxbury via Forest Hills Station.
- Pattern 36.9 operates on one AM peak inbound trip and one midday outbound trip traveling between the Charles River Loop and Boston Latin High School in the Longwood Medical Areas via Forest Hills Station.
- Pattern 36.5 operates three inbound and three outbound trips in the evening, operating between Forest Hills Station and Rivermoor Industrial Area. These trips operate as a deviation off of Millennium Park trips.

Table 3 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
INBOUND				59	37	38
36.0	Charles River Loop	Forest Hills Station	Predominant service pattern	22	17	23
36.1	Millennium Park	Forest Hills Station	Extended service; does not serve VA Hospital	21	-	-
36.2	Charles River Loop	Boston Latin School	AM school trip via Forest Hills	1	-	-
36.5	Rivermoor Industrial Park	Forest Hills Station	Extended service; does not serve VA Hospital	3	-	-
36.8	West Roxbury VA Hospital	Forest Hills Station	Extended service	11	20	15

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
36.9	Charles River Loop	Boston Latin Academy	AM school trip	1	-	-
OUTBOUND				59	38	37
36.0	Forest Hills Station	Charles River Loop	Predominant service pattern	21	18	22
36.1	Forest Hills Station	Millennium Park	Extended service; does not serve VA Hospital	22	-	-
36.2	Boston Latin School	Charles River Loop	PM school trip via Forest Hills	1	-	-
36.5	Forest Hills Station	Rivermoor Industrial Park	Extended service; does not serve VA Hospital	3	-	-
36.6	Belgrade Avenue at Robert Street	Millennium Park	AM school trip	1	-	-
36.8	Forest Hills Station	West Roxbury VA Hospital	Extended service	10	20	15
36.9	Boston Latin Academy	Charles River Loop	PM school trip	1	-	-

Weekend service is much simpler. On Saturdays, service until approximately 8:00 AM and after 7:00 PM operates Pattern 36.0 to and from the Charles River Loop and service between those times operates Pattern 36.8 to the V.A. Hospital. On Sundays, service until approximately 8:00 AM and after 9:00 PM operates to and from the Charles River Loop. Between those times, trips alternate between the Charles River Loop and the V.A. Hospital.

Ridership

Route 36 carries 3,000 daily riders on weekdays, 1,460 riders on Saturdays, and 1,480 riders Sundays. This is the highest ridership of the three routes that serve the Centre Street/Belgrade Avenue corridor (Route 35 serves 2,160 passengers per weekday and Route 37 serves 1,340). The differences in ridership generally reflect differences in service levels, as most riders can chose interchangeably between the three routes.

Note that Sunday ridership is higher than Saturday ridership. This is because Route 37 does not operate on Sundays and so Sunday corridor ridership is split between two routes instead of three.

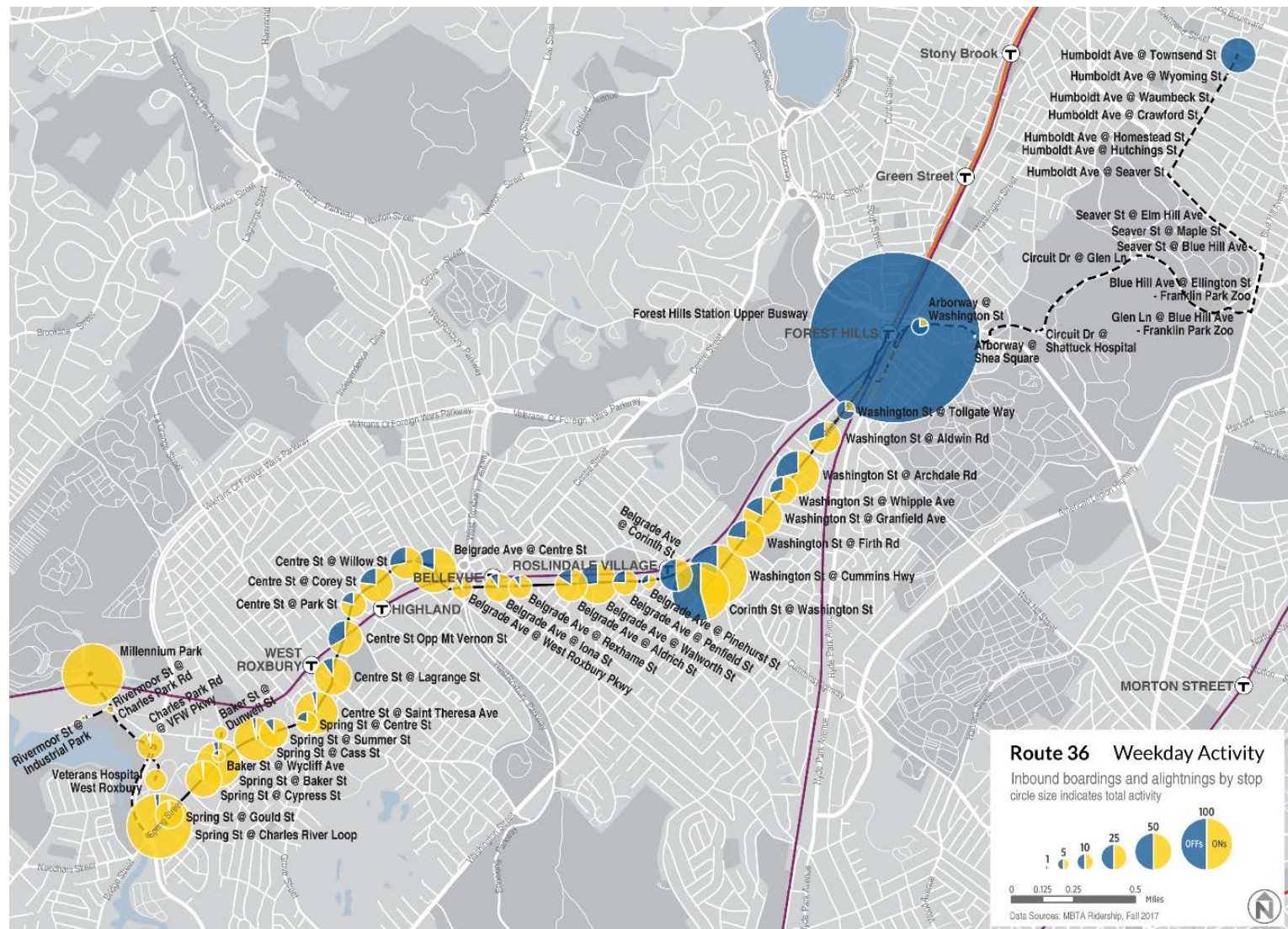
Ridership by Stop

Most riders use Route 36 to travel to and from Forest Hills Station. On weekday inbound trips (see Figure 3):

- Only one passenger boards the three evening inbound trips from Rivermoor Industrial Park.
- 170 passengers board on the 21 trips serving Millennium Park and the next stop.
- 20 passengers board the 11 trips that serve the V.A. Hospital (although there are 60 outbound alightings).
- 160 passengers board at the Charles River Loop.
- 430 passengers board and 20 alight at the nine stops along Spring Street and Baker Street.
- 230 passengers board and 50 alight at the six stops along Centre Street. Route 35 also serves all of these stops and Route 37 serves five of them.
- 220 passengers board and 50 alight at the eight stops along Belgrade Avenue before Roslindale Square.
- 80 passengers board and 90 alight at the two stops in Roslindale Square.
- 310 passengers board and 100 alight at the six stops along Washington Street. This segment is served by eight other routes traveling to Forest Hills Station.
- 1,090 passengers, or 75% of all inbound riders, alight at Forest Hills Station.

Outbound patterns are generally the reverse of inbound patterns.

Figure 3 | Weekday Inbound Ridership by Stop Map



Ridership by Trip

Weekday inbound ridership is bi-directional, with two distinct ridership peaks during the day in both directions. On inbound trips (see Figure 4)

- Ridership starts high, and from 5:00 AM until 7:30 AM, most trips carry 30 to 40 passengers. Three trips exceed 40 riders.
- Between 8:30 AM and 12:00 PM, ridership falls to 20 to 30 passengers per trip.
- Trips from 12:00 PM to 1:30 PM carry close to 40 passengers.
- There is a PM inbound peak from 1:50 PM to 3:30 PM, when some trips exceed 40 passengers.
- Inbound ridership declines significantly in the evening, with ridership generally below 20 passengers per trip after 4:00 PM and fewer than 10 passengers after 11:00 PM.

On weekday outbound trips (see Figure 5):

- Morning ridership peaks from 6:30 AM to 7:30 AM with most trips carrying between 30 and 40 passengers.
- From 8:30 AM to 1 PM, trips carry from 20 to over 30 passengers.
- The highest ridership outbound trip is at 1:35 PM with 56 passengers.
- A slight afternoon peak occurs from approximately 4:30 PM to 6:00 PM, when trips carry between 30 to over 40 passengers.
- Through the evening, most trips carry between 25 and 35 riders. The last three trips of the evening carry fewer than 15 riders; the last trip at 1:10 AM has fewer than 10.

On Saturdays, inbound ridership is around 20 riders per trip in the morning and then increases in the midday (see Figure 6). From 12:00 PM to 3:00 PM, most trips carry between 30 and 40 riders, and ridership peaks at 40 riders around 1:30 PM. Ridership falls significantly after 5:00 PM, when most trips carry between 10 and 20 riders. Outbound ridership is generally steady throughout the day (see Figure 7). Most trips carry between 20 and 30 riders, with a small dip from 6:00 PM to 8:00 PM to 15 to 18 riders per trip. The highest ridership outbound trip is at 8:35 PM with 38 riders. Through the rest of the evening, most trips carry between 20 and 25 riders until midnight, then ridership declines through the end of service.

On Sundays, ridership is moderate throughout the day (see Figure 8 and Figure 9). Inbound ridership is highest during the morning and reaches 42 passengers around 10:00 AM, although higher ridership trips generally alternate during the day with low ridership trips. Outbound ridership is highest later in the afternoon and peaks at 42 passengers at 4:30 PM. Ridership per trip does not exceed 20 passengers after 8:00 PM, and falls significantly after 10:00 PM through the end of service.

Figure 4 | Weekday Ridership by Trip: Inbound

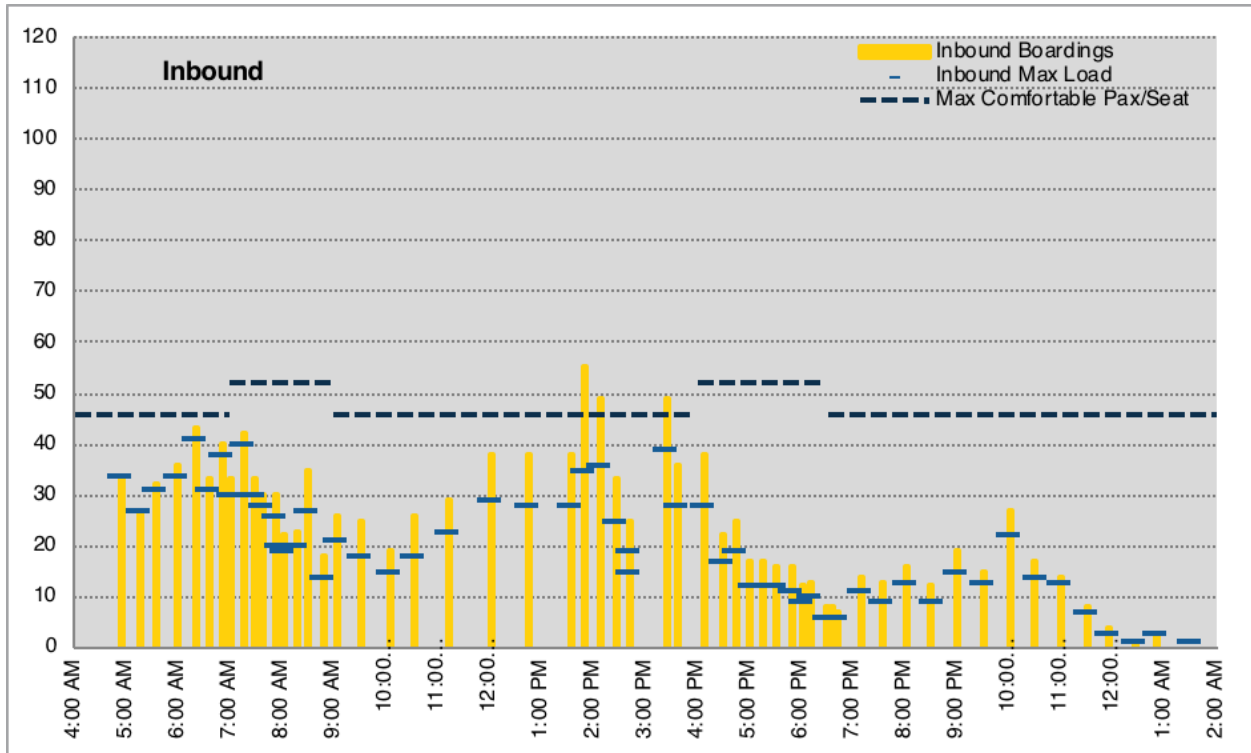


Figure 5 | Weekday Ridership by Trip: Outbound

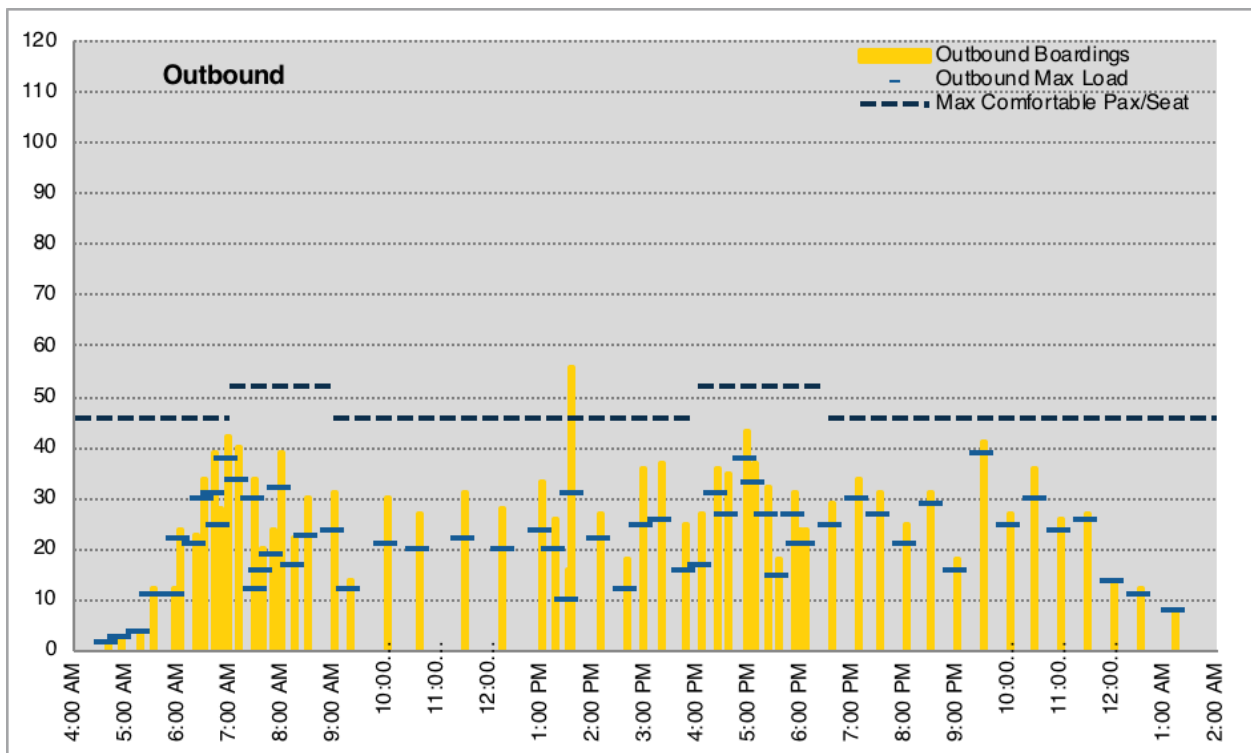


Figure 6 | Saturday Ridership by Trip: Inbound

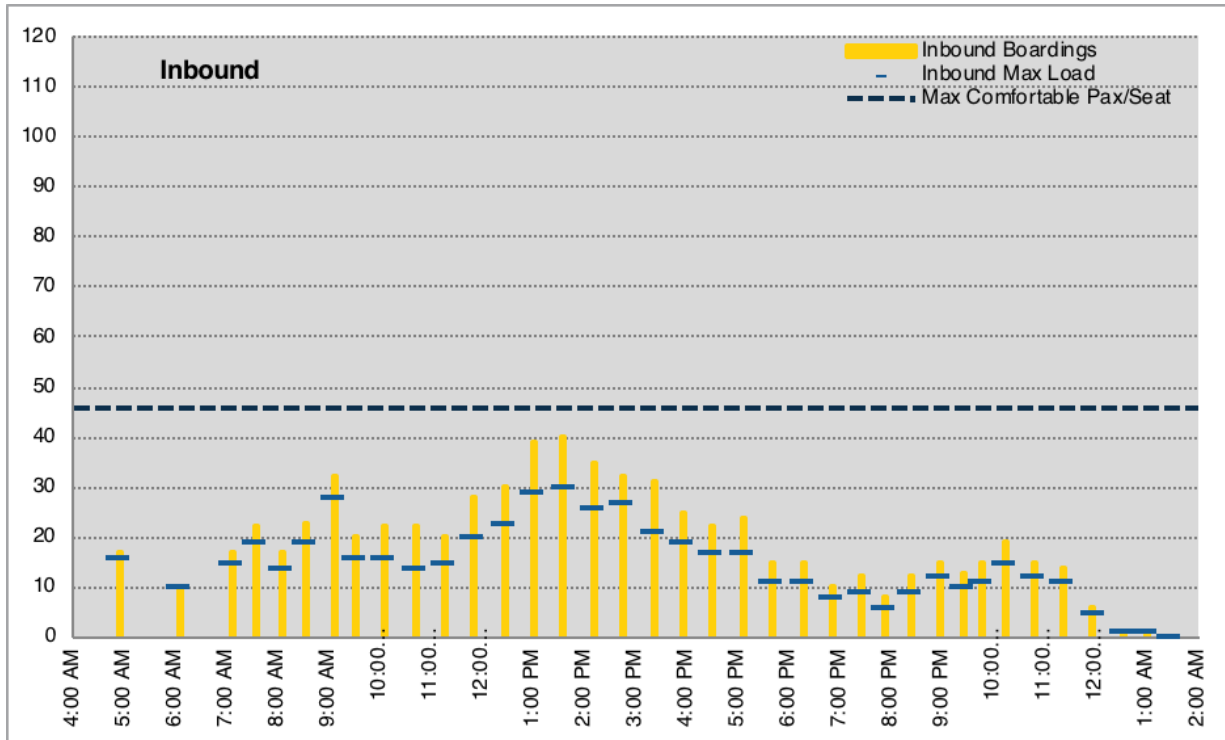


Figure 7 | Saturday Ridership by Trip: Outbound

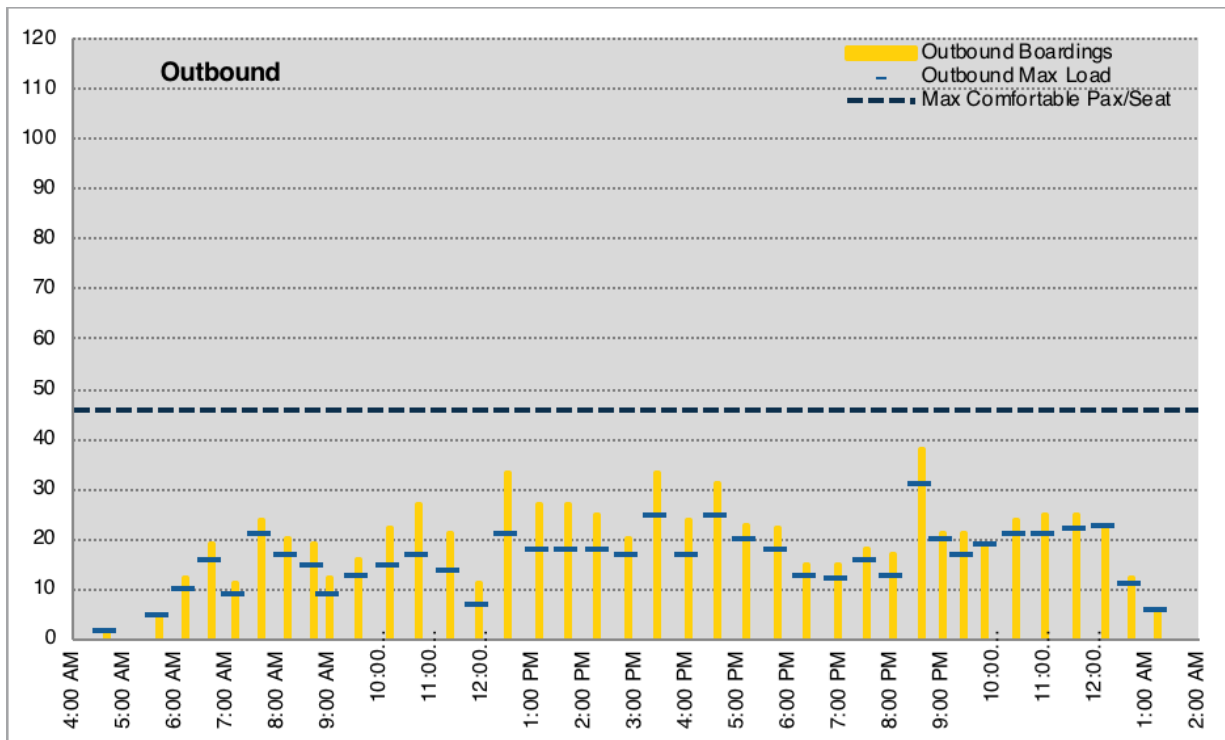


Figure 8 | Sunday Ridership by Trip: Inbound

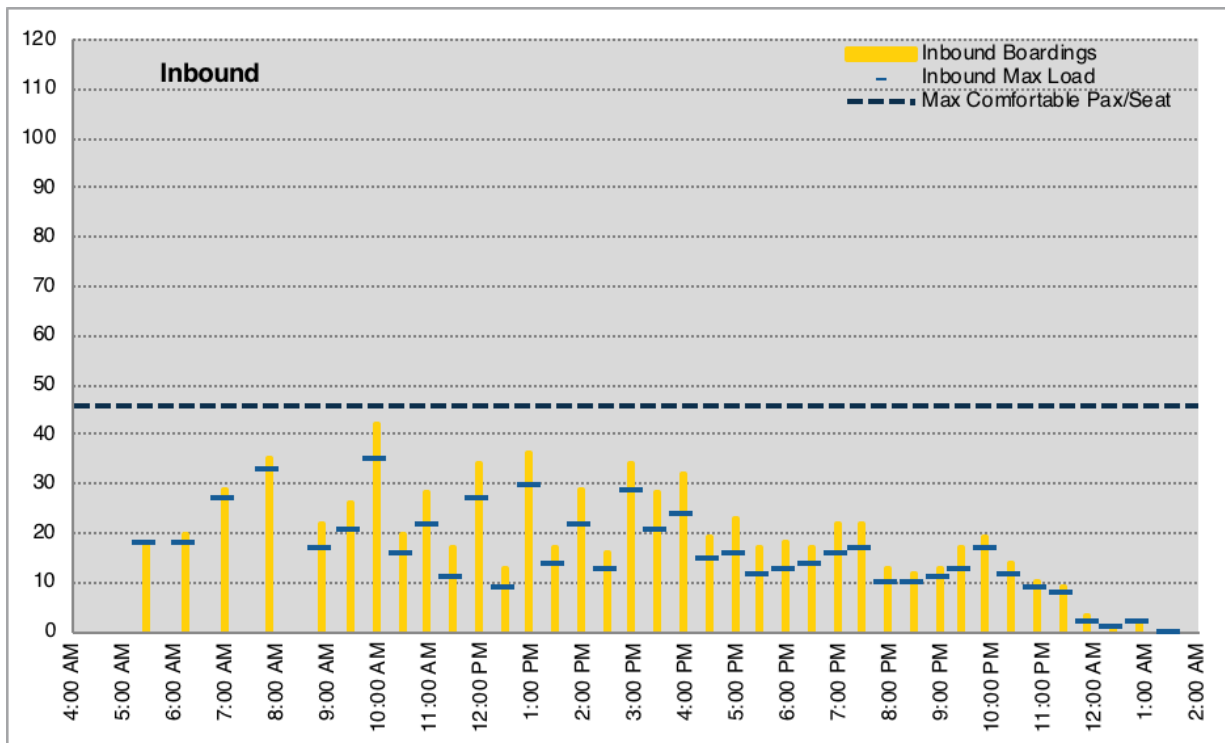
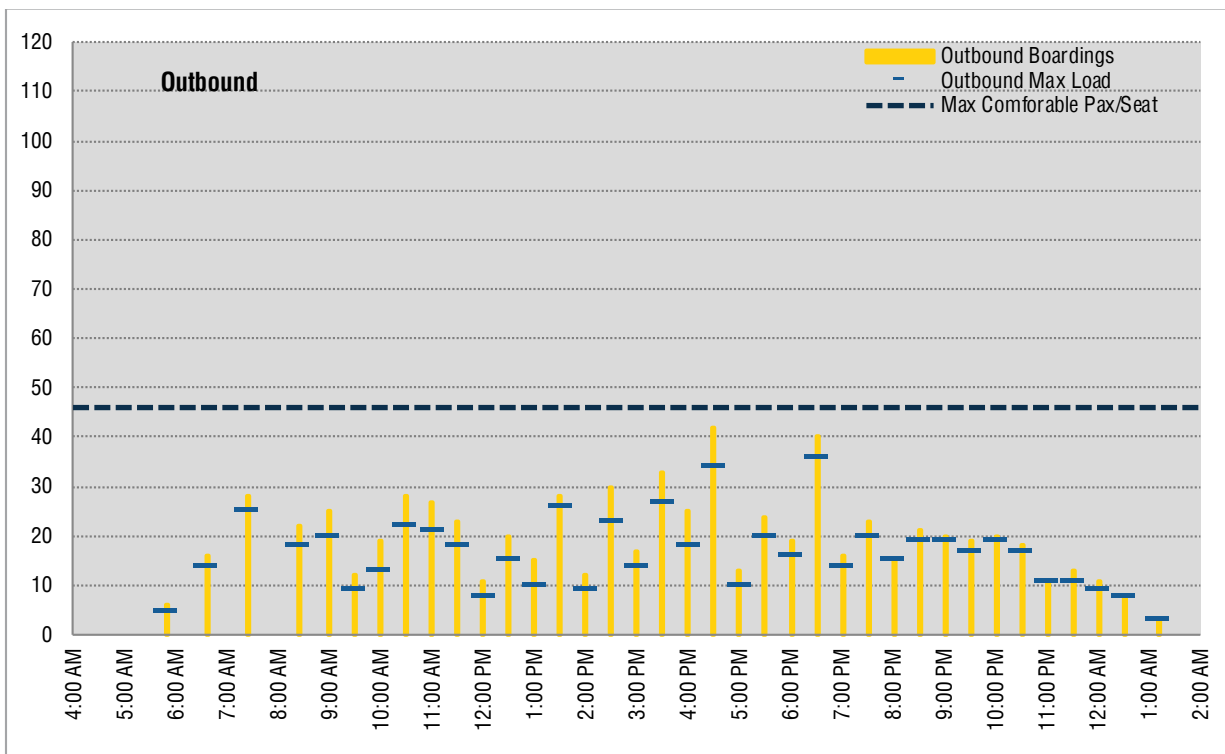


Figure 9 | Sunday Ridership by Trip: Outbound



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 weekdays, 95.5% of passenger minutes are in comfortable conditions, which is just below the target of 96% (see Table 4). On weekends, nearly all minutes of travel are in comfortable conditions.

Table 4 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	95.5%	99.8%	99.9%

Reliability and Speed

Reliability

Route 36's weekday overall on-time performance is poor at only 60%, which is well below the minimum standard of 70%. Saturday and Sunday on-time performance, at 72% and 70%, meets the minimum standard, but is below the target standard of 75% (see Table 5).

Table 5 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	60%	62%	60%	0.3%
Saturday	72%	72%	72%	
Sunday	70%	69%	70%	

Running Times

Poor on-time performance is due in large part to actual running times that regularly exceed scheduled running times (see Figure 10 and Figure 11). On inbound service, this is most significant during early morning and AM peak periods, when trips operate five to 10 minutes longer than scheduled, and in the evening, when trips generally operate two to three minutes behind schedule. Route 36 trips operate generally on-time or early during PM peak and late-night periods. Outbound service consistently runs with longer travel

times throughout the day, with the most significant issues during the AM peak, the midday, and PM peak, when trips operate five to seven minutes longer than scheduled.

Figure 10 | Scheduled & Median Travel Time by Trip: Route 36 Inbound

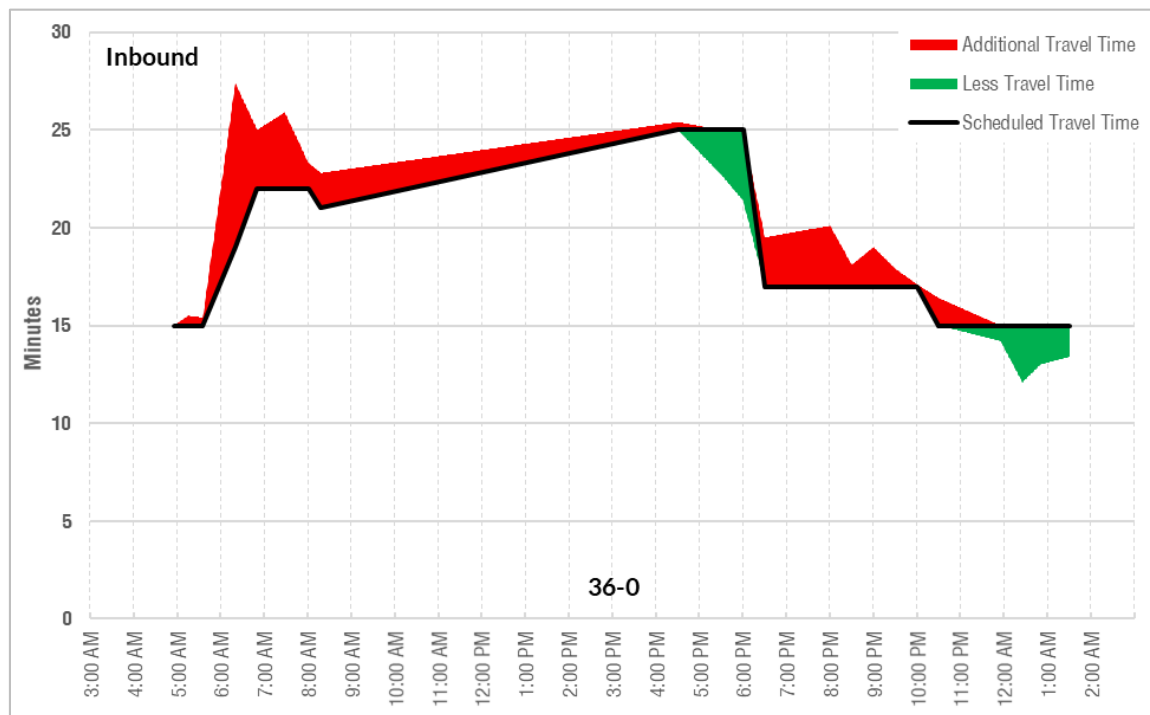
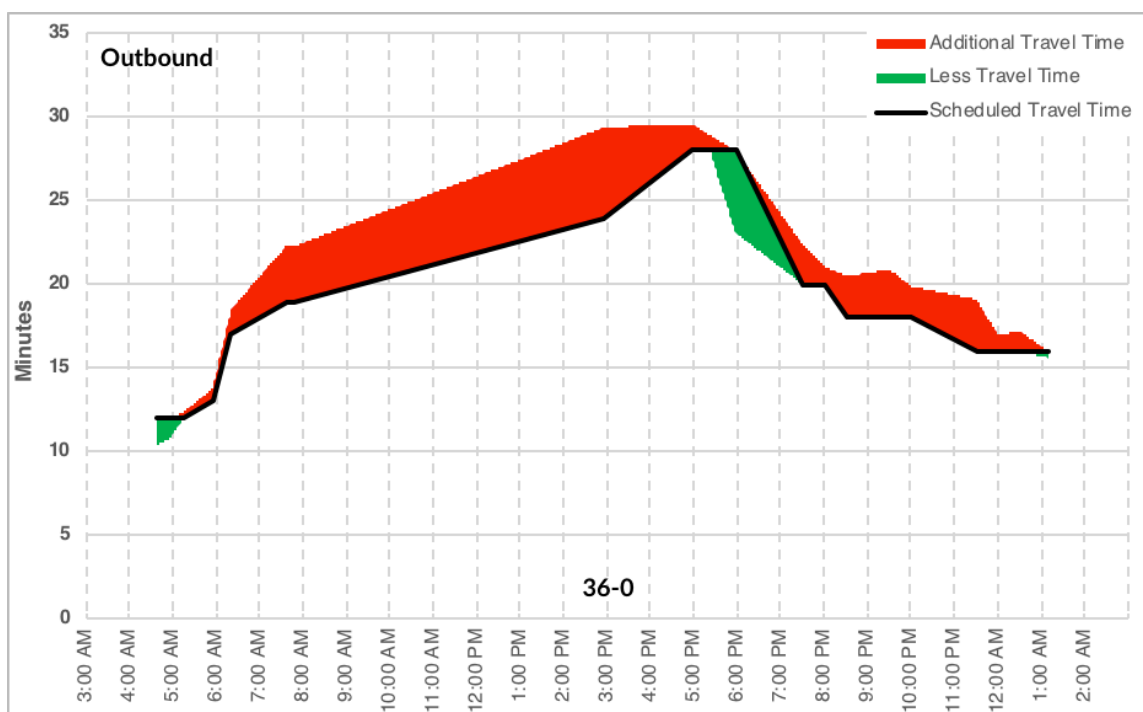


Figure 11 | Scheduled & Median Travel Time by Trip: Route 36 Outbound



Stop Spacing

Route 36 has approximately eight stops per mile, which is more than the four to seven stops per mile specified by the MBTA's bus stop guidelines. The consolidation of stops would speed service and improve on-time performance by reducing running time variability.

Summary

Route 36, along with Route 35 Dedham Mall-Forest Hills Station and Route 37 Baker and Vermont Streets - Forest Hills Station, is one of three routes that serve Roslindale's Centre Street/Belgrade Avenue corridor. Together, the three routes carry a total of 6,500 passengers per weekday. The large majority of riders - 5,480, or 84% - ride entirely within the common segments of the three routes along Centre Street, Belgrade Avenue, and Washington Street. The route is important largely in terms of the service it provides in the Centre Street/Belgrade Avenue corridor, and to a lesser extent for its outer end service.