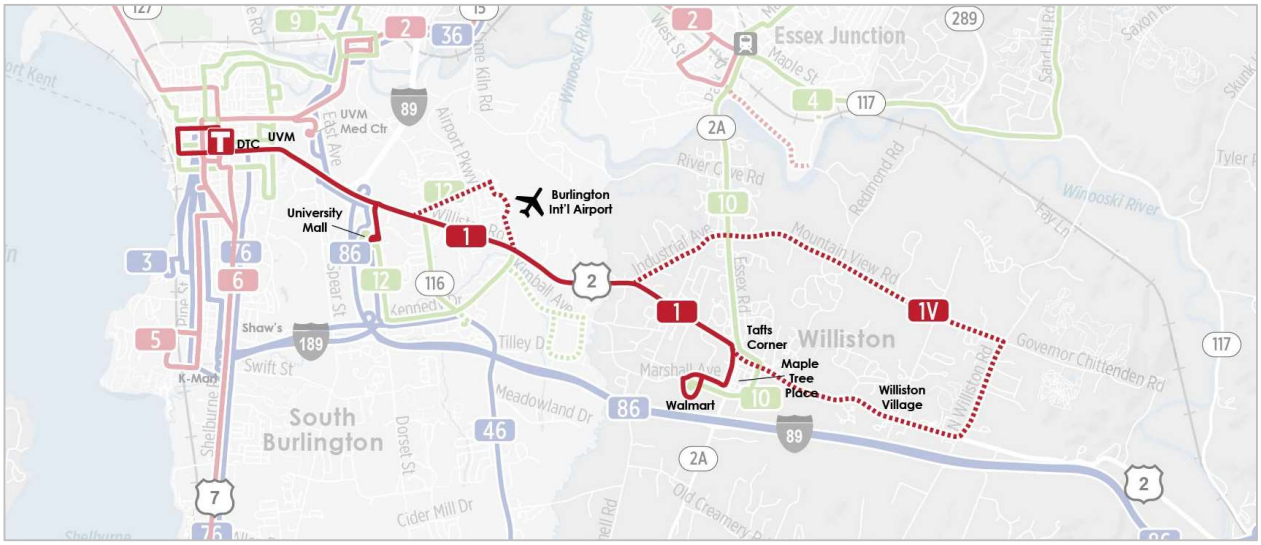
ROUTE 1

Williston/Williston Village

ROUTE OVERVIEW

Route 1 is a Major Local route that operates between the Downtown Transfer Center (DTC) and Williston. The route travels primarily along Main Street and Williston Road/US Highway 2 (see Figure 1). Route 1 provides service to the University of Vermont, the University Mall, and Tafts Corner in Williston. Customers can transfer between Route 1 and other services at the DTC, University Mall, and the Walmart in Williston.

Figure 1: Route Map



On weekdays, Route 1 operates every 15 minutes during peak periods, every 30 minutes during the midday, and every 60 to 80 minutes during the evening (see Table 1. On Saturdays, service operates every 30 minutes during the day and every 70 to 80 minutes at night. On Sundays, service operates every 75 minutes throughout the day. Service spans are long on weekdays and Saturdays, and short on Sundays.

Table 1: Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (MIN)	DAILY TRIPS (OUTBOUND/INBOUND)
Weekday	6:15 a.m. to 12:05 a.m.	15/30/60-80	43/44
Saturday	6:15 a.m. to 12:05 a.m.	30/30/70-80	29/30
Sunday	8:00 a.m. to 7:05 p.m.	75/75	9/9

Peak frequencies are calculated for service between 6:00 am – 9:00 am & 3:00 pm – 6:00 pm. Midday service is from 9:00 am – 3:00 pm. Evening service is for service after 6:00 pm. Saturday and Sunday frequencies are shown as AM/PM.

Route 1 operates with eight service variants on weekdays, three variants on Saturdays, and two on Sundays (see Table 2). The primary alignment (1-29 outbound & 1-24 inbound) runs from the

DTC to the Walmart in Williston. The 1-31 inbound alignment serves the airport at night after Route 12 ends service. The other five variants are Route 1V alignments that serve Industrial Avenue, Mountain View Road, and Williston Village. The 15-3, 15-4, and 15-1 variants serve the 1V loop during the morning peak, and the 15-5 and 15-2 variants provide service during the evening peak.

Table 2: Service Patterns

				TRIPS PER DAY		
PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	WKD	SAT	SUN
OUTBOUND				**43**	**29**	**9**
1-29	DTC	Walmart		38	29	9
1V-3	DTC	Williston Village	AM via Industrial Ave	1	0	0
1V-4	Shaw's	Williston Village	AM via Industrial Ave	2	0	0
1V-5	DTC	Williston Village	PM via Williston Rd	2	0	0
INBOUND				**44**	**30**	**9**
1-24	Walmart	DTC		37	28	9
1-31	Walmart	DTC	Via Airport	2	2	0
1V-1	Williston Village	DTC	AM via Williston Rd	3	0	0
1V-2	Williston Village	DTC	PM via Industrial Ave	2	0	0

RIDERSHIP

Route 1 carries 1,337 passengers per weekday, 1,178 on Saturdays, and 304 on Sundays. By weekday ridership it is GMT's second highest ridership route.

Ridership by Stop

Weekdays

The Downtown Transfer Center has the most passenger activity on Route 1 across all service days. Other high activity stops on Route 1 are located at University Mall, University Heights, and the Walmart in Williston. The University Mall and University Heights stops have over 150 boardings each per weekday, and the Walmart has just under 100 weekday boardings. Other areas with high weekday ridership activity include: Main Street between Pine Street and South Willard Street, Tafts Corner, and Williston Road near Patchen Road. These areas mainly serve retail and restaurant areas in Burlington, Williston, and South Burlington, respectively (see Figure 2). Only a total of four passengers use Route 1V service to and from Williston Village.

Weekends

Weekend ridership patterns are similar to weekday patterns, with Saturday service having similar levels of ridership, and Sunday service having significantly lower volumes (see Figure 3 and Figure 4). On weekends, demand to major shopping destinations, such as University Mall remain high. However, ridership to employment or less dense retail areas such as Willard Avenue past University Mall is much lower.

Figure 2: Weekday Inbound Ridership by Stop

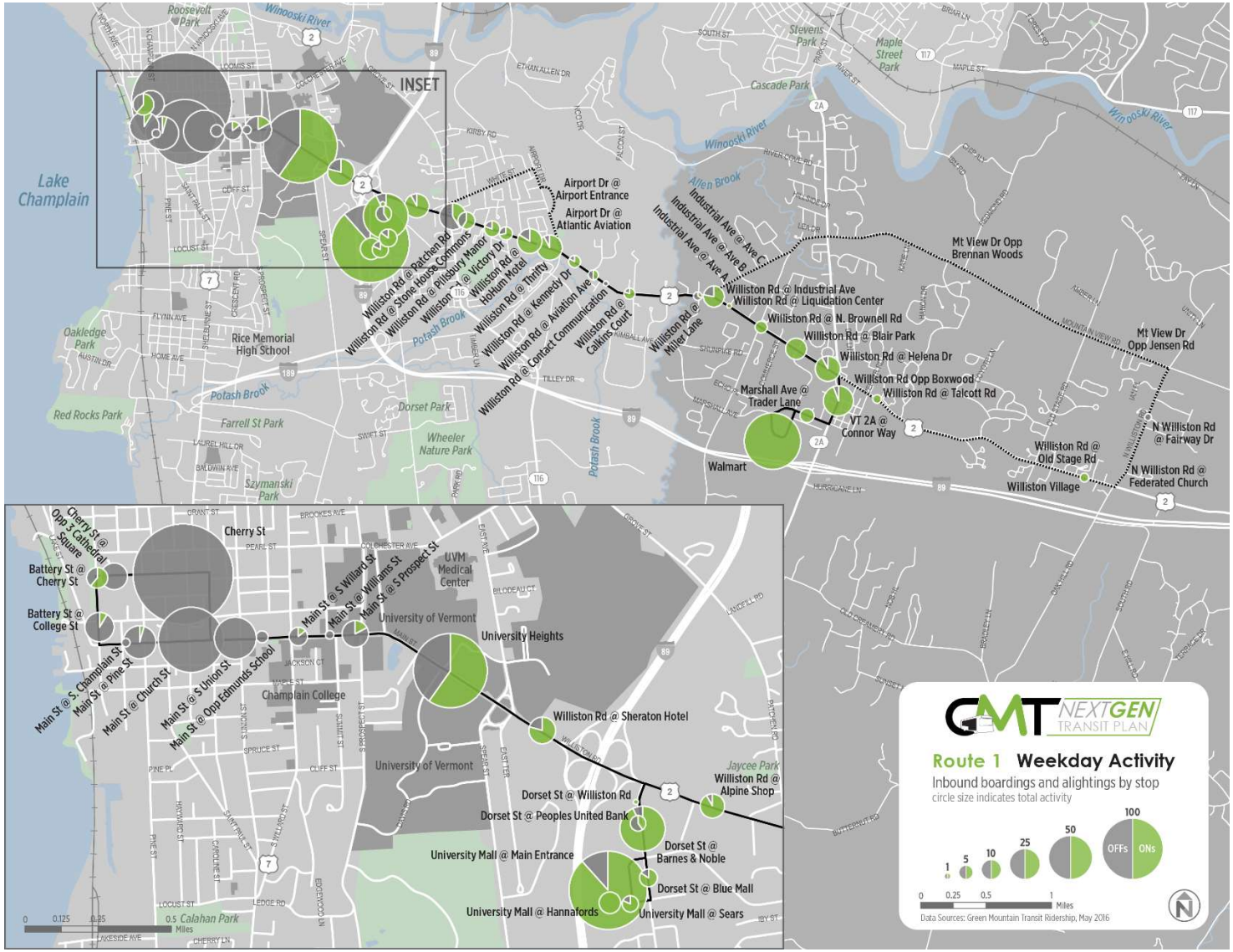


Figure 3: Saturday Inbound Ridership by Stop

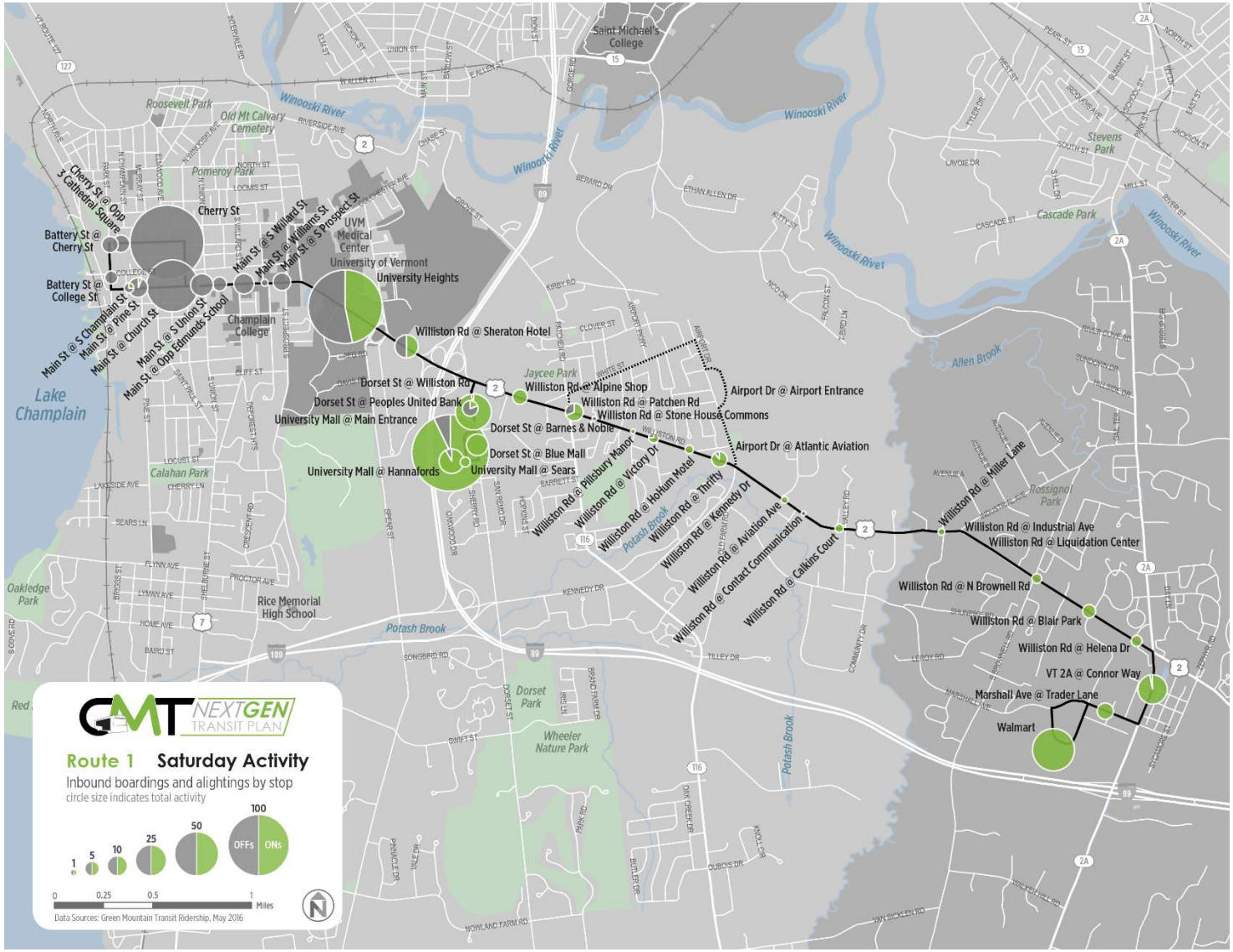
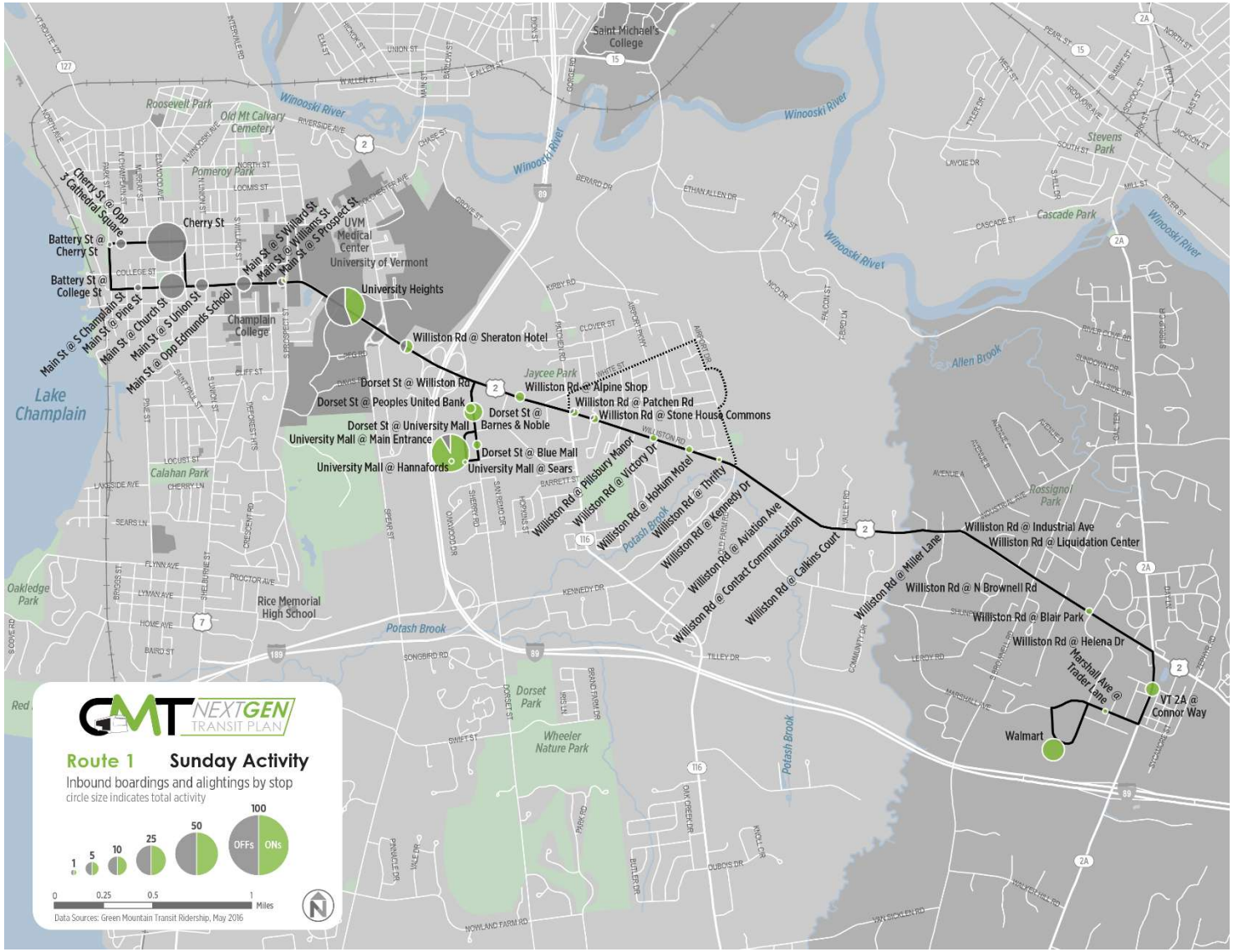


Figure 4: Sunday Inbound Ridership by Stop



Ridership by Trip

Weekdays

On weekdays, Route 1's ridership per trip is highest during the midday, when most trips carry 15 to 25 passengers and some carry over 30 (see Figure 5). During the peak periods, ridership per trip generally ranges from 15 to 20. These differences are because demand is fairly constant throughout the day, but service operates every 15 minutes during peak periods and every 30 minutes during the midday. These time of day ridership patterns indicate that midday service should operate more frequently. Maximum loads are about two-thirds of total boardings per trip, with no trips having an extremely high loads (see Figure 6).

Weekends

On Saturdays, Route 1 ridership is highest in the outbound direction across the service day. There is also a notable ridership peak in the afternoon inbound direction. During these times, total boardings and maximum loads per trip are higher on Saturday than on weekdays (see Figure 7 and Figure 8). This is likely due to only 30 minute service running for most of Saturday and indicates a demand for more frequent service. On Sundays, ridership is highest in the afternoon in both directions.

Figure 5: Weekday Ridership by Trip

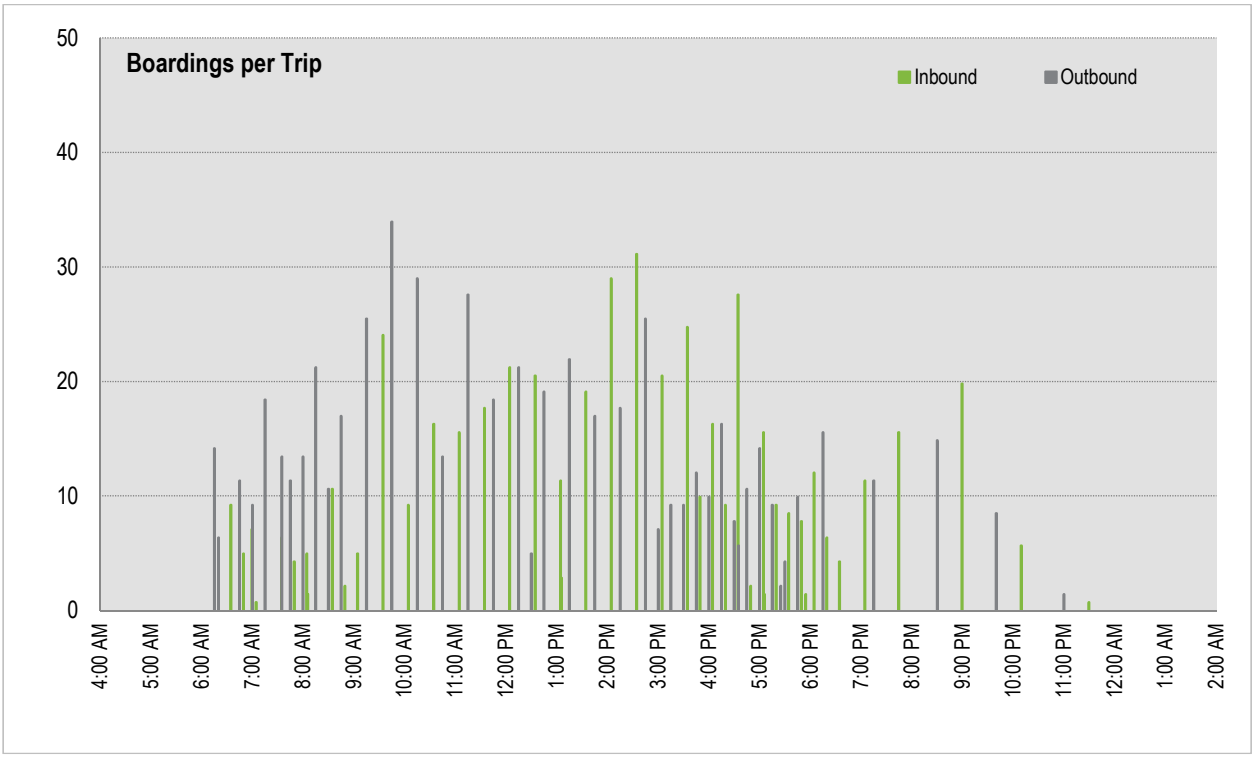


Figure 6: Weekday Maximum Loads by Trip

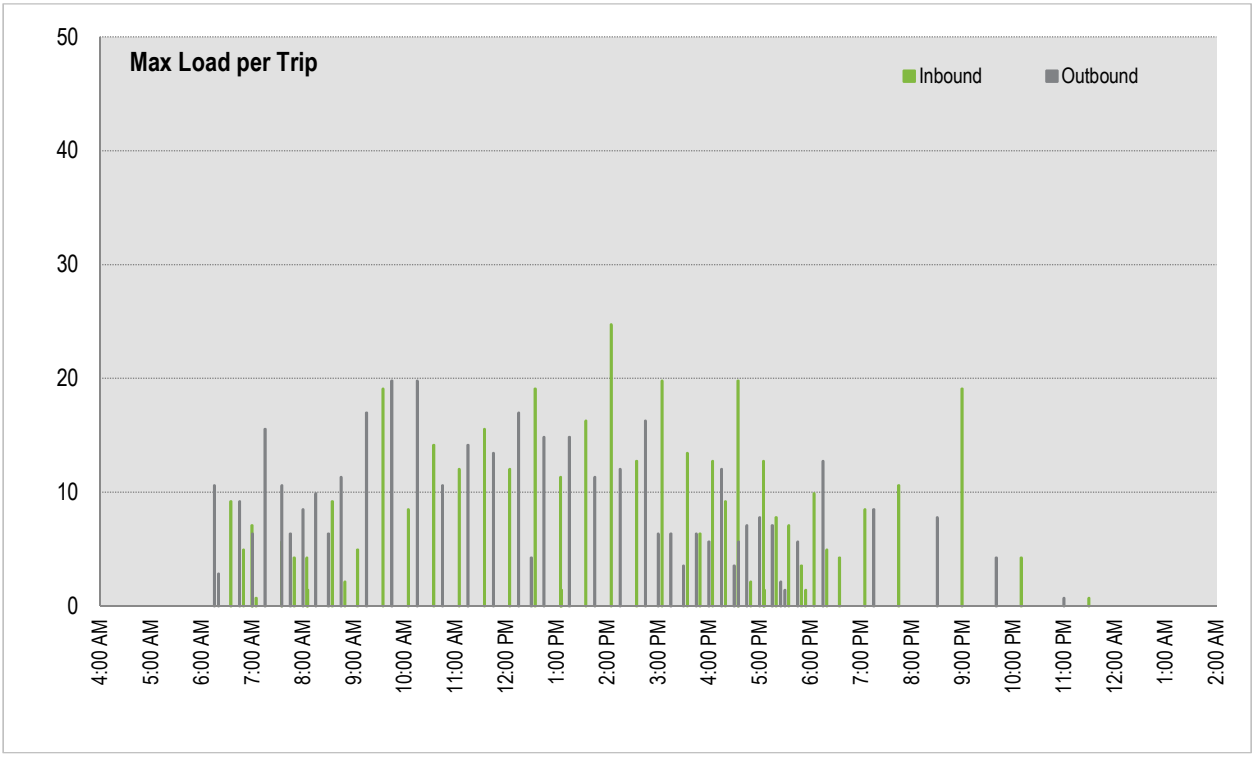


Figure 7: Saturday Ridership by Trip

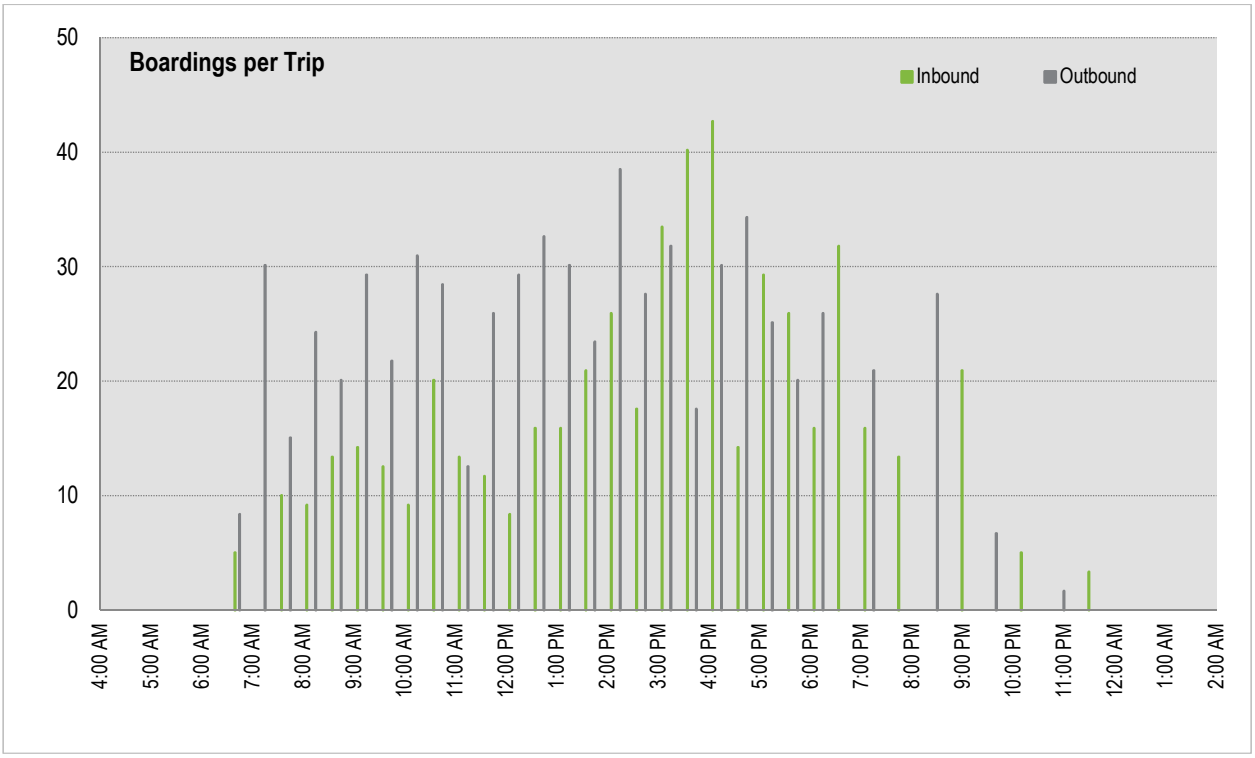


Figure 8: Saturday Maximum Loads by Trip Chart

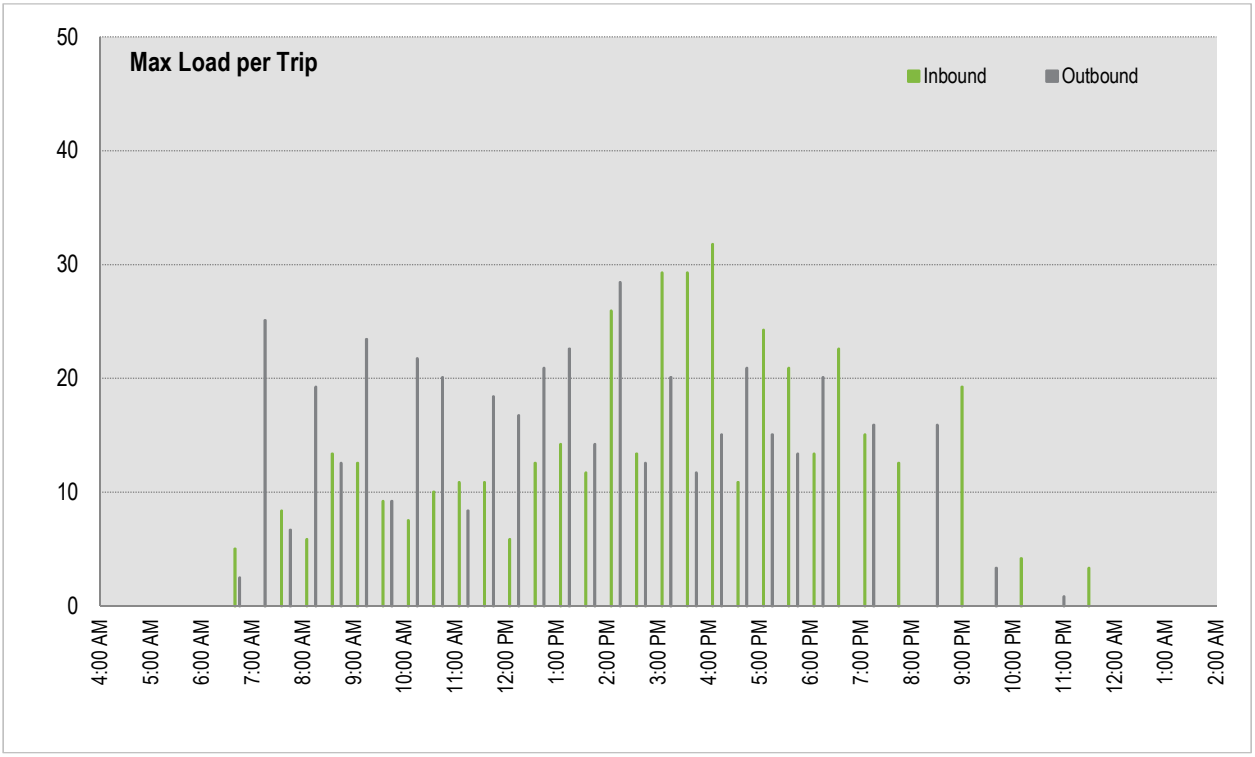


Figure 9: Sunday Ridership by Trip Chart

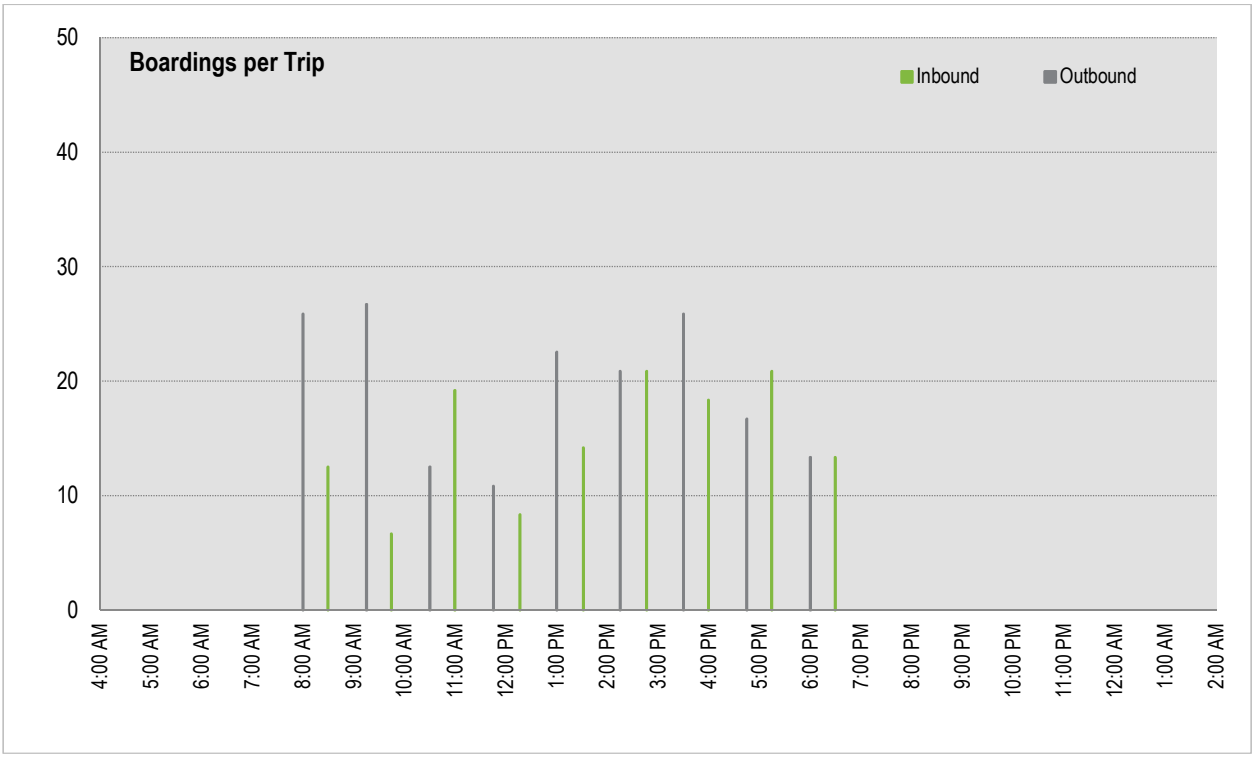
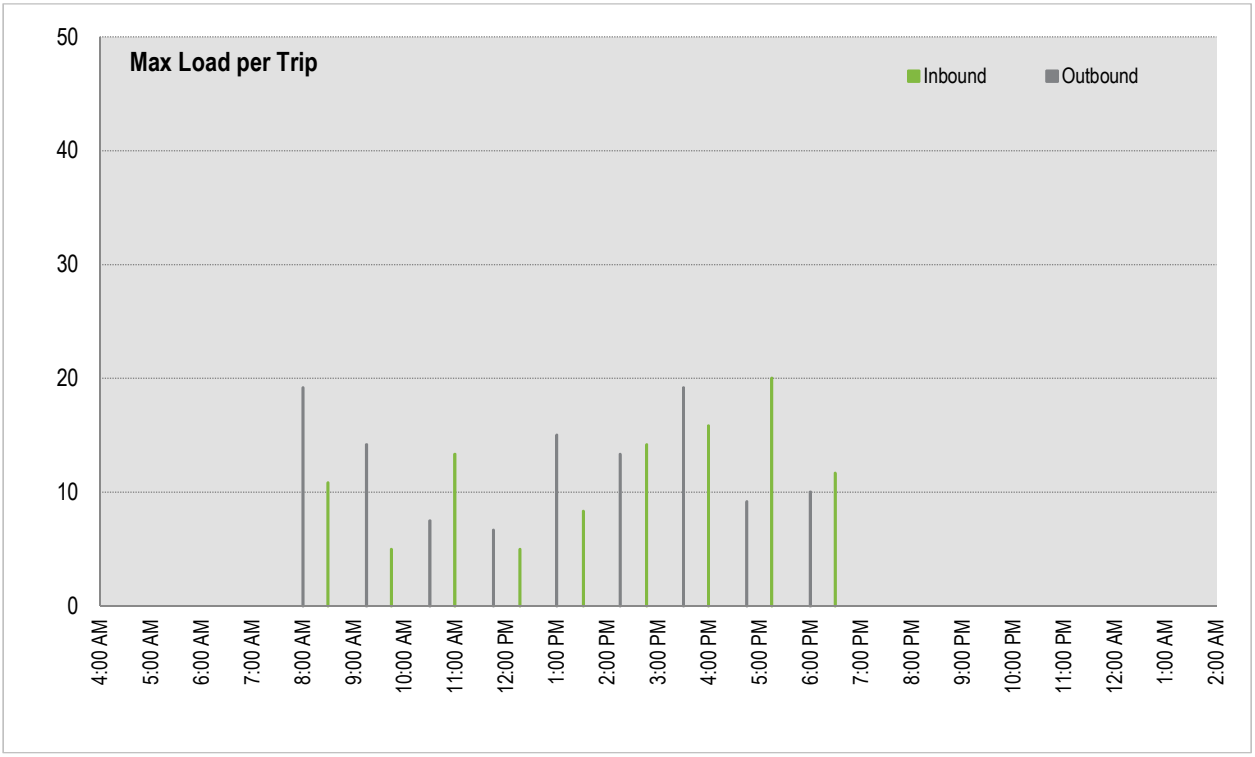


Figure 10: Sunday Maximum Loads by Trip Chart



SERVICE PRODUCTIVITY

Route 1 ranks 2nd of the four Major Local routes in terms of weekday ridership and 4th in terms of ridership per revenue hour (see Table 3). On weekdays the route carries an average of 1,337 passengers per day, or 22.6 passengers per revenue hour.

On Saturdays, Route 1 has the highest ridership per revenue hour of all Major Local routes. On Saturdays, Route 1 carries 1,178 passengers, or 25.7 passengers per revenue hour. On Sundays, Route 1 carries 304 passengers, or 28.7 passengers per revenue hour. Route 1 significantly exceeds the VTrans thresholds for productivity and effectiveness.

POTENTIAL SERVICE IMPROVEMENT OPTIONS

Overall, Route 1 is a strong performing route. Opportunities to strengthen Route 1 are listed below. Some suggestions may be contradictory, as there is usually more than one approach to improving a route.

- **Provide Earlier Weekday Service.** The first weekday trip at 6:15 AM carries an average of 20 passengers, which indicates that there may be demand for earlier service.
- **Operate Weekday Daytime Service Every 20 Minutes.** The route operates every 15 minutes during peak periods and every 30 minutes during the midday, with heavier loads in the midday than during peak periods. Providing service every 20 minutes from the beginning of the AM peak to the end of the PM peak would better balance service with demand.

Table 3: Productivity Statistics

	WEEKDAY	SATURDAY	SUNDAY
Average Daily Ridership	**1,337**	**1,178**	**304**
Pax/Revenue Service Hour	**22.6**	**25.7**	**28.7**
Major Local Average	26.2	22.2	25.1
Pax/One-Way Trip	**15.3**	**20.0**	**16.9**
Major Local Average	14.8	15.3	14.7
Pax/Revenue Mile	**2.66**	**2.93**	**2.44**
VTrans Productivity Threshold	1.95	1.95	1.95
Cost/Passenger	**$2.89**	**$3.01**	**$2.69**
VTrans Effectiveness Threshold	$4.37	$4.37	$4.37

Source: Green Mountain Transit, 2016; VTrans Performance Reviews (2016)

- **Provide More Frequent Weekday Evening Service:** Evening service operates with uneven headways that range from 60 to 80 minutes. Given high ridership during the day, more frequent service would likely be justified until later in the evening. Also, headways above 60 minutes deter all but the most dedicated transit riders, and thus, evening service should operate at least every 60 minutes.
- **Operate Saturday Daytime Service Every 20 Minutes.** Route 1 currently operates every 30 minutes for most of the day on Saturdays, and productivity and load factors exceed weekday performance. This indicates there is demand for more frequent service. Similar as for weekdays, service frequencies could be improved to every 20 minutes.
- **Operate More Frequent Saturday Evening Service.** In as similar manner as on weekdays, Saturday evening service operates every 70 to 80 minutes. To make service much more attractive, evening service frequencies could be increased to every 60 minutes.
- **Provide Earlier and Later Sunday Service.** On Sundays, the last inbound trip carries 16 passengers and the first outbound is carrying 31 passengers, which indicates that earlier and later service may be warranted.
- **Operate Sunday Service every 60 Minutes.** Sunday service operates every 75 minutes, which, like infrequent evening service, deters all but the most dedicated riders, and could be increased to every 60 minutes to provide more attractive service.
- **Eliminate Route 1V Service.** Route 1V's ten trips per weekday carry less than one passenger per trip. This variant service could be eliminated to provide resources for other improvements, including earlier and later service on Route 1.
- **Operate All Service via Airport.** Currently, trips between BTV and the Downtown Transit Center (DTC) require a transfer at University Mall. Connections at the DTC to other places involves a second transfer. Since most people won't make transit trips that involve two transfers, this means that existing Route 12 airport service is only of limited usefulness. The operation of Route 1 via the airport would greatly increase useful transit connections.
- **Eliminate Route 1 Airport Service.** Route 1 deviates to the Burlington International Airport during the last 2 inbound trips after Route 12 discontinues service. Due to very limited flight activity during the times that Route 1 serves the airport, ridership is close to zero on those trips, and the variant service could be eliminate to simplify Route 1 service.