

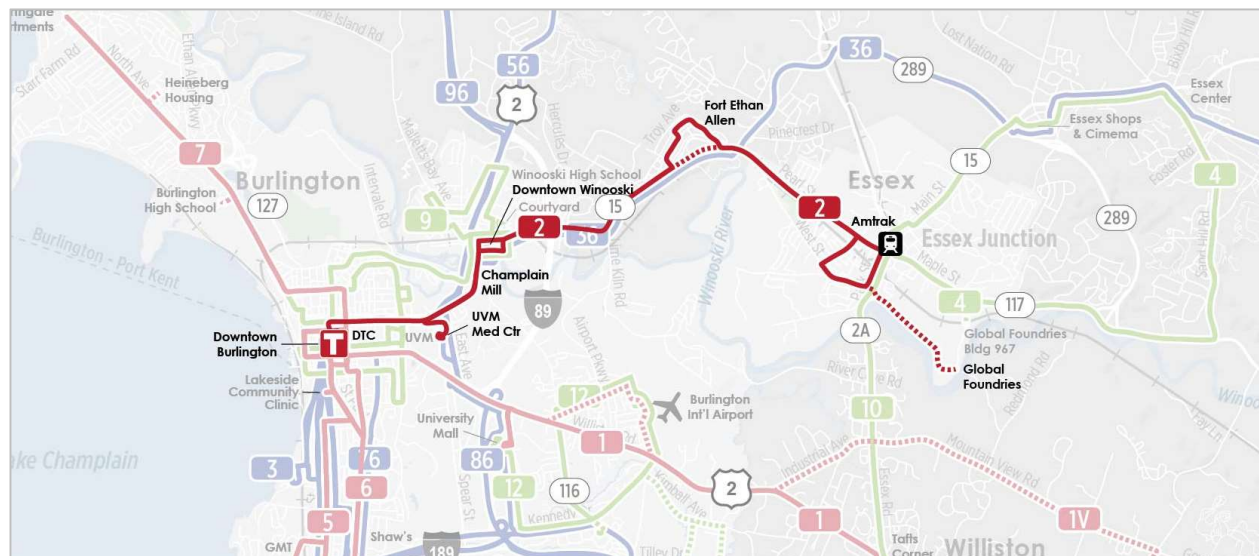
ROUTE 2

Essex Junction

ROUTE OVERVIEW

Route 2 is a Major Local route that operates between the Downtown Transfer Center (DTC) and the Essex Junction Amtrak station. The route travels primarily along Colchester Avenue and State Highway 15 (see Figure 1). Route 2 provides service to the UVM Medical Center, Winooski Falls, Saint Michael's College, Fort Ethan Allen, and Five Corners in Essex. Customers can transfer between Route 2 and other services at the DTC, the UVM Medical Center, Winooski Falls, and Essex Junction.

Figure 1: Route Map



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

Table 1: Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (MIN)	DAILY TRIPS (OUTBOUND/INBOUND)
Weekday	5:45 AM to 12:10 AM	15/30/30-70	48/48
Saturday	6:10 AM to 12:10 AM	30-60/30-75	27/27
Sunday	8:00 AM to 9:15 PM	75/75	10/10

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 2 is a complicated route that has 15 service variants, nine outbound and six inbound (see Table 2). The primary alignment on weekdays (2-53 outbound & 2-38 inbound) runs between the DTC and the Essex Junction Amtrak station. Most of the alternate patterns for Route 2 either add or skip select stops on the route. This includes Global Foundries, UVM Medical Center, 83 Barlow St, and Fort Ethan Allen. The other patterns begin or end at different locations such as Fort Ethan Allen or Shaw's.

Table 2: Service Variants

				TRIPS PER DAY		
Patterns	ORIGIN	DESTINATION	UNIQUE FEATURE	WKD	SAT	SUN
OUTBOUND				48	27	10
2-53	DTC	Essex Junction Amtrak		28	16	0
2-52	DTC	Essex Junction Amtrak	Via Global Foundries	14	2	0
2-47	Shaw's	Essex Junction Amtrak	Via Global Foundries	2	0	0
2-17	S Summit St @ West St	Essex Junction Amtrak		2	0	0
2-54	DTC	Fort Ethan Allen		2	3	0
2-42	DTC	Essex Junction Amtrak	Via 83 Barlow St & Global Foundries	0	1	0
2-50	DTC	Essex Junction Amtrak	Via Global Foundries & skips UVM Medical Center	0	2	0
2-55	DTC	Essex Junction Amtrak	Skips UVM Medical Center	0	2	0
2-59	DTC	Essex Junction Amtrak	Skips S Summit St – Park St Loop	0	1	10
INBOUND				48	27	10
2-38	Essex Junction Amtrak	DTC		43	18	0
2-39	Essex Junction Amtrak	DTC	Skips Fort Ethan Allen	1	1	0
2-57	Essex Junction Amtrak	DTC	Skips Fort Ethan Allen & UVM Medical Center	1	0	0
2-49	Essex Junction Amtrak	DTC	Skips UVM Medical Center	1	4	0
2-48	Fort Ethan Allen	DTC		2	3	0
2-58	Essex Junction Amtrak	DTC		0	1	10

RIDERSHIP

Route 2 carries 1,551 passengers per weekday, 736 on Saturdays, and 248 on Sundays. By weekday ridership, it is GMT's highest ridership route.

Ridership by Stop

Weekdays

The Downtown Transfer Center has the most passenger activity on Route 2. Other high activity stops on Route 2 are located at Champlain Mill and the UVM Medical Center. The Champlain Mills/Winooski Falls stop has over 450 boardings and alightings per weekday, while the UVM Medical Center stop (FAHC) has over 400 boardings and alightings. Other areas with high ridership activity per weekday include: the Essex Junction Amtrak, the Essex Junction Shopping Center, Fort Ethan Allen, and the stops at St Michael's College (see Figure 2). With 17 boardings per weekday Global Foundries has low ridership compared to other major destinations.

Weekends

Weekend ridership patterns are similar to weekday patterns, but with significantly lower volumes. On Saturday, ridership near retail areas and St Michael's College have slightly lower ridership levels, while the rest of the route near residential areas and the UVM Medical Center have much lower ridership volumes (see Figure 3). Weekend ridership near colleges and universities often remains productive as students utilize service for shopping or leisure trips. Sunday ridership is much lower across the entire route (see Figure 4).

Ridership by Trip

Weekdays

On weekdays, Route 2 ridership is highest during the morning commute for the inbound direction and during the afternoon commute for the outbound direction (see Figure 5). During these periods, most trips have 20 to 30 boardings. However, the highest number of boardings per trip, 31 boardings, happens during midday when the frequency of service is reduced to every 30 minutes. Maximum loads across the service day are about 80% of the total boardings per trip. No trip has a maximum load that exceeds 25 passengers.

Weekends

On Saturdays, Route 2 ridership is similar to weekday service, with the highest ridership during the morning in the inbound and during the evening in the outbound direction (see Figure 7). While peak ridership levels are similar to weekdays, Saturday trips have lower total boardings (see Figure 7). About half of all Saturday trips have less than 20 total boardings. Sunday trips have highest ridership in the afternoon for both directions (see Figure 9).

Maximum loads are well below seated capacity on all trips on all days (see Figure 6, Figure 8, and Figure 10).

Figure 3: Saturday Inbound Ridership by Stop

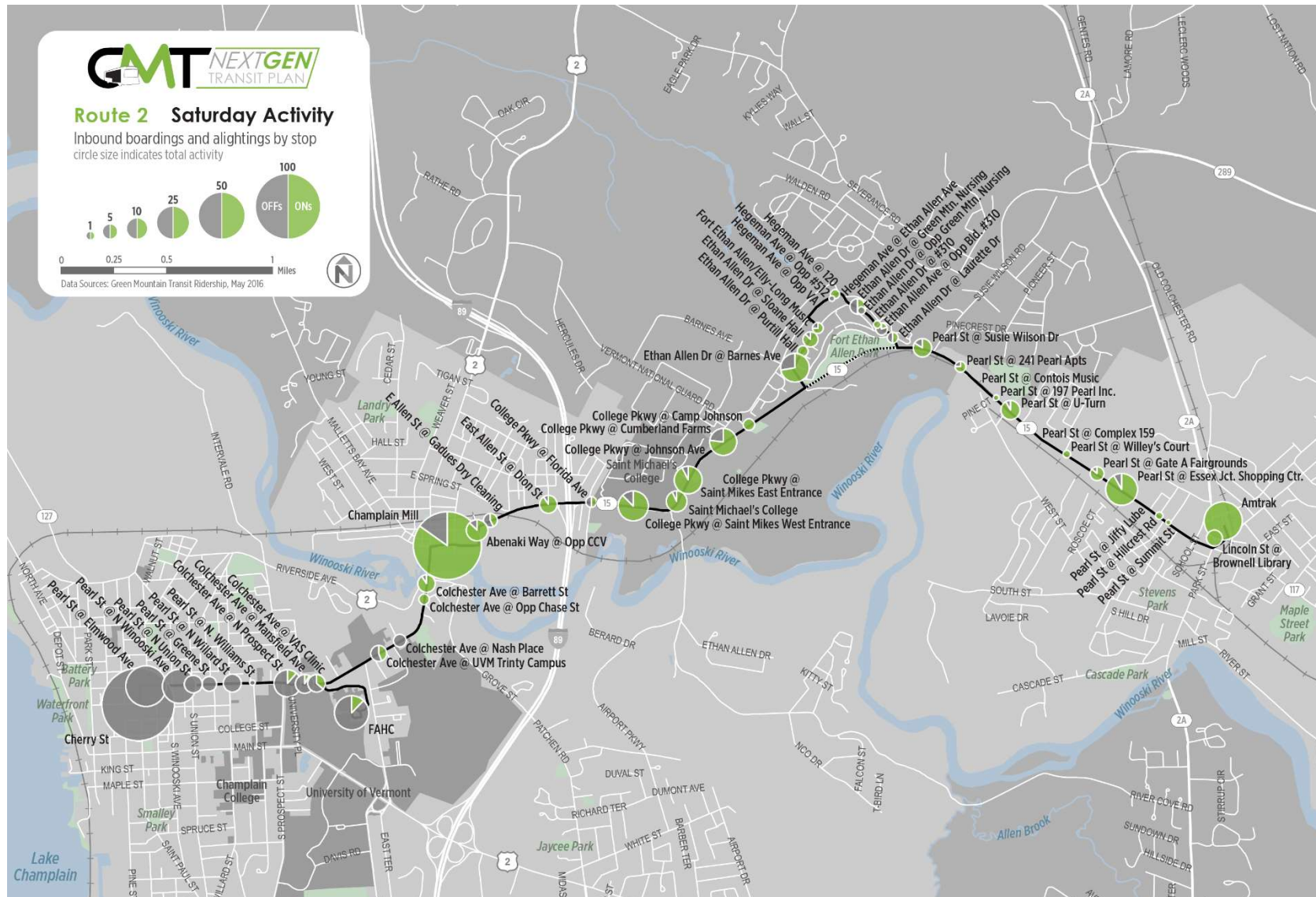


Figure 4: Sunday Inbound Ridership by Stop

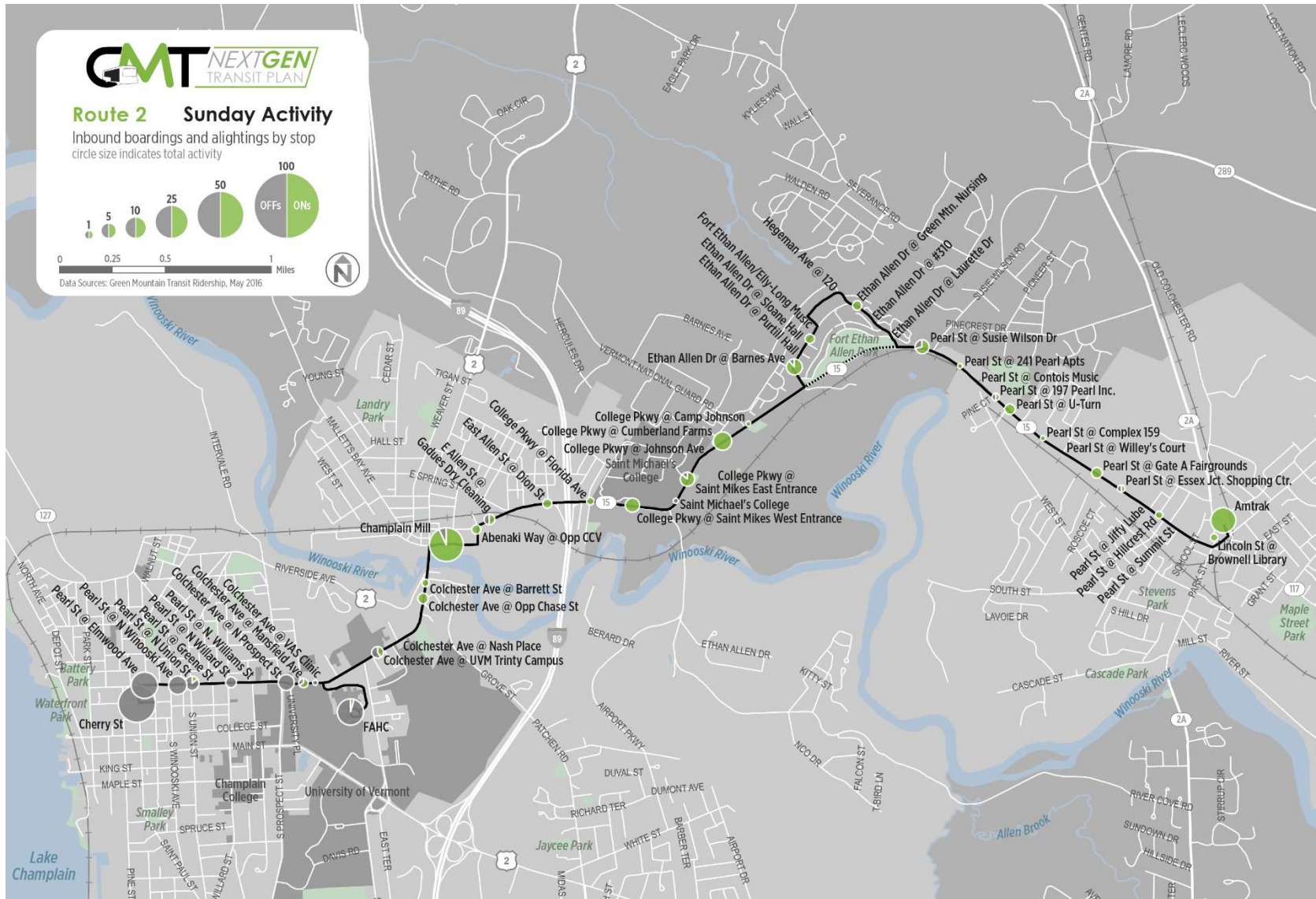


Figure 5: Weekday Ridership by Trip

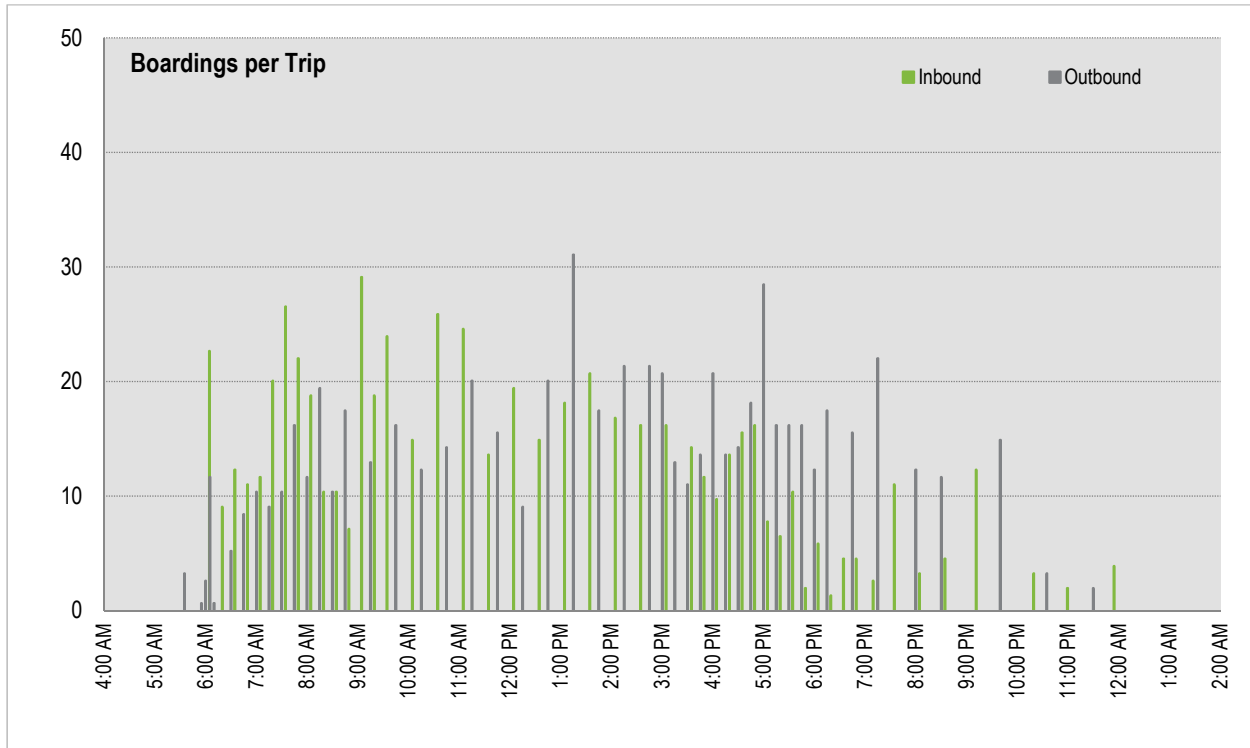


Figure 6: Weekday Maximum Loads by Trip

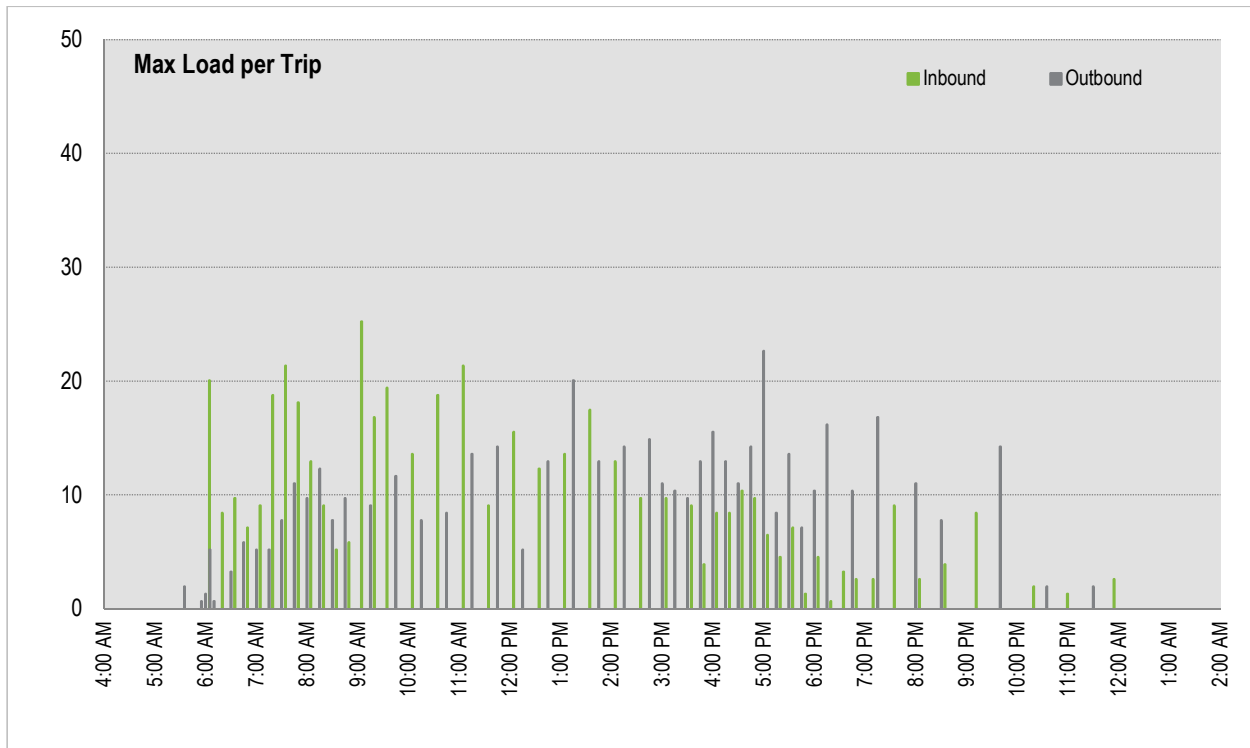
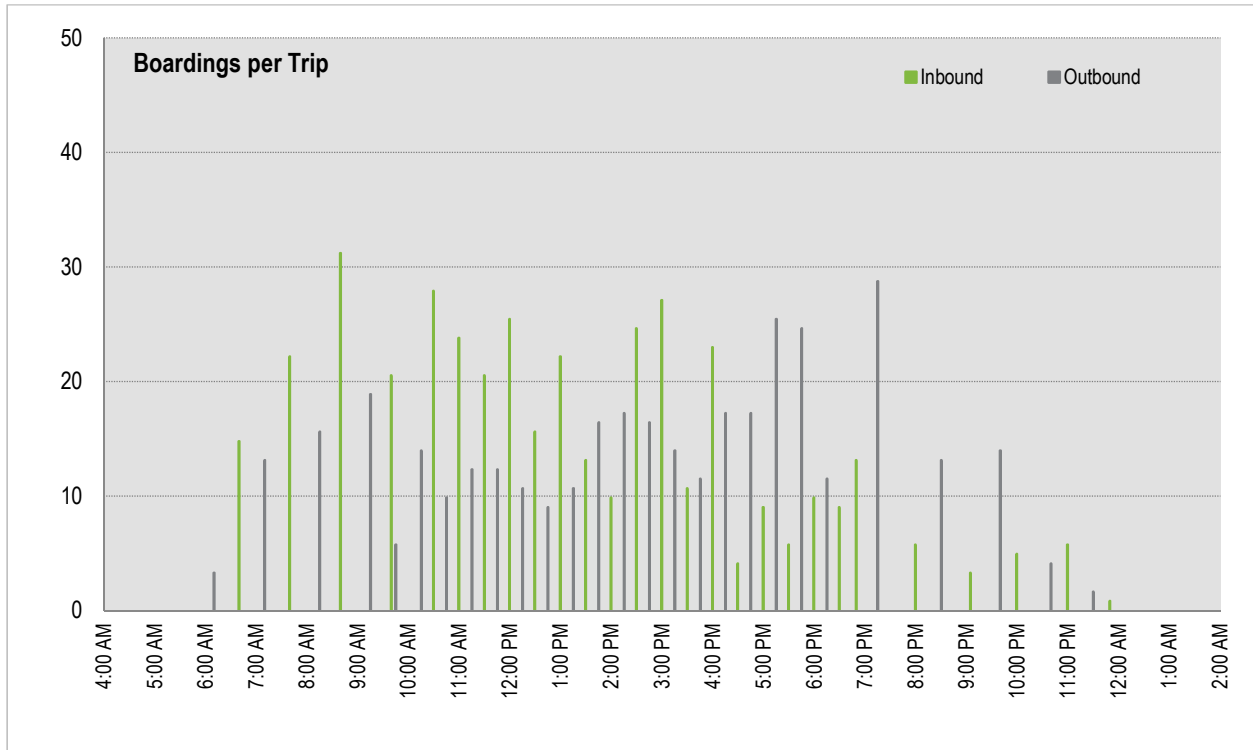


Figure 7: Saturday Ridership by Trip



Source: Green Mountain Transit, May 2016

Figure 8: Saturday Maximum Loads by Trip

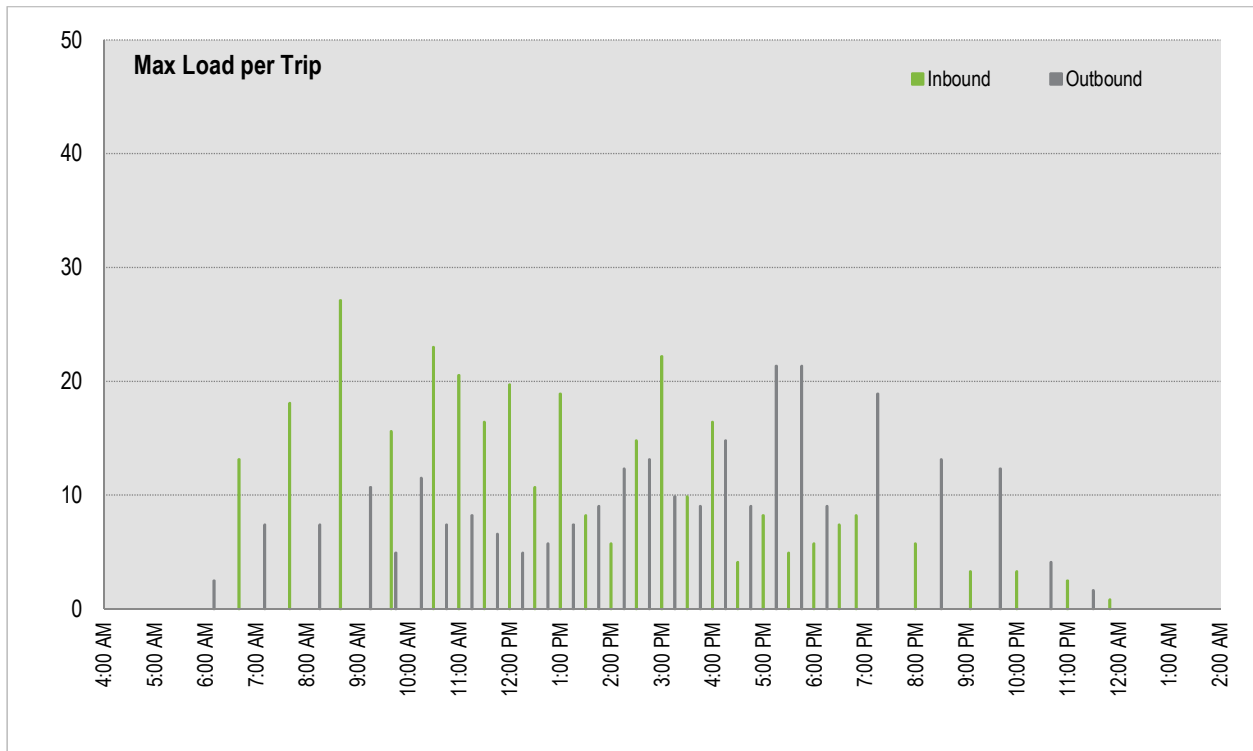


Figure 9: Sunday Ridership by Trip

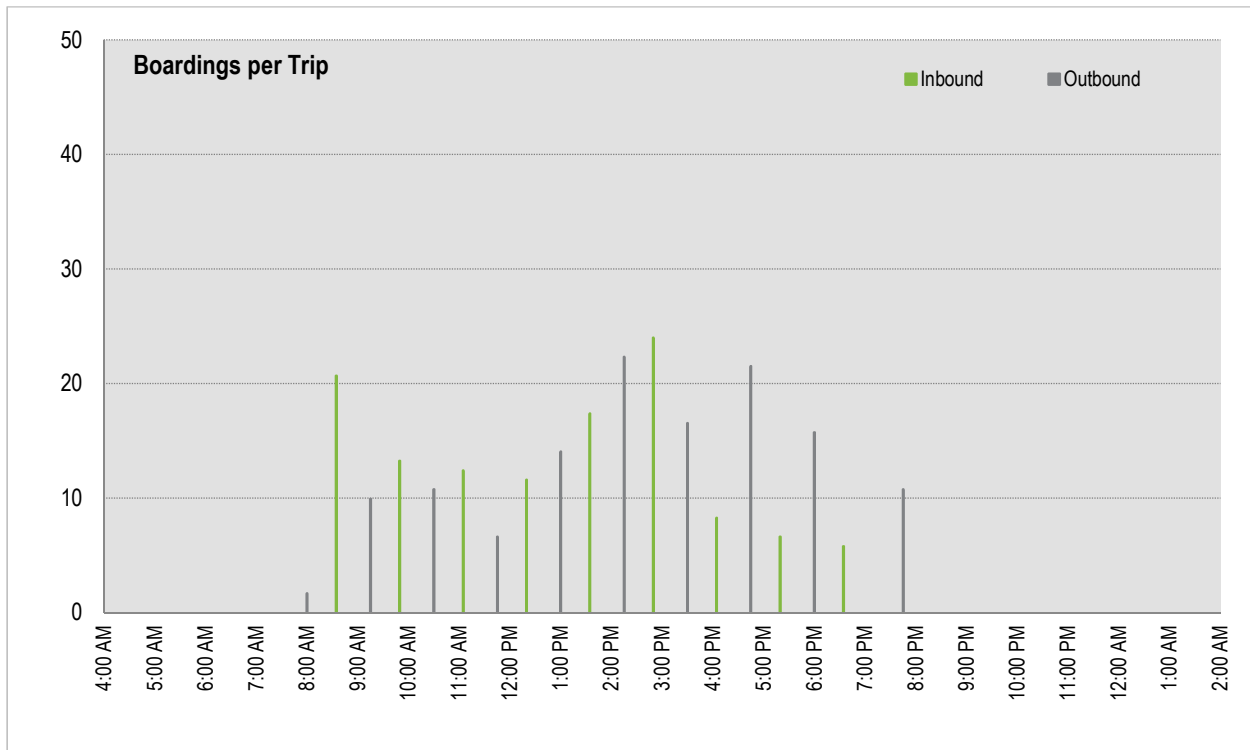
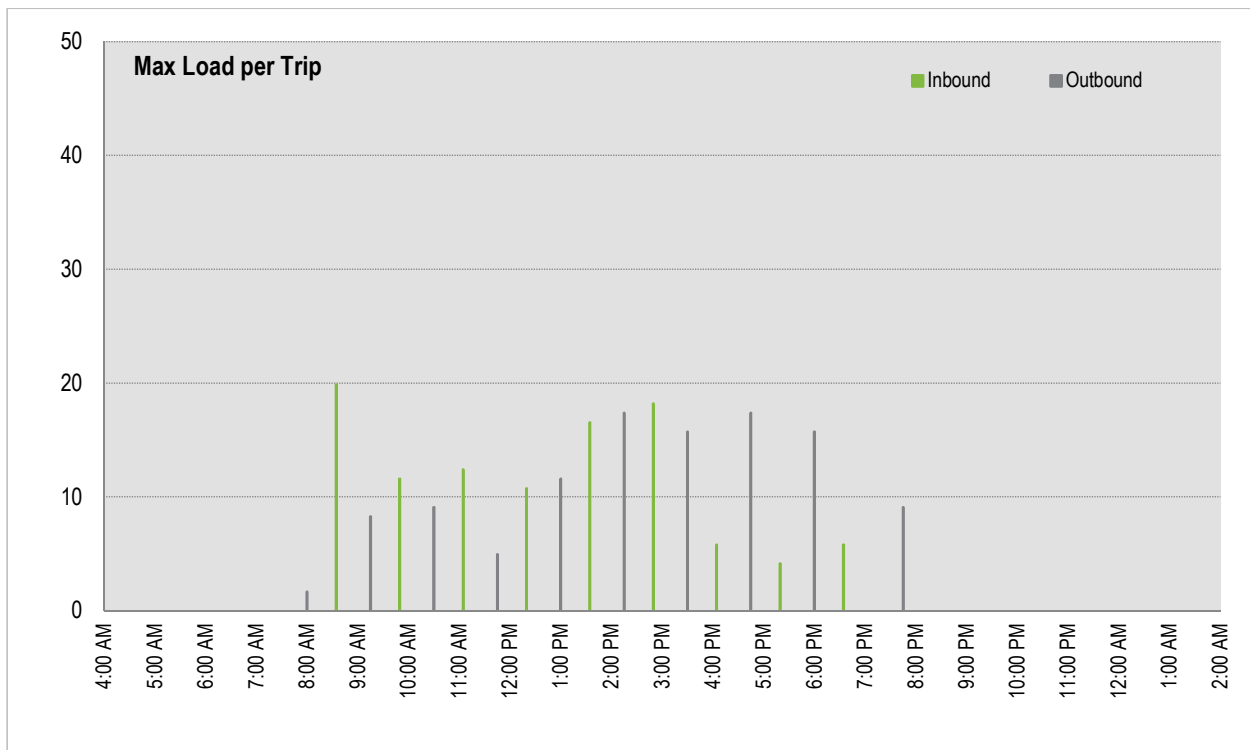


Figure 10: Sunday Maximum Loads by Trip



SERVICE PRODUCTIVITY

Route 2 ranks 1st of GMT's four Major Local routes in terms of weekday ridership and 3rd in terms of ridership per revenue hour (see Table 3). On weekdays the route carries an average of 1,551 passengers per day, or 24.2 passengers per revenue hour. On Saturdays, Route 2 carries 736 passengers, or 21.8 passengers per revenue hour. On Sundays, Route 2 carries 248 passengers, or 21.4 passengers per revenue hour.

Table 3: Productivity Statistics

	WEEKDAY	SATURDAY	SUNDAY
Average Daily Ridership	1,551	736	248
Pax/Revenue Service Hour	24.2	21.8	21.4
Major Local Average	26.2	22.2	25.1
Pax/One-Way Trip	16.2	13.6	12.4
Major Local Average	14.8	15.3	14.7
Pax/Revenue Mile	2.85	1.98	1.88
VTrans Productivity Threshold	1.95	1.95	1.95
Cost/Passenger	\$2.47	\$3.49	\$3.57
VTrans Effectiveness Threshold	\$4.37	\$4.37	\$4.37

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

Route 2 meets the VTrans thresholds for effectiveness for all service days and productivity on weekdays and Saturday. Route 2 does not meet the productivity threshold for Sunday service, but when considering all service days combined, Route 2 does the productivity threshold.

SERVICE IMPROVEMENT OPTIONS

Opportunities to strengthen Route 2 are listed below. Some suggestions may be contradictory, as there is usually more than one approach to improving a route.

Simplify Service

Route 2 is very complex and would like be stronger if simplified to provide more consistent service. Opportunities for doing so include:

- **Serve UVM Medical Center on All Trips.** Some evening trips do not provide service directly into UVM Medical Center. As one of the highest ridership locations on Route 2, the UVM Medical Center should be considered for consistent service.
- **Serve Fort Ethan Allen on All Trips.** Some evening trips do not provide service directly via Fort Ethan Allen. As one of the highest ridership locations on Route 2, it should also be considered for consistent service.
- **Eliminate South Street - Summit St - Park St Loop.** Due to a lack of ridership activity consider eliminating the Summit, South and Park Street loop. The miles and hours of service saved could be used to serve the UVM Medical Center and Fort Ethan Allen locations as described above. Passengers along Summit and South Streets could potentially access Route 2 or Route 10 with minor modifications. Passengers on Park Street would still have direct access to the Route 10.

- **Eliminate Global Foundries Stop.** Major corridor routes benefit from consistent and direct service. The patterns deviating to serve Global Foundries could be eliminated to provide more direct and consistent service to the main service corridor. Ridership to Global Foundries is low (approximately one passenger per weekday trip) and could instead be provided to modifications to Route 4 or Route 10. Alternatively, Global Foundries could operate a shuttle or vanpool service to Essex Junction for their employees.

Other Improvements

- **Operate Weekday Peak Service Every 20 Minutes.** Route 2 operates every 15 minutes during peak periods and every 30 minutes during the midday. Providing service every 20 minutes from the beginning of the AM peak to the end of the PM peak could improve service productivity and address high loads seen after the morning peak.
- **Provide More Frequent Weekday Evening Service:** Evening service operates with uneven headways that range from 60 to 75 minutes. Headways above 60 minutes deter all but the most dedicated transit riders, and thus, evening service should operate at least every 60 minutes.
- **Begin 30 Minute Service Earlier on Saturdays.** Saturday service operates hourly until around 9 AM, and the 8:40 AM the highest ridership on any Saturday inbound trip. This indicates that there is demand for 30 minute service starting at around 8 AM.
- **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.
- **Provide Earlier and Later Sunday Service.** On Sunday the first inbound trip carries 25 passengers and the last outbound trip carries 13 passengers, which indicates that earlier and later service may be warranted.