

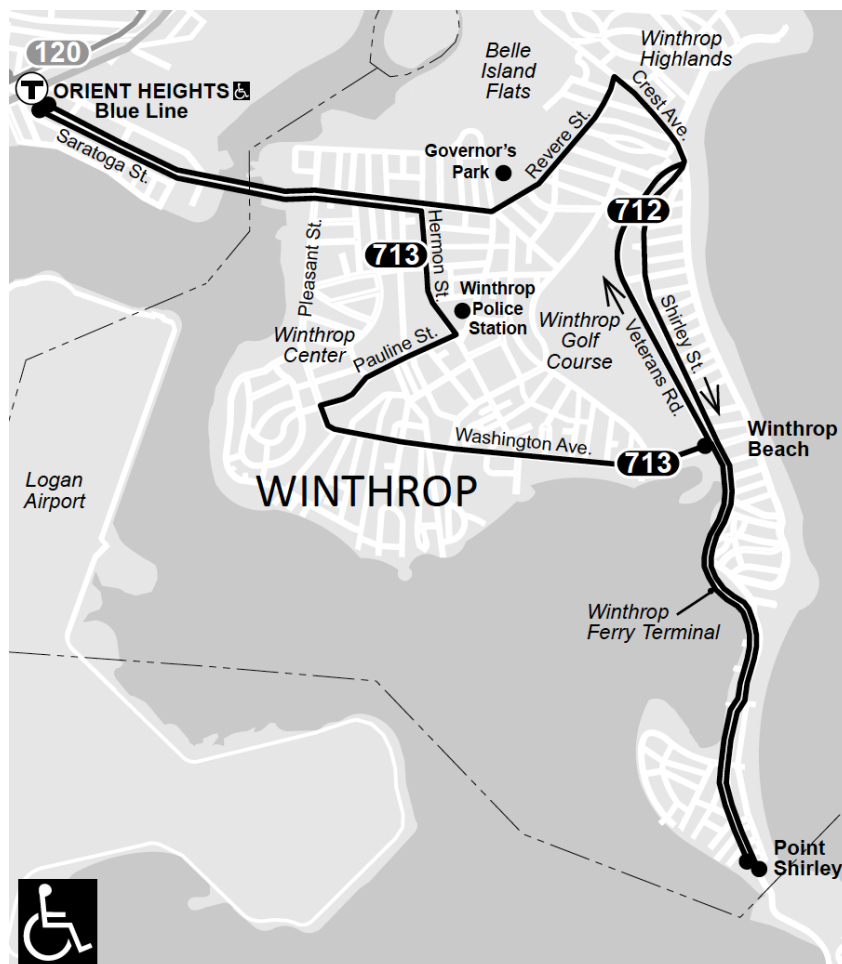
# Routes 712/713

## Point Shirley – Orient Heights

### Route Overview

Route 712 and Route 713 are contracted routes that operate between Point Shirley in Winthrop and the Orient Heights Blue Line Station. Both are designed to connect Winthrop with the Blue Line. Route 712 operates via Winthrop Highlands and Route 713 operates via Winthrop Center (see Figure 1).

Figure 1 | Route 712 and Route 713 Service Maps



### Network Importance

[Data not available]

## Service Overview

Route 712 and Route 713 operate between Winthrop Beach and Orient Heights with additional service to Point Shirley:

- Route 712 operates from Point Shirley to Winthrop Beach via Shirley Street. From Winthrop Beach, the bus travels via Winthrop Heights along Washington Avenue and Pleasant Street to Saratoga Street to Orient Heights Station. On weekdays, many trips start/end at Winthrop Beach.
- Route 713 also operates from Point Shirley to Winthrop Beach via Shirley Street. From Winthrop Beach, Route 713 travels via Winthrop Center along Veterans Road to Crest Avenue. It then turns toward Orient Heights Station along Revere Street and Main Street to Saratoga Avenue to Saratoga Street where it follows the same alignment as Route 712 to Orient Heights Station. On weekdays, many trips start/end at Winthrop Beach.

### Schedule

Route 712 via Winthrop Heights (see Table 1):

- On weekdays, service operates from 4:55 AM to 1:27 AM with headways averaging 20 minutes in the PM peak, 27 to 30 minutes during the midday, 17 minutes during the AM peak, and 26 to 30 minutes in the evening and night. However, except for the evening and night periods, actual headways are irregular, with some peak trips as close as five minutes and others as long as 33 minutes.
- On Saturdays, service operates from 5:00 AM to 1:08 AM. Average headways are 45 minutes, but actual headways range from 35 to 90 minutes.
- On Sundays, service operates every 80 minutes from 7:20 AM to 12:57 AM.

Route 713 via Winthrop Center (see Table 2):

- On weekdays, service operates from 5:45 AM to 1:22 AM. with headways averaging 22 minutes in the PM peak, 23 to 30 minutes during the midday, 16 minutes during the PM peak, and 30 minutes in the evening and night. However, except for the evening and night periods, actual headways are irregular, with some peak period trips as close as five minutes and others as long as 30 minutes.
- On Saturdays, service operates from 5:15 AM to 1:12 AM. Average headways are 46 minutes, but actual headways range from 45 to 65 minutes.
- On Sundays, service operates every 80 minutes from 6:40 AM to 1:37 AM.

Both routes meet the span of service standards on all service days. They meet the frequency standards on weekdays, but not on weekends.

**Table 1 | Route 712 Schedule Statistics**

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
<b>Monday-Friday</b>	<b>4:55 AM to 1:27 AM</b>			<b>51/43</b>
Sunrise	4:55 AM to 5:59 AM	5 - 35	24	2/2
Early AM	6:00 AM to 6:59 AM	5 - 30	16	4/4
AM Peak	7:00 AM to 8:59 AM	5 - 55	22	6/6
Midday Base	9:00 AM to 1:29 PM	30 - 55	38	9/6
Midday School	1:30 PM to 3:59 PM	10 - 45	23	6/7
PM Peak	4:00 PM to 6:29 PM	2 - 30	17	9/9
Evening	6:30 PM to 9:59 PM	30 - 45	36	8/5
Late Evening	10:00 PM to 11:59 PM	30 - 45	36	4/3
Night	12:00 AM to 1:27 AM	30 - 35	30	3/1
<b>Saturday</b>	<b>5:00 AM to 1:08 AM</b>	<b>35 - 90</b>	<b>45</b>	<b>27/25</b>
<b>Sunday</b>	<b>7:20 AM to 12:57 AM</b>	<b>80 - 90</b>	<b>80</b>	<b>14/14</b>

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

**Table 2 | Route 713 Schedule Statistics**

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
<b>Monday-Friday</b>	<b>5:30 AM to 1:00 AM</b>			<b>43/49</b>
Sunrise	5:30 AM to 5:59 AM	15 - 30	24	2/2
Early AM	6:00 AM to 6:59 AM	5 - 30	13	4/4
AM Peak	7:00 AM to 8:59 AM	2 - 45	21	6/6
Midday Base	9:00 AM to 1:29 PM	10 - 45	38	6/9
Midday School	1:30 PM to 3:59 PM	15 - 45	24	6/9
PM Peak	4:00 PM to 6:29 PM	5 - 25	16	6/6
Evening	6:30 PM to 9:59 PM	12 - 45	36	10/9
Late Evening	10:00 PM to 11:59 PM	30 - 45	37	5/7
Night	12:00 AM to 1:00 AM	30 - 60	60	
<b>Saturday</b>	<b>5:45 AM to 1:10 AM</b>	<b>45 - 90</b>	<b>45</b>	<b>25/26</b>
<b>Sunday</b>	<b>6:40 AM to 12:20 AM</b>	<b>80 - 85</b>	<b>80</b>	<b>15/14</b>

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

## Service Patterns

Both routes operate with a mix of full-length trips to Point Shirley and short-turn service to Winthrop Beach. They also both operate to either the North or South Busways at Orient Heights Station.

Route 712 via Winthrop Heights (see Table 3):

- On weekdays, only six of 51 inbound trips operate from Point Shirley but 27 of 43 outbound trips operate to Point Shirley. All other trips operate to and from Winthrop Beach. Sixty-one of Route 712's 94 total trips operate to and from Orient Heights' South Busway, and 33 operate to and from the North Busway.
- On Saturdays, 26 of 27 inbound trips operate from Point Shirley and all outbound trips operate to Point Shirley. One inbound trip starts at Winthrop Beach. All trips operate to and from the South Busway.
- On Sundays, all inbound trips operate from Point Shirley and 13 of 14 outbound trips operate to Point Shirley. One inbound trip starts at Winthrop Beach. All trips operate to and from the South Busway.

Route 713 via Winthrop Center (see Table 4):

- On weekdays, 28 of 43 inbound trips operate from Point Shirley but only six of 49 outbound trips operate to Point Shirley. All other trips operate to and from Winthrop Beach. Sixty of 92 total trips operate to Orient Heights' South Busway, and 32 operate to and from the North Busway.
- On Saturdays, all inbound trips operate from Point Shirley and 25 of 26 outbound trips operate to Point Shirley. One inbound trip starts at Winthrop Beach. All trips operate to and from the South Busway.
- On Sundays, 14 of 15 inbound trips operate from Point Shirley and all outbound trips operate to Point Shirley. One inbound trip starts at Winthrop Beach. All trips operate to and from the South Busway.

Overall, Route 712 and Route 713 service patterns are overly complex and mean that passengers traveling to and from points between Point Shirley and Winthrop Beach must take one route inbound and another route outbound. They must also pay careful attention to which route is traveling to those points at which time. The public timetable advises that service operates as a circuit: Outbound via Route 712 and inbound via Route 713; or Outbound via Route 713 and inbound via Route 712.

Table 3 | Route 712 Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
<b>INBOUND</b>				<b>51</b>	<b>27</b>	<b>14</b>
712.0	Shirley Point	Orient Heights South Busway	Via Winthrop Beach and Winthrop Highlands	3	26	14
712.1	Winthrop Beach	Orient Heights South Busway	Via Winthrop Highlands	31	1	-
712.2	Shirley Point	Orient Heights North Busway	Via Winthrop Beach and Winthrop Highlands	3	-	-
712.3	Winthrop Beach	Orient Heights North Busway	Via Winthrop Highlands	14	-	-
<b>OUTBOUND</b>				<b>43</b>	<b>25</b>	<b>14</b>
712.0	Orient Heights South Busway	Shirley Point	Via Winthrop Highlands and Winthrop Beach	20	25	13
712.1	Orient Heights South Busway	Winthrop Beach	Via Winthrop Highlands	8	-	1
712.2	Orient Heights North Busway	Shirley Point	Via Winthrop Highlands and Winthrop Beach	7	-	-
712.3	Orient Heights North Busway	Winthrop Beach	Via Winthrop Highlands	8	-	-

Table 4 | Route 713 Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
<b>INBOUND</b>				<b>43</b>	<b>25</b>	<b>15</b>
713.0	Shirley Point	Orient Heights South Busway	Via Winthrop Beach and Winthrop Center	21	25	14
713.1	Winthrop Beach	Orient Heights South Busway	Via Winthrop Center	7	-	1
713.2	Shirley Point	Orient Heights North Busway	Via Winthrop Beach and Winthrop Center	7	-	-
713.3	Winthrop Beach	Orient Heights North Busway	Via Winthrop Center	8	-	-
<b>OUTBOUND</b>				<b>49</b>	<b>26</b>	<b>14</b>
713.0	Orient Heights South Busway	Shirley Point	Via Winthrop Center and Winthrop Beach	3	25	14
713.1	Orient Heights South Busway	Winthrop Beach	Via Winthrop Center	29	1	-
713.2	Orient Heights North Busway	Shirley Point	Via Winthrop Center and Winthrop Beach	3	-	-

## Ridership

Together, Route 712 and Route 713 carry 2,700 riders per weekday, 1,300 riders on Saturdays, and 00 riders on Sundays. Route 712 carries 1,530 riders per weekday, 745 riders on Saturdays, and 405 riders on Sundays. Route 713 carries 1,150 riders per weekday, 565 riders on Saturdays, and 375 riders on Sundays.

### Ridership by Stop

Ridership is relatively low between Point Shirley and Winthrop Beach, highest on Route 712's unique segment between Winthrop Beach and Saratoga Street, and lower on Route 713's unique segment via Winthrop Center (see Figure 2). The overwhelming majority of riders travel to and from Orient Heights Station.

On weekday inbound trips:

- 98 passengers board on Route 712 and Route 713 trips between Shirley Point and Winthrop Beach, and none alight. The highest number of boardings are 15 passengers at the Deer Island MWRA gate, 24 passengers on Shirley Street at Bay View Avenue, and 17 passengers on Shirley Street at Moore Street
- 79 passengers board on Shirley Street at Washington Avenue, which is where Route 712 and Route 713 diverge.
- 913 passengers board at Route 712 stops between Winthrop Beach and Saratoga Street. The highest number of boardings are 153 passengers on Veterans Road at Washington Avenue, 165 passengers on Revere Street at Governors Drive, and 82 passengers on Main Street at Douglas Street.

Other stops on this segment have more moderate ridership, but all stops have over 25 boardings. There are also 122 alightings.

- 260 passengers board at Route 713 stops between Winthrop Beach and Saratoga Street, or less than 30% of the number of boardings on the unique segment of Route 712. The highest number of boardings are 32 passengers on Pleasant Street at Bartlett Road, 50 passengers on Pauline Street at Woodside Avenue, 43 passengers on Pauline Street at Hermon Street.
- All other stops have 26 or fewer boardings, and many have fewer than 10. There are 18 alightings spread out along the segment.
- Only two passengers board at stops on Saratoga Street that are served by both Route 712 and Route 713.
- 1,200 of 1,345 inbound riders, or 89%, alight at Orient Heights Station.

On weekends, ridership patterns are similar at each stop, however at significantly lower volumes.



Figure 2 | Weekday Inbound Ridership by Stop



## Ridership by Trip

Route 712 and Route 713 are most heavily used by commuters who work traditional hours, with weekday ridership by trip highest inbound in the AM peak and outbound in the PM peak.

### Weekdays

The first two early AM Route 712 trips carry about 30 passengers, which likely indicates demand for more frequent early AM service (see Figure 3 and Figure 4). Then, in the AM peak, inbound ridership exceeds 50 passengers on some Route 712 trips and 40 on one Route 713 trip. Ridership on Route 712 then declines to about 20 passengers starting at about 10:00 AM and remains at that level until about 4:00 PM, when it declines to less than 10 passengers per trip. Ridership on Route 713 follows a similar pattern but with ridership that is 10 to 15 passengers per trip until around 4:00 PM and then less than five after that time.

Outbound ridership is the inverse of inbound ridership and is low until about 12:30 PM, with less than 10 passengers per trip on both routes (see Figure 5 and Figure 6). It then increases steadily to about 30 passengers per trip in the PM peak and 10 to 20 passengers in the evening and night.

No trips in either direction exceed the MBTA's maximum loading standards.

Figure 3 | Weekday Ridership by Trip: Route 712 | Inbound

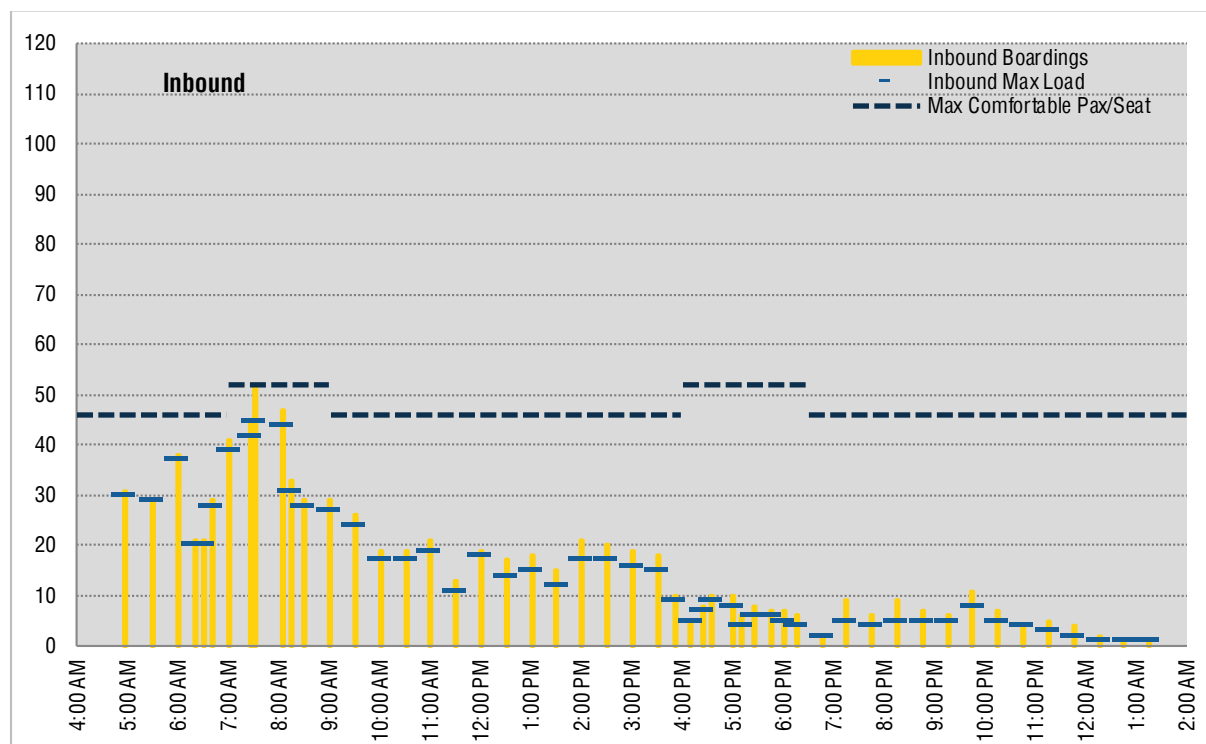




Figure 4 | Weekday Ridership by Trip: Route 713 | Inbound

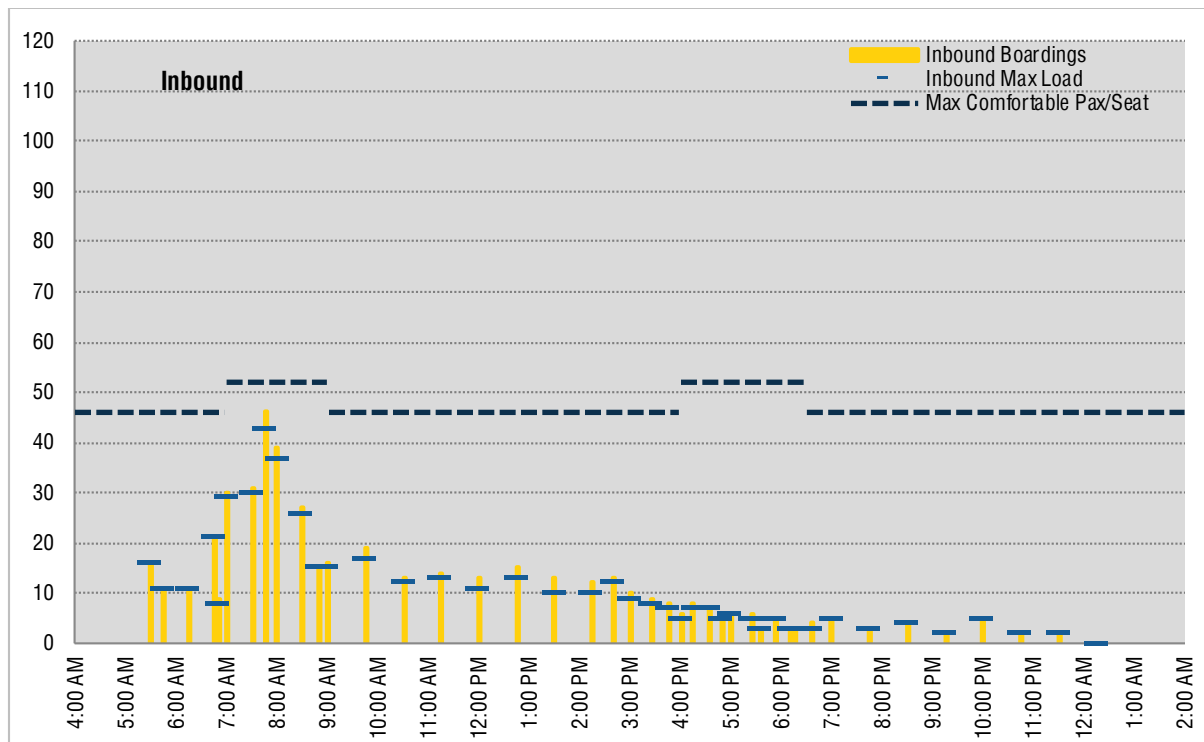


Figure 5 | Weekday Ridership by Trip: Route 712 | Outbound

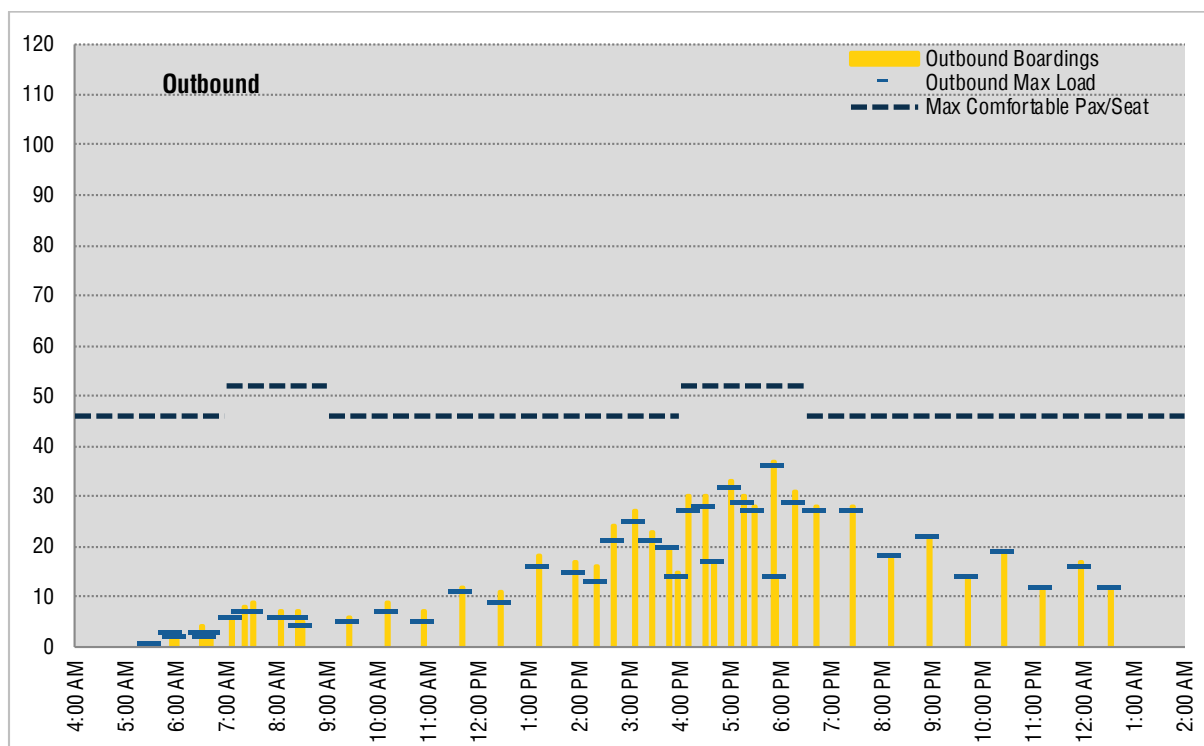
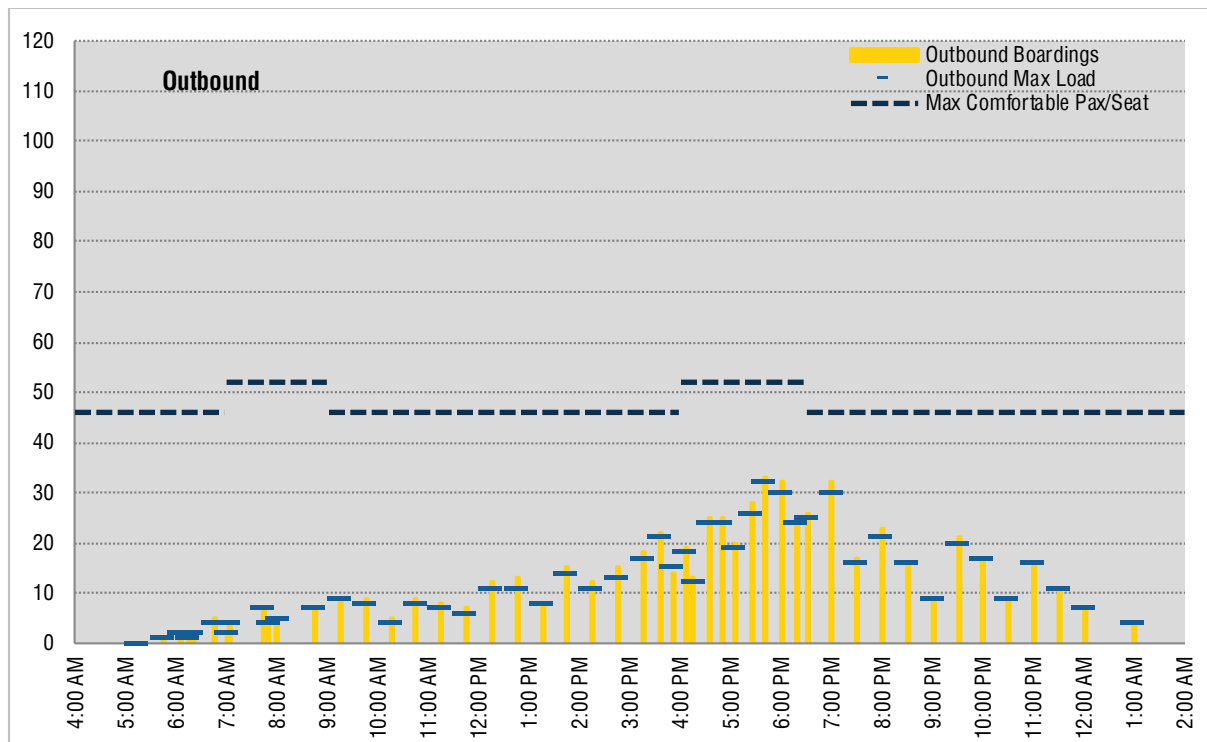


Figure 6 | Weekday Ridership by Trip: Route 713 | Outbound



### Saturdays

Saturday inbound ridership is highest between approximately 7:00 AM and 3:00 PM when most Route 712 trips carry approximately 20 passengers and most 713 trips carry around 15 passengers (see Figure 7 and Figure 8). Ridership then tails off to less than 10 passengers per trip on Route 712 at around 6:00 PM and on Route 713 at around 5:00 PM.

Outbound, morning ridership per trip is low on both routes, highest in the afternoon and early evening, peaking between 3:00 PM and 7:00 PM, with up to 30 passengers on one Route 712 trip and 15 to 20 passengers on Route 713 trips (see Figure 9 and Figure 10). Evening ridership is between 10 and 15 passengers on most trips, but 25 passengers on Route 712's 12:30 AM trip. However, ridership on the Route 713's 1:10 AM trip is only six passengers, which indicates that later service is not needed.

Figure 7 | Saturday Ridership by Trip: Route 712 | Inbound

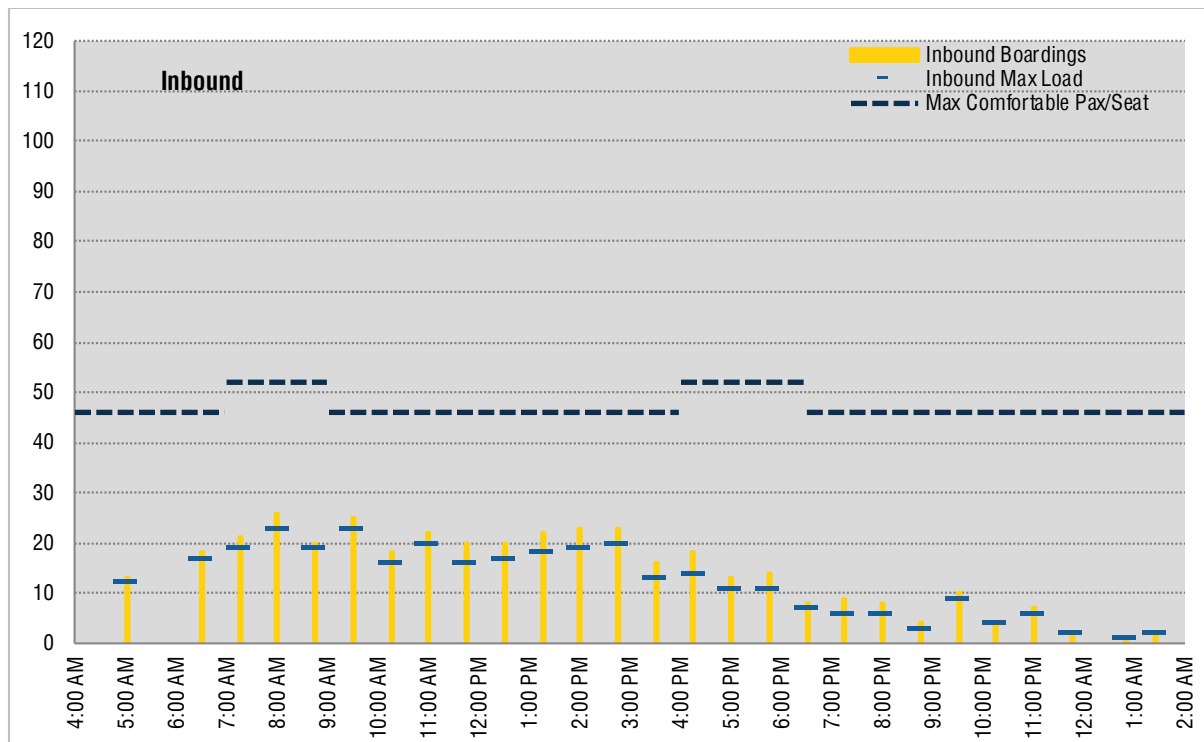


Figure 8 | Route 713 Saturday Ridership by Trip: Inbound

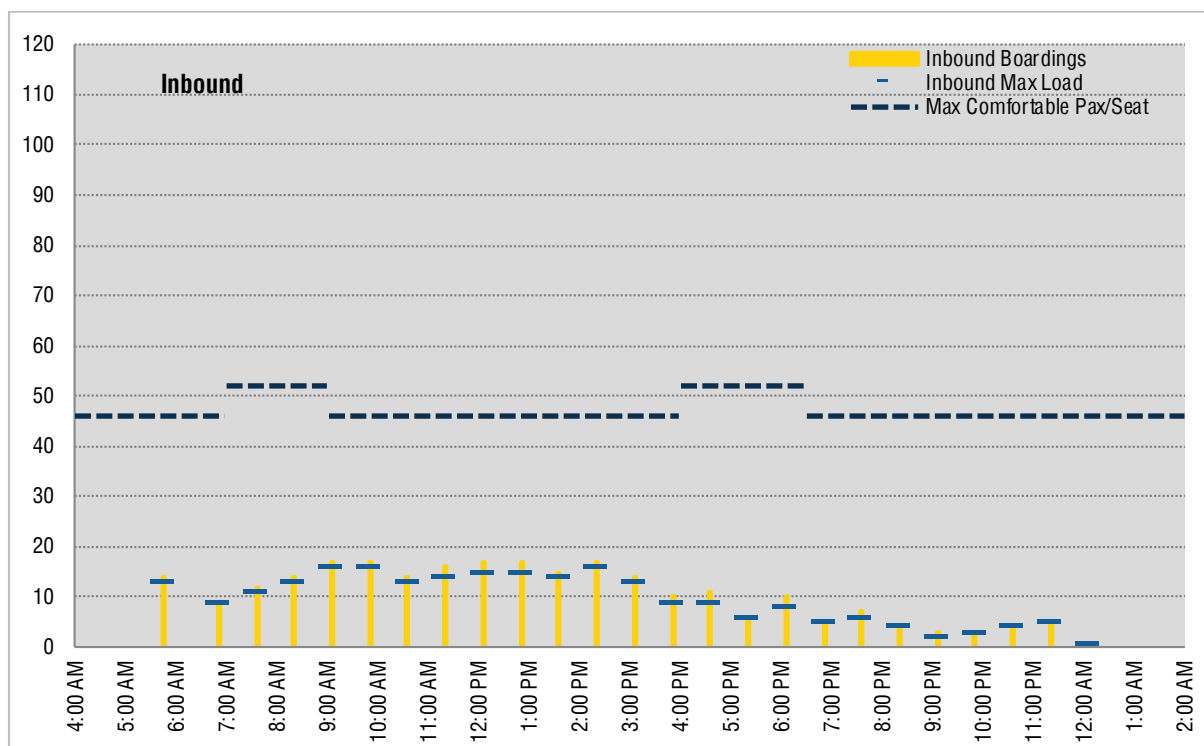


Figure 9 | Saturday Ridership by Trip: Route 712 | Outbound

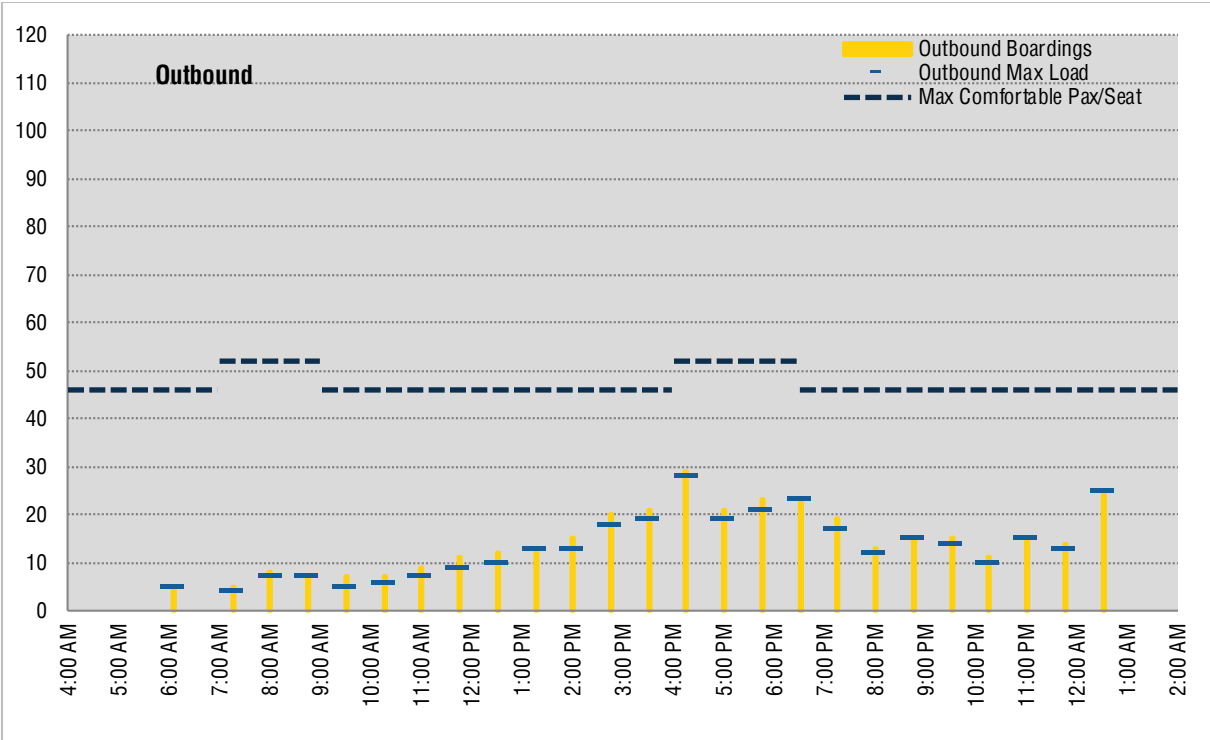
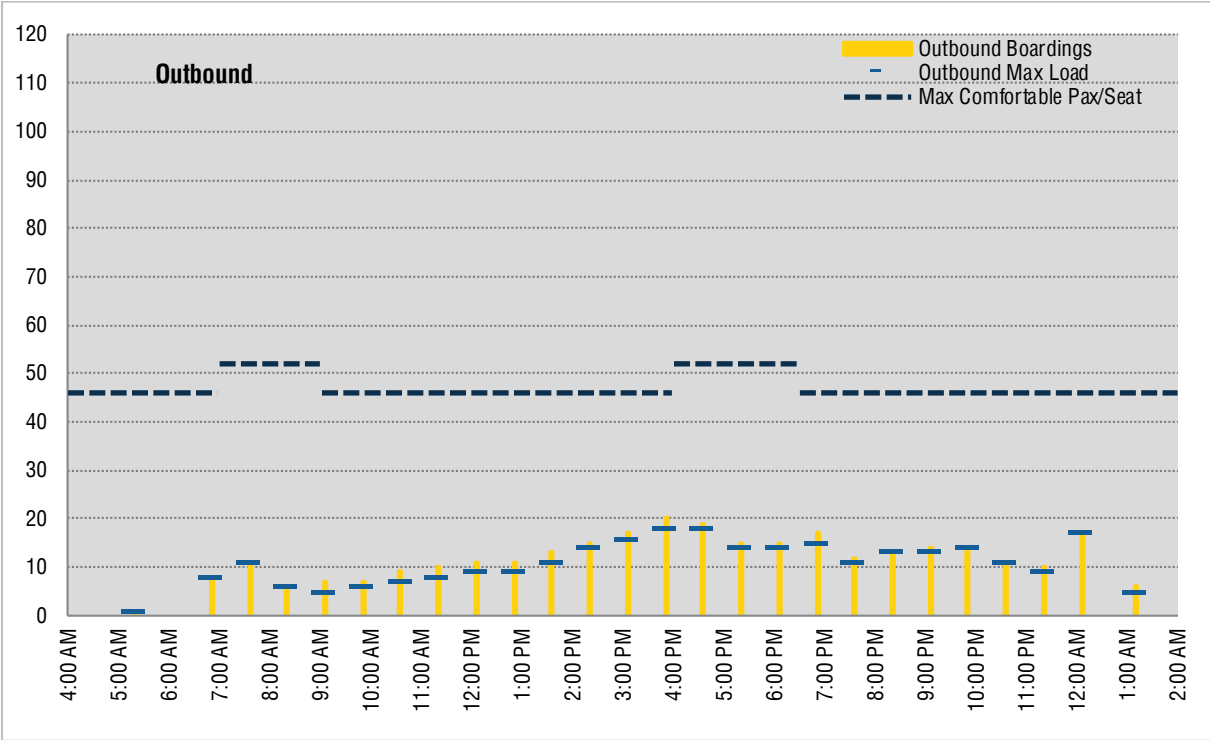


Figure 10 | Saturday Ridership by Trip: Route 713 | Outbound



## Sundays

Sunday service is infrequent at only every 80 minutes on both routes. In spite of this, ridership per trip is reasonably good, at more than 20 passengers on most inbound trips between the start of service and 3:00 PM (see Figure 11 and Figure 12). Ridership then tails off to fewer than 10 passengers per trip at around 6:00 PM and through the end of service.

Outbound ridership is generally the inverse of inbound ridership, with low ridership per trip through about 3:00 PM (see Figure 13 and Figure 14). It is then reasonably good from that time until almost the end of service, when most trips carry 15 to 20 passengers, and some over 20.

Figure 11 | Sunday Ridership by Trip: Route 712 | Inbound

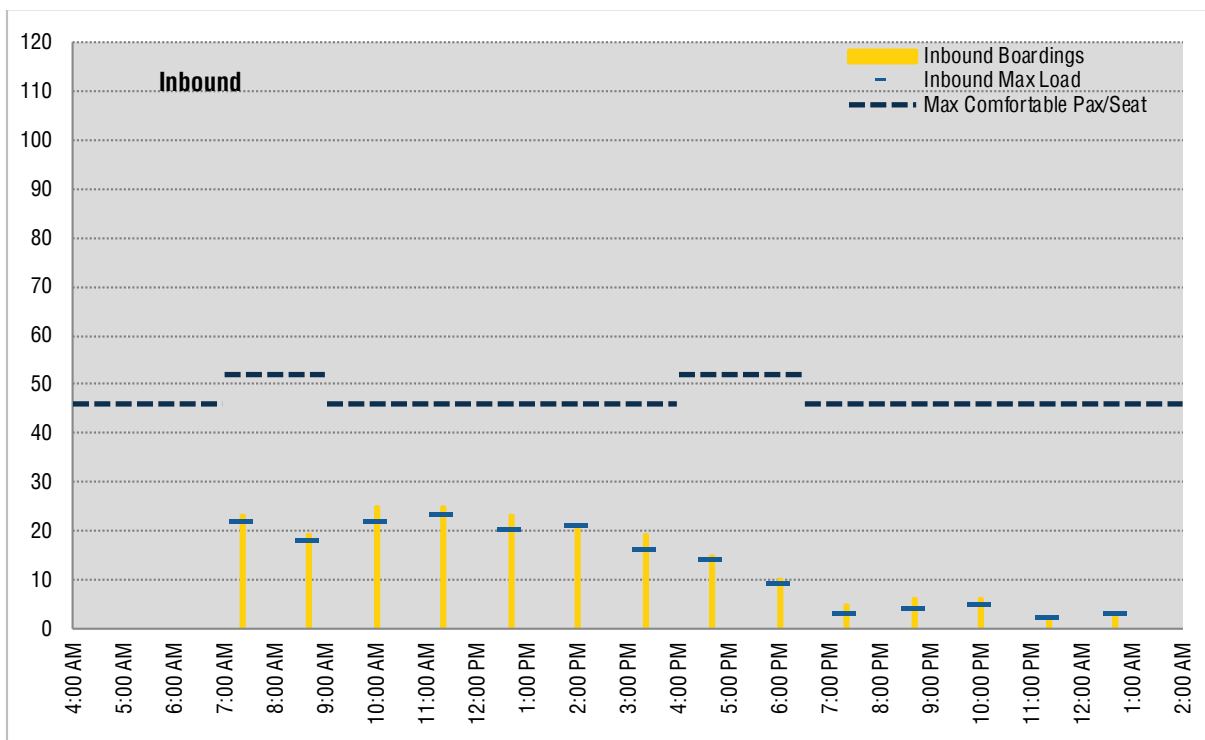


Figure 12 | Sunday Ridership by Trip: Route 713 | Inbound

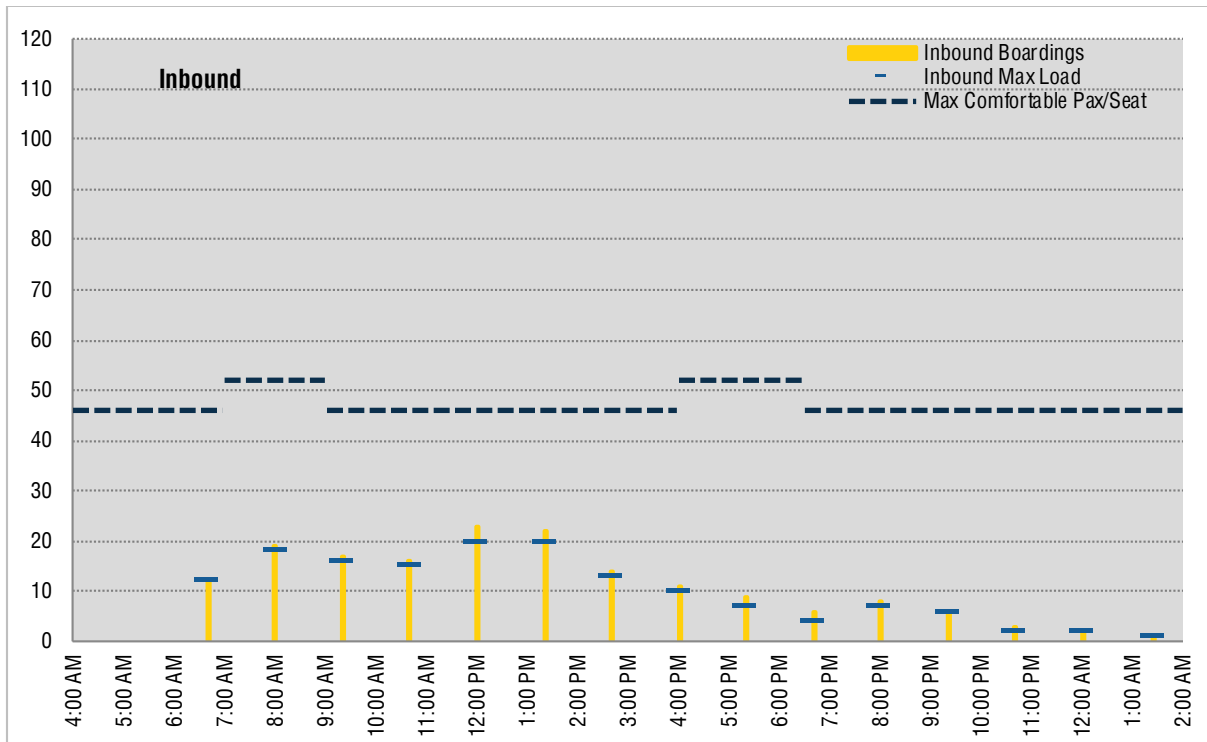


Figure 13 | Sunday Ridership by Trip: Route 712 | Outbound

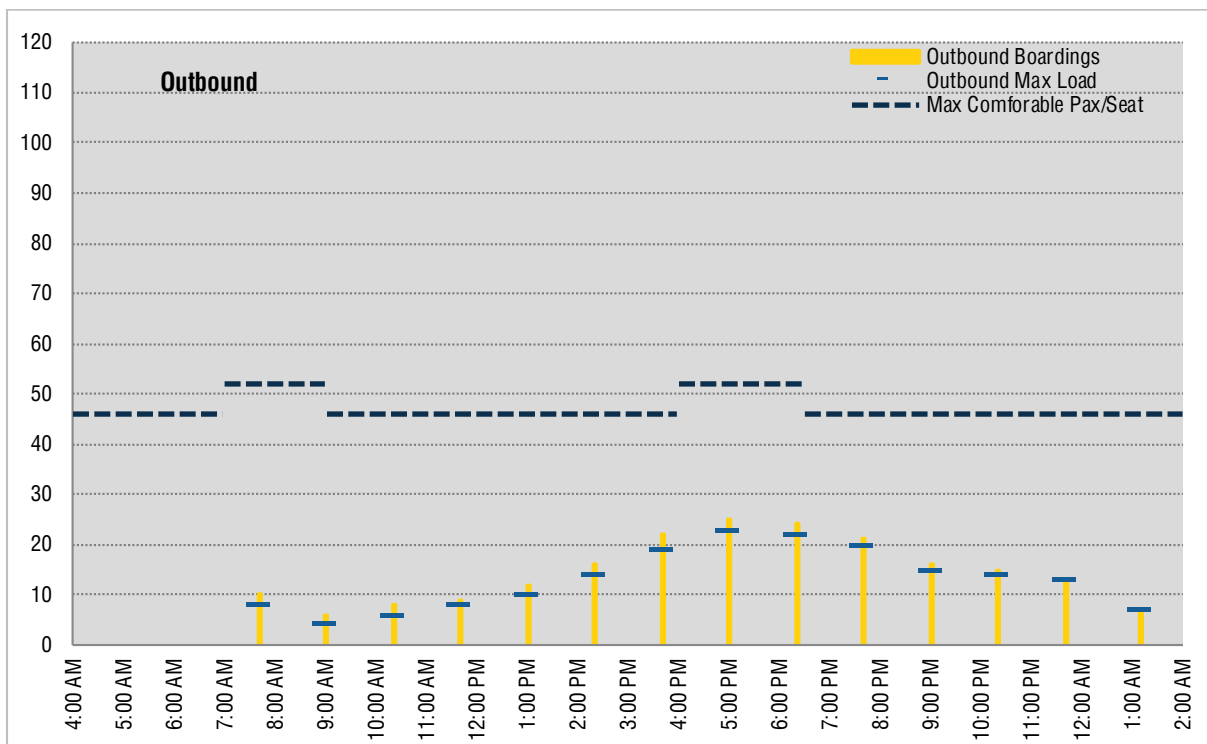
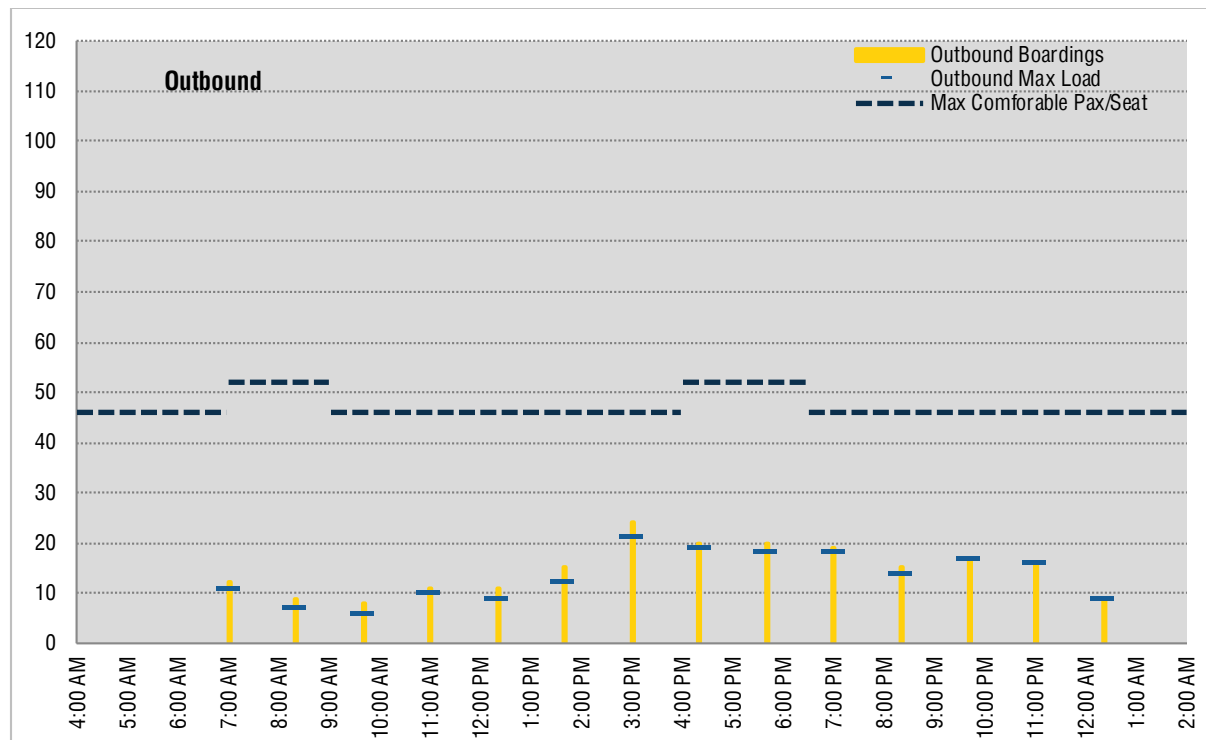




Figure 14 | Sunday Ridership by Trip: Route 712 | Outbound



### 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.

All Route 712 and Route 713 trips operate at less than maximum loads, which means that all passengers travel in comfortable conditions.

### Reliability and Speed

#### Reliability

Route 712 and Route 713 are privately operated and on-time performance data is not available.

## Stop Spacing

Route 712 and Route 713 have approximately eight stops per mile, which is more than the four to seven stops per mile recommended for urban areas under MBTA guidelines. Stop consolidation to better balance walk distances and travel times would provide faster service.

## Summary

Route 712 and Route 713 are contracted services that are not directly operated by the MBTA. The routes provide internal circulation within Winthrop and connect Winthrop to the Blue Line at Orient Heights Station. Route 712 and Route 713 have complicated service alignments because Point Shirley is served as a circuit route by Route 712 in one direction and by Route 713 in the opposite direction. In addition, the two routes provide essentially the same levels of service even though ridership is 350% higher in areas uniquely served by Route 712 as compared with areas uniquely served by Route 713.

There are operating challenges associated with serving Point Shirley, including flooding and illegal parking along Shirley Street during the summer that impedes bus travel.