

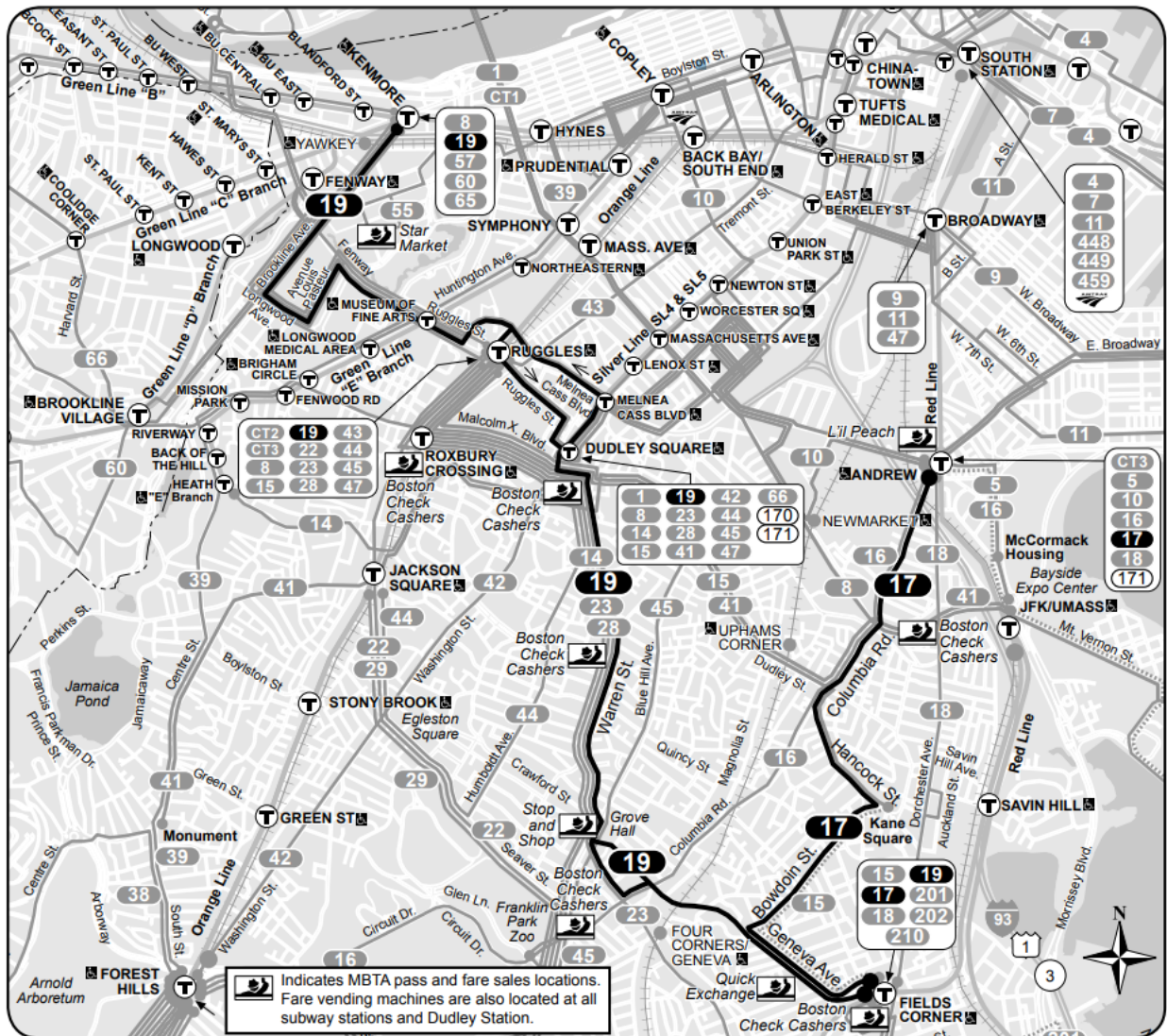
# Route 17

## Fields Corner – Andrew Station

### Route Overview

Route 17 Fields Corner – Andrew Station is a Local route that operates between Fields Corner Station and Andrew Station along Geneva Avenue, Bowdoin Street, Hancock Street, Columbia Road, and Boston Street (see Figure 1).

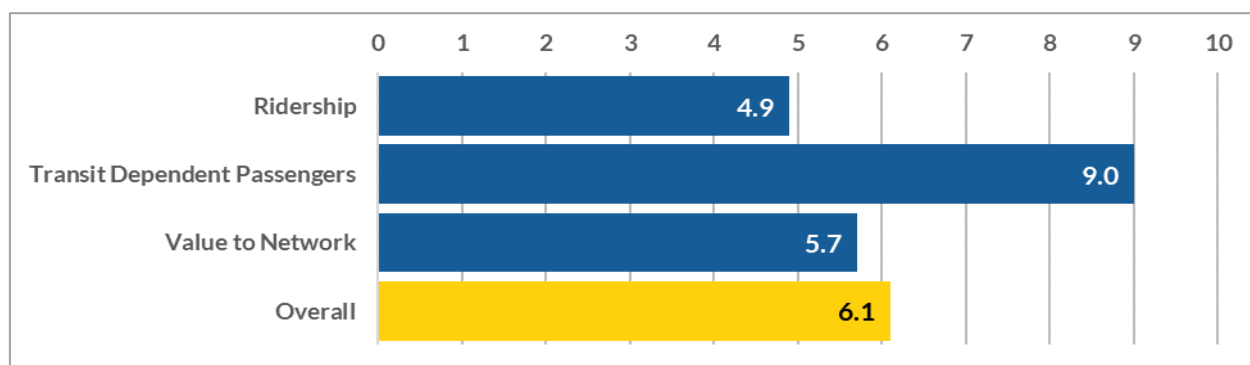
Figure 1 | Service Map



## Network Importance

Route 17 is an important route within the MBTA bus network (see Figure 2). On a relative scale of 0 to 10, the route rates 4.9 in terms of ridership, 9.0 in terms of transit dependent ridership, and 5.7 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 6.1.

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



## Service Overview

### Schedule

Route 17 generally provides fairly frequent service on weekdays during the day, and infrequent service on weekday evenings and weekends (see Table 1).

Table 1 | Schedule Statistics

SERVICEDAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
<b>Monday-Friday</b>	<b>4:55 AM to 10:14 PM</b>			<b>46/49</b>
Sunrise	4:55 AM to 5:59 AM	18	18	3/4
Early AM	6:00 AM to 6:59 AM	14 - 18	15	4/4
AM Peak	7:00 AM to 8:59 AM	14 - 20	16	7/7
Midday Base	9:00 AM to 1:29 PM	20 - 25	25	11/11
Midday School	1:30 PM to 3:59 PM	13 - 25	17	9/10
PM Peak	4:00 PM to 6:29 PM	17 - 50	23	7/9
Evening	6:30 PM to 9:59 PM	45 - 50	48	4/4
Late Evening	10:00 PM to 10:14 PM	45	-	1/0
Night	-	-	-	-
<b>Saturday</b>	<b>5:04 AM to 10:04 PM</b>	<b>20 - 40</b>	<b>26</b>	<b>39/38</b>
<b>Sunday</b>	<b>8:50 AM to 7:25 PM</b>	<b>40</b>	<b>40</b>	<b>16/16</b>

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

In more detail, on weekdays, service operates from 4:55 AM to 10:14 PM:

- Every 18 to 22 minutes from 5:09 AM until 8:35 AM, but predominantly every 19 minutes. This excludes the one school trip at 6:14 AM.
- Every 25 to 30 minutes from 8:35 AM until 2:05 PM, but mostly every 30 minutes.
- Every 15 to 19 minutes from 2:05 PM until 6:00 PM, but mostly every 18 minutes.
- Every 45 to 50 minutes until 10:00 PM, but mostly every 45 minutes.

Route 17 operates with a similar span of service on Saturdays:

- Before 8:30 AM, service operates every 30 to 35 minute frequencies, with longer headways before 7:20 AM.
- Between 8:10 AM and 9:10 AM, service operates every 20 minutes.
- From 9:35 AM until 7:50 PM, it generally operates every 25 minutes.
- After 7:50 PM, service operates every 40 minutes until the last trip at 9:50 PM.

On Sundays, the route operates from 8:50 AM to 7:25 PM with service running every 40 minutes all day.

Route 17 meets the minimum span of service and frequency standards on all days. Since the completion of this document, the MBTA has made minor adjustments to Route 17's schedule.

## Service Patterns

All service operates with a single inbound and outbound service pattern (See Table 2).

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
<b>INBOUND</b>				<b>46</b>	<b>39</b>	<b>16</b>
17.0	Fields Corner Station	Andrew Station	-	46	39	16
<b>OUTBOUND</b>				<b>49</b>	<b>38</b>	<b>16</b>
17.0	Andrew Station	Fields Corner Station	-	49	38	16

## Ridership

Route 17 carries 3,090 passengers per weekday, 1,440 passengers on Saturdays, and 570 passengers on Sundays.

### Ridership by Stop

Most Route 17 passengers ride to and from Fields Corner Station and Andrew Station. On weekday inbound trips (see Figure 3):

- 390 passengers, or 25% of all inbound riders, board at Fields Corner Station.
- 230 passengers board and 70 alight at the six stops on Geneva Avenue.
- 480 passengers board and 280 alight at the eight stops on Bowdoin Avenue.
- 160 passengers board and 140 alight at the three stops on Hancock Street.
- 280 passengers board and 220 alight at the four stops on Columbia Road.
- Only 40 passengers board and 90 alight at the four stops on Boston Street.
- 810 passengers, or 51% of all inbound riders, alight at Andrew Station.

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

### Ridership by Trip

On weekdays, Route 17 averages 33 boardings per trip. On inbound trips (See Figure 4):

- The first two trips at 5:09 AM and 5:30 AM carry 26 and 29 passengers.
- Ridership then increases through 7:00 AM, with several trips serving over 50 passengers. The 6:24 AM trip has a maximum load of 46 passengers, which matches the loading standard.
- From 6:52 AM until 8:02 AM, trips carry between 35 and 45 boardings.
- After 8:02 AM and before 2:42 PM, ridership per trip is consistently between 28 and 35 passengers.
- Between 2:58 PM and 6:50 PM, each trip but the 5:35 PM trip again attracts at least 35 boardings. The highest ridership trip is at 3:49 PM with 48 total boardings.
- The four remaining trips carry fewer than 30 passengers.

On outbound trips (see Figure 5):

- Trips prior to 6:07 AM attract 20 boardings or fewer per trip.
- Ridership per trip is higher between 6:07 AM and 8:47 AM, peaking at 7:50 AM with 37 boardings.
- Between 9:06 AM and 1:35 PM, ridership per trip increases to 32 boardings.
- Trips between 1:50 PM and 2:07 PM attract fewer riders, with two trips carrying 20 passengers.
- From 2:24 PM until 7:15 PM, all trips carry at least 35 passengers, and up to 58 on the 3:32 PM trip.
- The three more trips through the end of service attract no more than 22 boardings.

Figure 3 | Weekday Inbound Ridership by Stop Map



Figure 4 | Weekday Ridership by Trip: Inbound

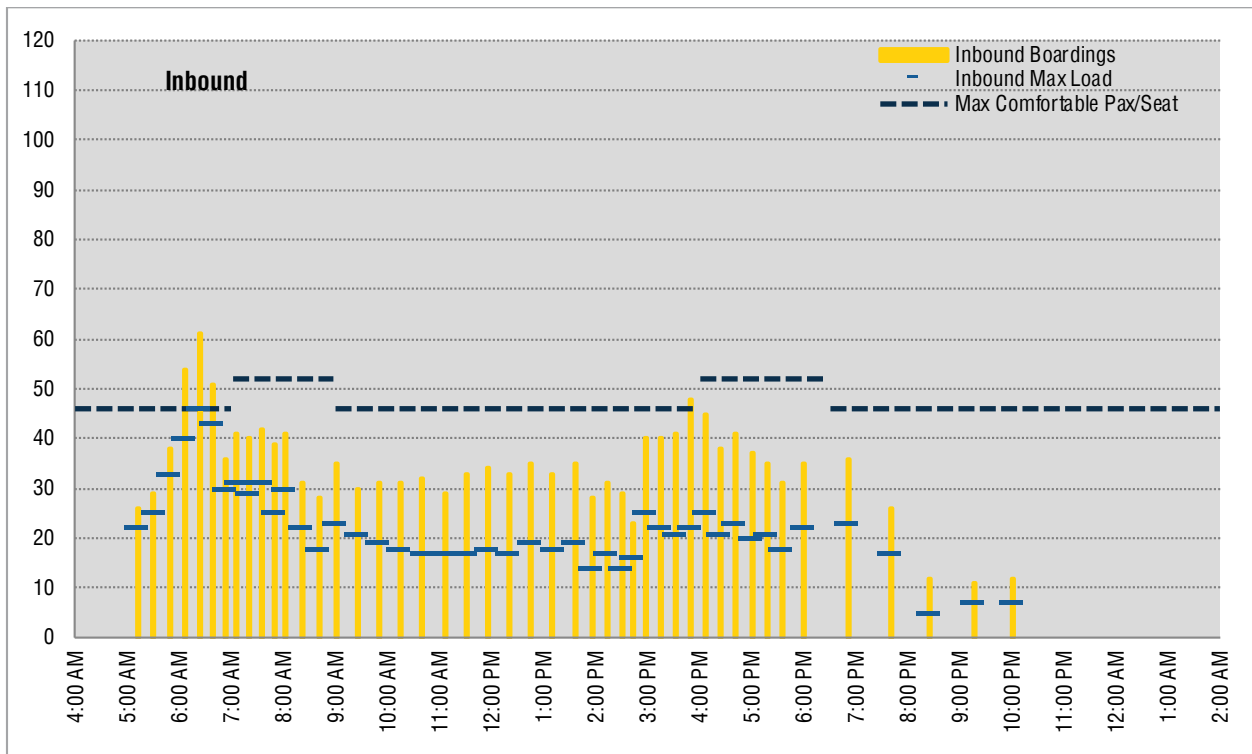
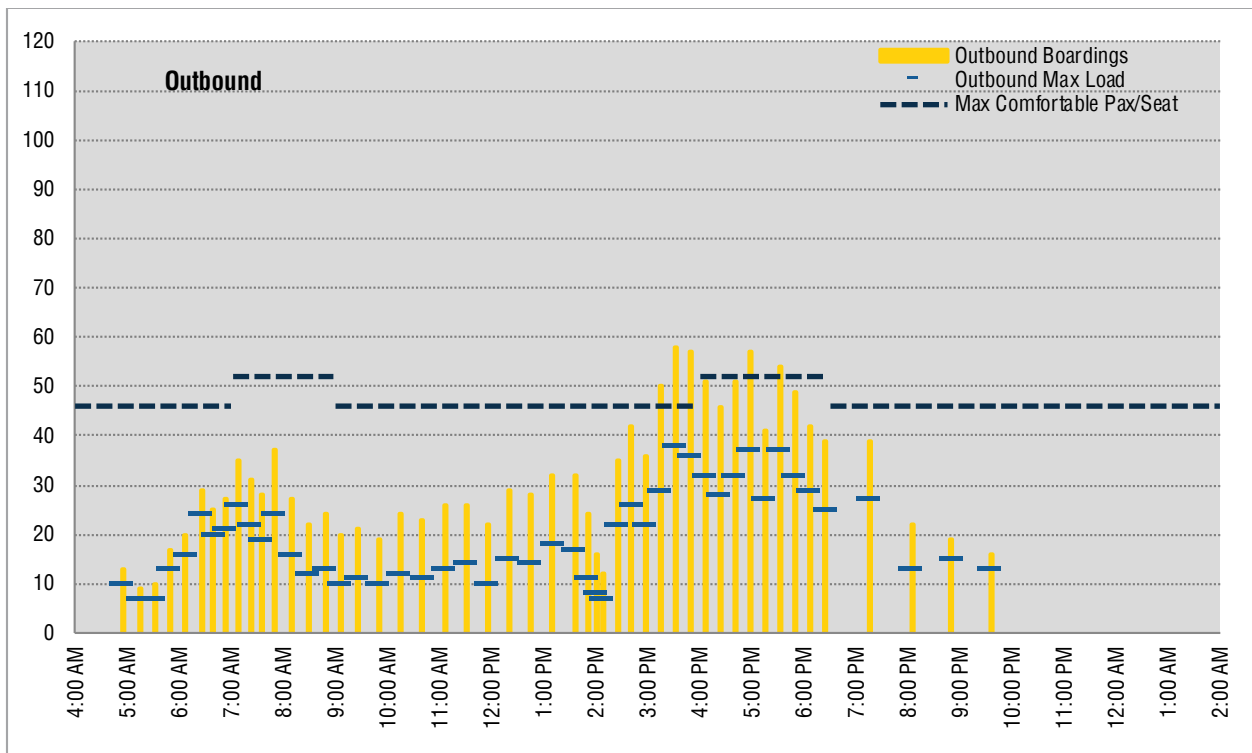


Figure 5 | Weekday Ridership by Trip: Outbound



Saturday service averages 19 boardings per trip. Inbound ridership is highest on the 12:55 PM trip, with 32 passengers (see Figure 6). Outbound ridership grows gradually to 33 passengers on the 4:40 PM trip (see Figure 7).

Figure 6 | Saturday Ridership by Trip: Inbound

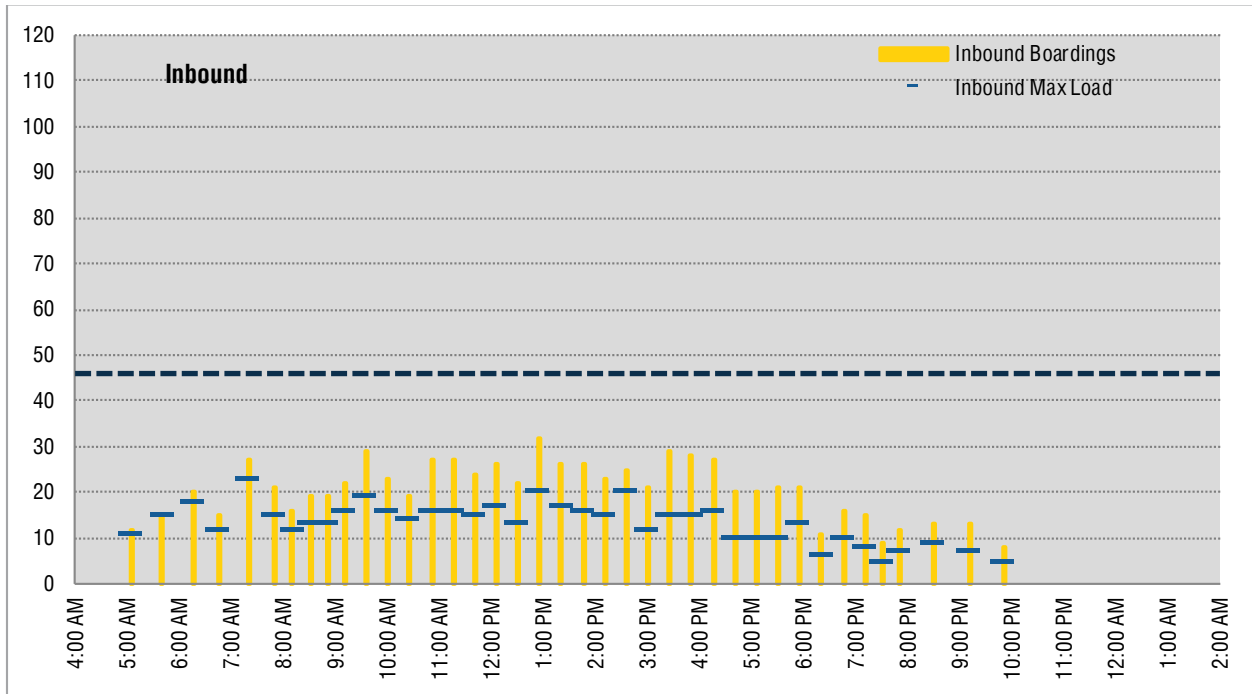
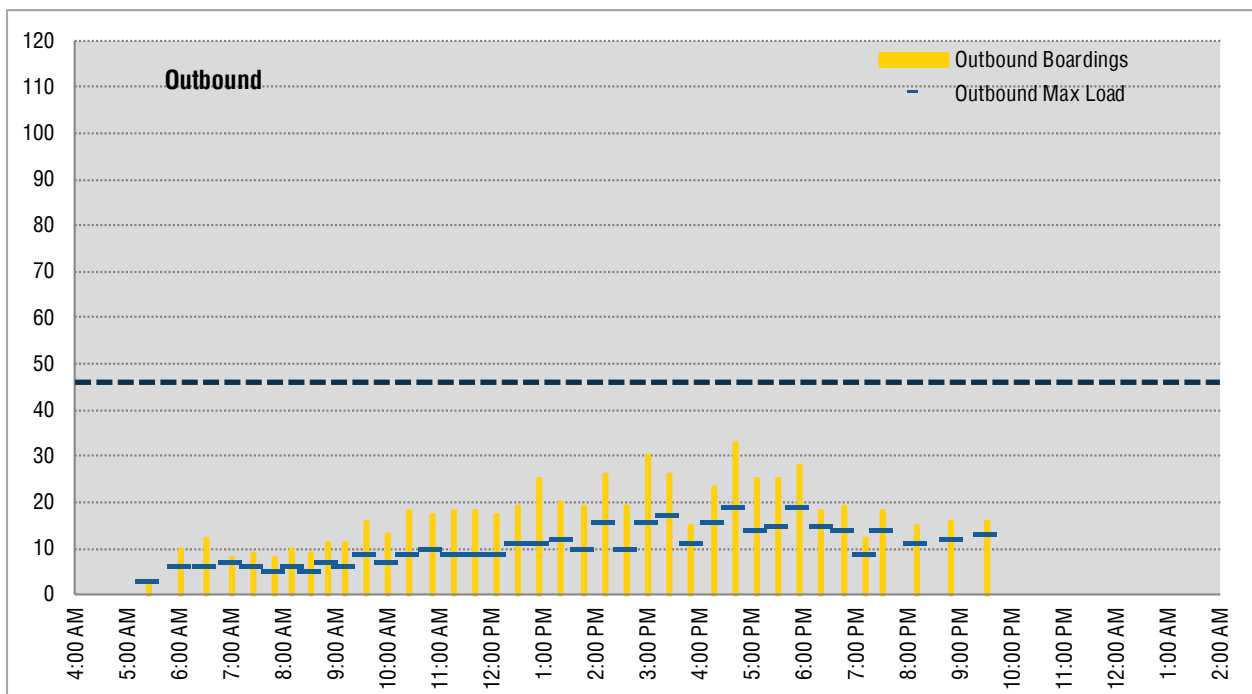


Figure 7 | Saturday Ridership by Trip: Outbound



Sunday service averages 18 passengers per trip. Inbound ridership is highest during the middle of the day, with up to 27 passengers per trip (see Figure 8). Outbound ridership is highest during the later afternoon, with up to 31 passengers per trip (see Figure 9).

Figure 8 | Sunday Ridership by Trip: Inbound

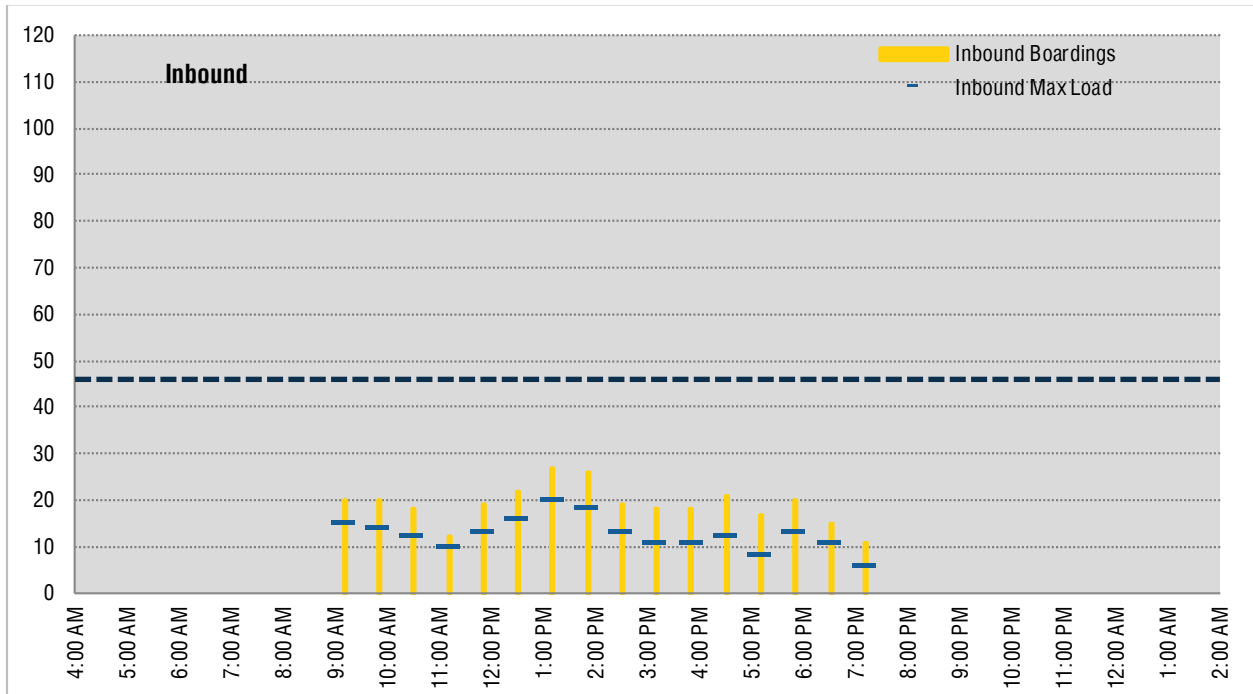
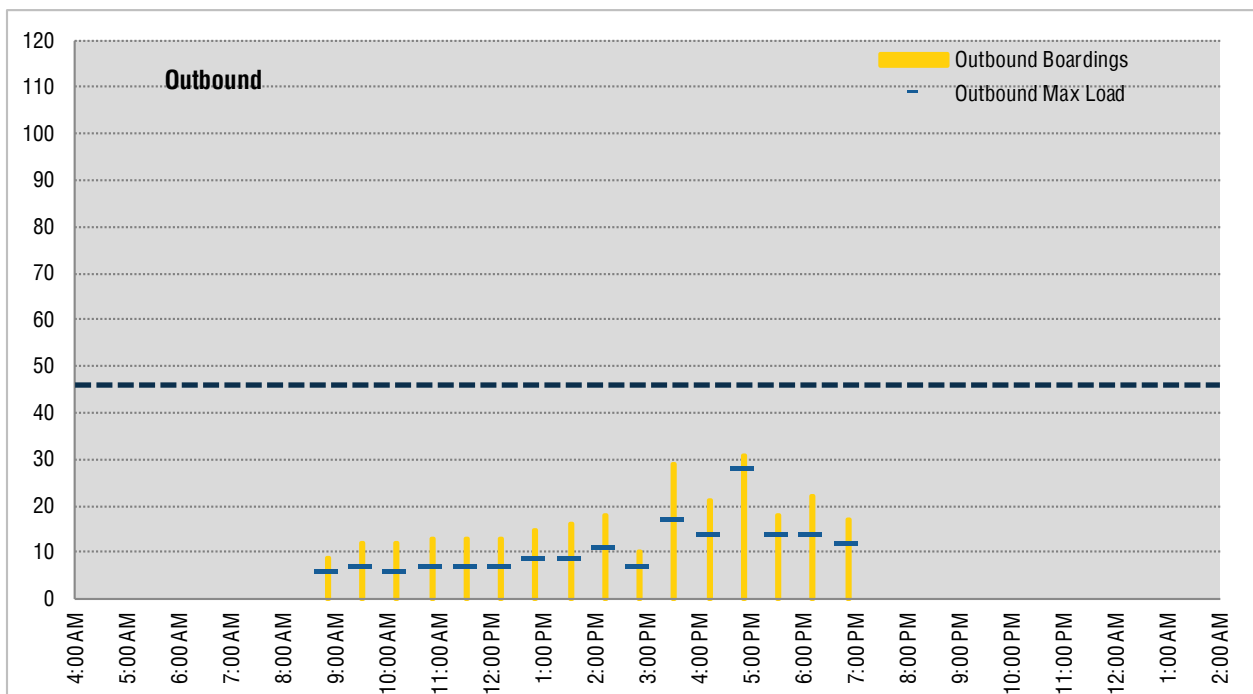


Figure 9 | Sunday Ridership by Trip: Outbound





## 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 17, 98.4% of weekday passenger minutes are in comfortable conditions, which is above the target of 96% (see Table 3).

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
<b>Minimum Standard</b>	92%	92%	92%
<b>Target</b>	96%	96%	96%
<b>Actual</b>	98.4%	100%	100%

## Reliability and Speed

### Reliability

Route 17's overall reliability is 61% on weekdays, 70% on Saturdays, and 66% on Sundays (see Table 4). The weekday and Sunday performance levels are below the minimum standard of 70%, while Saturday performance meets this standard.

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
<b>Monday-Friday</b>	60%	66%	61%	0.9%
<b>Saturday</b>	70%	66%	70%	-
<b>Sunday</b>	67%	61%	66%	-

### Running Times

Inbound, Route 17's actual running times routinely exceed scheduled times throughout the service day except between 10:00 AM until 1:00 PM (see Figure 10). During peak periods and the evening, trips can run five minutes longer than scheduled running times.

Outbound running times routinely exceed scheduled times from the beginning of service until 6:00 PM, and also run up to five minutes longer than scheduled (see Figure 11). Trips after 6:00 PM typically run on time or faster than scheduled.

Since the completion of this document, the MBTA has adjusted Route 17's schedule to better reflect actual running times.

Figure 10 | Scheduled & Median Travel Time by Trip: Route 17 Inbound

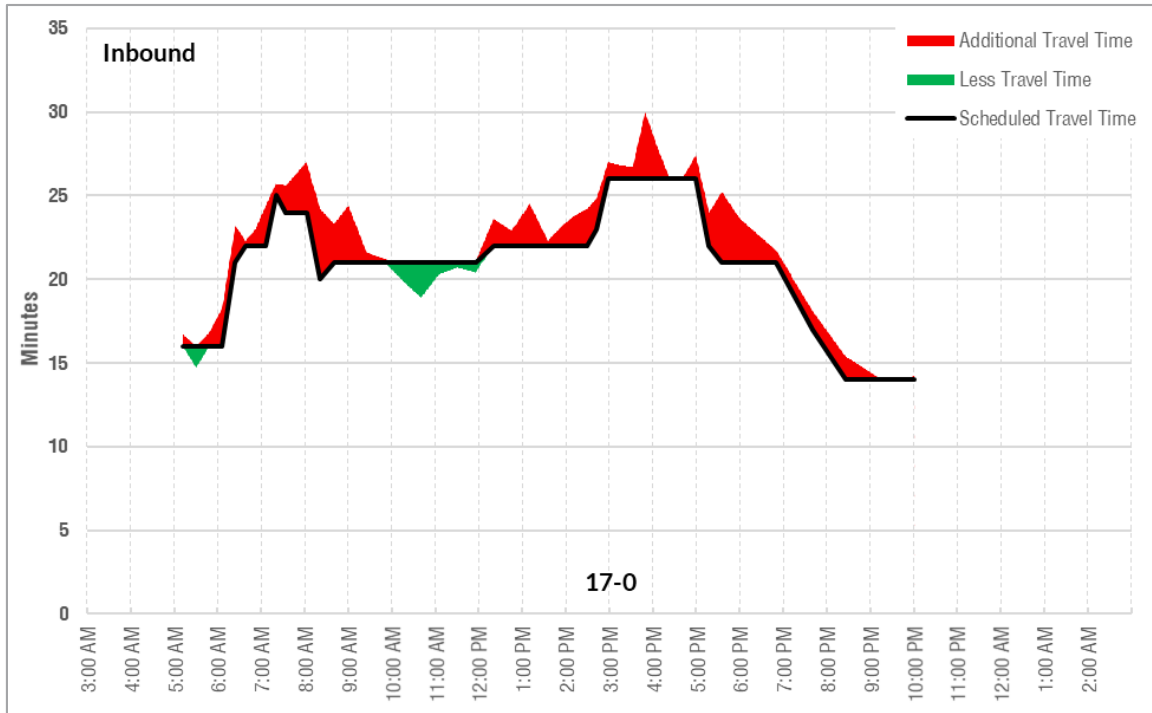
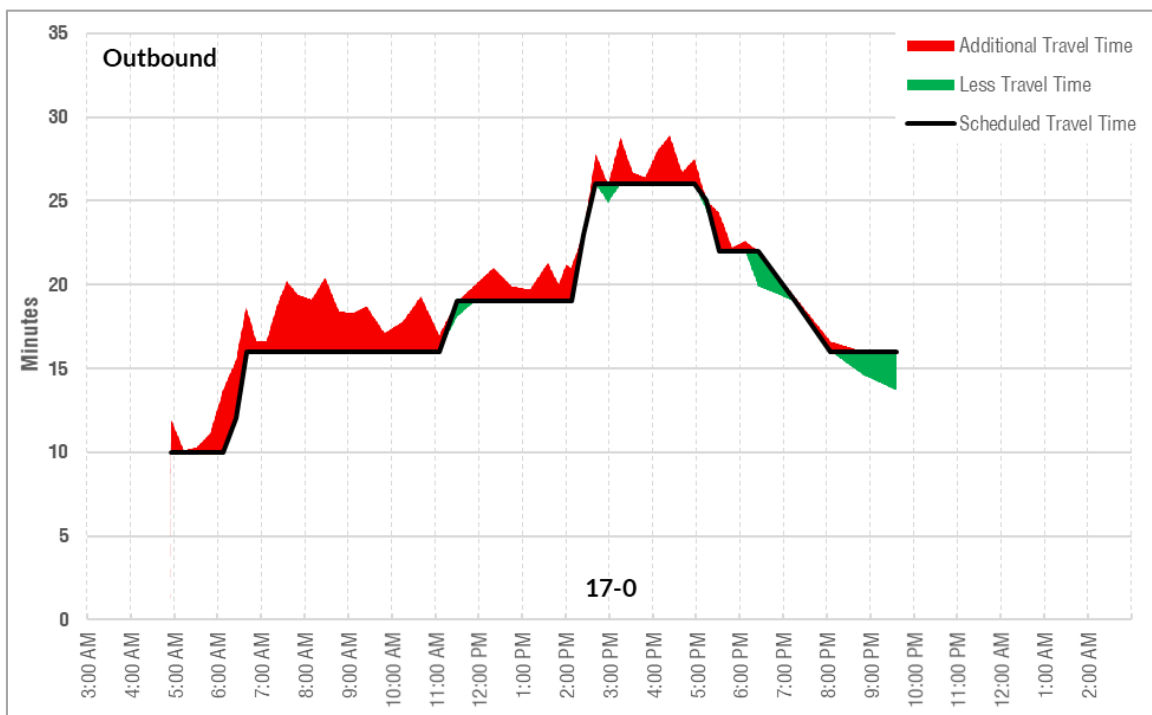


Figure 11 | Scheduled & Median Travel Time by Trip: Route 17 Outbound



## Stop Spacing

Route 17 has an average of 9.3 stops per mile, which is well above the MBTA's guideline of four to seven stops per mile. This close stop spacing makes service slow and is one reason why actual running times are longer than scheduled times. The consolidation of stops would make service faster and improve on-time performance.

## Summary

Route 17 is a straight-forward route designed to connect residents who live on Geneva Avenue and Bowdoin Street with the Red Line at Andrew Station. It performs reasonably well, with a few exceptions:

- On weekdays and Sundays, the route's on-time performance is below standard. This is largely because actual running times exceed scheduled running times.
- The route has over nine stops per mile, which exceeds the MBTA's guidelines, making service slow and contributing to below standard on-time performance.