

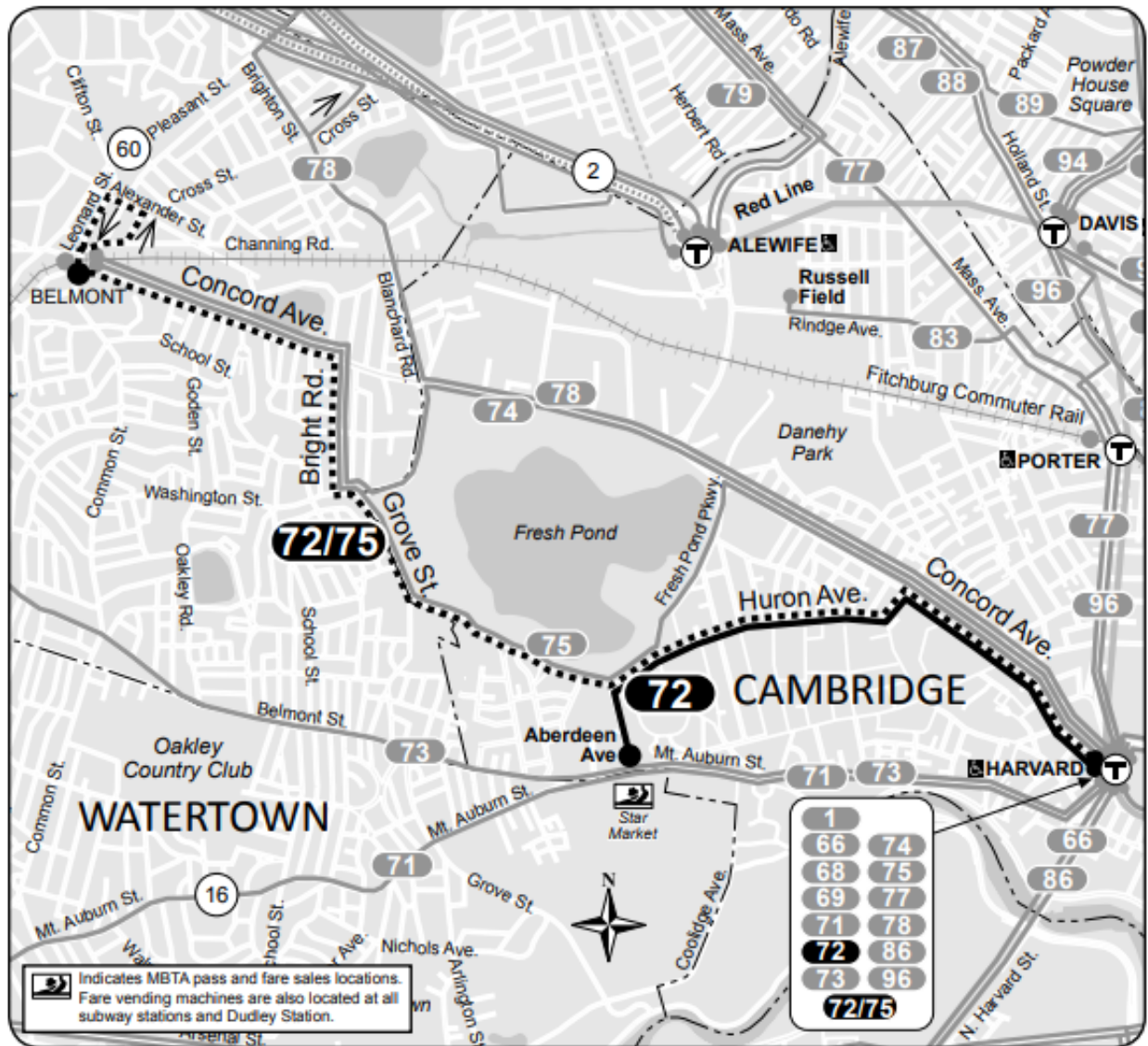
# Route 72

## Huron Avenue – Harvard Station

### Route Overview

Route 72 Huron Avenue – Harvard Station is a Local route that operates between Aberdeen Avenue at Mount Auburn Street and Harvard Station via Huron Avenue and Concord Avenue (see Figure 1).

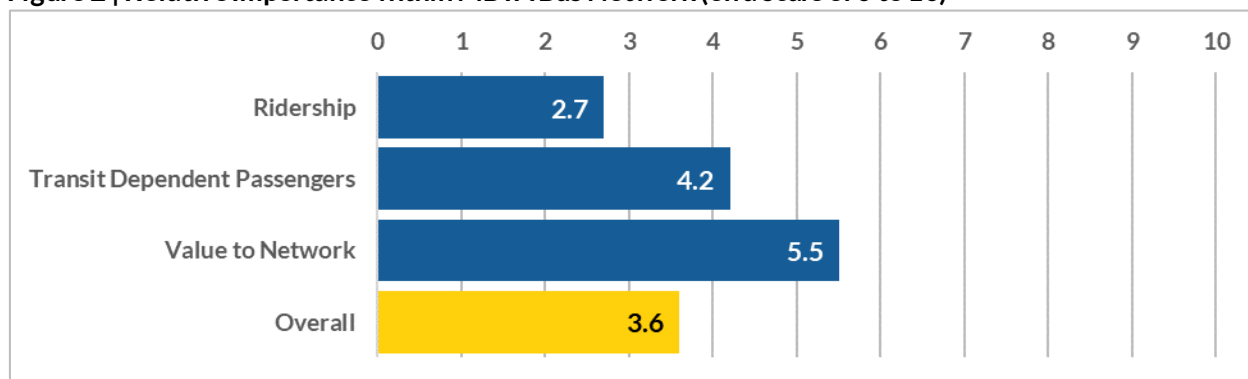
Figure 1 | Route 72 Service Map



## Network Importance

Route 72 has a relatively low importance within the overall system (see Figure 2). On a scale of 0 to 10, the route rates 2.7 in terms of ridership, 4.2 in terms of transit dependent ridership, and 5.5 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% weight to overall ridership and a 15% weight to both other measures, is 3.6. Two major reasons for the low rating are duplication with Route 75 Belmont Center-Harvard Station and its short length.

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



## Service Overview

### Schedule

Route 72 operates Monday through Saturday. It does not operate on Saturday nights or Sundays, but service along nearly all of Route 72’s alignment is provided by a hybrid of Route 72 and Route 75 Belmont Center-Harvard that is called “Route 72/75” (see Figure 1).

On weekdays, Route 72 operates between 5:13 AM and 11:25 PM. Headways generally range from 10 to 20 minutes during the peaks and mid-morning, every 35 minutes during most of the midday, and every 30 minutes during the evening and at night (see Table 1).

On Saturdays, Route 72 operates from 5:32 AM to 6:50 PM, and generally operates every 30 minutes. After 6:50 PM, service is provided by Route 72/75, which operates every 40 minutes.

On Sundays, Route 72 does not operate, but Route 72/75 provides service from 6:40 AM to 10:00 PM, and generally operates every 40 minutes. Route 72/75 serves all of Route 72’s alignment except the 0.2-mile final leg along Aberdeen Avenue.

Route 72 meets the MBTA’s service span and frequency standards on all days.

**Table 1 | Schedule Statistics**

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
<b>Monday-Friday</b>	<b>5:13 AM to 11:25 PM</b>			<b>46/45</b>
Sunrise	5:13 AM to 5:59 AM	30 - 37	32	2/2
Early AM	6:00 AM to 6:59 AM	15 - 30	21	2/3
AM Peak	7:00 AM to 8:59 AM	5 - 25	17	8/7
Midday Base	9:00 AM to 1:29 PM	20 - 35	33	8/8
Midday School	1:30 PM to 3:59 PM	17 - 38	22	7/7
PM Peak	4:00 PM to 6:29 PM	20	20	7/7
Evening	6:30 PM to 9:59 PM	19 - 30	25	9/8
Late Evening	10:00 PM to 11:25PM	30	30	3/3
Night	-	-	-	-
<b>Saturday</b>	<b>5:32 AM to 1:20 AM</b>			<b>47/47</b>
Route 72	5:32 AM to 6:50 PM	25 - 40	31	38/38
Route 72/75	7:20 PM to 1:20 AM	40	40	9/9
<b>Sunday</b>				
Route 72/75	<b>6:40 AM to 10:00 PM</b>	<b>35 - 45</b>	<b>38</b>	<b>24/24</b>

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

### Service Patterns

Route 72 operates with three service patterns (see Table 2). Pattern 72.0 is the route’s primary alignment, operating on nearly all weekday trips and daytime Saturday trips. This service pattern serves Huron Avenue and Concord Avenue between Aberdeen Avenue and Harvard Station. Additional service patterns include:

- Pattern 72.5 is publicized as Route 72/75, and operates from Belmont Center to Harvard Station on Saturday evenings and Sundays.
- Pattern 72.6 operates on one inbound weekday trip between Aberdeen Avenue and Cambridge Rindge & Latin School.

**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>38</b>	<b>24</b>
72.0	Aberdeen at Mt. Auburn	Harvard Station	Via Huron Avenue	45	28	-
72.5	Belmont Center	Harvard Station	Via Huron Avenue, Grove Street, Concord Avenue	-	10	24
72.6	Aberdeen at Mt. Auburn	Felton Street at Cambridge Street	Via Huron Avenue	1	-	-

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
<b>OUTBOUND</b>				<b>45</b>	<b>38</b>	<b>24</b>
72.0	Harvard Station	Aberdeen & Mt. Auburn	Via Huron Avenue	45	28	-
72.6	Harvard Station	Belmont Center	Via Huron Avenue, Grove Street, Concord Avenue	-	10	24

## Ridership

Route 72 carries approximately 970 riders daily on weekdays, 450 riders on Saturdays, and 410 riders on Sundays. The low ridership numbers reflect duplication with Route 74 and Route 75 more than low demand. On weekdays, Route 74 carries 820 riders per weekday and Route 75 carries 500. In total, Routes 72, 74, and 75 carry 2,300 weekday riders between Belmont Center and Harvard Station in the Concord Avenue and Huron Avenue corridors.

### Ridership by Stop

On an average weekday, 365 passengers use inbound service to Harvard Station (see Figure 3). Of these:

- 70 passengers board at the first two stops on Aberdeen Avenue.
- 310 passengers board and 10 alight at stops along Huron Avenue.
- 135 passengers board and 25 alight at stops along Concord Avenue. These stops are also served by Route 74 and Route 75, as well as 78 Arlmont Village-Harvard Station, and an average of this number of passengers use Route 72 when it is the first to arrive.
- Five passengers board and 435 alight at stops in Harvard Square, with 365 of the alightings at Harvard Station.

### Ridership by Trip

On weekdays, inbound ridership by trip is highest between 7:30 AM and 8:30 AM, with 16 to 51 passengers per trip (see Figure 4). The 51 passengers on one trip is an outlier, as most trips carry 20 to 30. Off-peak ridership is very low, with most trips carrying 10 or fewer passengers. After 7:00 PM, most trips carry fewer than five passengers.

Outbound ridership by trip is very low until 2:30 PM, with 10 passengers or fewer per trip (see Figure 5). It then steadily increases to a peak of 25 passengers between 6:00 PM and 7:00 PM. Ridership drops off rapidly to 10 to 15 passengers per trip through 9:00 PM and then to fewer than 10 through the end of service.

Figure 3 | Weekday Inbound Ridership by Stop Map

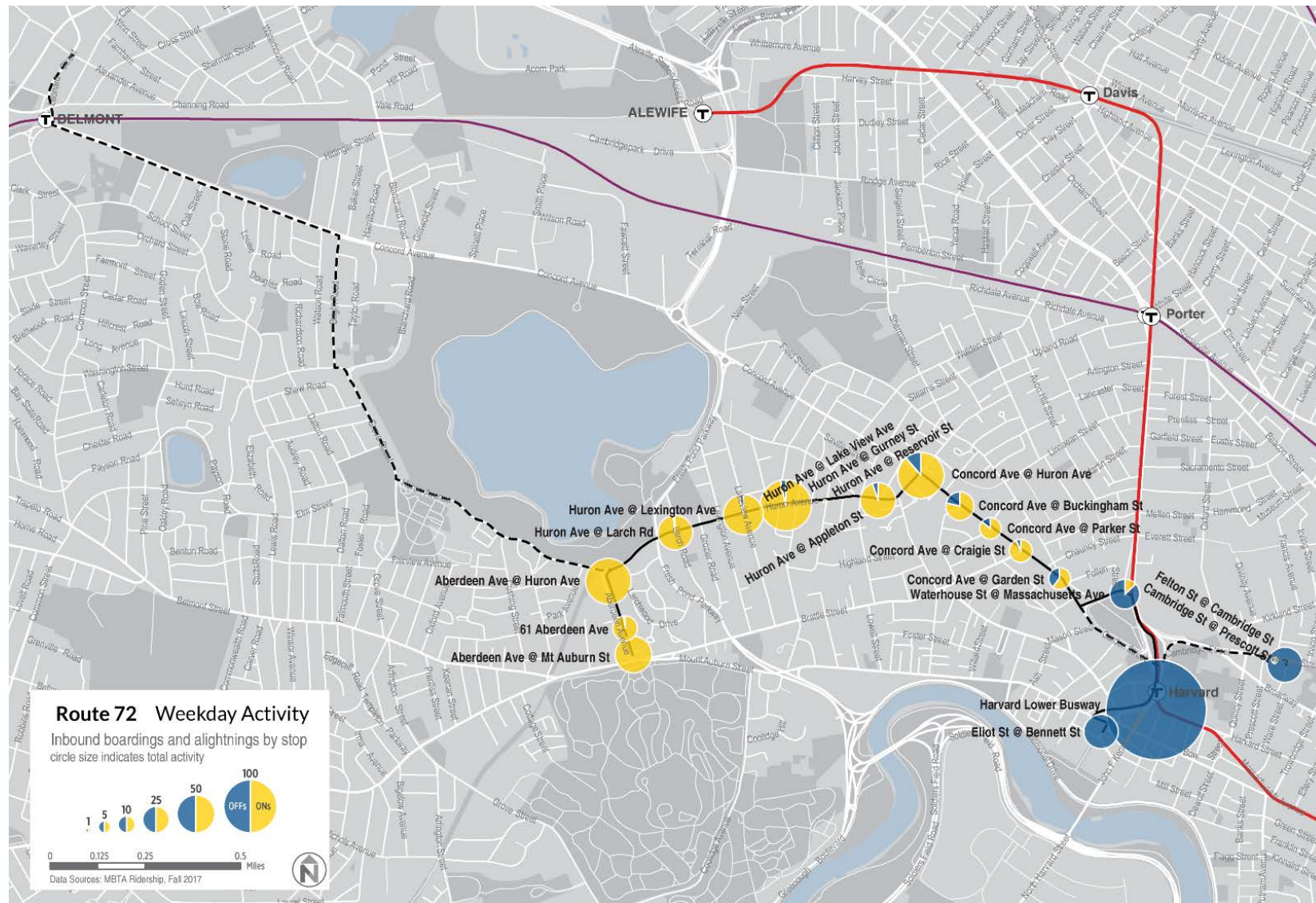


Figure 4 | Weekday Ridership by Trip: Inbound

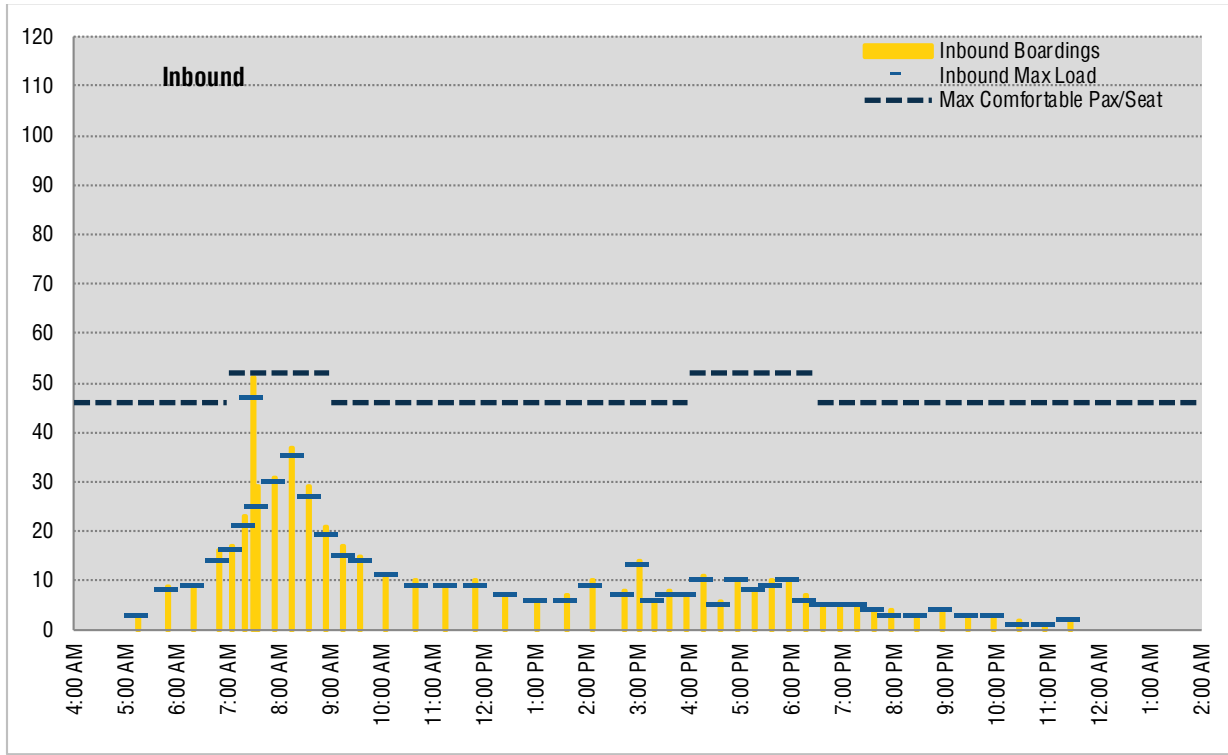
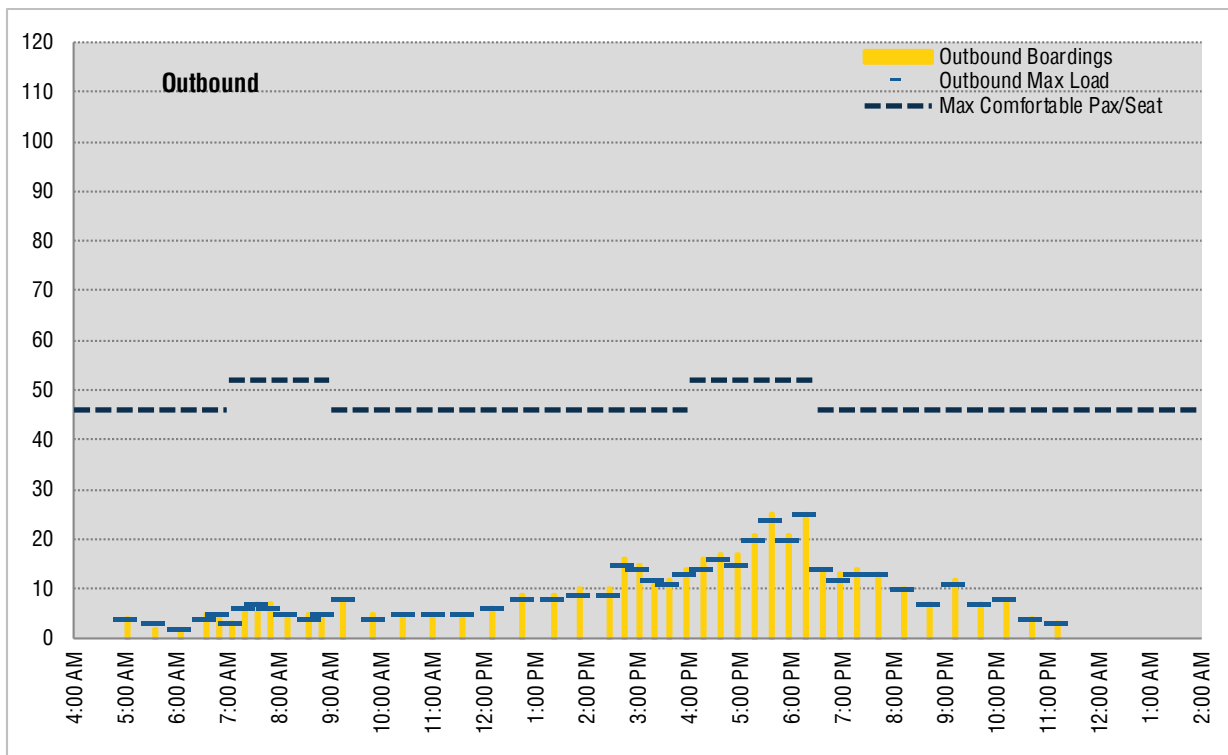


Figure 5 | Weekday Ridership by Trip: Outbound



Saturday ridership per trip is low throughout the day (see Figure 6 and Figure 7). Inbound ridership per trip is 11 passengers or fewer on all trips, and with zero to one passengers on the last three trips. Outbound ridership is similarly low until 7:00 PM, and then increases slightly after that time when Route 72 service ends and Route 72/75 service begins and operates to and from Belmont Center. The last two trips at 12:20 AM and 1:00 AM carry one and zero passengers, respectively.

Sunday ridership per trip is also low, but higher than on Saturdays (see Figure 8 and Figure 9). This is because service operates as Route 72/75 with service to Belmont Center. Inbound, the first three trips before 8:00 AM carry two or fewer passengers. Ridership is generally 10 passengers per trip until 4:00 PM, when it declines to five passengers or fewer, except for the last two trips at 9:00 PM and 9:40 PM, which carry eight and 12 passengers, respectively. Outbound ridership is below five passengers per trip until 1:00 PM, then 10 to 20 passengers through 6:00 PM, and then 10 or fewer through the end of service.

Figure 6 | Saturday Ridership by Trip: Inbound

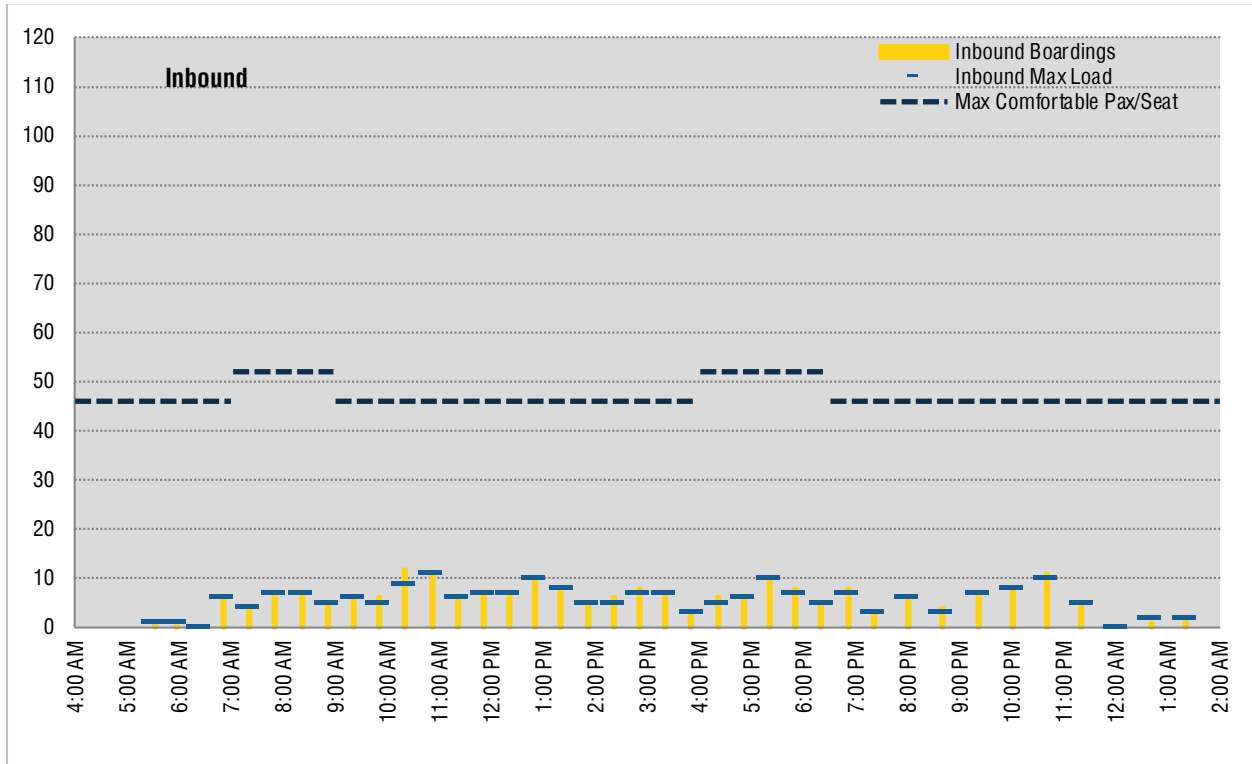


Figure 7 | Saturday Ridership by Trip: Outbound

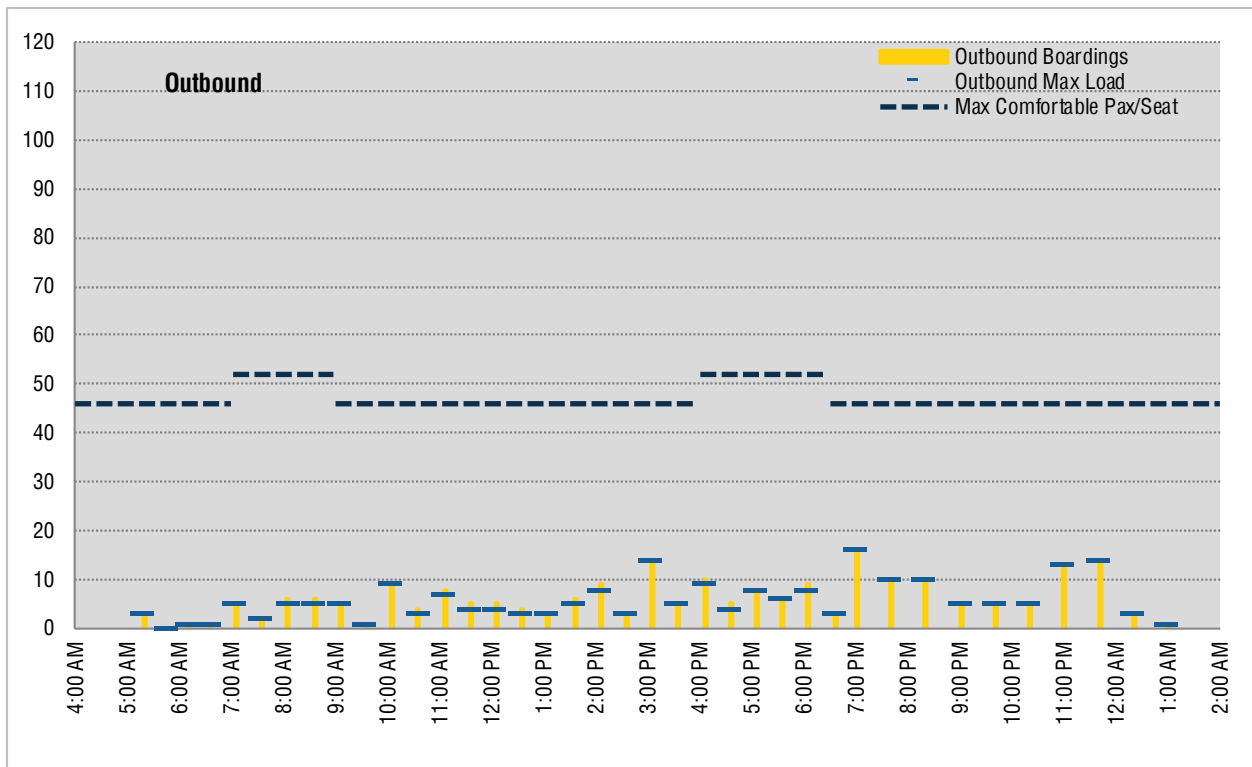




Figure 8 | Sunday Ridership by Trip: Inbound

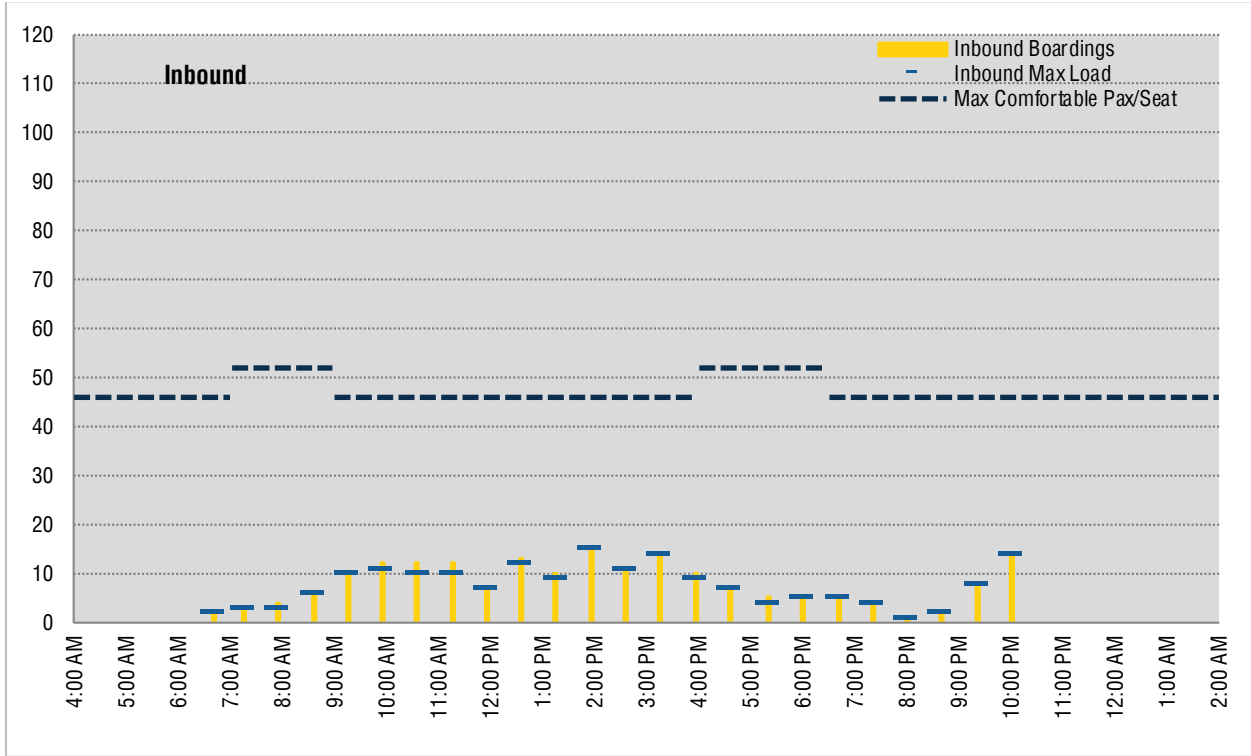
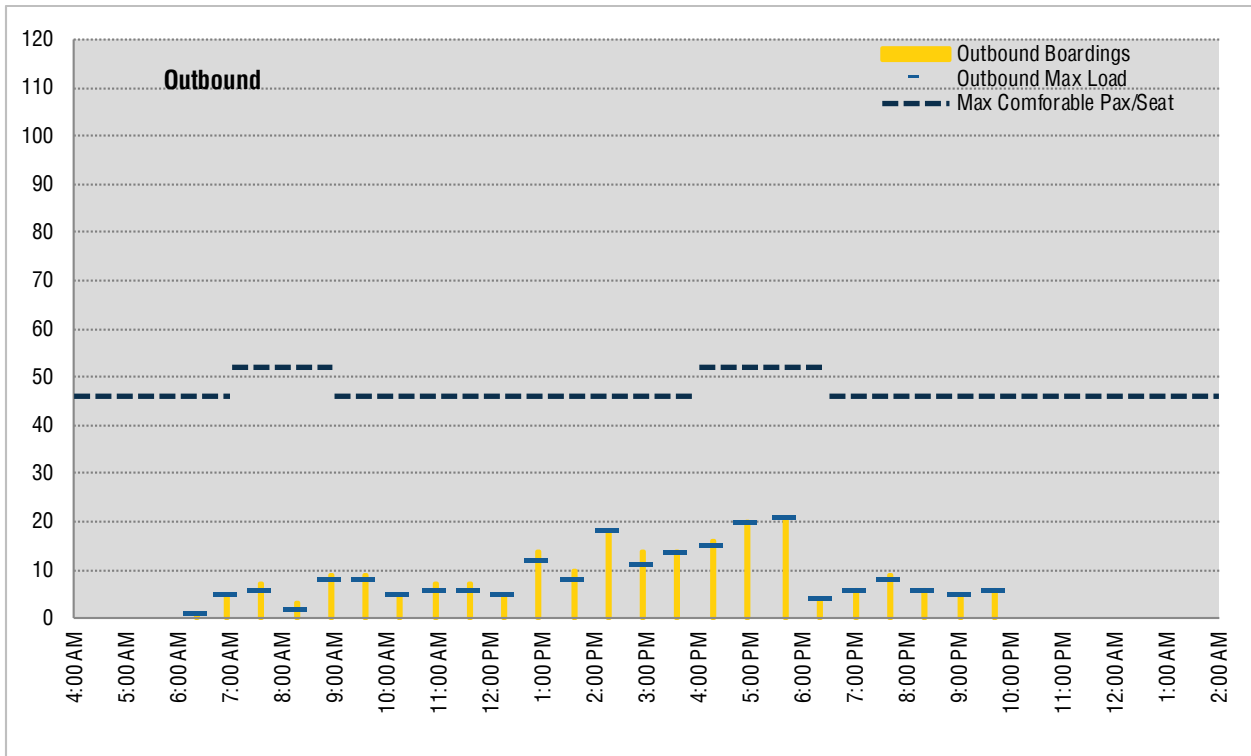


Figure 9 | Sunday Ridership by Trip: Outbound



## Passenger Comfort

Route 72 comfort data is not available. However, given that all trips operate with loads that are lower than the crowding standard and that loads are low on nearly all trips, it is clear that nearly all passengers travel in comfortable conditions.

## Reliability and Speed

### Reliability

Route 72’s reliability of 81% on weekdays, 79% on Saturdays, and 75% on Sundays meets or exceeds the MBTA’s target of 75% (see Table 3). However, dropped trips are a significant problem on Route 72, with approximately 2.6% of trips not operated in Fall 2017.

Table 3 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	79%	91%	81%	2.6%
Saturday	76%	88%	79%	-
Sunday	74%	86%	75%	-

### Running Times

Actual running times on Route 72 are significantly different from scheduled times. Actual inbound times are longer in the AM peak, afternoon, and PM peak, and shorter at other times (see Figure 10). Peak trips typically operate about four minutes behind schedule, while early morning and evening trips operate about two minutes ahead of schedule. Outbound trips tend to run shorter run times in the morning, but running times are much longer than scheduled in the late afternoon and PM peak, operating as much as 15 minutes longer than scheduled running time (see Figure 11).

### Stop Spacing

Although there are some exceptions, stopspacing on Route 72 is generally appropriate and consistent with the MBTA’s stop spacing guidelines.

Figure 10 | Scheduled & Median Travel Time by Trip: Route 72 Inbound

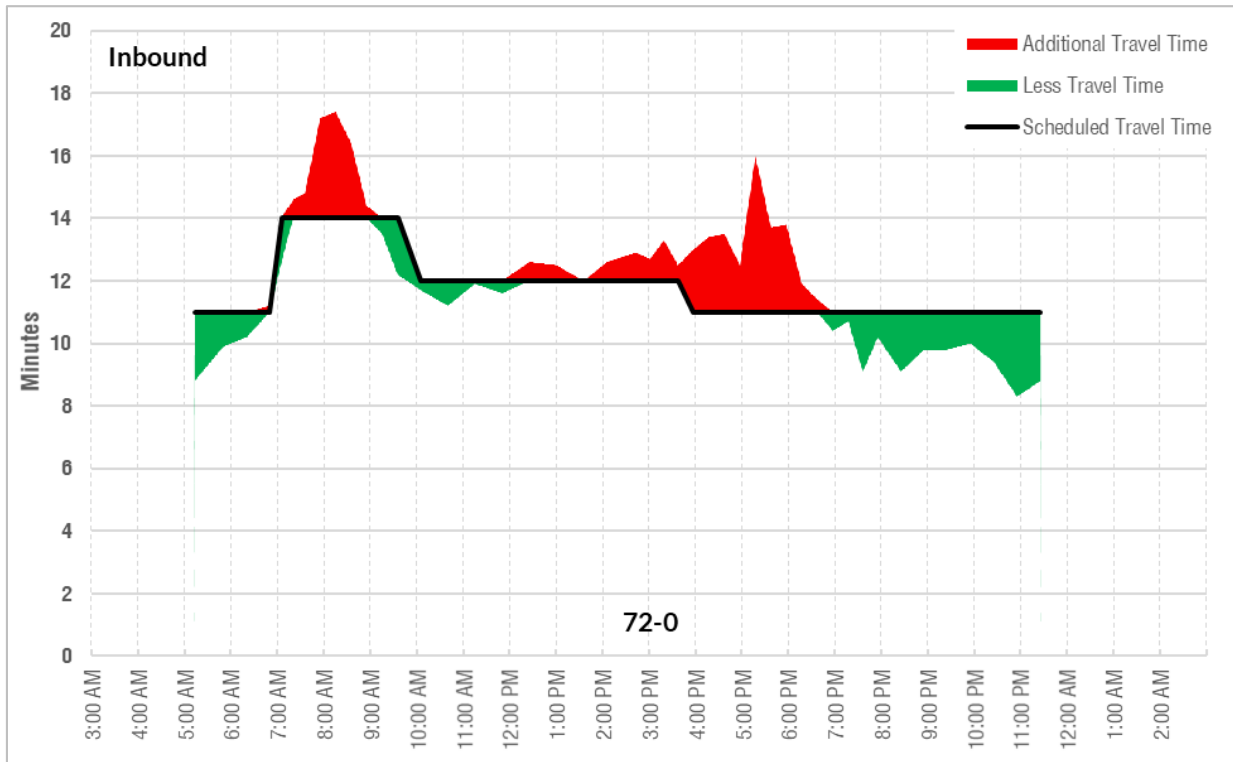
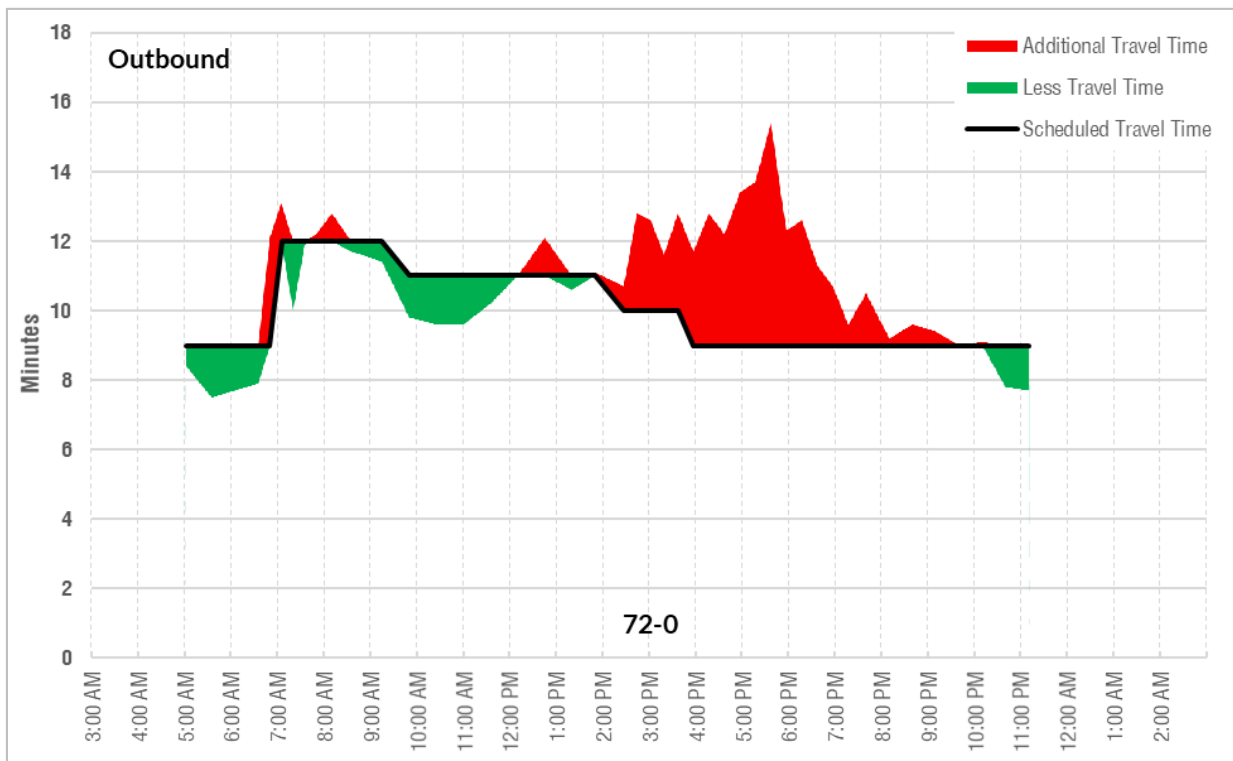


Figure 11 | Scheduled & Median Travel Time by Trip: Route 72 Outbound



## Summary

Route 72 is one of three routes that serve the Concord Avenue and Huron Avenue corridors between Belmont Center and Harvard Station in a complex and duplicative manner. Of the three routes, Route 72 provides the most frequent service and has the highest ridership. However, while peak period, peak direction ridership is fairly strong, off-peak ridership is very low. This is the case primarily for two reasons:

- The route is short and thus serves a small market.
- Duplication with Route 75, and to a lesser extent with Routes 74 and 78.