

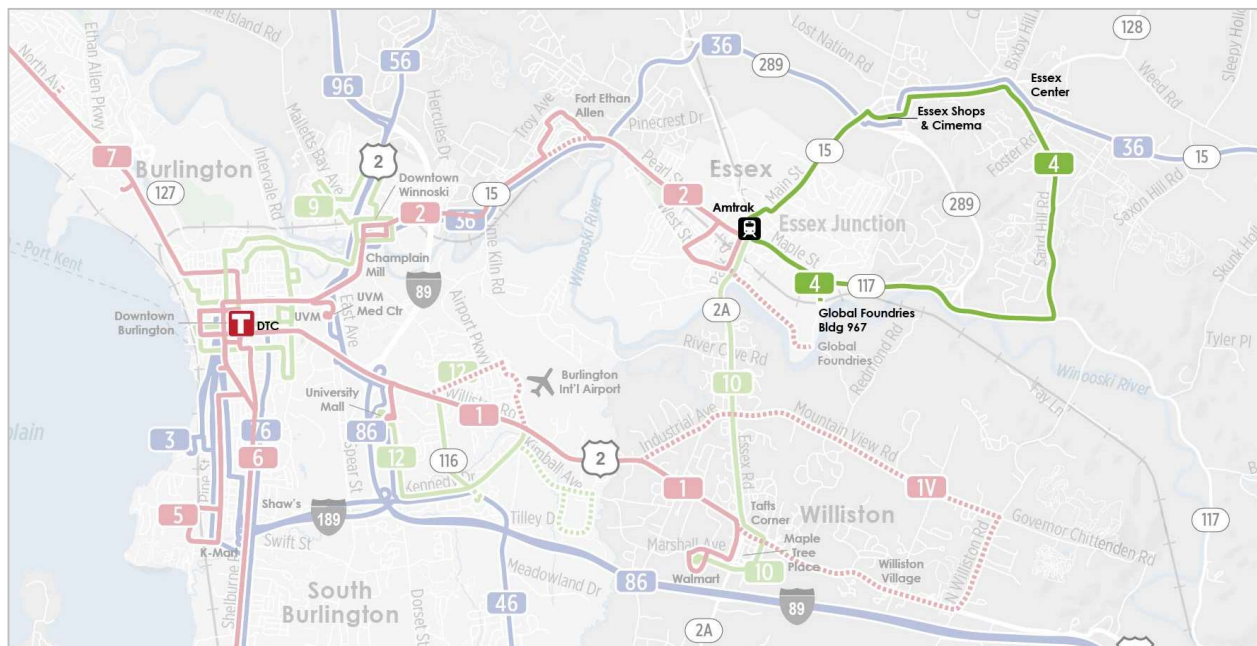
# ROUTE 4

## Essex Center

### ROUTE OVERVIEW

Route 4 is an Urban Local route that operates as a clockwise loop serving Essex Junction (including Amtrak), Essex Center, and Sand Hill. The route travels primarily along Main Street, College Parkway, Sand Hill Road, River Road, and Maple Street (see Figure 1). Customers can transfer between Route 4 and Routes 2 Essex Junction and 10 Williston/Essex at The Essex Junction Amtrak Station.

**Figure 1: Route Map**



Service operates only on weekdays, from 6:00 AM to 9:51 AM and 1:00 PM to 6:15 PM with a gap in service from 9:51 AM to 1:00 PM (see Table 1). Service operates every 30 minutes in the morning and from 1:00 PM to 4:00 PM, and then every 45 minutes after that time.

**Table 1: Schedule Statistics**

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (MIN)	DAILY TRIPS (OUTBOUND)
Monday-Friday	6:00 AM to 9:51 AM 1:00 PM to 6:15 PM	30/30/45	18
Saturday	—	—	—/—
Sunday	—	—	—/—

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 4 has two service variants (see Table 2). The primary alignment (4-4 outbound) runs along the loop shown in Figure 1. The second variant, 4-5, deviates upon request to Global Foundries for drop-offs (but not pick-ups; returning passengers must use Route 2 Essex Junction and then transfer to Route 4).

**Table 2: Service Variants**

VARIANT	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER DAY		
				WKD	SAT	SUN
<b>CLOCKWISE</b>				<b>18</b>	<b>—</b>	<b>—</b>
4-4	Essex Junction	Essex Junction	Regular route	11	—	—
4-5	Essex Junction	Essex Junction	Request service to Global Foundries	7	—	—

## RIDERSHIP

Ridership on Route 4 is low, at only 89 passengers per weekday. In terms of weekday ridership, it is the second lowest ridership Urban Local route.

### Ridership by Stop

There are only three ridership locations of note on Route 4 (see Figure 2):

- Essex Junction
- The stops that serve Essex Outlet Fair
- Essex Center

Essex Junction is the largest stop on the route, and also a transfer point with Routes 2 Essex Junction and 4 Williston/Essex. Minor stops include Essex Town Public Works and Sand Hill Road at River Road. Only two riders use the request service to Global Foundries, which is not particularly surprising since travel is only possible in one direction. All other stops have either very low or no ridership (zero to three riders per weekday).

By leg:

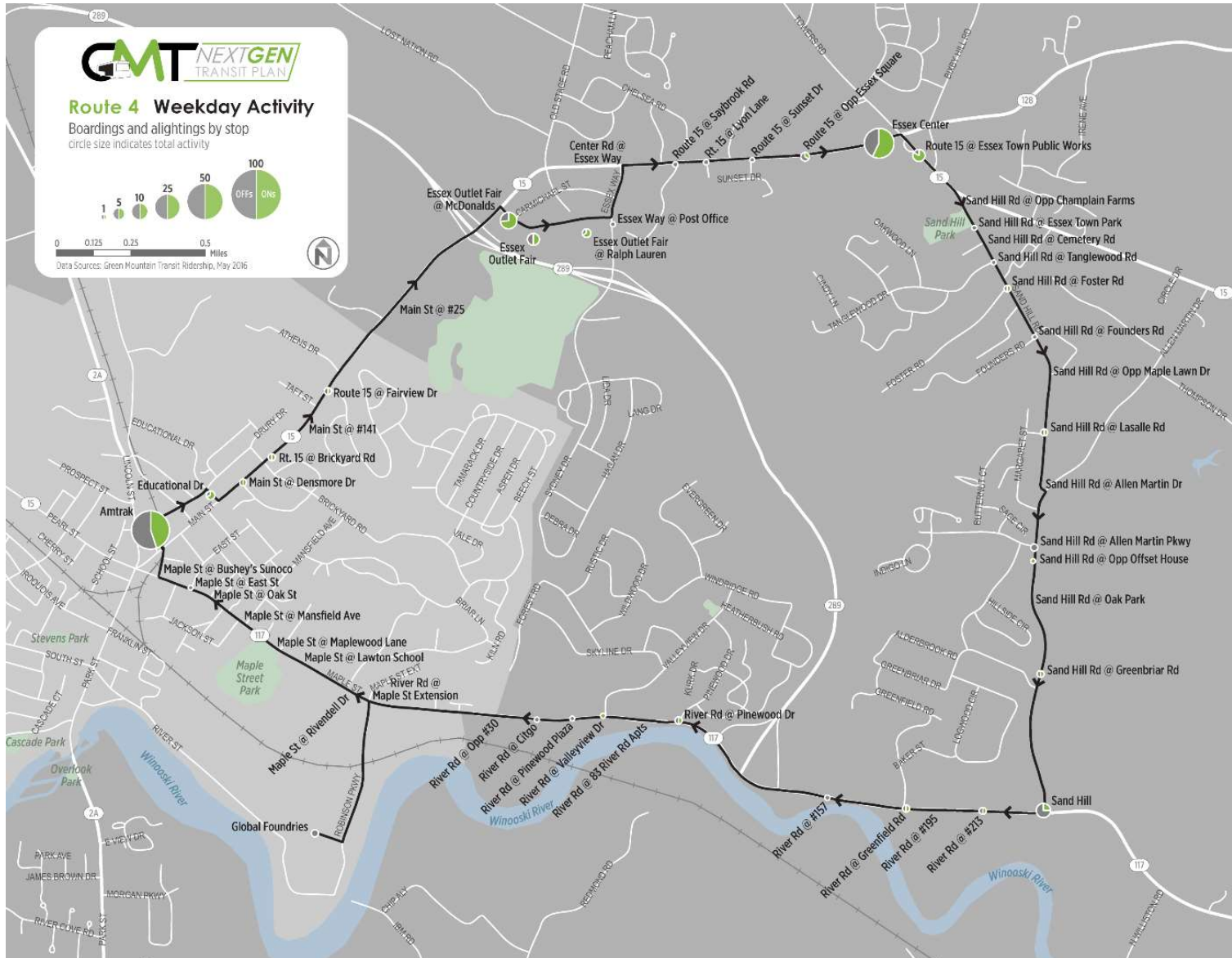
- The large majority of ridership is on the northern leg between Essex Junction and Essex Center, which serves an average of 66 passengers. Note that because the route only operates clockwise, inbound riders from the northern leg must make circuitous inbound trips via Sand Hill Road and River Road, which makes service inconvenient.
- The Sand Hill Road leg serves an average of 10 passengers (not including those riding through from the northern leg to Essex Junction).
- The River Road leg serves an average of five passengers (again, not including passengers who are riding through)

### Ridership by Trip

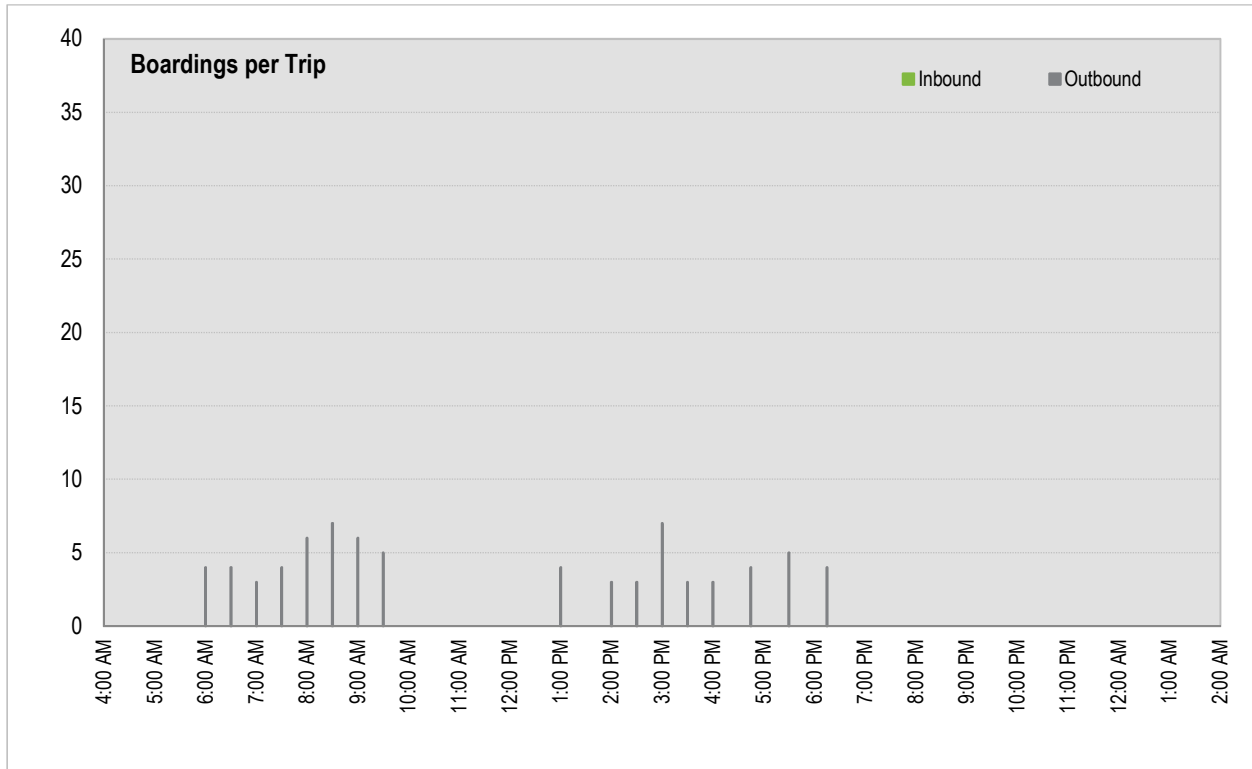
Ridership per trip is low on all trips, at less than five passengers per trip and no more than seven on any trip (see Figure 3).

Maximum loads range from only two to five passengers.

Figure 2: Weekday Outbound Ridership by Stop



**Figure 3: Weekday Ridership by Trip**



## SERVICE PRODUCTIVITY

Route 4's productivity is low and the route ranks six out of seven among Urban Local routes in terms of both weekday ridership (89) and ridership per revenue hour (11.5), and carries an average of fewer than three passengers per trip (see Table 3). The route also fails to meet VTrans thresholds in terms of Passengers per Revenue Mile (0.5 versus the threshold of 1.95) and Cost per Passenger (\$8.30 versus \$4.37).

**Table 3: Productivity Statistics**

	MONDAY-FRIDAY	SATURDAY	SUNDAY
<b>Average Daily Ridership</b>	<b>89</b>	—	—
<b>Pax/Revenue Service Hour</b>	<b>11.5</b>	—	—
Urban Local Average	21.9	13.8	21.9
<b>Pax/One-Way Trip</b>	<b>2.5</b>	—	—
Urban Local Average	6.9	4.0	6.9
<b>Pax/Revenue Mile</b>	<b>0.5</b>	—	—
VTrans Productivity Threshold	1.95	1.95	1.95
<b>Cost/Passenger</b>	<b>\$8.30</b>	—	—
VTrans Effectiveness Threshold	\$4.37	\$4.37	\$4.37

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

## SERVICE IMPROVEMENT OPTIONS

Overall, Route 4's performs poorly, and opportunities to strengthen the route are listed below. Some suggestions may be contradictory, as there is usually more than one approach to improving a route.

- **Convert to Bi-Directional Service between Essex Junction and Essex Village:** This would provide more convenient service to nearly all existing riders. The areas where service would be discontinued do not have sufficient demand to support fixed-route service (only 15 riders per weekday, or less than one per trip).
- **Reduce Service Frequencies:** Most service now operates every 30 minutes, which is significantly more frequent than warranted based on demand. (Reducing frequencies would require associated changes such as interlining service with Route 2 Essex Junction or 10 Williston/Essex.)
- **Operate Essex Junction to Essex Village Service as an Extension of Route 2 Essex Junction:** This would eliminate a transfer for existing Route 4 riders who now transfer to Route 2 in Essex Junction and provide direct service to Burlington. Either all trips or alternating trips could be extended.
- **Combine with Route 10 Williston/Essex:** Routes 4 and 10 are both short routes that could be combined into a single route that would provide direct access to shopping in Williston. It would also allow service frequencies to be reduced to every 60 minutes, which would provide resources to improve service where demands are higher.
- **Provide All Day Service:** With a reduction in service frequencies, service could be provided all day without the midday gap at a lower cost than existing service.
- **Discontinue Global Foundries Service:** This request service does not serve any riders and could be discontinued to simplify the schedule.
- **Operate Service with Small Vehicles:** With maximum loads of five passengers or fewer, service could be provided with cutaway vehicles (similar to those use on most rural routes).