

CATA'S ROAD AHEAD

SHAPING TRANSIT SERVICE THAT
MOVES WITH OUR COMMUNITY

SERVICE EVALUATION & POTENTIAL CONCEPTS

July 2026

Capital Area Transportation Authority



AECOM

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Introduction

A Comprehensive Operational Analysis (COA) is a strategic planning process used by public transit agencies to periodically evaluate existing services, identify opportunities for improvement, and guide future service investments. As travel behavior, land use patterns, development trends, and community needs evolve over time, regular assessment of transit services is necessary to ensure that service design, resource allocation, and operating strategies remain responsive to current and emerging conditions. A COA provides a data-driven framework for evaluating how well transit services align with travel demand, rider needs, how efficiently and effectively they utilize available resources, and supports informed decision-making for future service.

A service evaluation was conducted drawing on ridership data, service performance measures, market conditions, stakeholder input, and community feedback. Detailed profiles were prepared for each fixed-route and demand-response service to assess service characteristics, ridership patterns, productivity, on-time performance, passenger loads, wait times, and geographic coverage. The evaluation was guided by established transit planning principles, including providing direct and easily understood routes, routes operating at regular intervals, matching the service type to the transit market being served, and minimizing duplication between services.

Findings from the evaluation provided the foundation for developing two preliminary service concepts that take different approaches to improving the CATA network. These concepts aim to simplify route alignments, improve connections to major destinations and activity centers, increase opportunities for one-seat rides, strengthen crosstown service, and refine the roles of fixed-route and demand-response services.

Service Evaluation

The Service Evaluation establishes a detailed, evidence-based understanding of how CATA's existing services perform today, providing the foundation on which later recommendations will be built. The Service Evaluation examines each fixed-route and demand-response service individually. It combines quantitative performance data with a set of qualitative guiding principles drawn from industry best practices, so that each service is assessed both on measurable outcomes and on how well its design supports an intuitive, easy-to-use transit network. The result is a diagnostic profile for every route and service, each identifying specific strengths, weaknesses, and opportunities for improvement that inform the study's subsequent recommendations.

Methodology and Definitions

Stakeholder input and a transit market analysis provided context for the assessment of the strengths, weaknesses, and opportunities of each CATA fixed-route and demand-response service. Using these analyses as a starting point, the study team developed detailed, diagnostic profiles for each route and service. For fixed-route service, the profiles describe each route's service characteristics, ridership patterns, productivity, and on-time performance. A similar approach was taken for demand-response profiles, with an added focus on wait times, a key measure of service quality for demand-response services.

Each diagnostic profile includes a list of potential improvements for the route or service, based on the quantitative findings of the profile and a set of qualitative guiding principles representing industry best practices.

Guiding Principles

Transit service is most effective when it is easy to use and intuitive to understand. Generally, five principles describe the characteristics of such a transit system:

- **Fixed-route service should operate at regular intervals.** In general, people can easily remember repeating patterns but have difficulty remembering irregular sequences. Transit routes that operate less frequently than every 15 minutes should utilize clockface scheduling to the greatest extent possible. With a clockface schedule, each bus serving a route arrives at a given stop at the same number of minutes past the hour, every hour. Clockface scheduling significantly enhances transit service usability, as it allows passengers to easily remember when their bus will come without having to rely on paper or online schedules.
- **Fixed routes should operate along a direct path.** The fewer directional changes a route makes, the easier it is to understand. Circuitous alignments are disorienting and difficult to remember, and can be frustrating to passengers who are traveling out of their way. Some deviations from the most direct path of travel are necessary and

justifiable to serve key activity centers or ridership generators. However, frequent deviations from the most direct path of travel will increase travel times for many passengers and thus should be avoided unless there is a strong justification.

- **Fixed routes should be symmetrical.** Routes should operate along the same alignment in both directions to make it easy for riders to know where to board the bus for their return trip. Providing service on different streets, depending on direction, is sometimes unavoidable due to one-way traffic patterns. To the extent possible, bus stops for service in opposite directions should be across from one another on opposite sides of the same street. Large one-way loops can also frustrate riders by forcing out-of-direction travel on either the outbound or return leg of their trip.
- **Demand-response service should complement, not compete with fixed-route service.** Demand-response service is most cost-effective when it serves trips that fixed-route service cannot reasonably accommodate, such as those originating in low-density areas, those made by riders unable to ride fixed-route service, or those occurring during times or in places where fixed-route service does not operate.
- **Transit services should serve well-defined markets.** The purpose of a transit route or demand-response service should be clear. Each route or service should include strong anchors and a mix of origins and destinations. Service duplication should be avoided unless it is for a strategic purpose such as to address overcrowding.

Data Sources and Metrics

The diagnostic profiles draw on several complementary sources of data. For fixed routes, operating characteristics including span and frequency were extracted from CATA's General Transit Feed Specification (GTFS) data for June and October of 2025, to capture conditions during both the summer and academic-year service periods. Route-level ridership totals, revenue hours, revenue miles, on-time performance figures, and pass usage data were provided by CATA staff for the same two months. Automatic passenger counter (APC) activity reports were used to produce ridership by stop maps and the ridership by trip graphs, with the latter also displaying maximum passenger loads to identify potential overcrowding.

For demand-response services, span was identified from CATA's public schedules. Fleet size, monthly and daily ridership, revenue hours, wait times, trip durations, trip lengths, and on-time performance figures for each service zone were provided by CATA staff for June and October of 2025. CATA's demand-response ridership manifests were used to calculate the per-hour statistics graphed on each profile. Ridership records were also geocoded and visualized as heatmaps to show the distribution of where riders originate their trips.

Daily-level metrics shown in the profiles are reported separately for weekday, Saturday, and Sunday service. Monthly ridership totals and ridership distribution maps consolidate data across day types. Where metrics are ranked, routes and zones are first grouped by service type and then ranked from within their peer group, so that comparisons are made between services performing similar functions rather than across the entire network.

For each fixed-route service, the profiles report:

- **Span and frequency** describe when and how often each route operates, drawn directly from the GTFS data.
- **On-time performance** is reported as the share of timepoints classified as early, on-time, or late, as calculated by CATA. A bus arriving at a time point is considered “on-time” if it arrives between 0 and 5 minutes past the scheduled arrival time.
- **Passengers per hour** is calculated as total route ridership divided by total revenue hours, providing a standard measure of service productivity.
- **Passengers per trip** is calculated as total route ridership divided by the number of trips operated.
- **Passengers per mile** is calculated as total route ridership divided by total revenue miles.
- **Passengers per capita** is calculated as total route ridership divided by the population residing within a half mile of any stop along the route. Population data is drawn from the United States Census Bureau, and employment data is drawn from the Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES), with both intersected against half-mile buffers around each route's stops to characterize the market each route serves.
- **Average daily boardings** and **maximum load** are calculated from the APC activity reports and displayed at both the stop and trip level to identify where and when riders are using each route.
- **Pass usage** is reported by pass type to show the mix of fare products in use on each route.

For each demand-response service, the profiles report:

- **Monthly ridership** and **monthly average wait time** summarize each service's overall demand and rider experience.
- **Span and fleet size** describe the hours during which each service operates and the number of vehicles assigned to it.
- **On-time performance** is reported as the share of trips classified as early, on-time, or late. For Spec-Tran, on-time means the vehicle arrived within a 15-minute pickup window (up to 5 minutes early and up to 10 minutes late, relative to the scheduled pick-up time). For CATA Rydz services, the estimated pick-up time can fluctuate in real-time, but for the purpose of this analysis, “on-time” means the trip arrived within 5 minutes of the initially scheduled pickup time.
- **Passengers per hour** is calculated as total zone ridership divided by total revenue hours.
- **Passengers per capita** is calculated as total zone ridership divided by the population residing within the service zone. Census and LODES data are intersected with each zone boundary rather than with a half-mile stop buffer, since riders can be picked up anywhere within the zone. This metric is not reported for Spec-Tran, which serves the full fixed-route network rather than a defined zone.
- **Average daily boardings, wait time, trip duration, and trip length** characterize the daily volume and typical rider experience within each zone.

- **Hourly graphs** show how ridership, wait time, on-time performance, vehicle count, and ridership per vehicle vary across the service day.
- **Ridership distribution heatmaps** display the geographic concentration of trip origins within each zone, based on geocoded ridership records provided by CATA.

Route Profiles & Demand-Response Service Profiles

Each fixed-route and demand-response service is evaluated based on quantitative performance data and qualitative guiding principles. This section provides the resulting diagnostic profiles identifying specific strengths, weaknesses, and opportunities for each route and service.

ROUTE: 1

DOWNTOWN LANSING-MERIDIAN MALL

Service Type: Local Service

Description: Local service connecting the CTC to Meridian Mall and Lansing Community College.

Key Points of Interest: CTC, Frandor Shopping Center, Meridian Mall, Lansing Community College, Davenport University, MSU Union, Trader Joe's, Foster Library, UM Health Sparrow Lansing Hospital.

Weekday Statistics

Operating Characteristics

Daily Statistics

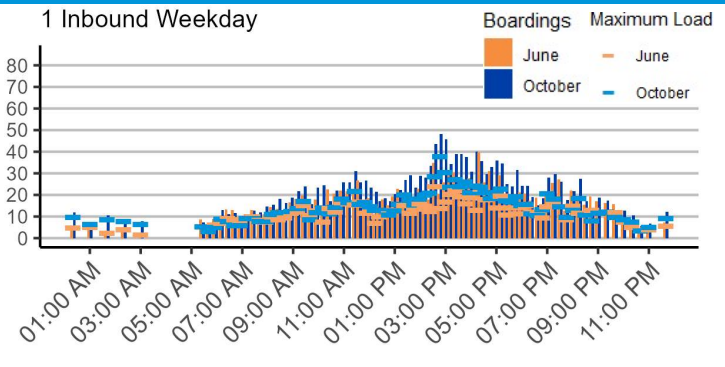
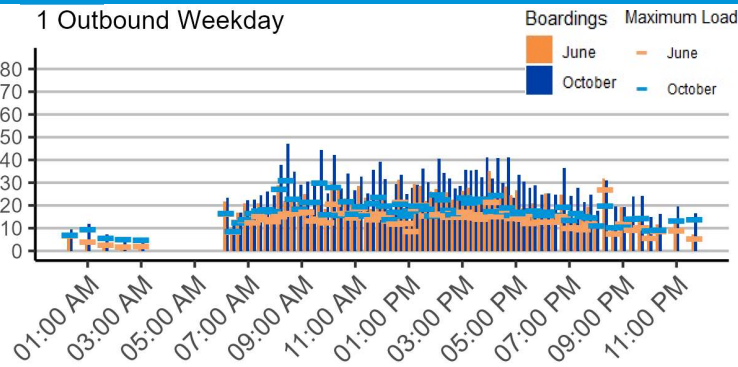
On-Time Performance

Market Penetration

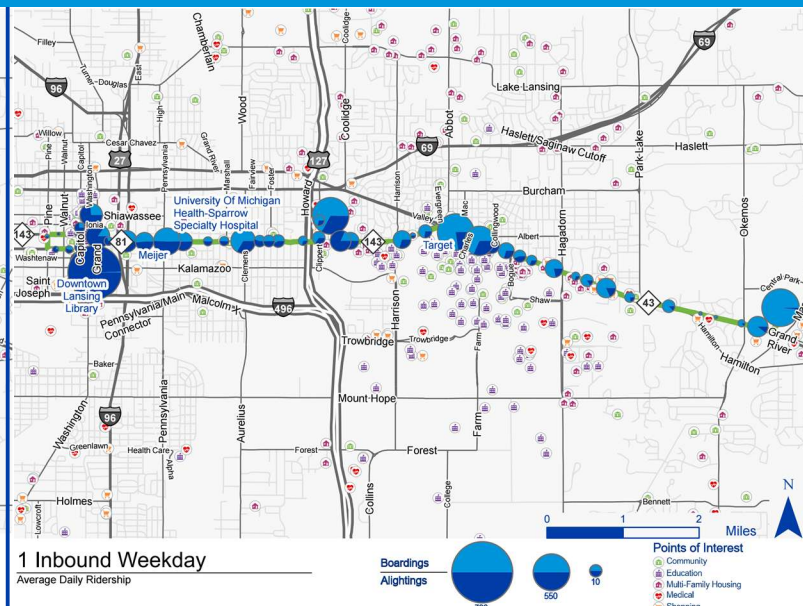
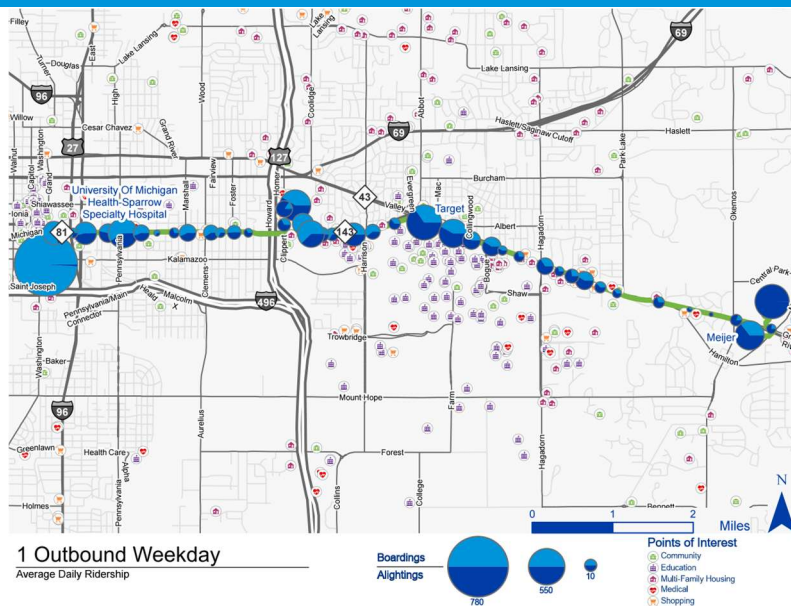
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	05:25 AM - 12:30 AM	05:25 AM - 12:30 AM	Revenue Hours	100.5	1/15	100.5	1/15	Early	10%	9%	Population Within ½ Mile		42,189		1/32
Peak Frequency	15 min	11 min	Revenue Miles	1,331	1/15	1,331	1/15	On-Time	70%	76%	Jobs Within ½ Mile		67,550		1/32
Off-Peak Frequency	12 min	11 min	Average Daily Boardings	2,343	1/15	3,445	1/15	Late	20%	15%	Passengers per Capita	5.6%	2/15	8.2%	1/15
Evening Frequency	20 min	15 min	Passengers per Hour	23.3	4/15	34.3	3/15				Passengers per Mile	1.6	3/15	2.4	3/15
			Passengers per Trip	16.0	4/15	23.6	1/15								
Note: Rankings are by service type.															

Note: Rankings are by service type.

Weekday Ridership by Trip



Weekday Ridership by Stop



ROUTE: 1

DOWNTOWN LANSING-MERIDIAN MALL

Service Type: Local Service

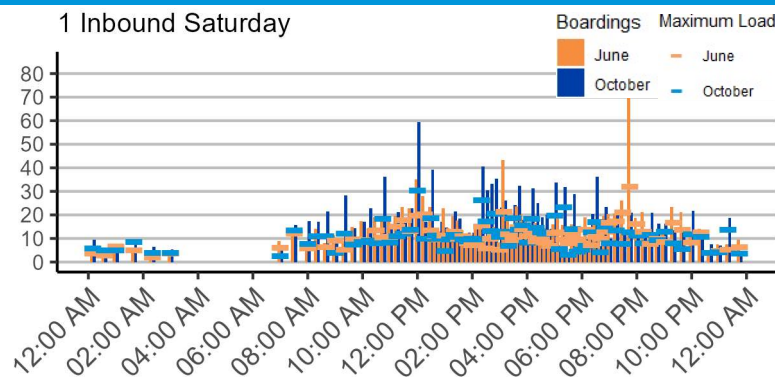
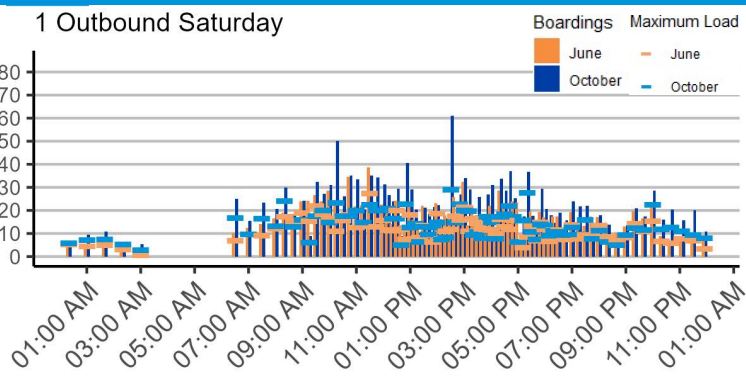
Saturday Statistics

Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	06:30 AM - 12:30 AM	06:30 AM - 12:30 AM	Revenue Hours	96.0	1/11	96.0	1/11	Early	5%	4%	Population Within ½ Mile	42,189			1/32
Peak Frequency	10 min	10 min	Revenue Miles	1,396	1/11	1,396	1/11	On-Time	67%	65%	Jobs Within ½ Mile	67,550			1/32
Off-Peak Frequency	10 min	10 min	Average Daily Boardings	2,220	1/11	3,059	1/11	Late	28%	31%	Passengers per Capita	5.3%	1/11	7.3%	1/11
Evening Frequency	20 min	15 min	Passengers per Hour	23.1	4/11	31.9	2/11				Passengers per Mile	1.5	3/11	2.1	2/11
			Passengers per Trip	13.9	3/11	19.1	1/11								

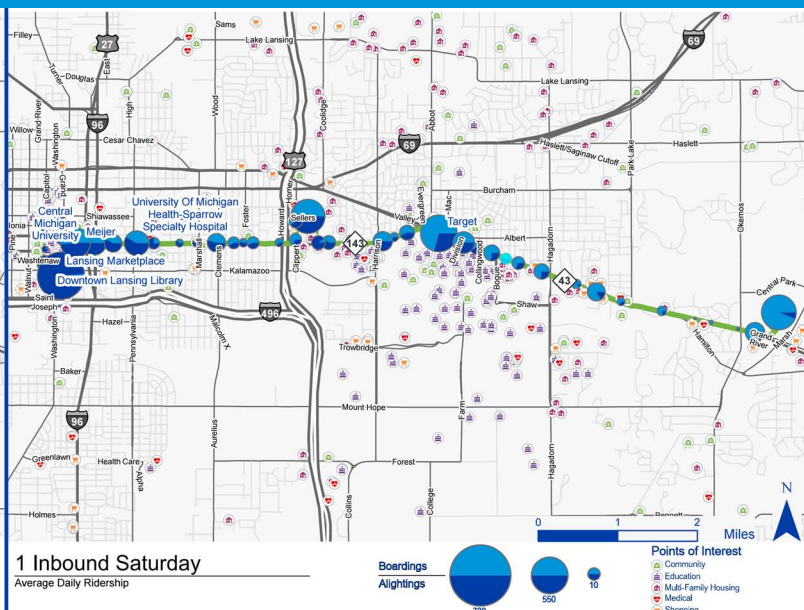
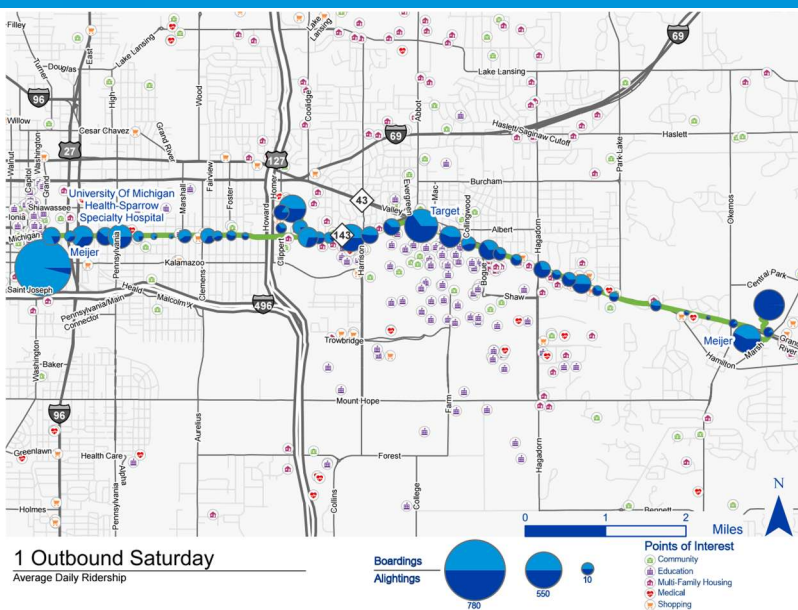
Note: Rankings are by service type.

Note: Rankings are by service type.

Saturday Ridership by Trip



Saturday Ridership by Stop



ROUTE: 1

DOWNTOWN LANSING-MERIDIAN MALL

Service Type: Local Service

Sunday Statistics

Operating Characteristics

	June	Oct
Span	08:00 AM - 07:53 PM	08:00 AM - 07:53 PM
Peak Frequency	15 min	15 min
Off-Peak Frequency	15 min	15 min
Evening Frequency	-	-

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	52.2	1/10	52.2	1/10
Revenue Miles	751	1/10	751	1/10
Average Daily Boardings	1,186	1/10	1,716	1/10
Passengers per Hour	22.7	3/10	32.9	1/10
Passengers per Trip	13.8	2/10	20.0	1/10

On-Time Performance

	June	Oct
Early	5%	4%
On-Time	70%	71%
Late	25%	25%

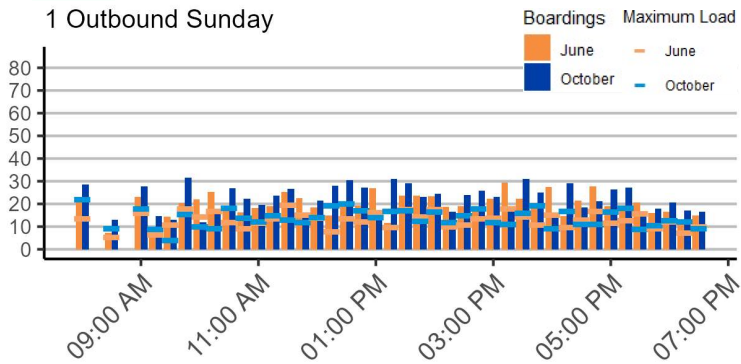
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	42,189			1/32
Jobs Within ½ Mile	67,550			1/32
Passengers per Capita	2.8%	1/10	4.1%	1/10
Passengers per Mile	1.4	3/10	2.1	1/10

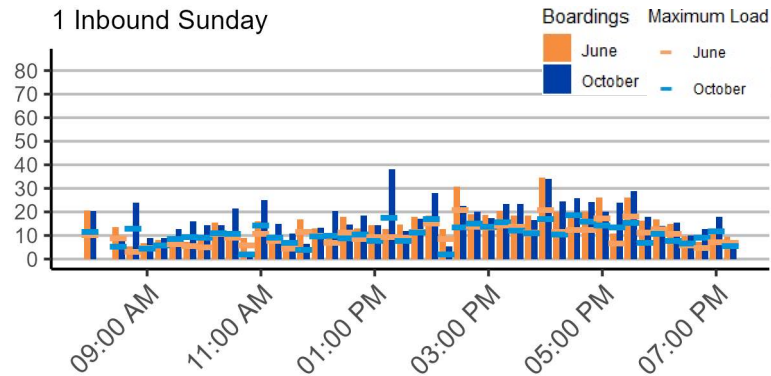
Note: Rankings are by service type.

Sunday Ridership by Trip

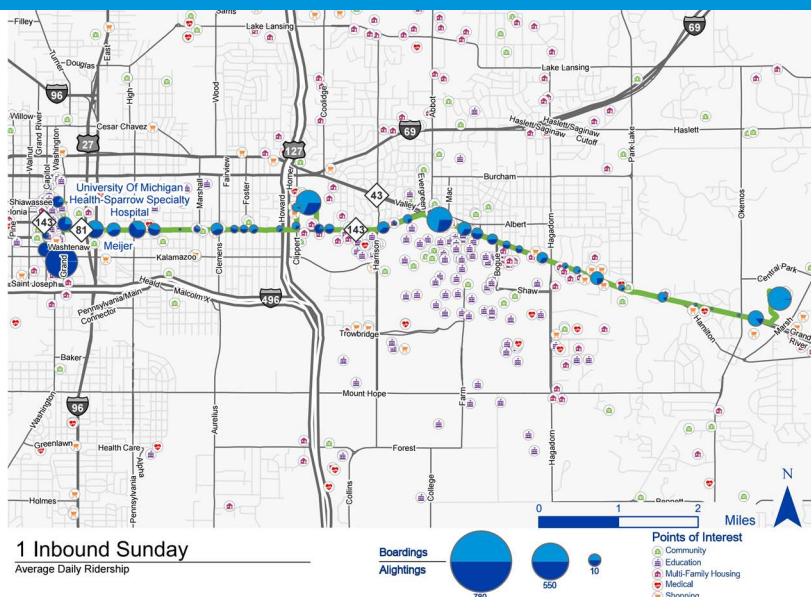
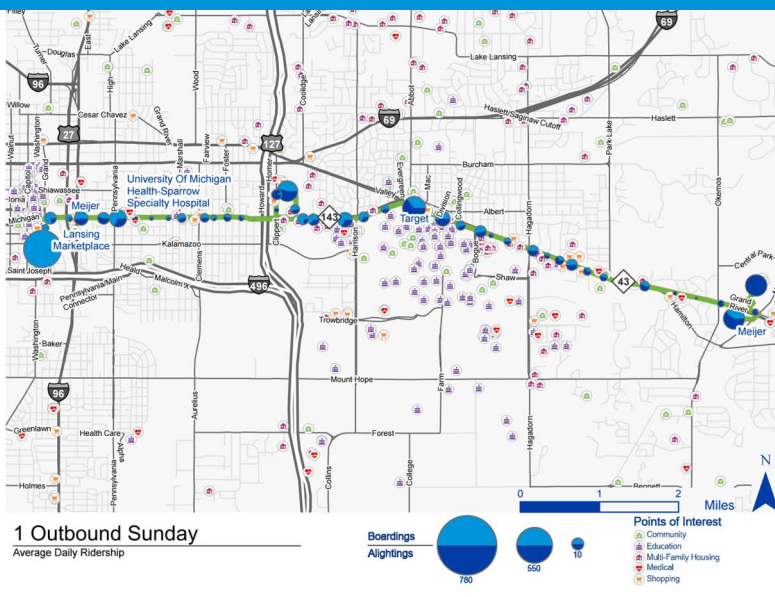
1 Outbound Sunday



1 Inbound Sunday



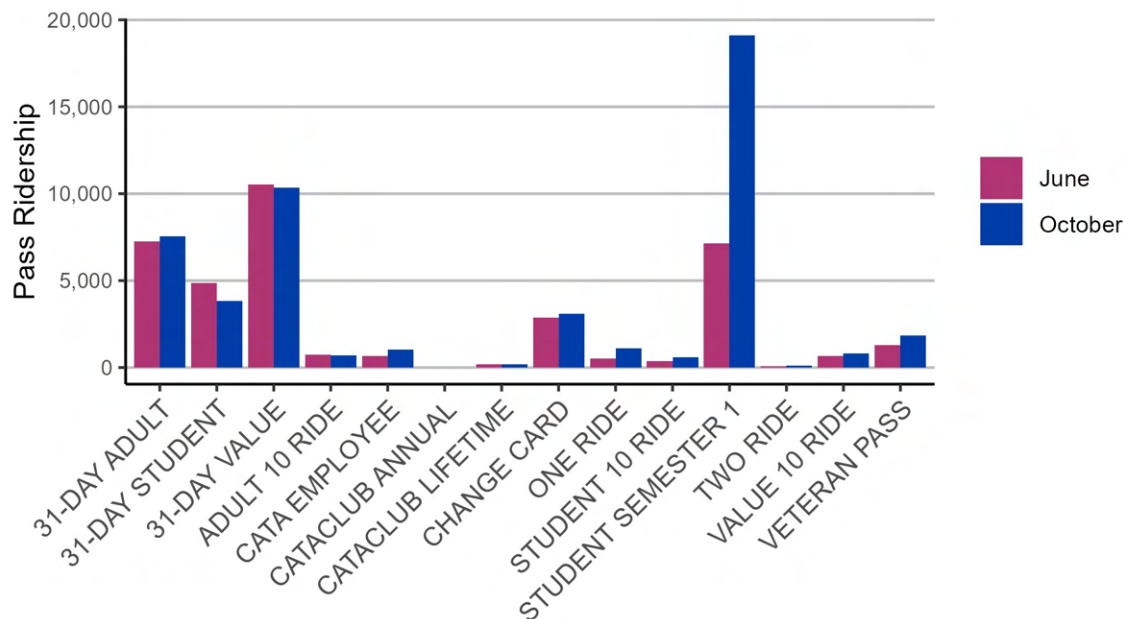
Sunday Ridership by Stop



ROUTE: 1

DOWNTOWN LANSING-MERIDIAN MALL

Pass Usage



Route Analysis

Strengths

- Daily service.
- Frequent service on all service days throughout the year.
- Extensive span of service.
- Late-night service on Thursday and Friday nights.
- Mostly simple and direct alignment.
- Strong anchors and good mix of trip generators.
- Strong ridership and productivity.

Weaknesses

- End-of-line loops on both ends of the route result in out-of-direction travel, excessive dwell times for some riders, and potential overcrowding due to overlap of inbound and outbound passengers.
- Low ridership along Capitol loop.
- Challenges with on-time performance, especially on weekends.

Opportunities

- Re-align route through downtown to increase bi-directional service - for example, from Shiawassee St., continue west to Walnut St., south to Kalamzoo St., and east to the CTC, following a similar alignment outbound.
- Eliminate low-ridership Capitol loop by shifting service from Capitol Ave. to Walnut St.
- Address on-time performance by eliminating Capitol loop, slightly reducing service frequency, and/or adding a bus at key times during the service day.

ROUTE: 2

SOUTH WASHINGTON-PLEASANT GROVE

Service Type: Local Service

Description: Local service connecting the CTC, Davenport University, and Sheffield & Bayview.

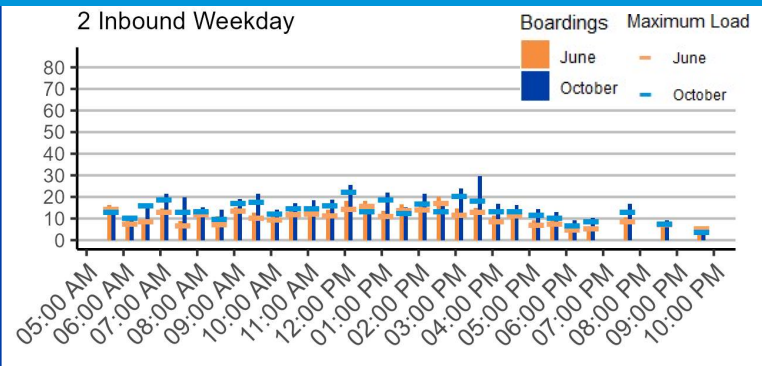
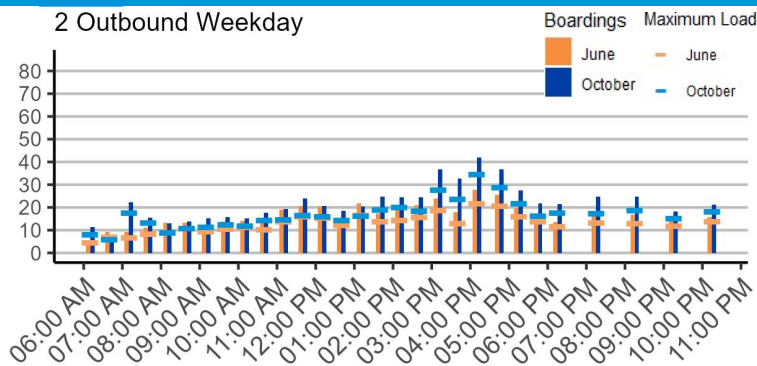
Key Points of Interest: CTC, Davenport University, Cooley Law School, Capital Area District Library, McLaren GL Hospital.

Weekday Statistics

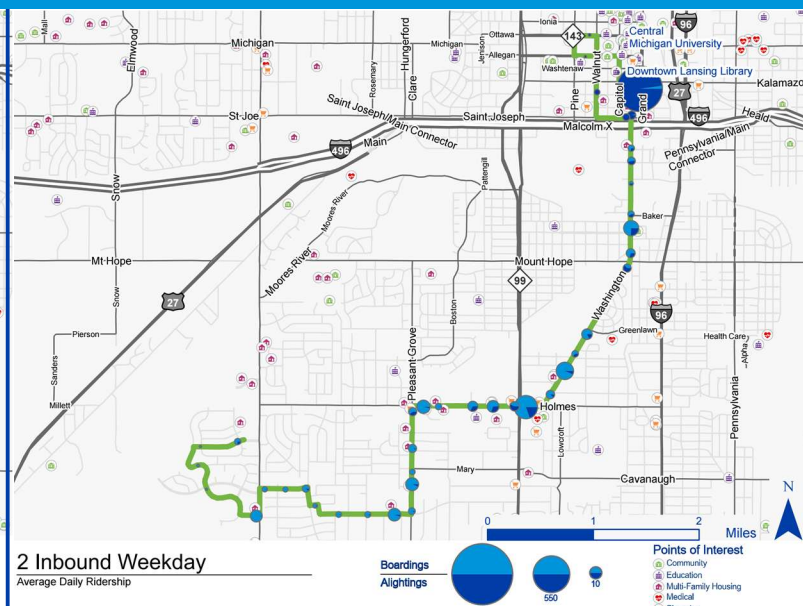
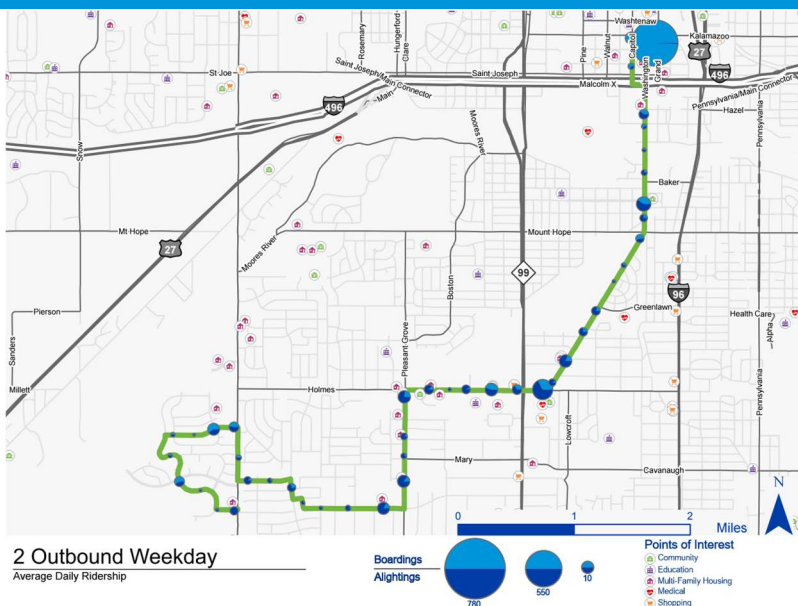
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	05:40 AM - 10:40 PM	05:40 AM - 10:40 PM	Revenue Hours	26.9	8/15	26.9	8/15	Early	8%	7%	Population Within ½ Mile	27,721		12/32	
Peak Frequency	30 min	30 min	Revenue Miles	389	7/15	389	7/15	On-Time	84%	80%	Jobs Within ½ Mile	47,608		8/32	
Off-Peak Frequency	30 min	30 min	Average Daily Boardings	790	6/15	1,011	6/15	Late	9%	14%	Passengers per Capita	2.8%	6/15	3.6%	5/15
Evening Frequency	60 min	60 min	Passengers per Hour	29.4	2/15	37.6	1/15				Passengers per Mile	1.9	2/15	2.5	2/15
			Passengers per Trip	13.4	6/15	17.1	6/15								
Note: Rankings are by service type.															

Note: Rankings are by service type.

Weekday Ridership by Trip



Weekday Ridership by Stop



ROUTE: 2

SOUTH WASHINGTON-PLEASANT GROVE

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	08:30 AM - 10:25 PM	08:30 AM - 10:25 PM
Peak Frequency	30 min	30 min
Off-Peak Frequency	30 min	30 min
Evening Frequency	30 min	30 min

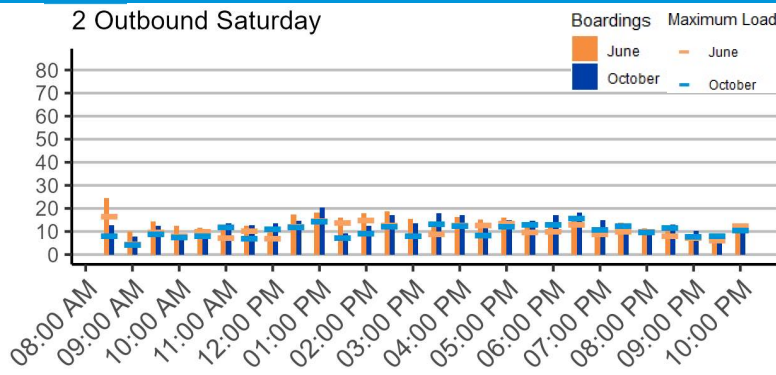
	June	Rank	Oct	Rank
Revenue Hours	25.1	6/11	25.1	6/11
Revenue Miles	359	6/11	359	6/11
Average Daily Boardings	544	6/11	650	6/11
Passengers per Hour	21.7	5/11	25.9	3/11
Passengers per Trip	9.9	7/11	11.8	6/11

	June	Oct		June	Rank	Oct	Rank
Early	3%	5%	Population Within ½ Mile	27,721			12/32
On-Time	83%	79%	Jobs Within ½ Mile	47,608			8/32
Late	14%	16%	Passengers per Capita	2.0%	6/11	2.3%	6/11
			Passengers per Mile	1.5	4/11	1.7	3/11

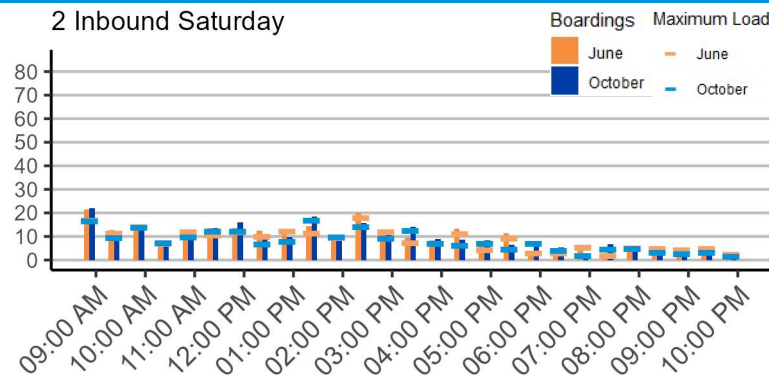
Note: Rankings are by service type.

Saturday Ridership by Trip

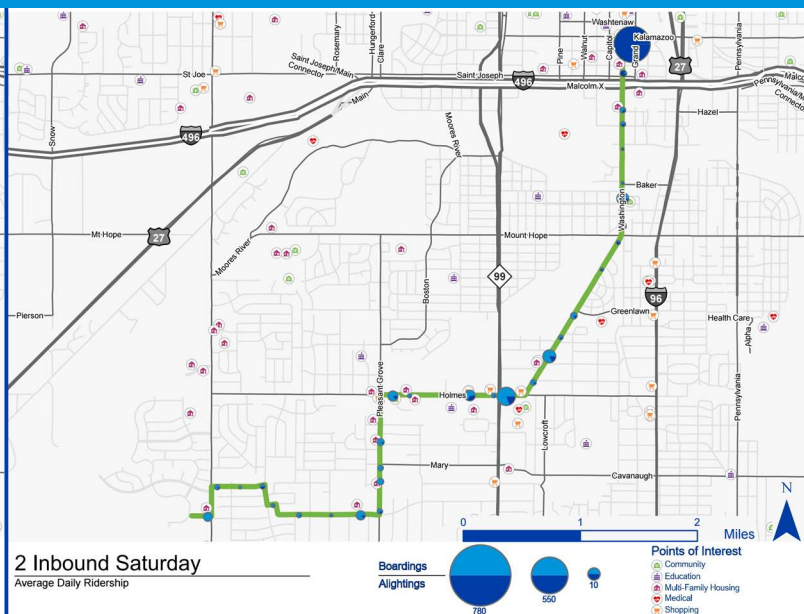
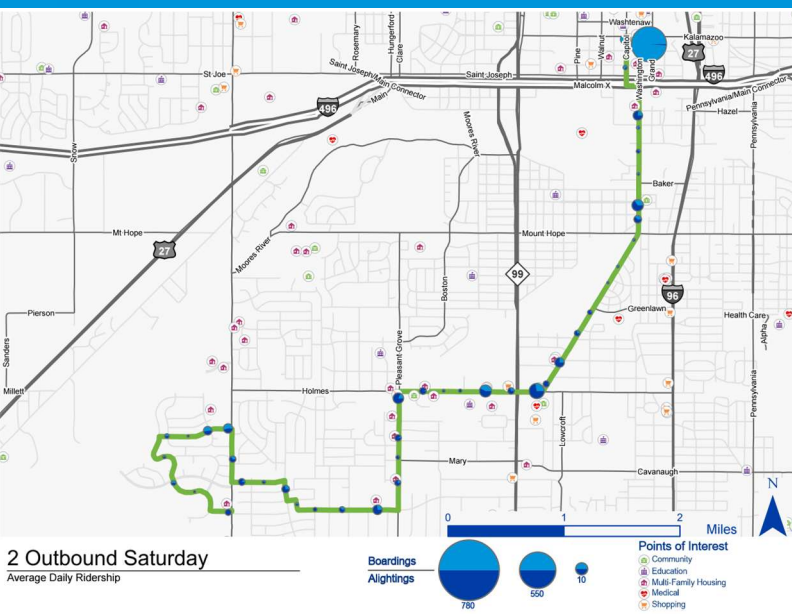
2 Outbound Saturday



2 Inbound Saturday



Saturday Ridership by Stop



ROUTE: 2

SOUTH WASHINGTON-PLEASANT GROVE

Service Type: Local Service

Sunday Statistics

Operating Characteristics

	June	Oct
Span	09:30 AM - 06:25 PM	09:30 AM - 06:25 PM
Peak Frequency	30 min	30 min
Off-Peak Frequency	30 min	30 min
Evening Frequency	-	-

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	15.0	7/10	15.0	7/10
Revenue Miles	216	7/10	216	7/10
Average Daily Boardings	259	8/10	330	6/10
Passengers per Hour	17.2	7/10	22.0	4/10
Passengers per Trip	7.8	8/10	10.0	6/10

On-Time Performance

	June	Oct
Early	10%	8%
On-Time	82%	77%
Late	9%	15%

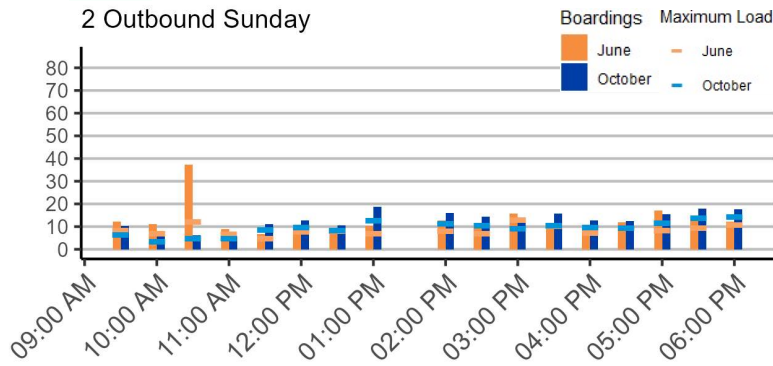
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	27,721			12/32
Jobs Within ½ Mile	47,608			8/32
Passengers per Capita	0.9%	9/10	1.2%	7/10
Passengers per Mile	1.1	7/10	1.4	3/10

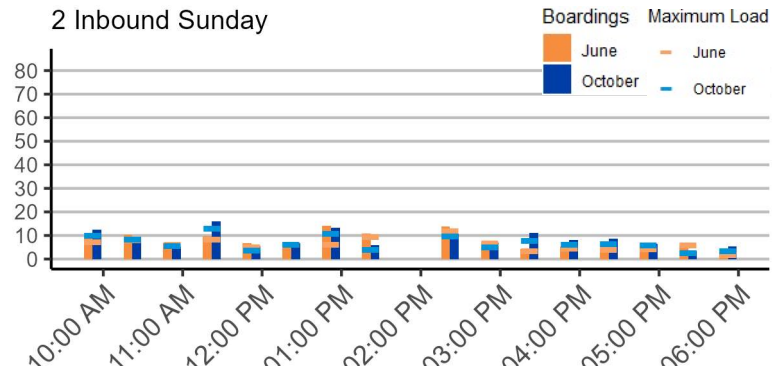
Note: Rankings are by service type.

Sunday Ridership by Trip

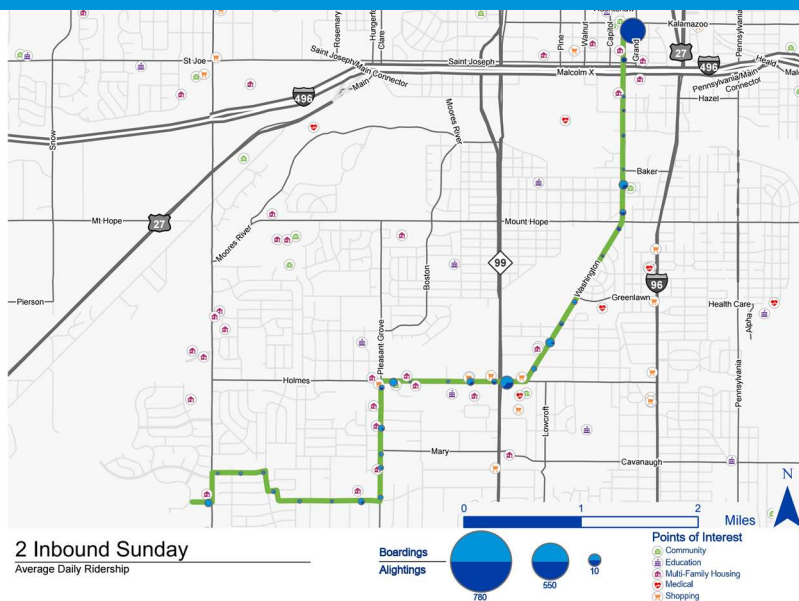
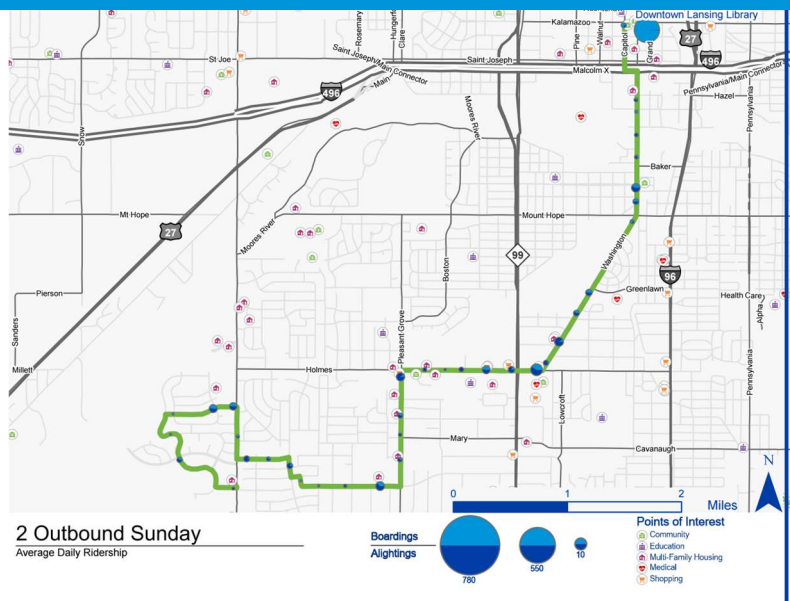
2 Outbound Sunday



2 Inbound Sunday



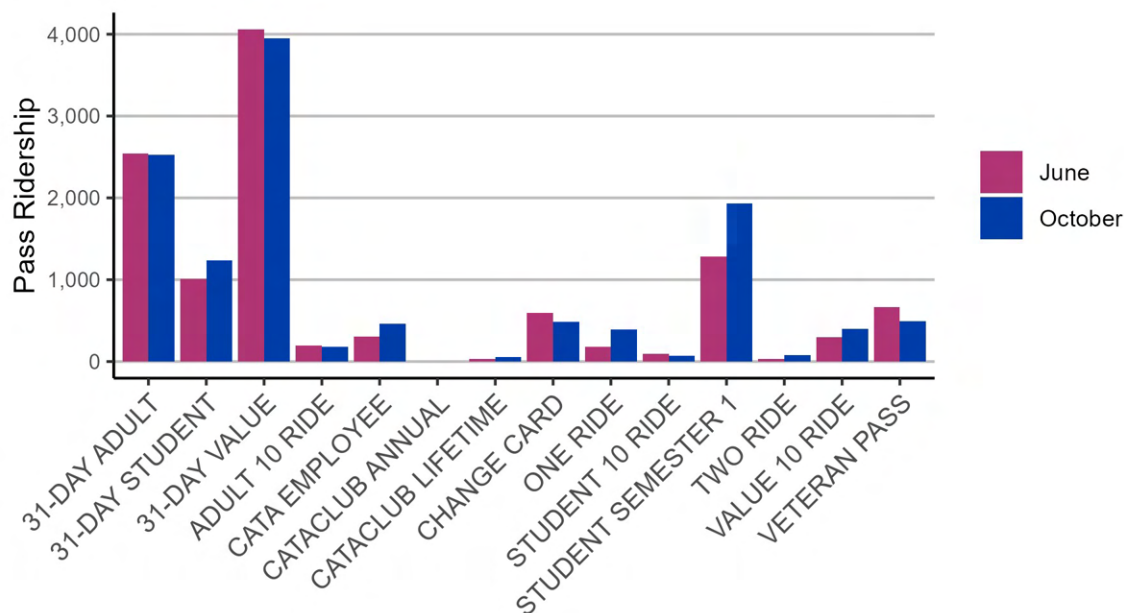
Sunday Ridership by Stop



ROUTE: 2

SOUTH WASHINGTON-PLEASANT GROVE

Pass Usage



Route Analysis

Strengths

- Daily service.
- Easy-to-remember clockface frequency.
- Extensive span of service.
- Mostly simple and direct alignment.
- Strong productivity in terms of passengers per hour and passengers per mile.

Weaknesses

- Segments of low ridership along Washington Ave. and Sumpter St.
- Excessive service frequency after 6:00 PM on Saturdays.
- Lack of strong anchor on the outer end of the route.
- Missed opportunities to create connections with other routes on the outer end of the route.
- Relatively long walk from nearest stops to GM plant.
- Low ridership at downtown stops other than CTC.

Opportunities

- Provide closer access to GM plant via Elm St., Townsend St., William St., and Walnut St.
- Eliminate low-ridership Capitol loop trips and provide one-seat rides to Capitol complex via an interline with another route serving points north from the CTC.
- Consider interlining or combining Routes 2 and 11 to give riders of both routes access to more one-seat ride opportunities, including to grocery stores, LCC, a YMCA, and the GM plant.
- Extend route to Jolly Rd. to address low ridership along Sumpter St. and improve access to potential ridership generators including retail and multi-family housing near Jolly Rd. and Waverly Rd.
- Consider interlining Routes 2 and 11 at Lansing Technical High School, with Route 2 extended south along Wise Rd. to Miller Rd.

ROUTE: 3

WILLOW-MARKETPLACE

Service Type: Local Service

Description: Local service connecting the CTC, Lansing Mall, and Meijer.

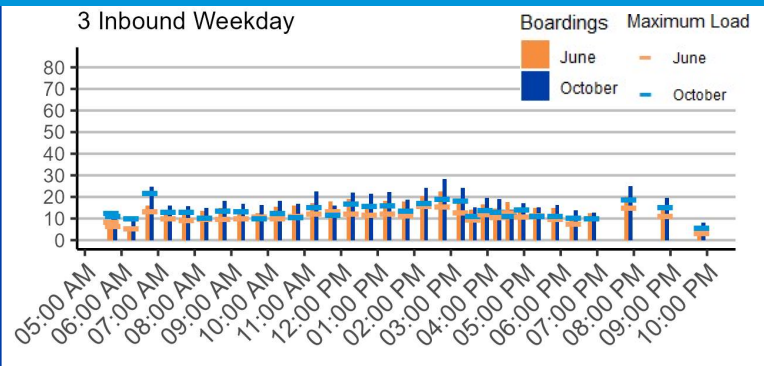
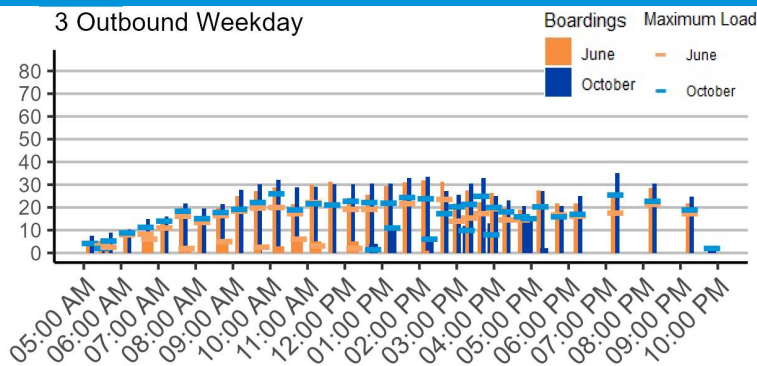
Key Points of Interest: CTC, Davenport University, Lansing Community College, Willow School, St. Vincent Catholic Charities, Edgemont Shopping Center, Delta Township Library, Target, WMU Cooley Law School, Capital Area District Library.

Weekday Statistics

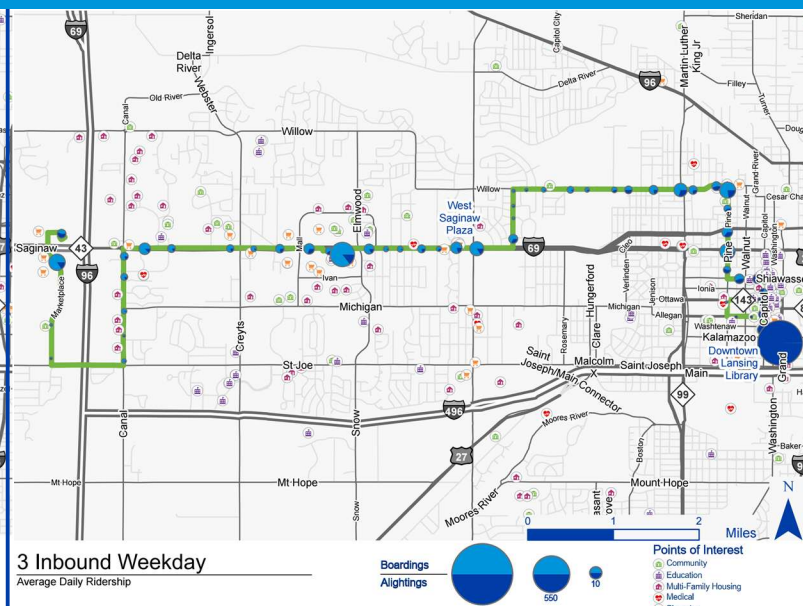
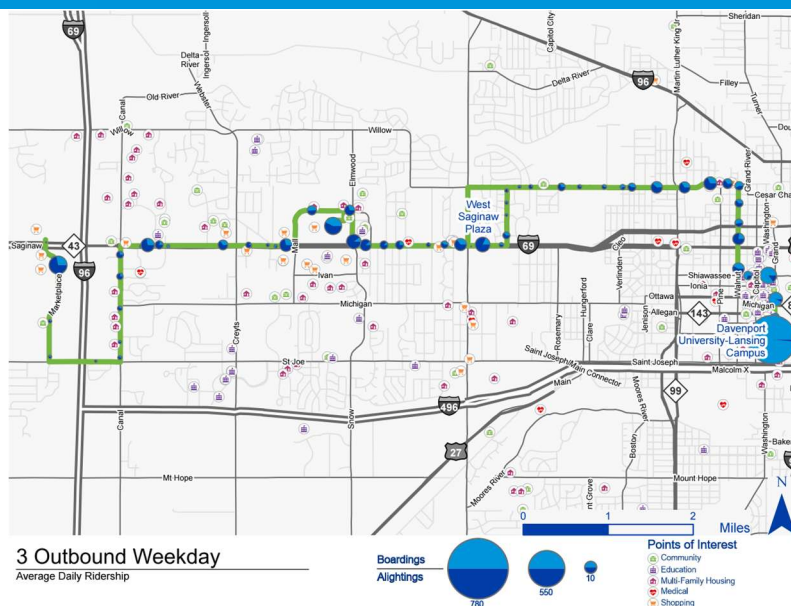
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	05:10 AM - 10:33 PM	05:10 AM - 10:33 PM	Revenue Hours	42.2	5/15	42.2	5/15	Early	7%	4%	Population Within ½ Mile		29,032		9/32
Peak Frequency	30 min	30 min	Revenue Miles	710	4/15	732	4/15	On-Time	65%	67%	Jobs Within ½ Mile		52,561		6/32
Off-Peak Frequency	30 min	30 min	Average Daily Boardings	1,059	3/15	1,222	3/15	Late	28%	29%	Passengers per Capita	3.6%	3/15	4.2%	3/15
Evening Frequency	60 min	60 min	Passengers per Hour	25.1	3/15	29.0	4/15				Passengers per Mile	1.4	4/15	1.6	5/15
			Passengers per Trip	16.0	3/15	18.5	5/15								
Note: Rankings are by service type.															

Note: Rankings are by service type.

Weekday Ridership by Trip



Weekday Ridership by Stop



ROUTE: 3

WILLOW-MARKETPLACE

Service Type: Local Service

Saturday Statistics

Operating Characteristics

	June	Oct
Span	08:00 AM - 10:18 PM	08:00 AM - 10:18 PM
Peak Frequency	30 min	30 min
Off-Peak Frequency	30 min	30 min
Evening Frequency	30 min	30 min

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	35.1	4/11	35.1	4/11
Revenue Miles	588	4/11	607	4/11
Average Daily Boardings	814	3/11	861	3/11
Passengers per Hour	23.2	3/11	24.5	4/11
Passengers per Trip	15.1	2/11	15.9	3/11

On-Time Performance

	June	Oct
Early	7%	6%
On-Time	73%	72%
Late	20%	23%

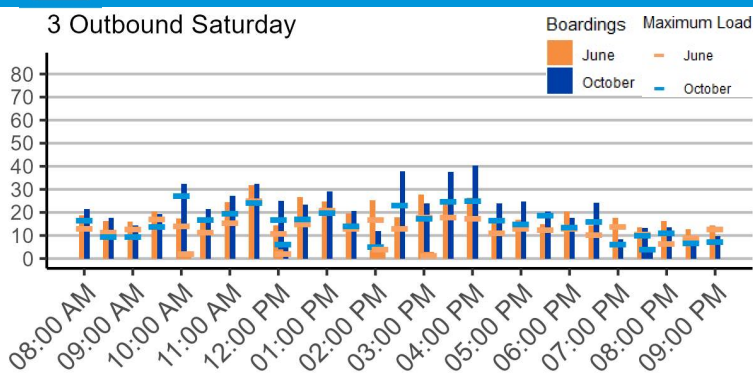
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	29,032			9/32
Jobs Within ½ Mile	52,561			6/32
Passengers per Capita	2.8%	3/11	3.0%	3/11
Passengers per Mile	1.3	5/11	1.3	4/11

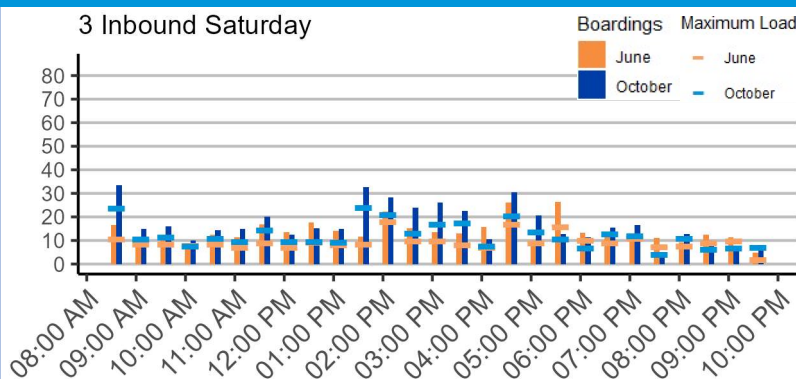
Note: Rankings are by service type.

Saturday Ridership by Trip

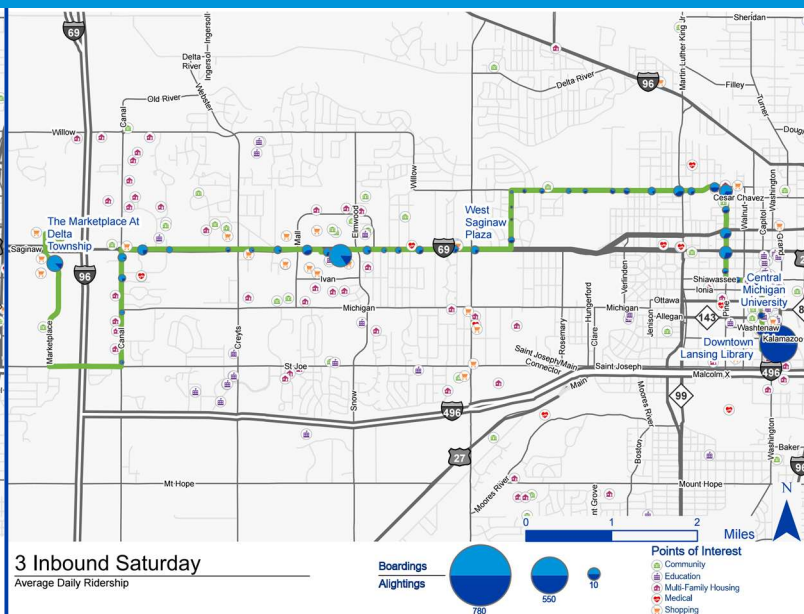
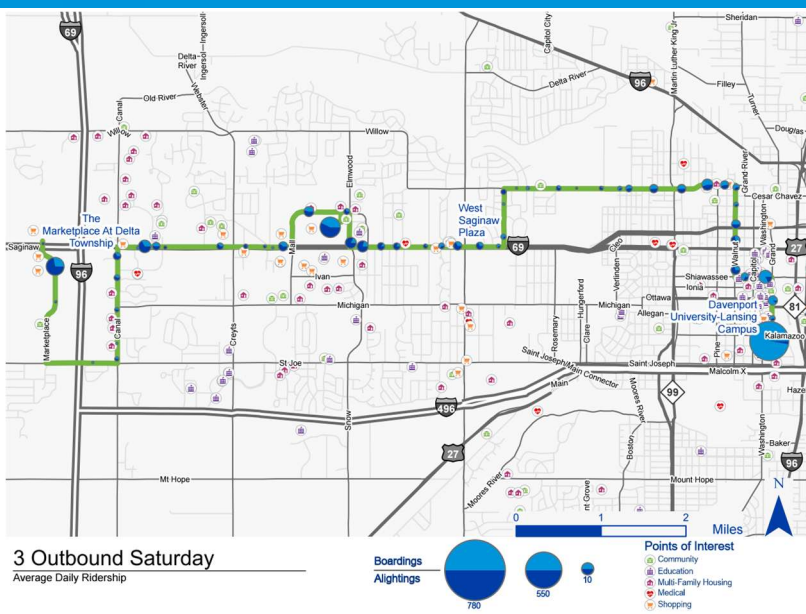
3 Outbound Saturday



3 Inbound Saturday



Saturday Ridership by Stop



ROUTE: 3

WILLOW-MARKETPLACE

Service Type: Local Service

Sunday Statistics

Operating Characteristics

	June	Oct
Span	09:00 AM - 06:18 PM	09:00 AM - 06:18 PM
Peak Frequency	30 min	30 min
Off-Peak Frequency	30 min	30 min
Evening Frequency	-	-

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	22.1	4/10	22.1	4/10
Revenue Miles	370	4/10	382	4/10
Average Daily Boardings	478	4/10	489	3/10
Passengers per Hour	21.6	4/10	22.1	3/10
Passengers per Trip	14.1	1/10	14.4	2/10

On-Time Performance

	June	Oct
Early	3%	3%
On-Time	69%	77%
Late	28%	20%

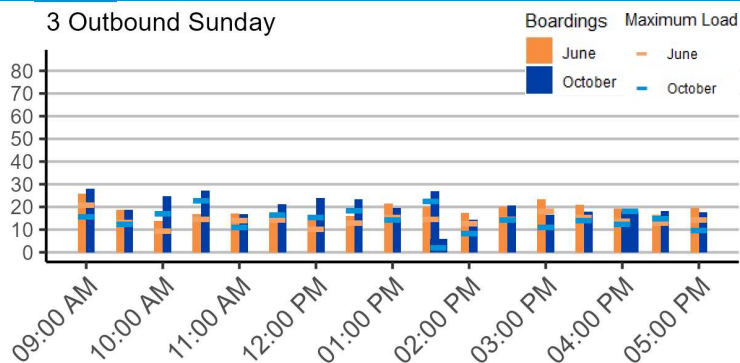
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	29,032			9/32
Jobs Within ½ Mile	52,561			6/32
Passengers per Capita	1.6%	4/10	1.7%	3/10
Passengers per Mile	1.2	5/10	1.2	5/10

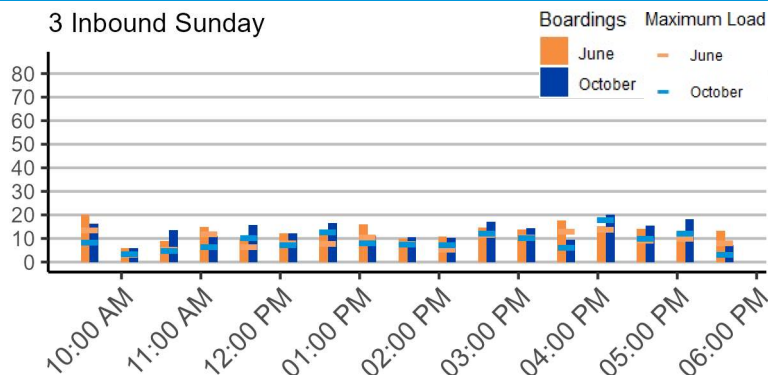
Note: Rankings are by service type.

Sunday Ridership by Trip

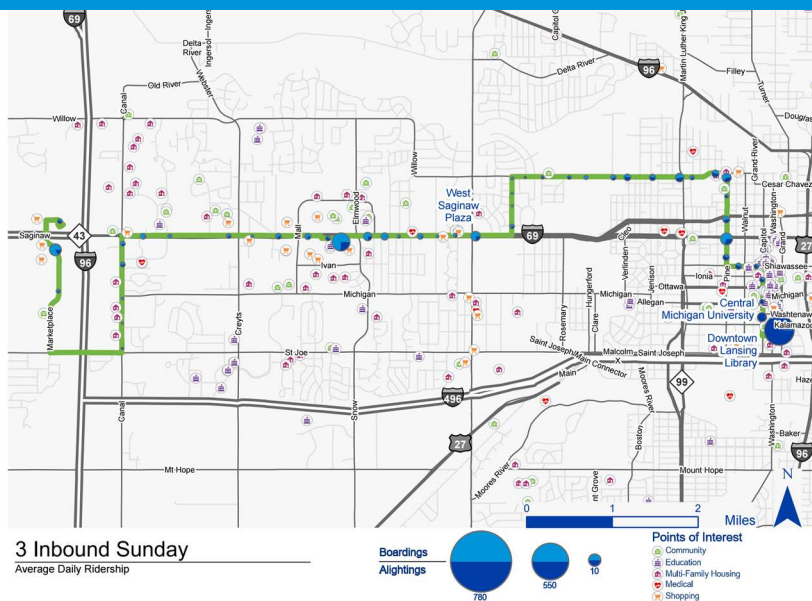
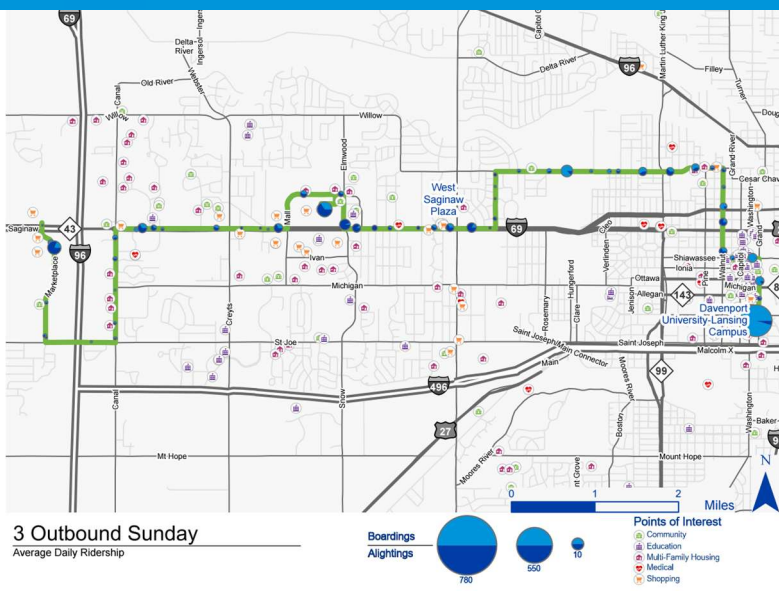
3 Outbound Sunday



3 Inbound Sunday



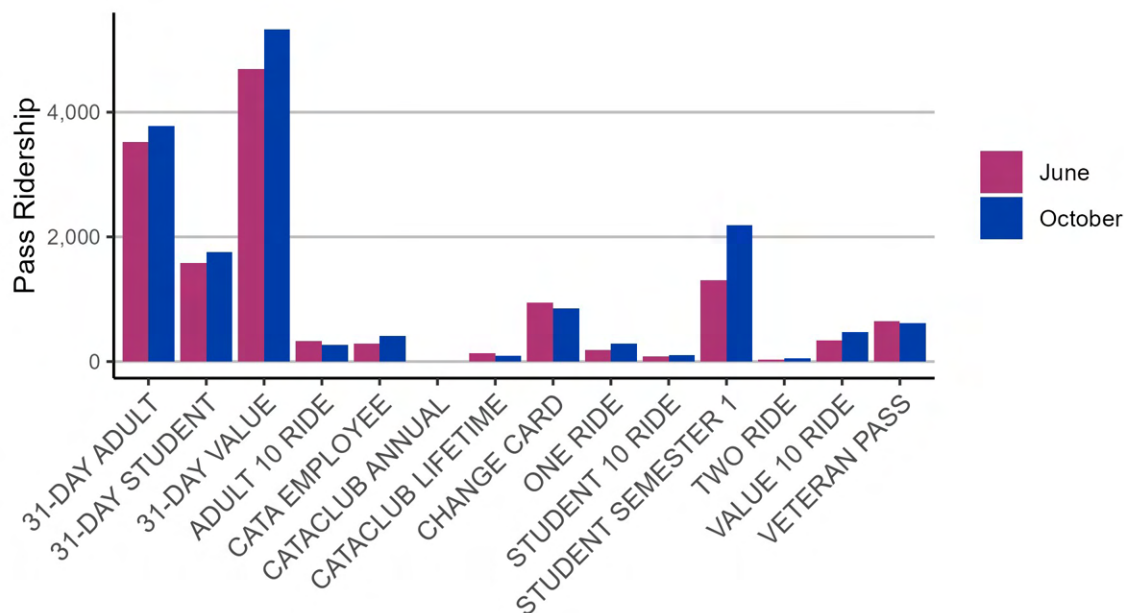
Sunday Ridership by Stop



ROUTE: 3

WILLOW-MARKETPLACE

Pass Usage



Route Analysis

Strengths

- Daily service.
- Easy-to-remember clockface frequency.
- Extensive span of service.
- Mostly simple and direct alignment.
- Strong end-of-line anchors even without service beyond Lansing Mall area.
- Strong ridership and productivity (before elimination of Delta Township extension).

Weaknesses

- Low ridership along Capitol loop.
- Unprotected left turn onto Willow St.
- End-of-line loop on western end of the route force out-of-direction travel for some riders.
- Challenges with on-time performance.
- Unusually high ridership on first Saturday trip suggests pent up demand for earlier Saturday service.

Opportunities

- Start inbound service 30 minutes earlier on Saturday to address pent up demand.
- Swap downtown alignments with Route 14 to position Route 3 to utilize the signalized intersection at Grand River Ave. and Willow St.
- Consider shifting service from Morris Ave. to Mitchell Ave. to better serve multi-family housing and retail along Edgemont Blvd.
- Restructure end-of-line alignment to operate along Elmwood Rd., Ivan St., and Mall Dr. to cover both retail and multi-family housing along Ivan St. and to create bi-directional service between Lansing Mall and destinations south of Waverly.
- Eliminate low-ridership Capitol loop and serve Capitol complex from Walnut St.
- Address on-time performance by interlining service with another route with excess layover time.

ROUTE: 5

SOUTH CEDAR-EDGEWOOD

Service Type: Local Service

Description: Local service connecting the CTC, Meijer, and Edgewood & Washington.

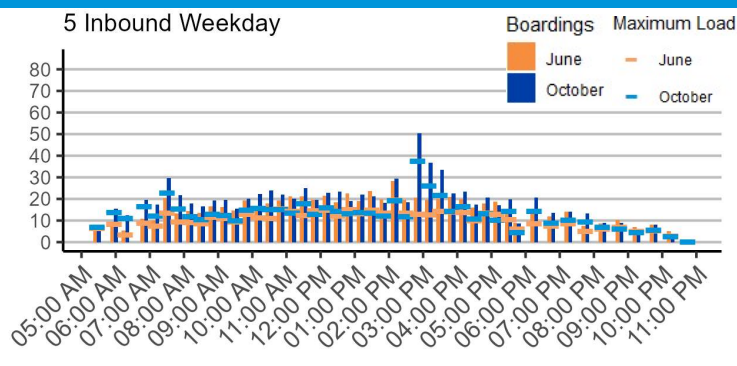
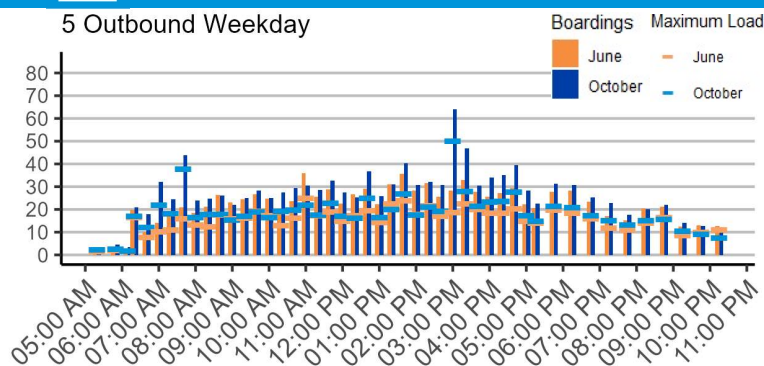
Key Points of Interest: CTC, Capital Area District Library, Davenport University, Capital Area Michigan Works!, South Lansing Library, Social Security, Target, Health Department.

Weekday Statistics

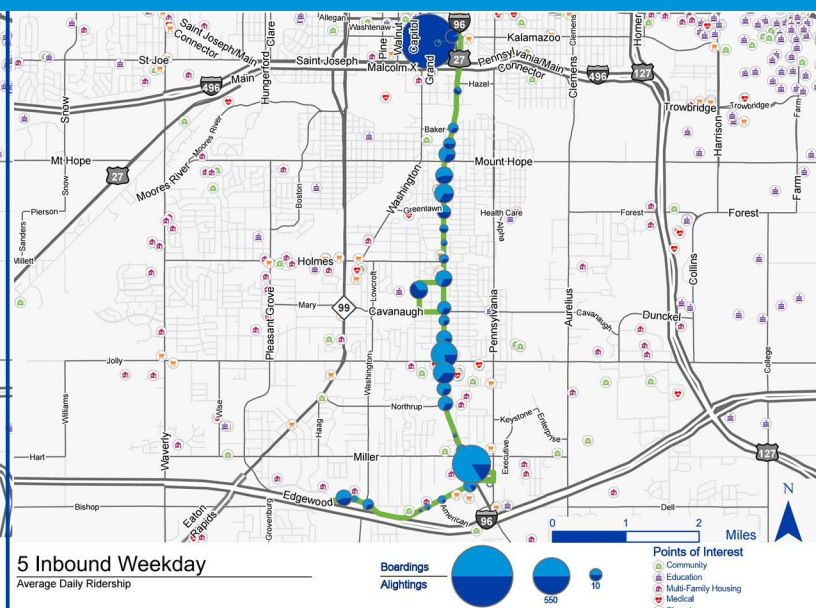
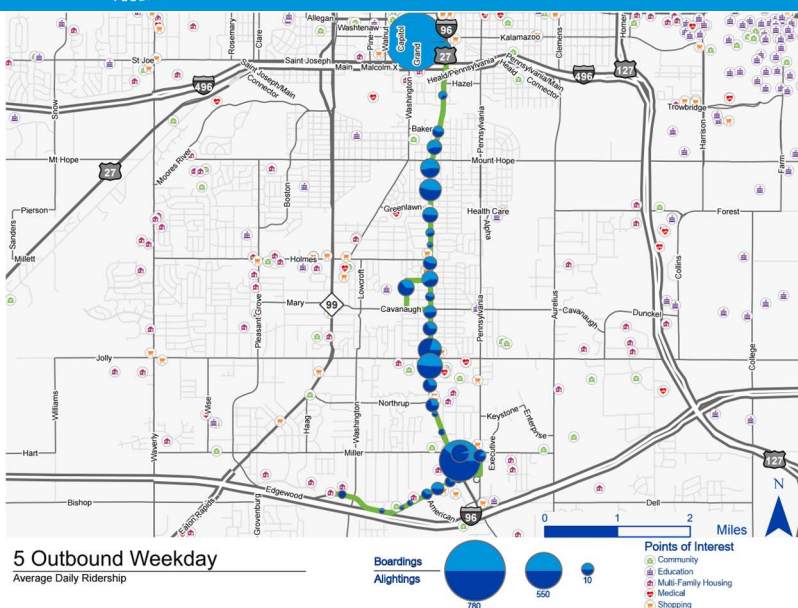
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	05:19 AM - 10:55 PM	05:19 AM - 10:55 PM	Revenue Hours	52.6	2/15	52.6	2/15	Early	4%	6%	Population Within ½ Mile	24,768		15/32	
Peak Frequency	20 min	15 min	Revenue Miles	684	5/15	684	5/15	On-Time	84%	87%	Jobs Within ½ Mile	36,957		16/32	
Off-Peak Frequency	20 min	20 min	Average Daily Boardings	1,553	2/15	1,841	2/15	Late	11%	8%	Passengers per Capita	6.3%	1/15	7.4%	2/15
Evening Frequency	30 min	30 min	Passengers per Hour	29.6	1/15	35.0	2/15				Passengers per Mile	2.2	1/15	2.6	1/15
			Passengers per Trip	16.5	1/15	19.6	2/15								
Note: Rankings are by service type.															

Note: Rankings are by service type.

Weekday Ridership by Trip



Weekday Ridership by Stop



ROUTE: 5

SOUTH CEDAR-EDGEWOOD

Service Type: Local Service

Saturday Statistics

Operating Characteristics

	June	Oct
Span	07:44 AM - 10:29 PM	07:44 AM - 10:29 PM
Peak Frequency	30 min	30 min
Off-Peak Frequency	30 min	30 min
Evening Frequency	30 min	30 min

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	25.3	5/11	25.3	5/11
Revenue Miles	407	5/11	407	5/11
Average Daily Boardings	901	2/11	961	2/11
Passengers per Hour	35.7	1/11	38.1	1/11
Passengers per Trip	15.5	1/11	16.6	2/11

On-Time Performance

	June	Oct
Early	2%	1%
On-Time	76%	73%
Late	23%	26%

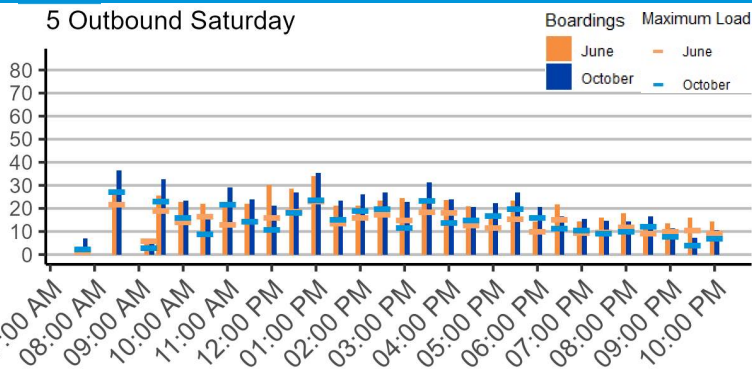
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	24,768			15/32
Jobs Within ½ Mile	36,957			16/32
Passengers per Capita	3.6%	2/11	3.9%	2/11
Passengers per Mile	2.1	1/11	2.3	1/11

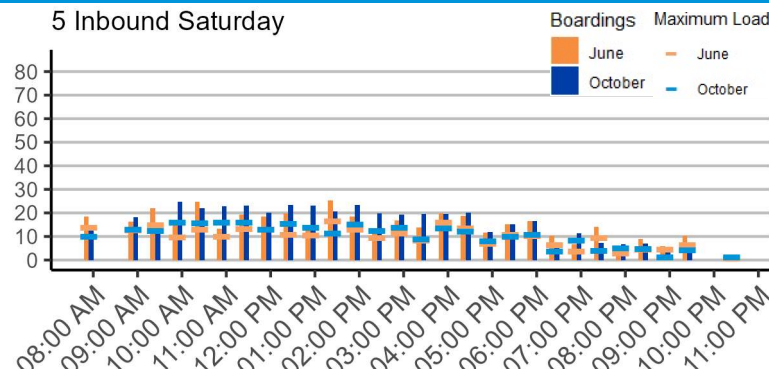
Note: Rankings are by service type.

Saturday Ridership by Trip

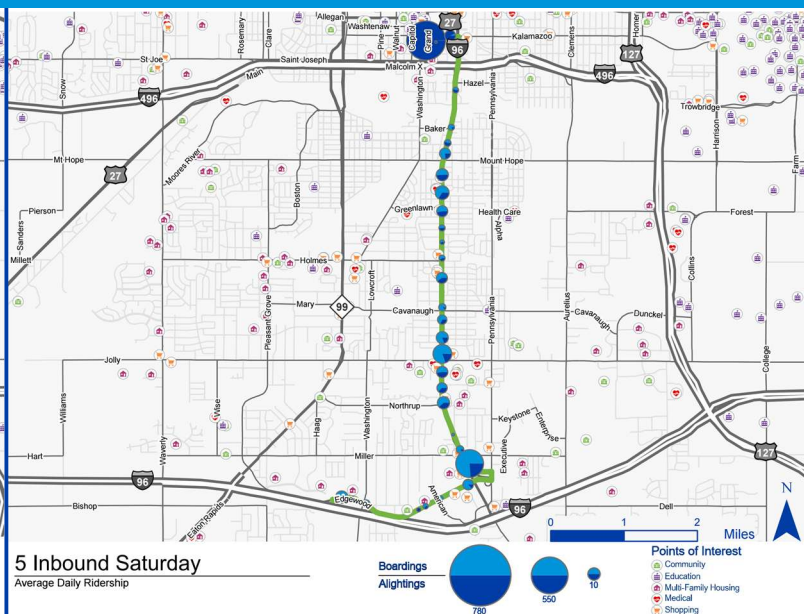
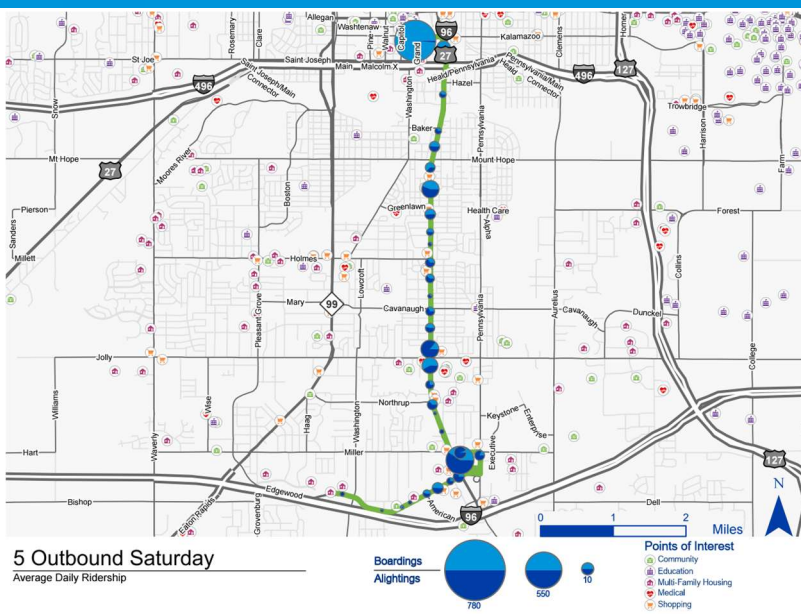
5 Outbound Saturday



5 Inbound Saturday



Saturday Ridership by Stop



ROUTE: 5

SOUTH CEDAR-EDGEWOOD

Service Type: Local Service

Sunday Statistics

Operating Characteristics

	June	Oct
Span	08:14 AM - 06:29 PM	08:14 AM - 06:29 PM
Peak Frequency	30 min	30 min
Off-Peak Frequency	30 min	30 min
Evening Frequency	-	-

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	17.9	5/10	17.9	5/10
Revenue Miles	290	5/10	290	5/10
Average Daily Boardings	482	3/10	528	2/10
Passengers per Hour	26.9	2/10	29.5	2/10
Passengers per Trip	11.5	4/10	12.6	3/10

On-Time Performance

	June	Oct
Early	2%	2%
On-Time	80%	74%
Late	18%	24%

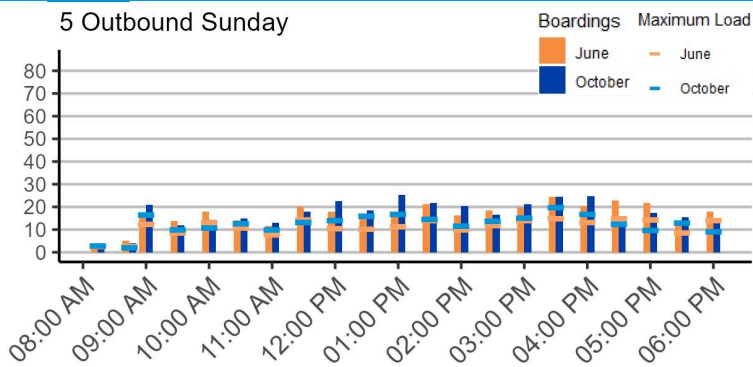
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	24,768			15/32
Jobs Within ½ Mile	36,957			16/32
Passengers per Capita	1.9%	2/10	2.1%	2/10
Passengers per Mile	1.6	2/10	1.7	2/10

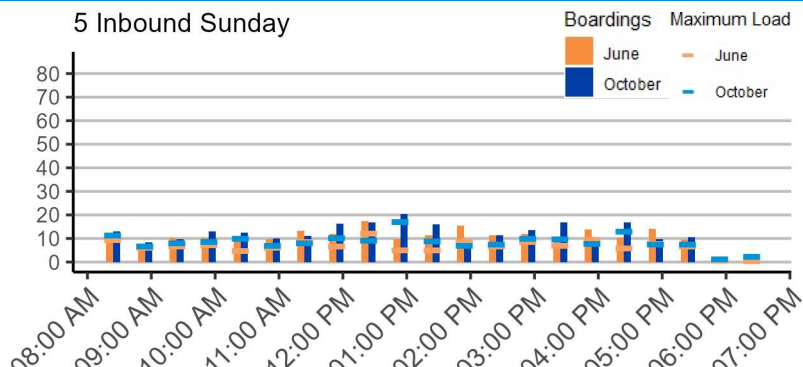
Note: Rankings are by service type.

Sunday Ridership by Trip

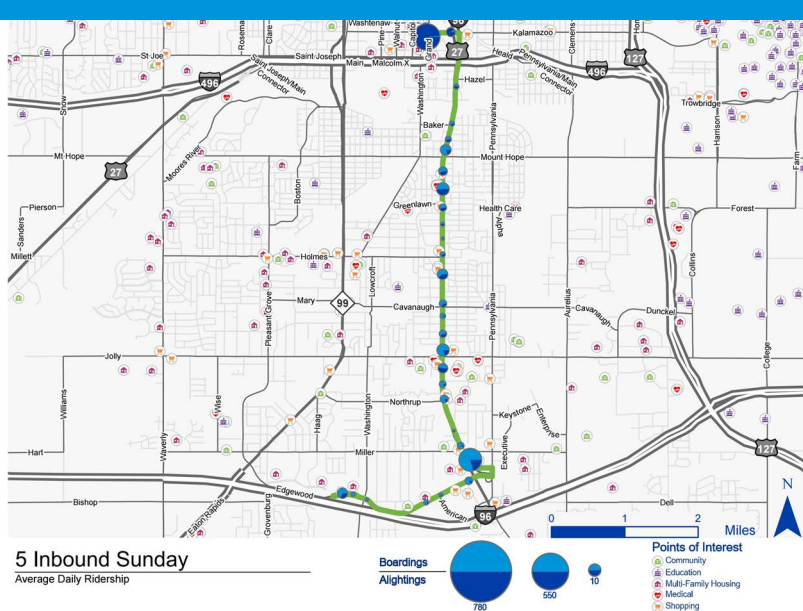
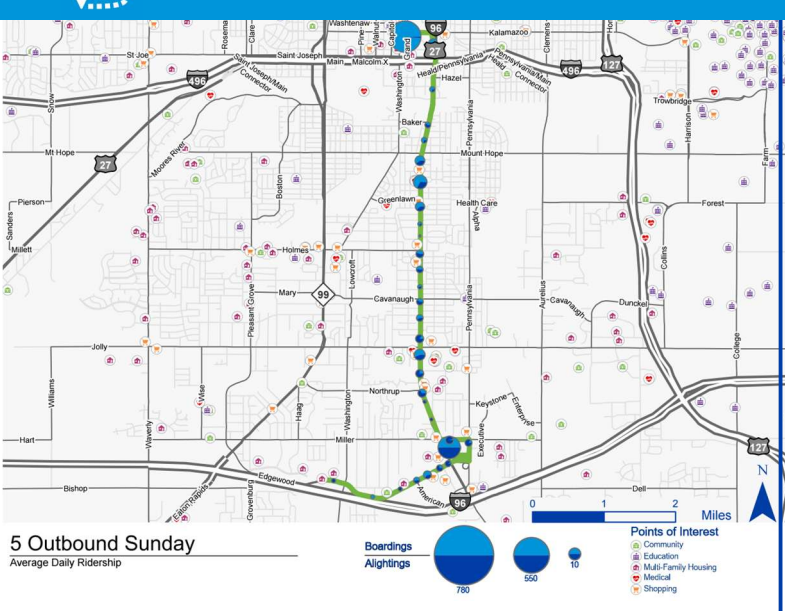
5 Outbound Sunday



5 Inbound Sunday



Sunday Ridership by Stop

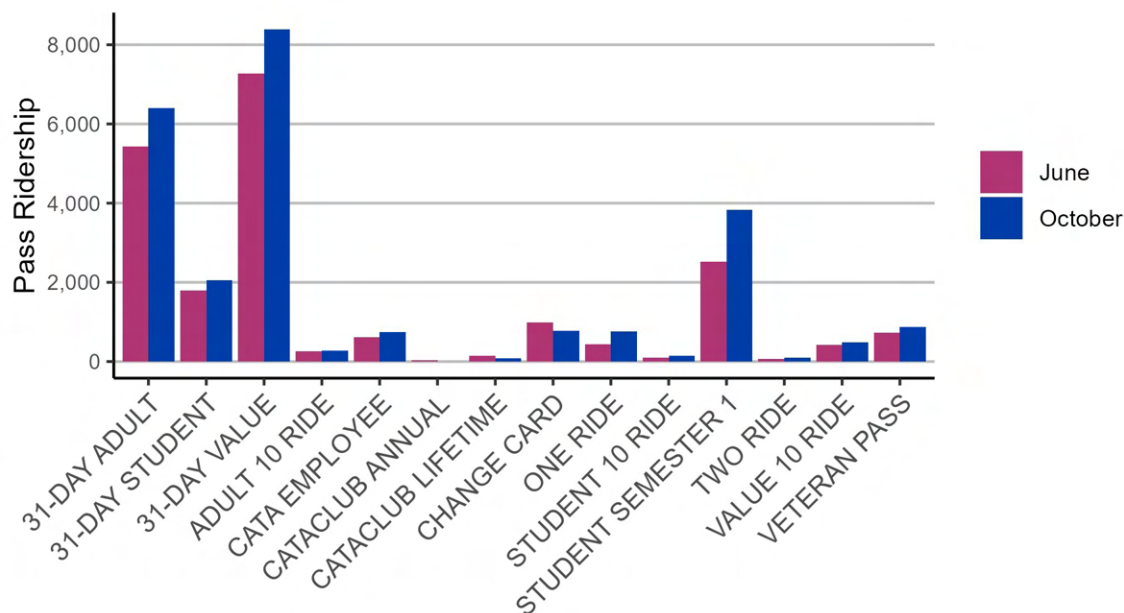


ROUTE: 5

SOUTH CEDAR-EDGEWOOD

Service Type: Local Service

Pass Usage



Route Analysis

Strengths

- Daily service.
- Frequent service on all service days throughout the year.
- Extensive span of service.
- Mostly simple and direct alignment.
- Strong anchors and good mix of trip generators.
- Strong ridership and productivity.

Weaknesses

- Overcrowding on select weekday trips, with passenger loads exceeding 40 passengers.
- Edgewood Blvd. would function better as a mid-route segment than an end-of-line destination due to lack of layover space.
- Missed opportunities to create connections with other routes on the outer end of the route.

Opportunities

- Consider shifting Everett High School service to Route 6 to address overcrowding, leaving Route 5 on Cedar St. for all trips.
- End Route 5 at Meijer and create an interline connection with Route 9 to serve Edgewood Blvd. and create more one-seat ride opportunities for riders of both routes.

ROUTE: 6

CEDAR - JOLLY CONNECTION

Service Type: Local Service

Description: Local service connecting the CTC with Jolly Cedar Plaza and Newcomer Center.

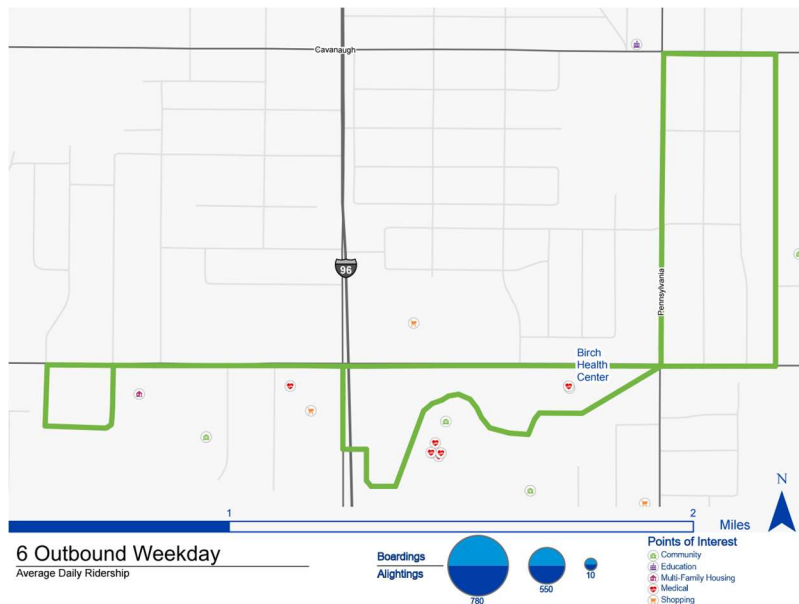
Key Points of Interest: Jolly Cedar Plaza, Ingham County DHS/FIA, Tri-County Community Mental Health, Newcomer Center, Social Security Administration.

Weekday Statistics

Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	06:52 AM - 04:21 PM	06:52 AM - 04:21 PM	Revenue Hours	7.3	15/15	7.3		Early	0%	0	Population Within ½ Mile		5,955		32/32
Peak Frequency	20 min	20 min	Revenue Miles	44	15/15	44		On-Time	0	0	Jobs Within ½ Mile		5,789		31/32
Off-Peak Frequency	20 min	20 min	Average Daily Boardings	28	15/15	10		Late	0	0	Passengers per Capita	0.5%	14/15	0.2%	15/15
Evening Frequency	-	-	Passengers per Hour	3.8	15/15	1.4					Passengers per Mile	0.6	14/15	0.2	15/15
			Passengers per Trip	1.0	15/15	0.3									

Note: Rankings are by service type.

Note: Rankings are by service type.



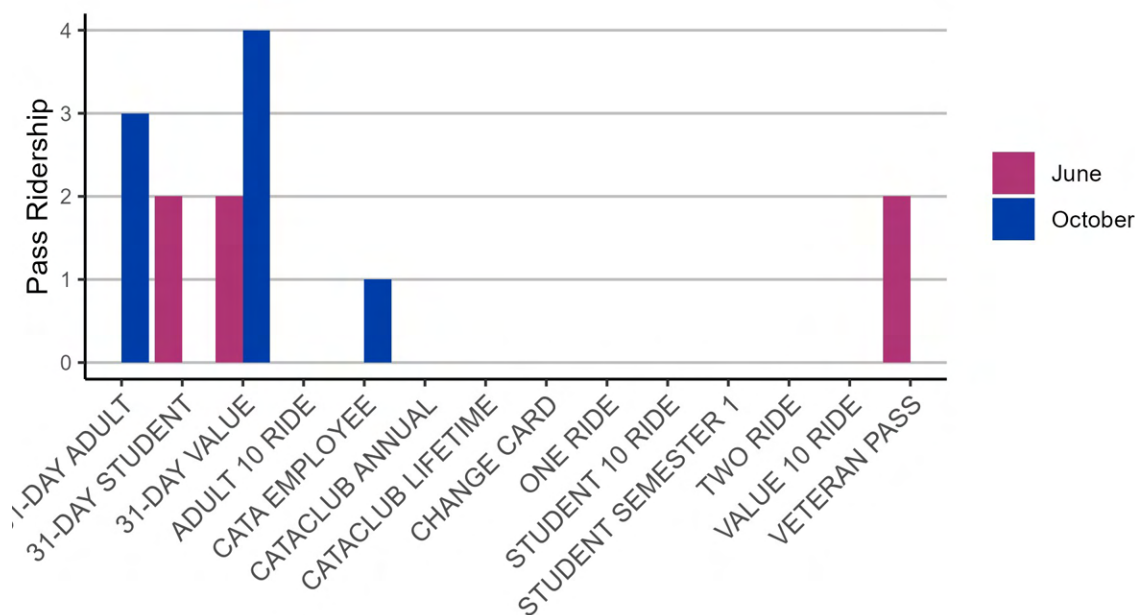
Note: Route 6 did not have APC data, so no ridership data is shown.

ROUTE: 6

CEDAR - JOLLY CONNECTION

Service Type: Local Service

Pass Usage



Route Analysis

Strengths

- Provides critical weekday connections to several social service providers near Jolly Rd.
- Easy to remember clock-face frequency.

Weaknesses

- Lowest ridership and productivity among CATA routes.
- Requires passengers to request service to some destinations, adding a layer of complexity to the route.
- Challenging operating environment with unsignalized intersections and unprotected left turns.

Opportunities

- Consider shifting Everett High School service to Route 6 to address overcrowding, leaving Route 5 on Cedar St. for all trips.
- Anchor Route 6 at Meijer to create additional connection opportunities and relieve pressure on Route 5.

ROUTE: 7

AURELIUS-MILLER

Service Type: Local Service

Description: Local service from CTC to Meijer.

Key Points of Interest: CTC, Cooley Law School, Capital Area District Library, Legal Services South Central, Lansing Christian School, Forest View School, Beekman Center.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:00 AM - 09:45 PM	06:00 AM - 09:45 PM
Peak Frequency	45 min	45 min
Off-Peak Frequency	45 min	45 min
Evening Frequency	45 min	-

	June	Rank	Oct	Rank
Revenue Hours	28.0	6/15	28.0	6/15
Revenue Miles	505	6/15	505	6/15
Average Daily Boardings	429	8/15	526	8/15
Passengers per Hour	15.3	10/15	18.8	10/15
Passengers per Trip	10.2	7/15	12.5	7/15

	June	Oct
Early	8%	9%
On-Time	74%	85%
Late	18%	5%

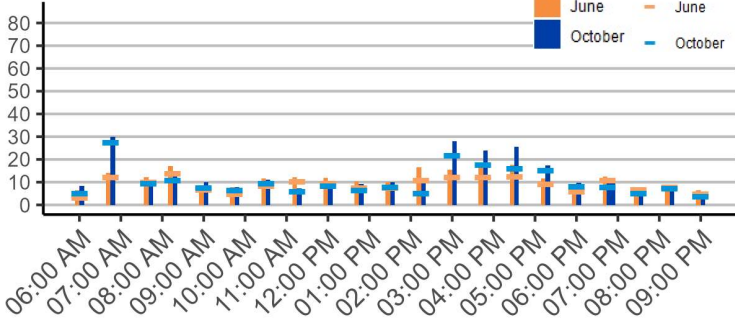
	June	Rank	Oct	Rank
Population Within ½ Mile	18,424			22/32
Jobs Within ½ Mile	46,269			10/32
Passengers per Capita	2.3%	9/15	2.9%	9/15
Passengers per Mile	0.8	10/15	1.0	11/15

Note: Rankings are by service type.

Weekday Ridership by Trip

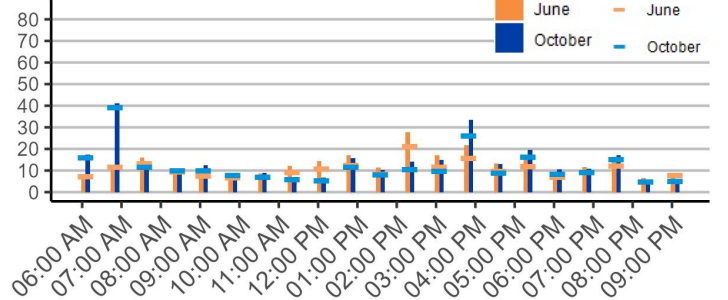
7 Outbound Weekday

Boardings Maximum Load
June October June October

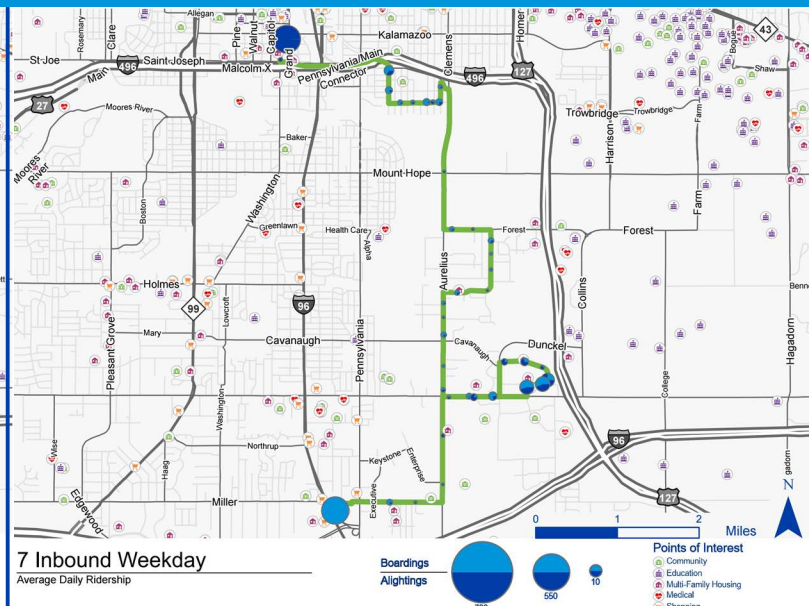
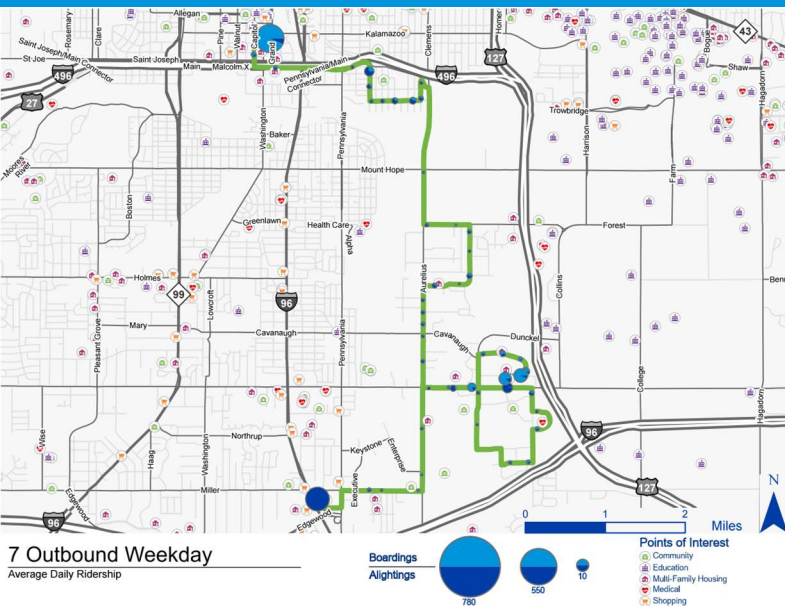


7 Inbound Weekday

Boardings Maximum Load
June October June October



Weekday Ridership by Stop



ROUTE: 7

AURELIUS-MILLER

Service Type: Local Service

Saturday Statistics

Operating Characteristics

	June	Oct
Span	08:00 AM - 09:35 PM	08:00 AM - 09:35 PM
Peak Frequency	80 min	80 min
Off-Peak Frequency	80 min	80 min
Evening Frequency	-	-

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	11.7	11/11	11.7	11/11
Revenue Miles	213	9/11	213	9/11
Average Daily Boardings	186	10/11	144	11/11
Passengers per Hour	15.9	10/11	12.3	11/11
Passengers per Trip	9.3	8/11	7.2	8/11

On-Time Performance

	June	Oct
Early	4%	3%
On-Time	90%	85%
Late	6%	12%

Market Penetration

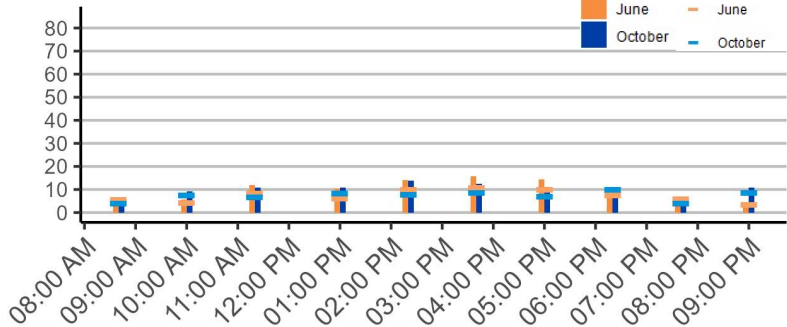
	June	Rank	Oct	Rank
Population Within ½ Mile	18,424			22/32
Jobs Within ½ Mile	46,269			10/32
Passengers per Capita	1.0%	10/11	0.8%	11/11
Passengers per Mile	0.8	10/11	0.6	11/11

Note: Rankings are by service type.

Saturday Ridership by Trip

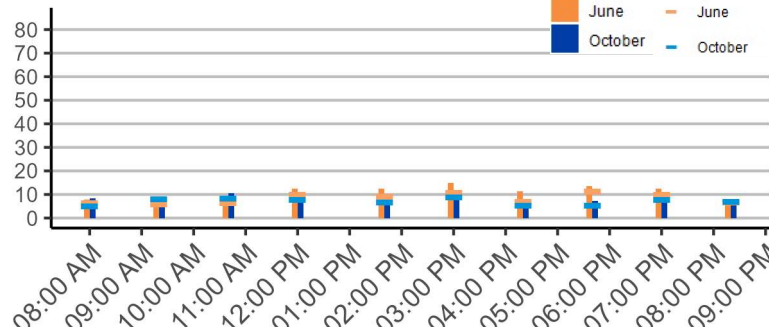
7 Outbound Saturday

Boardings Maximum Load
June October June October

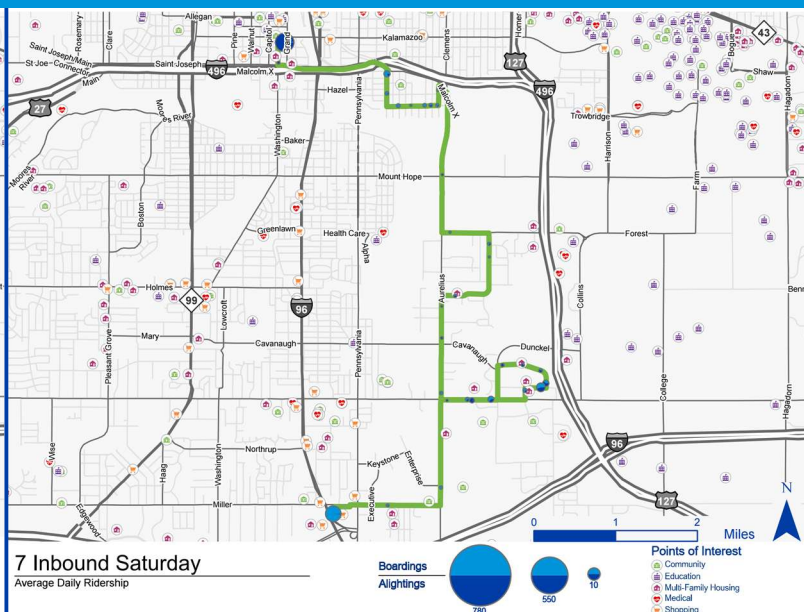
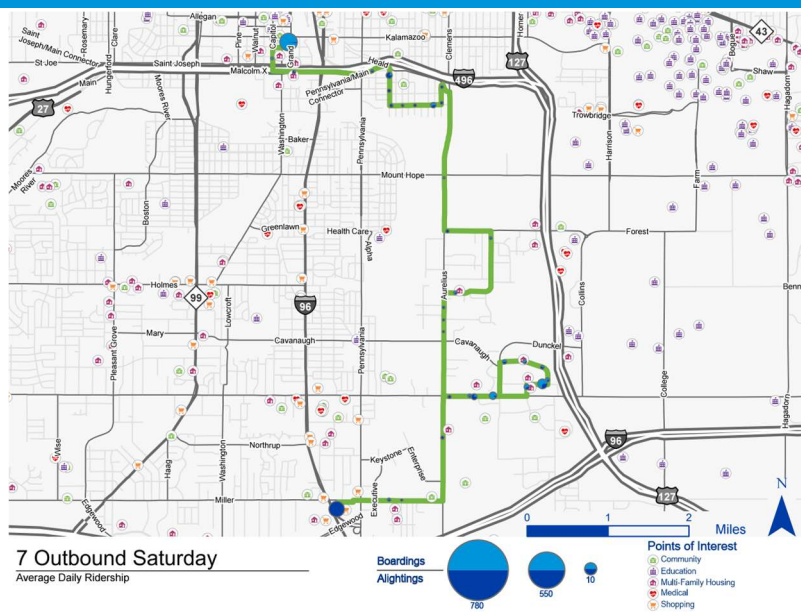


7 Inbound Saturday

Boardings Maximum Load
June October June October



Saturday Ridership by Stop

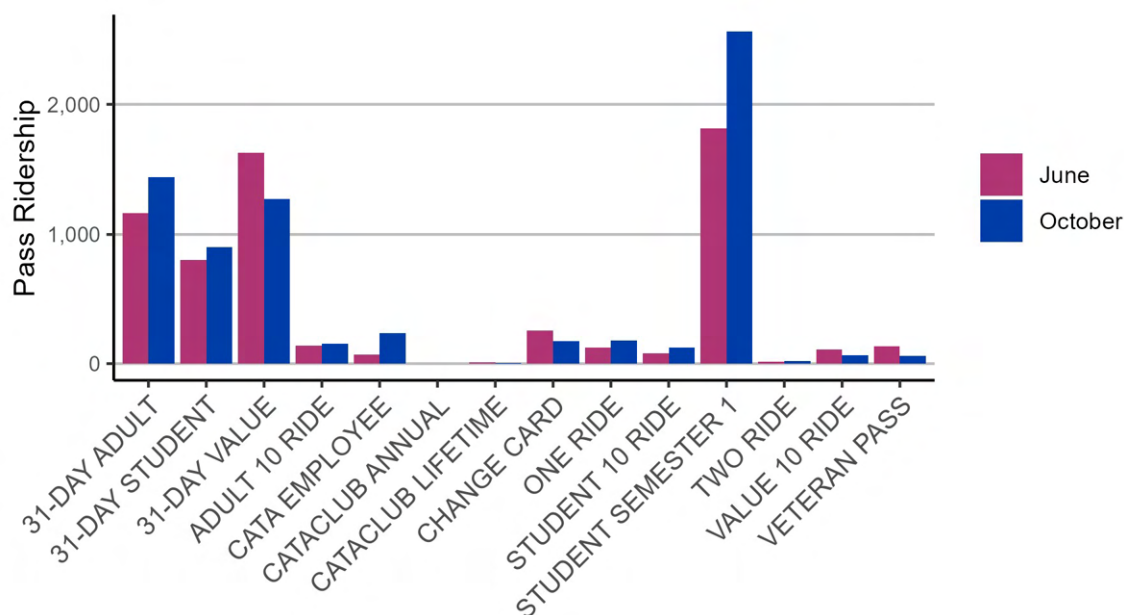


ROUTE: 7

AURELIUS-MILLER

Service Type: Local Service

Pass Usage



Route Analysis

Strengths

- Provides service coverage along Aurelius Rd. corridor, which is not served by other CATA routes.
- Extensive span of service on weekdays and Saturdays.
- Fairly strong on-time performance.

Weaknesses

- Circuitous mid-route deviation to serve Towne Square/College Towne area, including backtracking on Jolly Rd.
- Non-clockface frequencies, making schedules difficult to remember.
- Low ridership on Saturdays.
- Low ridership along Dunckel Rd./English Oak Dr./Pine Tree Rd. loop.
- Several areas of low-density along Aurelius Rd., resulting in low ridership.

Opportunities

- Use Cavanaugh Rd. to more quickly reach Dunckel Rd. and avoid backtracking along Jolly Rd.
- Reduce size of Dunckel Rd./English Oak Dr./Pine Tree Rd. loop to better serve Lansing Christian School and reduce unproductive service segments.
- Consider eliminating route and moving coverage to other routes - for example, Route 20 could be extended to Meijer from Jolly Rd., and Route 18 could be restructured to cover Stoneleigh Dr. and Provincial House Dr.
- Reduce service from 45 to 60-minute frequency to make schedules easier to remember.

ROUTE: 8

PENNSYLVANIA - HOLT

Service Type: Local Service

Description: Local service from the CTC to Meijer and Allegan & Pine.

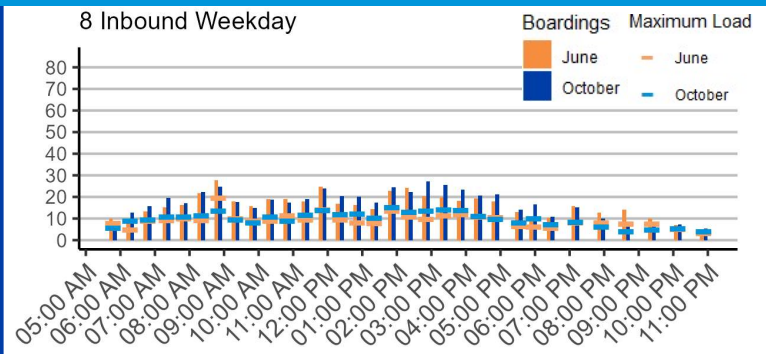
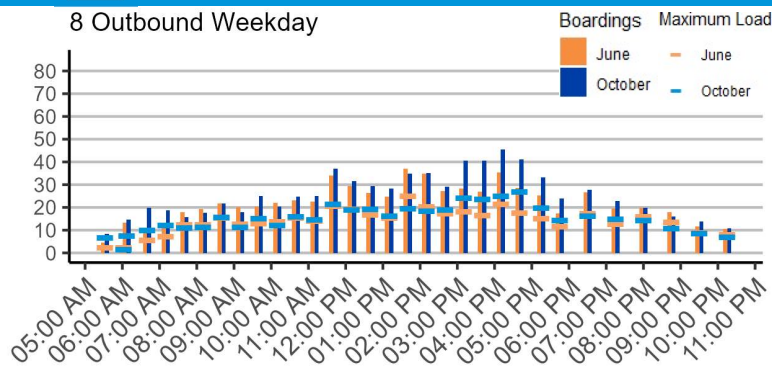
Key Points of Interest: CTC, Davenport University, Lansing Center, Jackson Field, Capital City Market, Tri-County Community Mental Health, Cedar Park Shopping Center, Delhi Community Service Center, Health-Sparrow Lansing Hospital, Lansing Community College, WMU Cooley Law School.

Weekday Statistics

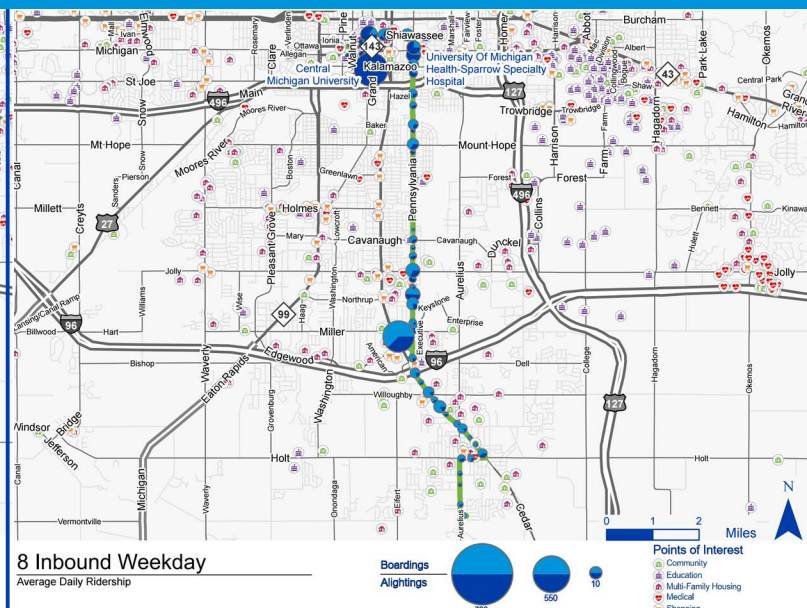
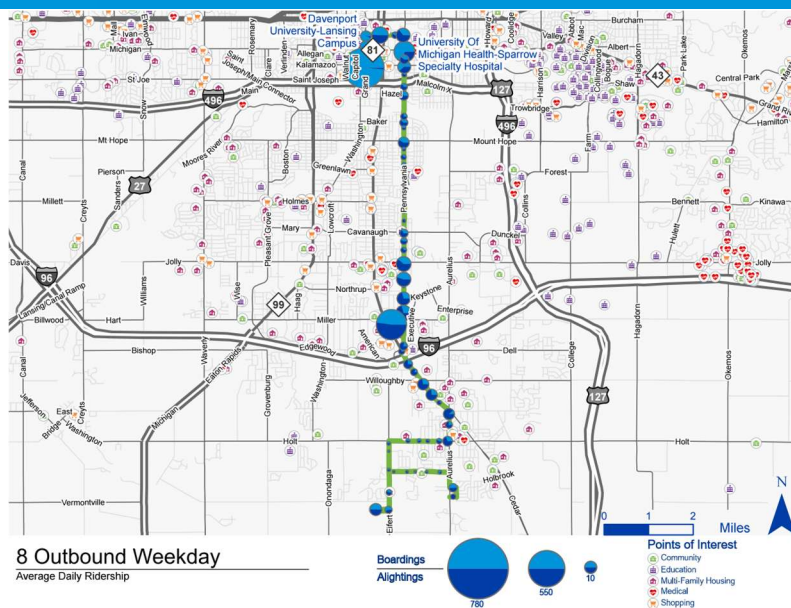
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	05:32 AM - 11:40 PM	05:32 AM - 11:40 PM	Revenue Hours	44.9	3/15	44.9	3/15	Early	3%	4%	Population Within ½ Mile	33,128		7/32	
Peak Frequency	30 min	25 min	Revenue Miles	765	3/15	765	3/15	On-Time	65%	71%	Jobs Within ½ Mile	65,519		2/32	
Off-Peak Frequency	30 min	30 min	Average Daily Boardings	1,036	4/15	1,191	5/15	Late	33%	25%	Passengers per Capita	3.1%	4/15	3.6%	6/15
Evening Frequency	45 min	45 min	Passengers per Hour	23.1	5/15	26.5	6/15				Passengers per Mile	1.3	6/15	1.5	6/15
			Passengers per Trip	16.2	2/15	18.6	4/15								
Note: Rankings are by service type.															

Note: Rankings are by service type.

Weekday Ridership by Trip



Weekday Ridership by Stop



ROUTE: 8

PENNSYLVANIA - HOLT

Service Type: Local Service

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	07:24 AM - 11:21 PM	07:24 AM - 11:21 PM

	June	Rank	Oct	Rank
Revenue Hours	42.5	2/11	42.5	2/11

	June	Oct
Early	6%	3%

	June	Rank	Oct	Rank
Population Within ½ Mile	33,128			7/32

	June	Oct
Peak Frequency	30 min	30 min

	June	Rank	Oct	Rank
Revenue Miles	732	2/11	732	2/11

	June	Oct
On-Time	68%	62%

	June	Rank	Oct	Rank
Jobs Within ½ Mile	65,519			2/32

	June	Oct
Off-Peak Frequency	30 min	30 min

	June	Rank	Oct	Rank
Average Daily Boardings	694	4/11	804	4/11

	June	Oct
Late	26%	36%

	June	Rank	Oct	Rank
Passengers per Capita	2.1%	5/11	2.4%	5/11

	June	Oct
Evening Frequency	30 min	30 min

	June	Rank	Oct	Rank
Passengers per Hour	16.3	8/11	18.9	6/11

	June	Rank	Oct	Rank
Passengers per Mile	0.9	9/11	1.1	7/11

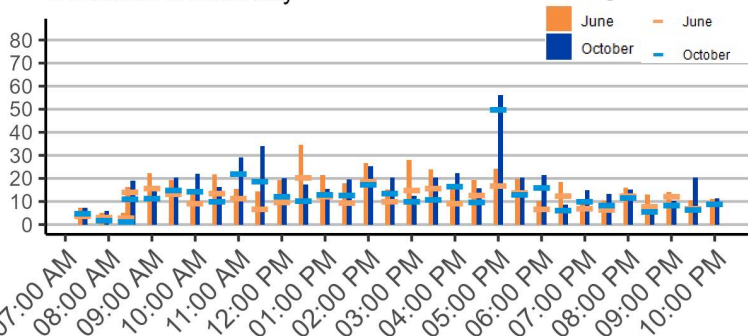
	June	Rank	Oct	Rank
Passengers per Trip	11.2	6/11	13.0	4/11

Note: Rankings are by service type.

Saturday Ridership by Trip

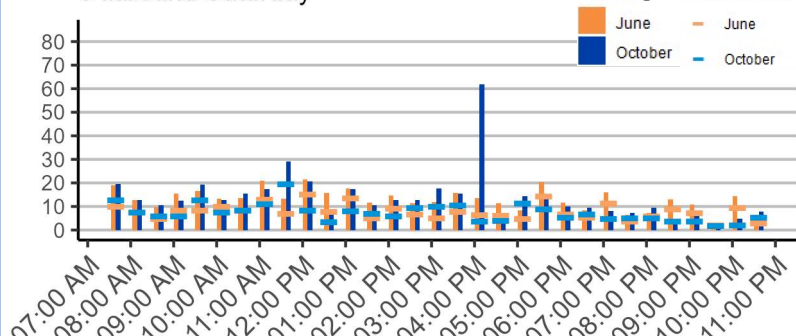
8 Outbound Saturday

Boardings Maximum Load

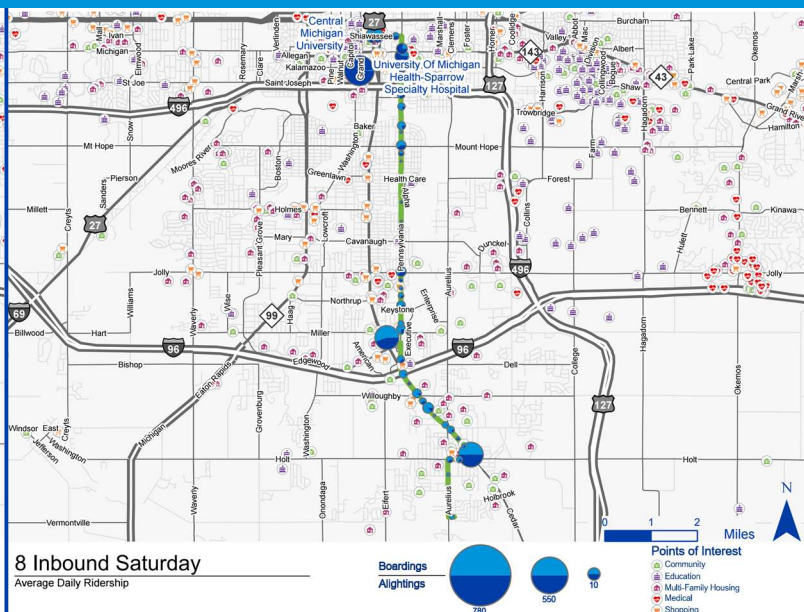
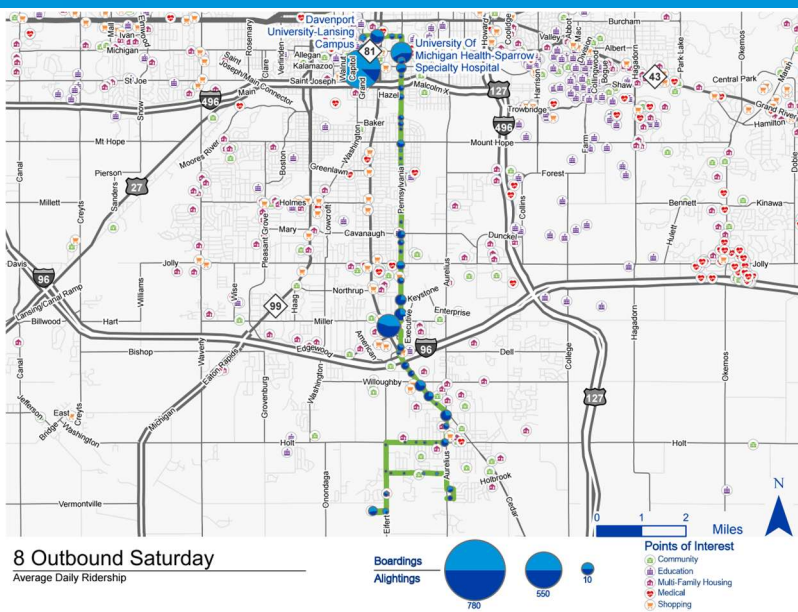


8 Inbound Saturday

Boardings Maximum Load



Saturday Ridership by Stop



ROUTE: 8

PENNSYLVANIA - HOLT

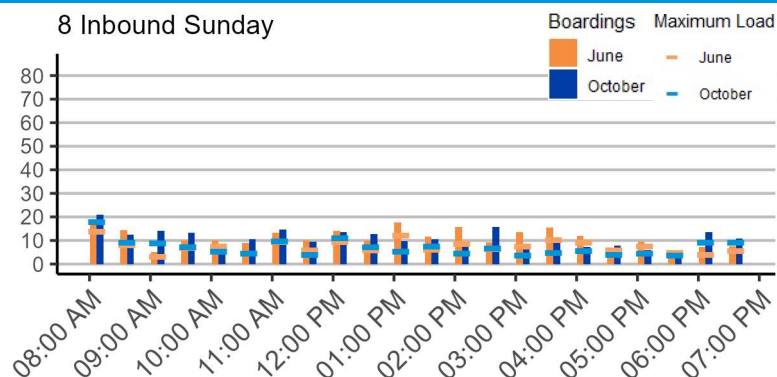
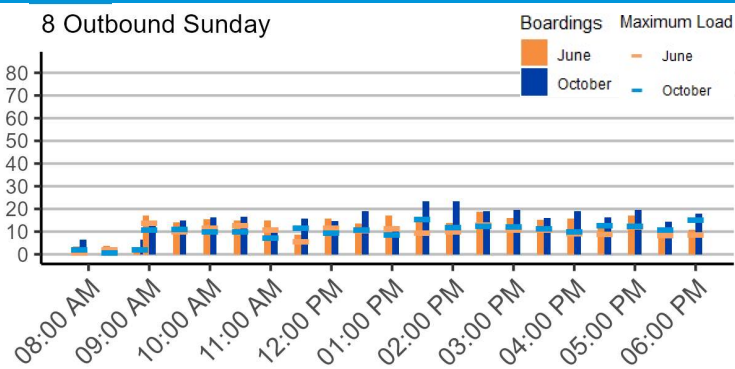
Service Type: Local Service

Sunday Statistics

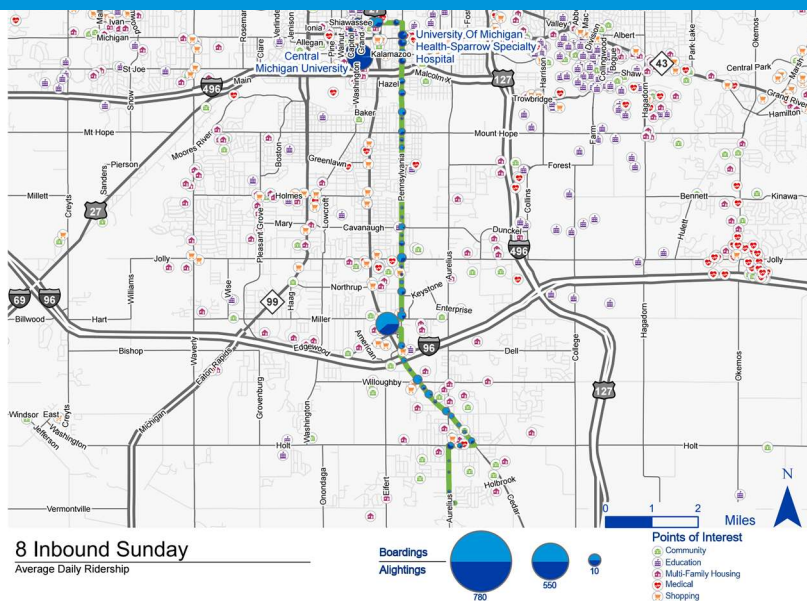
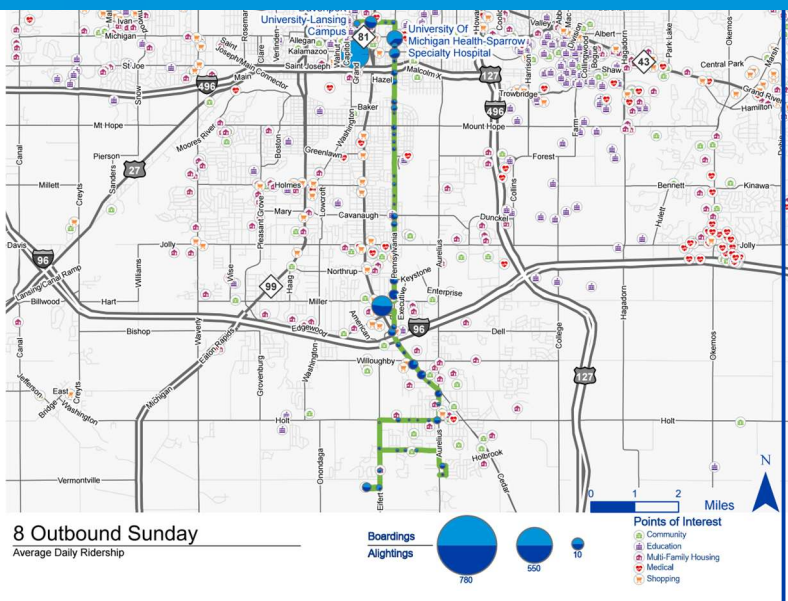
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
Span	June	Oct	Revenue Hours	June	Rank	Oct	Rank	Early	June	Oct	Population Within ½ Mile	June	Rank	Oct	Rank
	07:51 AM - 07:10 PM	07:51 AM - 07:10 PM		29.9	2/10	29.9	2/10		5%	3%		33,128	7/32		
Peak Frequency	30 min	30 min	Revenue Miles	514	2/10	514	2/10 <th>On-Time</th> <td>70%</td> <td>67%<th>Jobs Within ½ Mile</th><td colspan="2">65,519</td><td colspan="2">2/32</td></td>	On-Time	70%	67% <th>Jobs Within ½ Mile</th> <td colspan="2">65,519</td> <td colspan="2">2/32</td>	Jobs Within ½ Mile	65,519		2/32	
Off-Peak Frequency	30 min	30 min	Average Daily Boardings	454	5/10	462	4/10 <th>Late</th> <td>25%</td> <td>30%<th>Passengers per Capita</th><td>1.4%</td><td>5/10</td><td>1.4%</td><td>5/10</td></td>	Late	25%	30% <th>Passengers per Capita</th> <td>1.4%</td> <td>5/10</td> <td>1.4%</td> <td>5/10</td>	Passengers per Capita	1.4%	5/10	1.4%	5/10
Evening Frequency	-	-	Passengers per Hour	15.2	9/10	15.5	7/10 <th></th> <th></th> <th></th> <th>Passengers per Mile</th> <td>0.8</td> <td>9/10</td> <td>0.9</td> <td>8/10</td>				Passengers per Mile	0.8	9/10	0.9	8/10
			Passengers per Trip	10.3	6/10	10.5	5/10								
Note: Rankings are by service type.															

Note: Rankings are by service type.

Sunday Ridership by Trip



Sunday Ridership by Stop

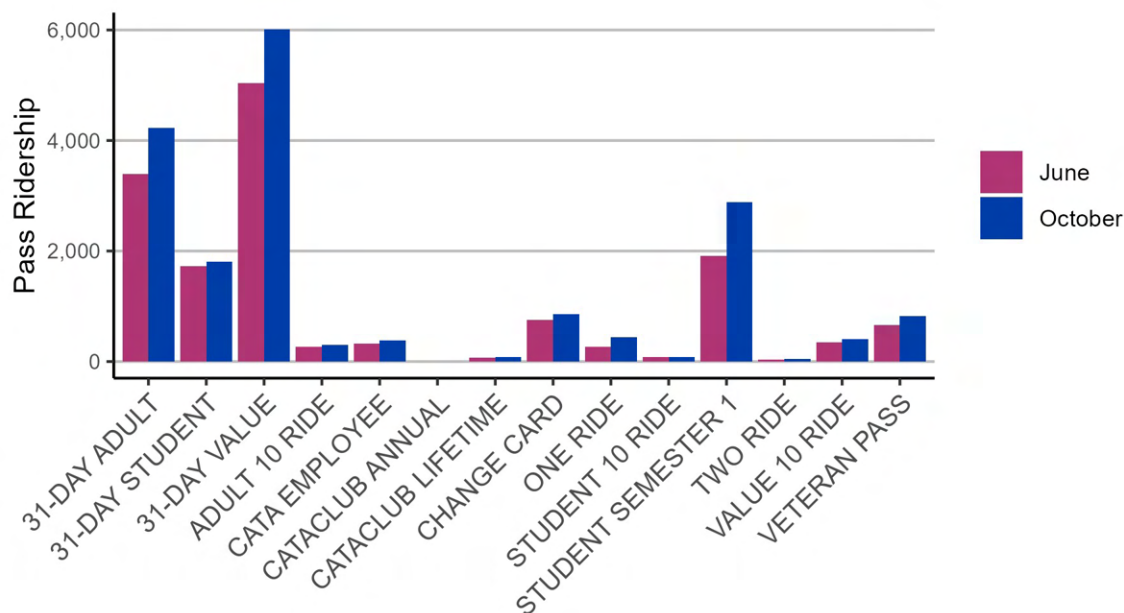


ROUTE: 8

PENNSYLVANIA - HOLT

Service Type: Local Service

Pass Usage



Route Analysis

Strengths

- Daily service.
- Easy-to-remember clockface frequency for most service periods.
- Extensive span of service.
- Mostly simple and direct alignment.
- Good mix of trip generators.
- Moderate ridership and productivity.

Weaknesses

- Several segments of relatively low ridership including parts of Pennsylvania Ave. and Wilcox Rd.
- Challenges with on-time performance.
- Circuitous alignment on the southern end of the route.
- Potentially unsafe deviation into Windmill Mobile Home Park.
- Low ridership along Capitol loop.
- Missed opportunity to better serve potential ridership generators at Edgewood Town Centre, including Target.

Opportunities

- Consider restructuring route to provide coverage south of Miller Rd. only, while increasing service at Meijer to create a secondary hub with frequent departures to multiple destinations.
- Create end-of-line loop including Target, Meijer, and Aldi.
- Shift service north of Miller Rd. to other routes, including potentially Routes 6, 7, 18, and/or 20.
- Restructure southern end-of-line to operate as a loop along Holt Rd., Eifert Rd., Harper Rd., and Aurelius Rd. to avoid deviations onto private roadways.

ROUTE: 9

SOUTH MLK - MILLER

Service Type: Local Service

Description: Local service from the CTC to Meijer.

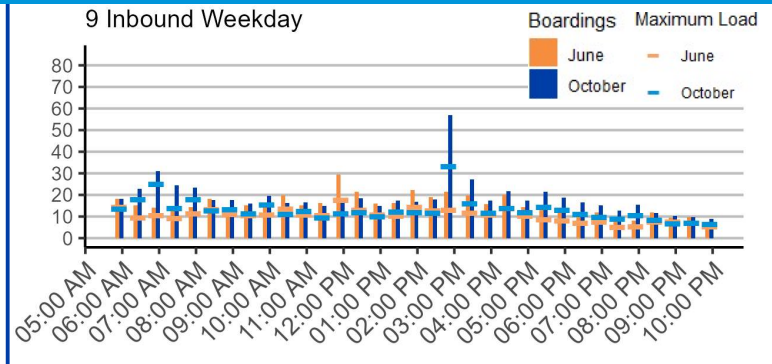
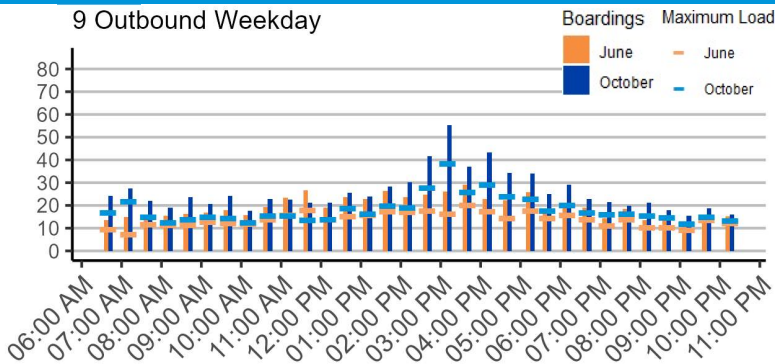
Key Points of Interest: CTC, Davenport University, Lansing Center, Lansing Community College, Lansing City Hall, WMU Cooley Law School, Logan Center, Capital Area District Library.

Weekday Statistics

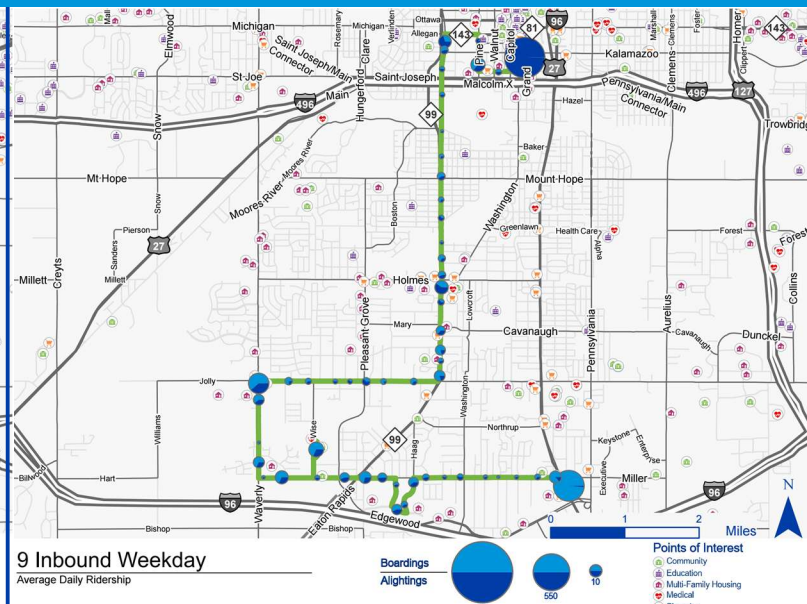
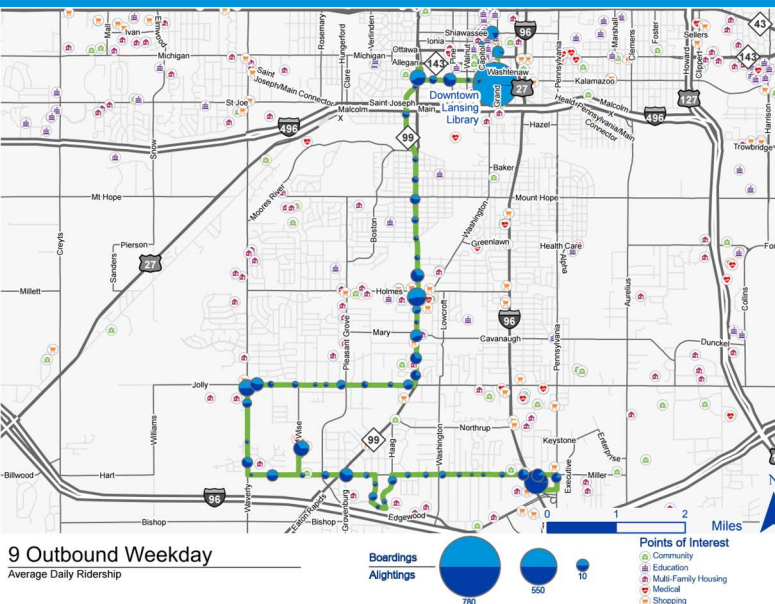
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	05:55 AM - 10:55 PM	05:55 AM - 10:55 PM	Revenue Hours	43.4	4/15	43.4	4/15	Early	4%	3%	Population Within ½ Mile	37,315			6/32
Peak Frequency	30 min	25 min	Revenue Miles	829	2/15	829	2/15	On-Time	69%	65%	Jobs Within ½ Mile	53,021			5/32
Off-Peak Frequency	30 min	25 min	Average Daily Boardings	965	5/15	1,213	4/15	Late	27%	31%	Passengers per Capita	2.6%	7/15	3.3%	7/15
Evening Frequency	30 min	30 min	Passengers per Hour	22.2	6/15	27.9	5/15				Passengers per Mile	1.1	8/15	1.4	8/15
			Passengers per Trip	14.8	5/15	18.7	3/15								
Note: Rankings are by service type.															

Note: Rankings are by service type.

Weekday Ridership by Trip



Weekday Ridership by Stop



ROUTE: 9

SOUTH MLK - MILLER

Service Type: Local Service

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	07:45 AM - 10:40 PM	07:45 AM - 10:40 PM

Peak Frequency	30 min	30 min
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Off-Peak Frequency	30 min	30 min
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Evening Frequency	30 min	30 min
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	June	Rank	Oct	Rank
Revenue Hours	37.3	3/11	37.3	3/11
Revenue Miles	673	3/11	673	3/11
Average Daily Boardings	672	5/11	664	5/11
Passengers per Hour	18.0	7/11	17.8	8/11
Passengers per Trip	12.0	4/11	11.9	5/11

	June	Oct
Early	6%	9%
On-Time	68%	67%
Late	26%	24%

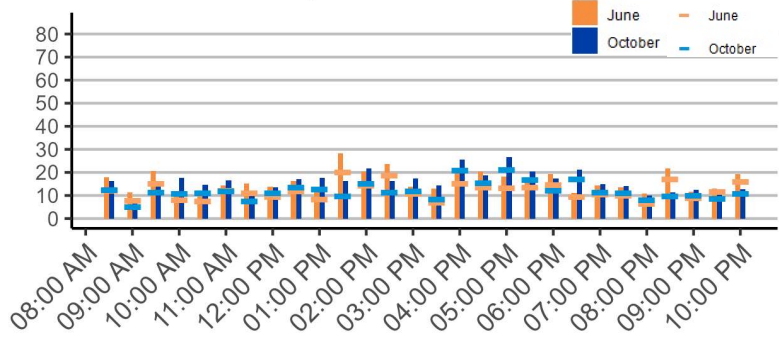
	June	Rank	Oct	Rank
Population Within ½ Mile	37,315			6/32
Jobs Within ½ Mile	53,021			5/32
Passengers per Capita	1.8%	7/11	1.8%	7/11
Passengers per Mile	1.0	7/11	1.0	9/11

Note: Rankings are by service type.

Saturday Ridership by Trip

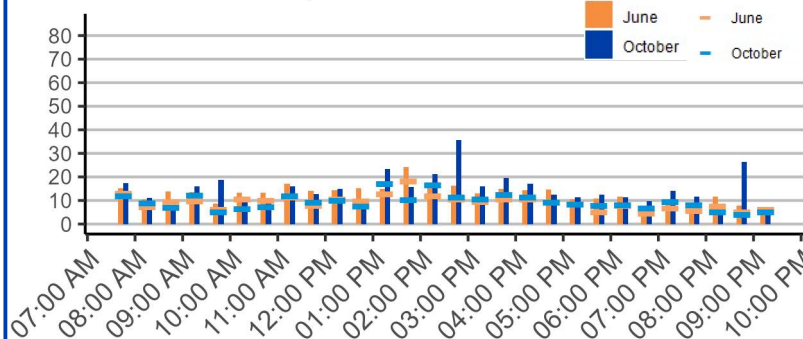
9 Outbound Saturday

Boardings Maximum Load
June October
June October

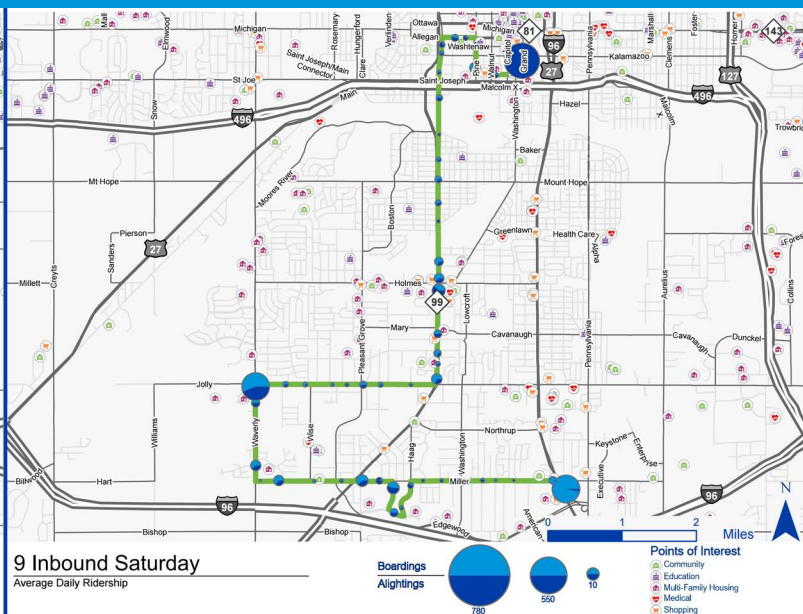
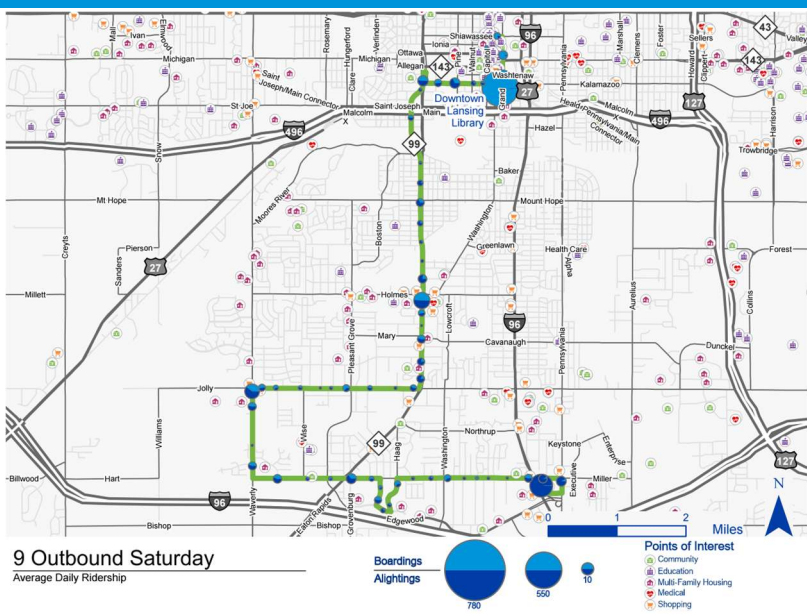


9 Inbound Saturday

Boardings Maximum Load
June October
June October



Saturday Ridership by Stop



ROUTE: 9

SOUTH MLK - MILLER

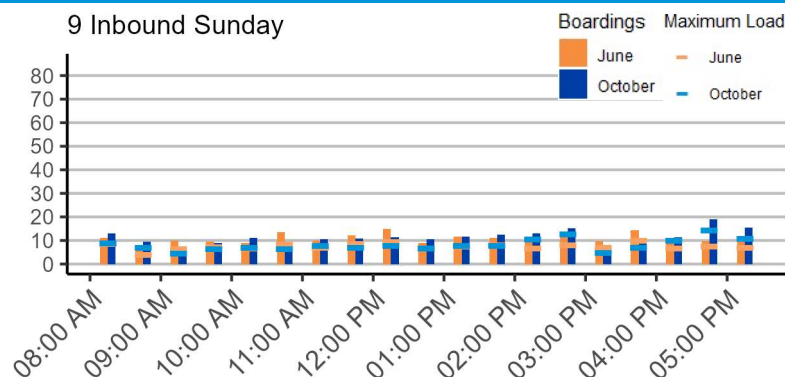
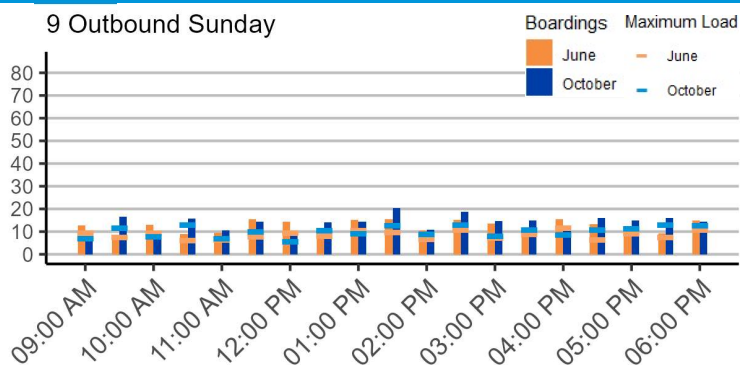
Service Type: Local Service

Sunday Statistics

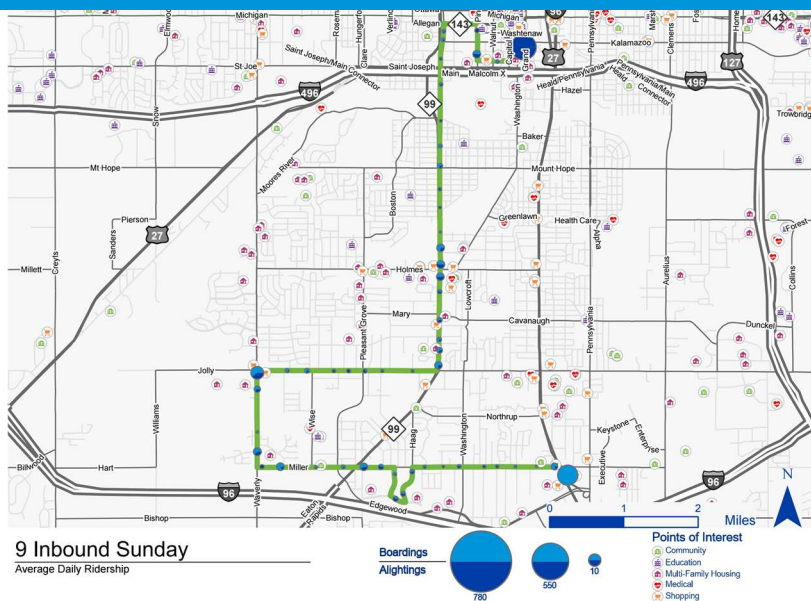
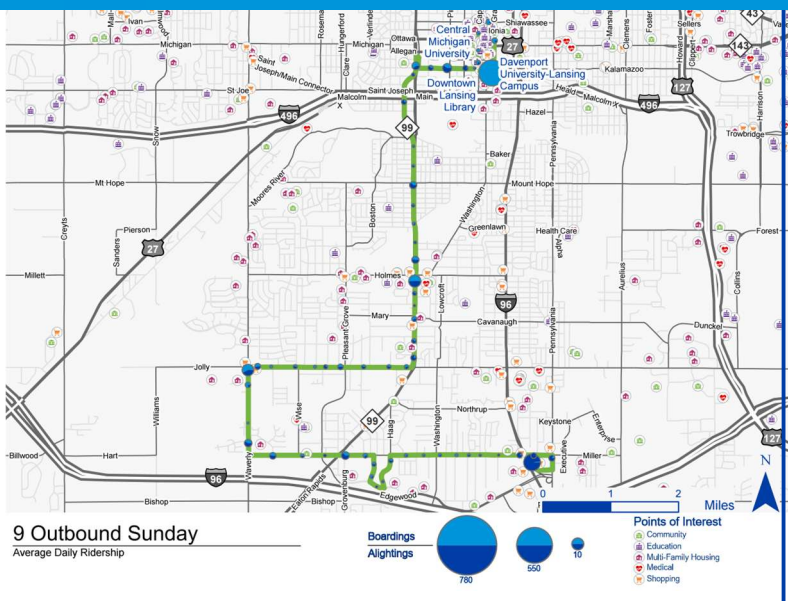
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
Span	June	Oct	Revenue Hours	June	Rank	Oct	Rank	Early	June	Oct	Population Within ½ Mile	June	Rank	Oct	Rank
	08:15 AM - 06:40 PM	08:15 AM - 06:40 PM		25.3	3/10	25.3	3/10		9%	10%		37,315	6/32		
Peak Frequency	30 min	30 min	Revenue Miles	457	3/10	457	3/10 <th>On-Time</th> <td>65%</td> <td>75%<th>Jobs Within ½ Mile</th><td colspan="2">53,021</td><td colspan="2">5/32</td></td>	On-Time	65%	75% <th>Jobs Within ½ Mile</th> <td colspan="2">53,021</td> <td colspan="2">5/32</td>	Jobs Within ½ Mile	53,021		5/32	
Off-Peak Frequency	30 min	30 min	Average Daily Boardings	497	2/10	453	5/10 <th>Late</th> <td>27%</td> <td>15%<th>Passengers per Capita</th><td>1.3%</td><td>6/10</td><td>1.2%</td><td>6/10</td></td>	Late	27%	15% <th>Passengers per Capita</th> <td>1.3%</td> <td>6/10</td> <td>1.2%</td> <td>6/10</td>	Passengers per Capita	1.3%	6/10	1.2%	6/10
Evening Frequency	-	-	Passengers per Hour	19.6	5/10	17.9	6/10 <th colspan="8"></th>								
			Passengers per Trip	13.1	3/10	11.9	4/10								
Note: Rankings are by service type.															

Note: Rankings are by service type.

Sunday Ridership by Trip



Sunday Ridership by Stop

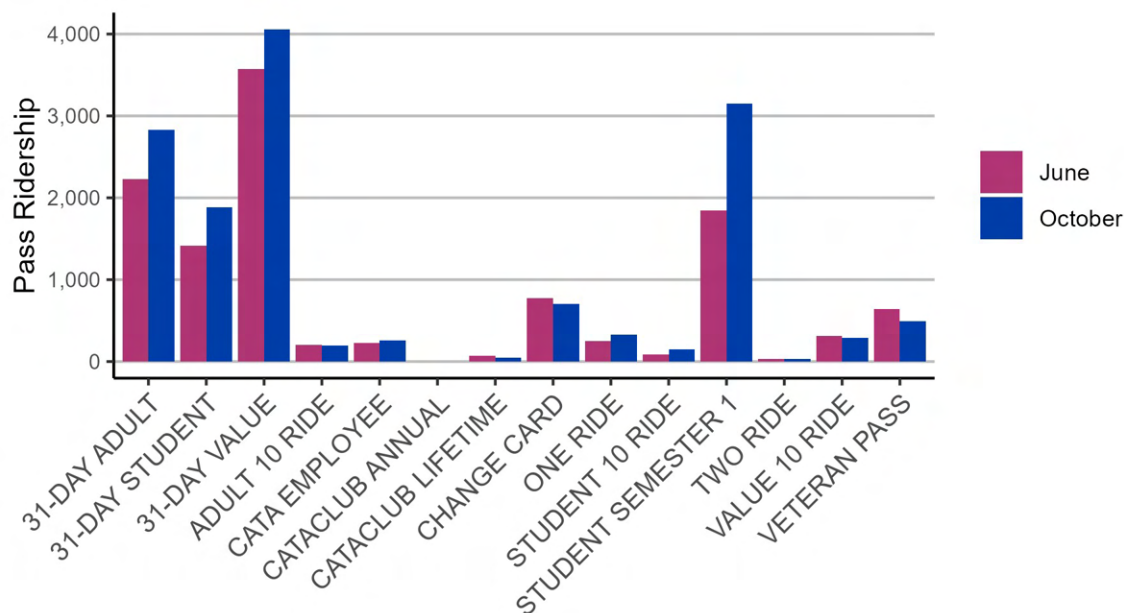


ROUTE: 9

SOUTH MLK - MILLER

Service Type: Local Service

Pass Usage



Route Analysis

Strengths

- Daily service.
- Easy-to-remember clockface frequency.
- Extensive span of service.
- Strong anchors and good mix of trip generators.
- Relatively high ridership and productivity.

Weaknesses

- Circuitous alignment through downtown Lansing.
- Fairly long deviation from most direct path of travel between end-of-line destination to serve Waverly Rd.
- Challenges with on-time performance, especially on weekdays.
- Potential overcrowding around 3:00 PM on weekdays as maximum load approaches 40 passengers.
- Deviation and backtracking required to serve Lansing Technical High School.
- Relatively low ridership along some segments of Miller Rd. and MLK Jr. Blvd.

Opportunities

- Streamline alignment through downtown Lansing by using Kalamazoo St. for CTC access and then finding a suitable interline pair to provide one-seat-ride service to the Capitol complex.
- Shift service from Waverly Rd. to Wise Rd. to reduce out-of-direction travel for some riders.
- Serve Lansing Technical High School with an additional route or routes to address likely source of overcrowding on Route 9.
- Consider interlining Routes 9 and 5 at Meijer to allow Route 9 to serve destinations along Edgewood Blvd., either in addition to or instead of low-ridership segments of Miller Rd.

ROUTE: 10

NORTH LANSING - TURNER

Service Type: Local Service

Description: Local service from the CTC to Grand River via Davenport University.

Key Points of Interest: CTC, Davenport University, Jackson Field, Holy Cross Services, Gier Community Center, Cristo Rey Community Center, Lansing Community College, Lansing City Hall, Cooley Law School, Capital Area District Library.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

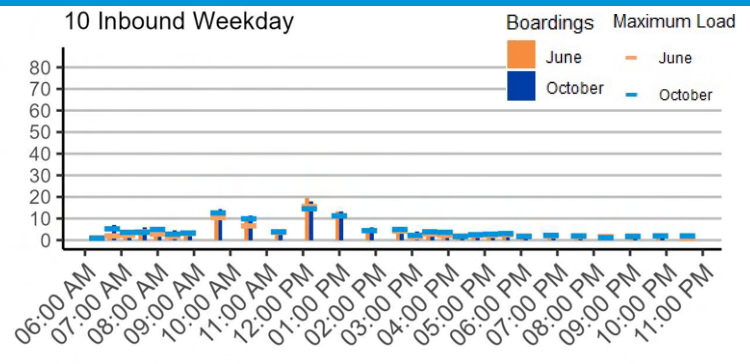
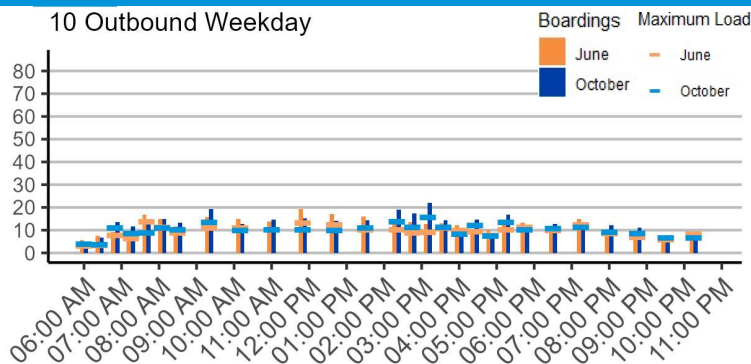
Market Penetration

	June		Oct			June		Oct	
	06:00 AM - 10:55 PM	06:00 AM - 10:55 PM	06:00 AM - 10:55 PM	06:00 AM - 10:55 PM		Rank	Rank	Rank	Rank
Span	06:00 AM - 10:55 PM	06:00 AM - 10:55 PM	06:00 AM - 10:55 PM	06:00 AM - 10:55 PM	Revenue Hours	20.3	11/15	20.3	11/15
Peak Frequency	25 min	25 min	25 min	25 min	Revenue Miles	285	11/15	285	11/15
Off-Peak Frequency	25 min	25 min	25 min	25 min	Average Daily Boardings	380	10/15	461	9/15
Evening Frequency	45 min	45 min	45 min	45 min	Passengers per Hour	18.7	8/15	22.7	8/15
					Passengers per Trip	6.8	9/15	8.2	9/15

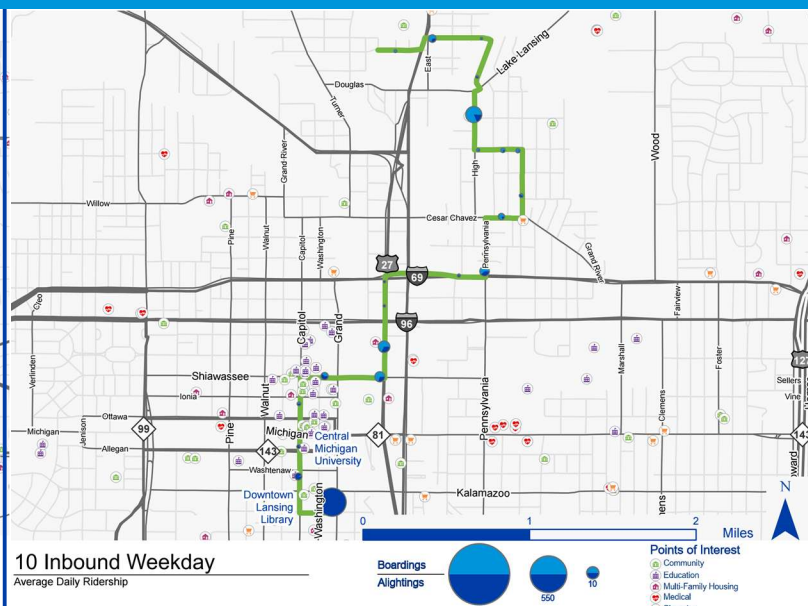
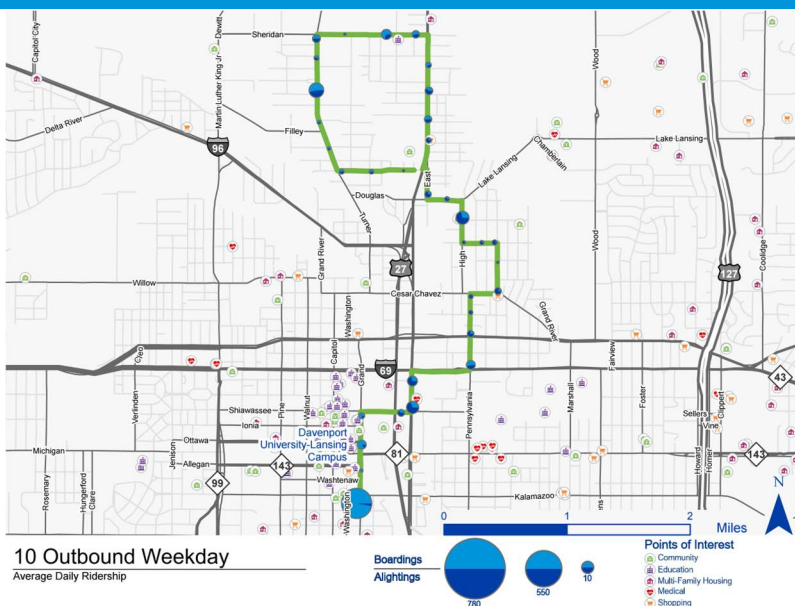
	June		Oct			June		Oct	
	3%	4%	3%	4%		Rank	Rank	Rank	Rank
Early	3%	4%	3%	4%	Population Within ½ Mile	15,471	27/32	15,471	27/32
On-Time	81%	87%	81%	87%	Jobs Within ½ Mile	42,820	12/32	42,820	12/32
Late	16%	9%	16%	9%	Passengers per Capita	2.5%	8/15	3.0%	8/15
					Passengers per Mile	1.3	7/15	1.5	7/15

Note: Rankings are by service type.

Weekday Ridership by Trip



Weekday Ridership by Stop



ROUTE: 10

NORTH LANSING - TURNER

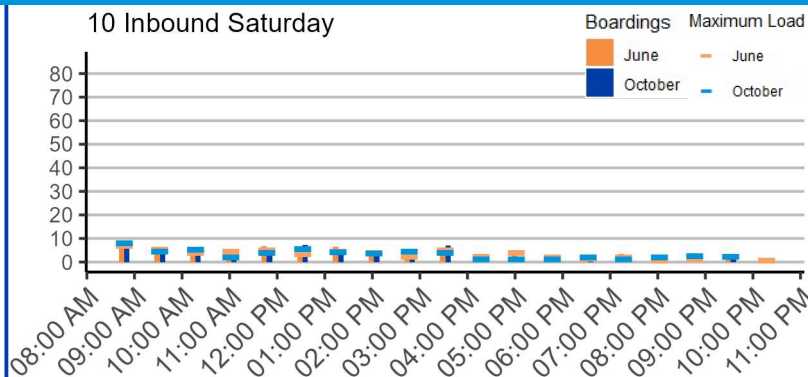
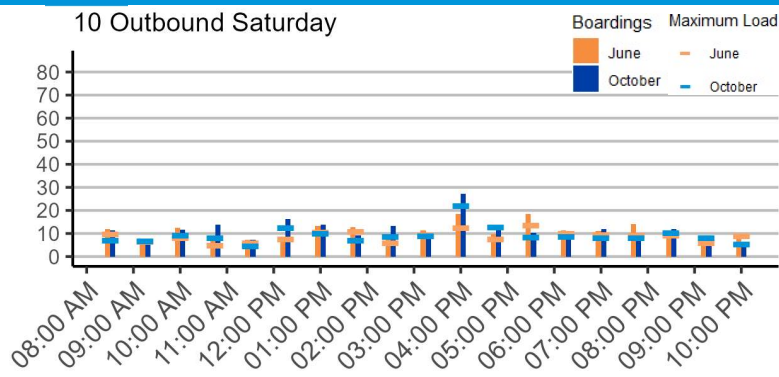
Service Type: Local Service

Saturday Statistics

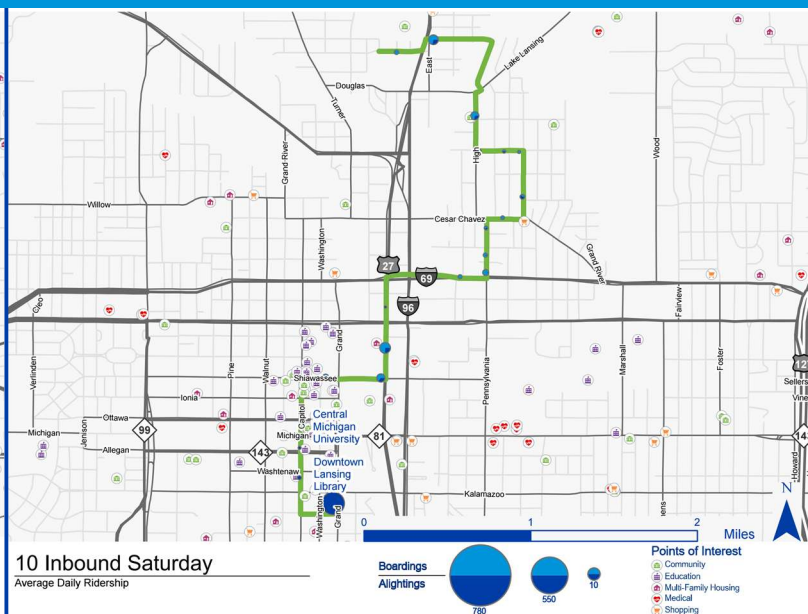
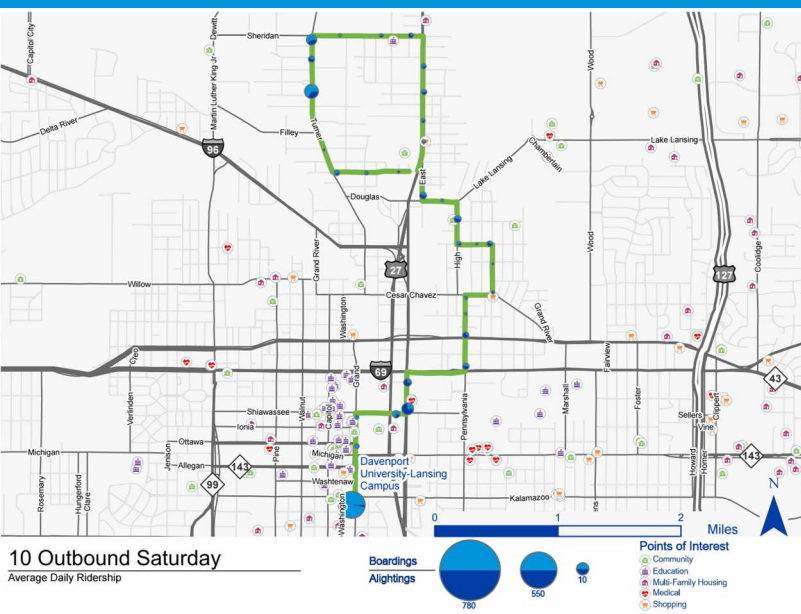
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	08:30 AM - 10:40 PM	08:30 AM - 10:40 PM	Revenue Hours	12.7	8/11	12.7	10/11	Early	3%	4%	Population Within ½ Mile	15,471		27/32	
Peak Frequency	45 min	45 min	Revenue Miles	193	10/11	193	10/11	On-Time	73%	80%	Jobs Within ½ Mile	42,820		12/32	
Off-Peak Frequency	45 min	45 min	Average Daily Boardings	206	9/11	223	9/11	Late	24%	16%	Passengers per Capita	1.3%	8/11	1.4%	8/11
Evening Frequency	45 min	45 min	Passengers per Hour	16.2	9/11	17.6	9/11				Passengers per Mile	1.0	8/11	1.1	8/11
			Passengers per Trip	5.4	10/11	5.9	10/11				Note: Rankings are by service type.				

Note: Rankings are by service type.

Saturday Ridership by Trip



Saturday Ridership by Stop



ROUTE: 10

NORTH LANSING - TURNER

Service Type: Local Service

Sunday Statistics

Operating Characteristics

	June	Oct
Span	09:00 AM - 06:40 PM	09:00 AM - 06:40 PM
Peak Frequency	45 min	45 min
Off-Peak Frequency	45 min	45 min
Evening Frequency	-	-

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	8.7	9/10	8.7	9/10
Revenue Miles	132	9/10	132	9/10
Average Daily Boardings	147	9/10	132	9/10
Passengers per Hour	17.0	8/10	15.2	9/10
Passengers per Trip	5.7	9/10	5.1	9/10

On-Time Performance

	June	Oct
Early	4%	11%
On-Time	69%	74%
Late	27%	15%

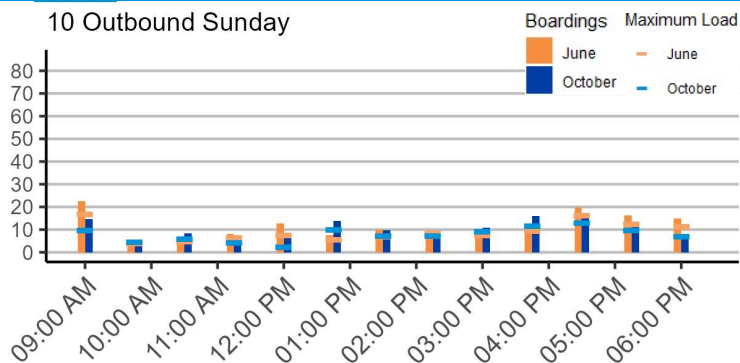
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	15,471			27/32
Jobs Within ½ Mile	42,820			12/32
Passengers per Capita	1.0%	8/10	0.9%	8/10
Passengers per Mile	1.0	8/10	0.9	9/10

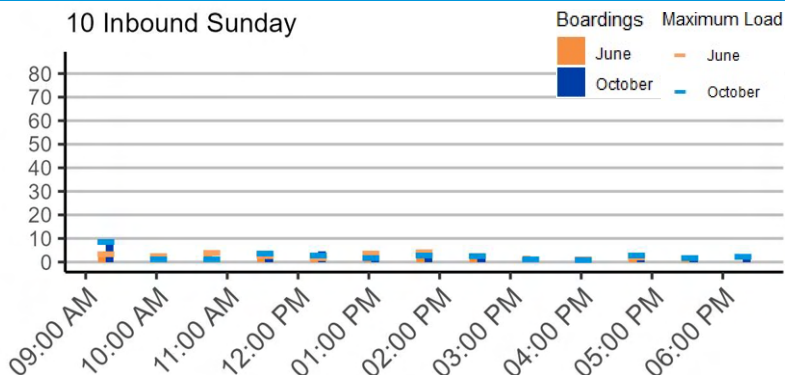
Note: Rankings are by service type.

Sunday Ridership by Trip

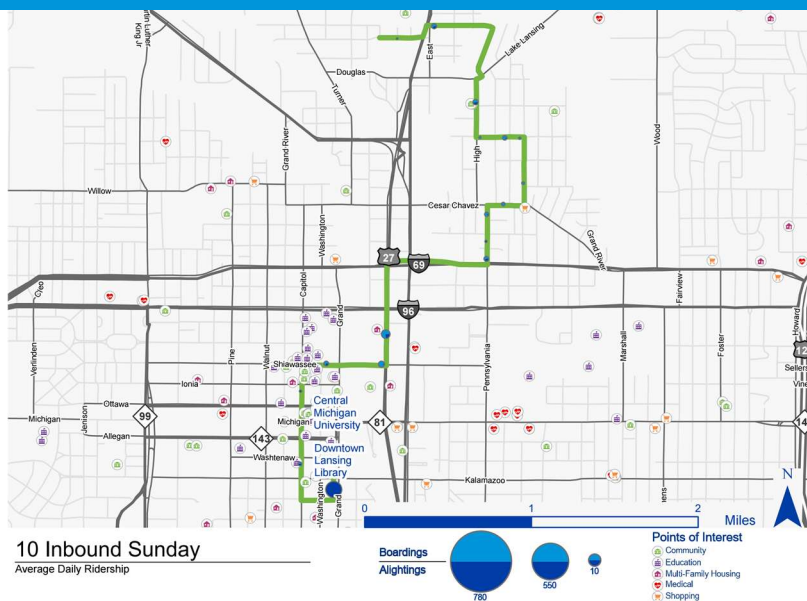
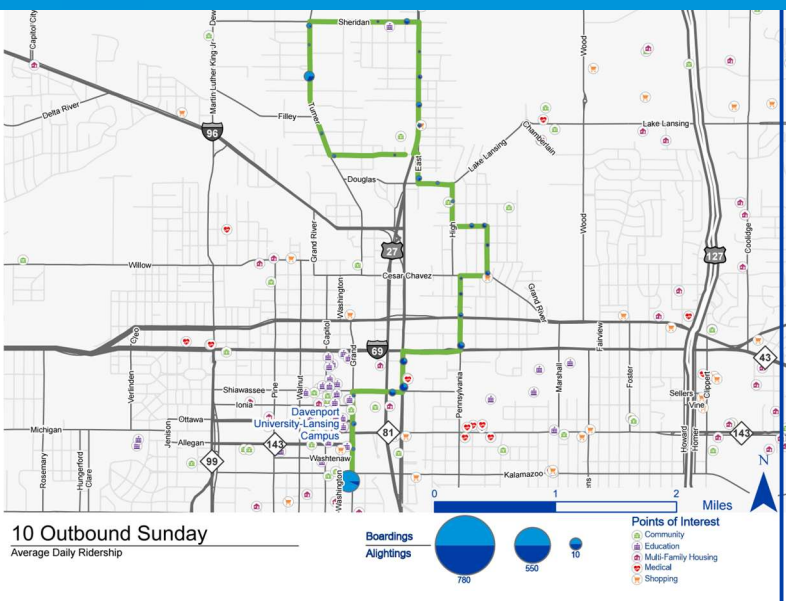
10 Outbound Sunday



10 Inbound Sunday



Sunday Ridership by Stop

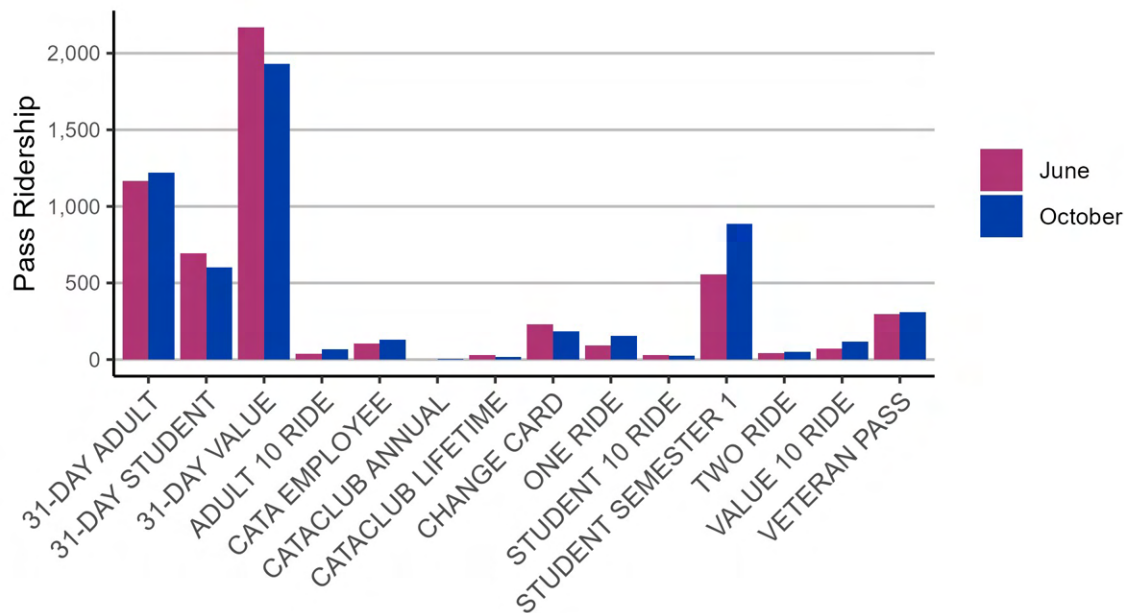


ROUTE: 10

NORTH LANSING - TURNER

Service Type: Local Service

Pass Usage



Route Analysis

Strengths

- Daily service.
- Provides critical connection to Lansing Housing Commission property on Turner Rd.
- Frequent weekday service for much of the service day.
- Strong weekday on-time performance.
- Moderate ridership and productivity.

Weaknesses

- Relatively long distance between inbound and outbound stops due to one-way traffic patterns along Oakland Ave. and Saginaw St.
- Non-clockface frequencies, making schedules difficult to remember.
- No direct connection to a full-service grocery store, potentially forcing passengers to make transfers with grocery bags.
- Potentially difficult operating environment along High St. if cars are parked close to median planters, resulting in narrow passage.

Opportunities

- Streamline alignment by shifting service from Thomas St. to Turner Rd. (south of Thomas St.).
- Restructure route to operate between downtown Lansing and Meijer on Lake Lansing Rd. via Turner Rd., Sheridan Rd., and East St.
- Consider interlining or combining a restructured Route 10 with Route 13 to create a bi-directional loop serving residential, retail, and commercial destinations, and linking the Lansing Housing Authority property directly to retail and grocery destinations.
- Simplify schedule by operating with clockface frequencies (every 30 or 60 minutes).

ROUTE: 11

WAVERLY - COLONIAL VILLAGE

Service Type: Local Service

Description: Local service from the CTC to Deerfield & Holmes via Davenport University.

Key Points of Interest:

CTC, Davenport University, Riverfront Park, Lansing Community College, Westside Community YMCA, Colonial Village Shopping Center, Post Office, Cooley Law School, Capital Area District Library.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:20 AM - 08:05 PM	06:20 AM - 08:05 PM
Peak Frequency	60 min	60 min
Off-Peak Frequency	60 min	60 min
Evening Frequency	-	-

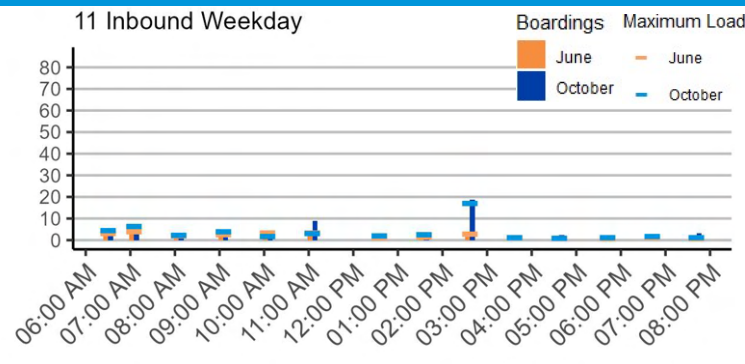
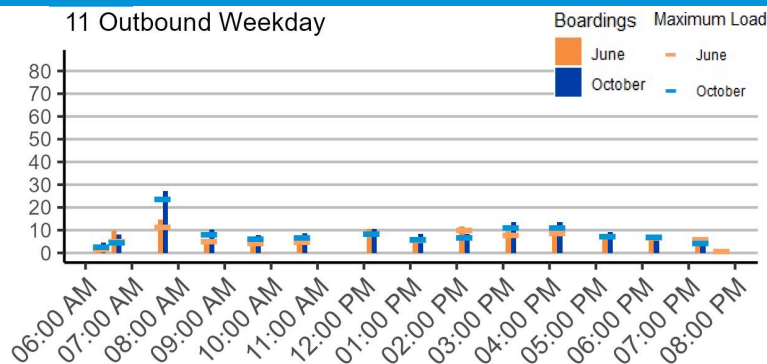
	June	Rank	Oct	Rank
Revenue Hours	12.3	12/15	12.3	12/15
Revenue Miles	202	12/15	202	12/15
Average Daily Boardings	130	12/15	164	13/15
Passengers per Hour	10.6	13/15	13.4	14/15
Passengers per Trip	4.6	13/15	5.9	14/15

	June	Oct
Early	2%	2%
On-Time	76%	80%
Late	22%	18%

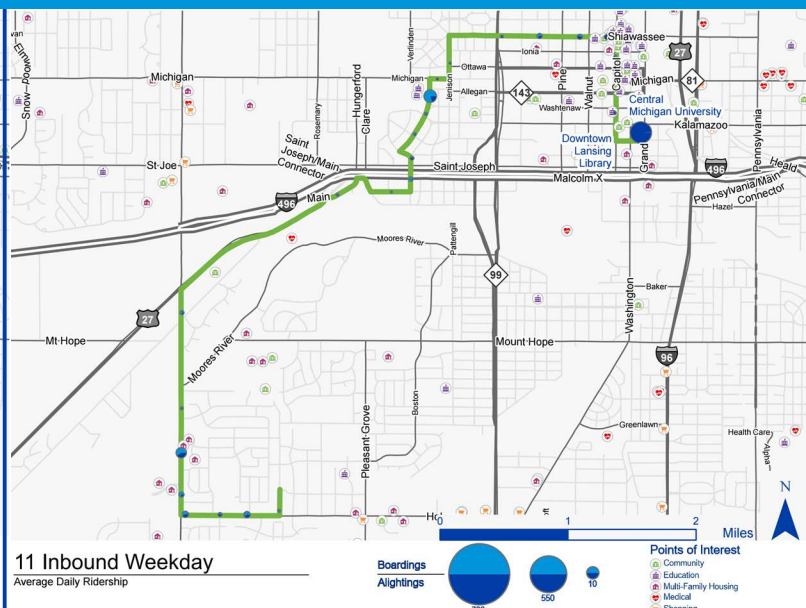
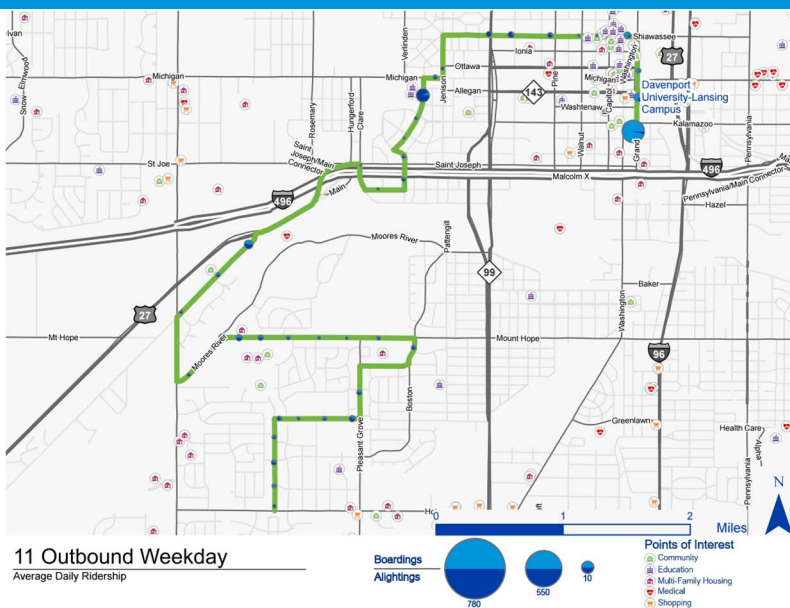
	June	Rank	Oct	Rank
Population Within ½ Mile	25,678			13/32
Jobs Within ½ Mile	46,431			9/32
Passengers per Capita	0.5%	13/15	0.6%	13/15
Passengers per Mile	0.6	13/15	0.7	14/15

Note: Rankings are by service type.

Weekday Ridership by Trip



Weekday Ridership by Stop

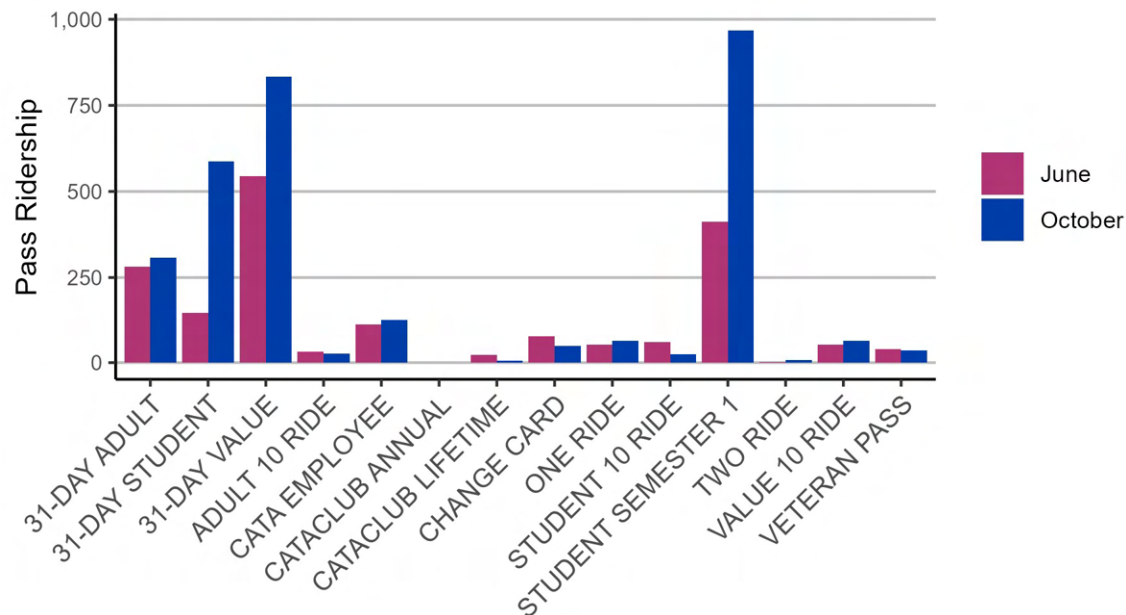


ROUTE: 11

WAVERLY - COLONIAL VILLAGE

Service Type: Local Service

Pass Usage



Route Analysis

Strengths

- Easy-to-remember clockface frequency.
- Mostly simple and direct alignment.
- Fairly strong on-time performance.

Weaknesses

- Low ridership and productivity.
- No weekend service.
- Lack of strong anchor on the outer end of the route.
- No direct connection to a full-service grocery store, potentially forcing passengers to make transfers with grocery bags.

Opportunities

- Extend route further south to Jolly Rd. or Lansing Technical High School via Miller Rd. to increase ridership potential and establish a strong anchor/secondary hub at the Lansing Technical High School.
- Consider interlining or combining Routes 2 and 11 to give riders of both routes access to more one-seat ride opportunities, including to grocery stores, LCC, a YMCA, and the GM plant.

ROUTE: 12

W. MICHIGAN - WAVERLY - LCC WEST

Service Type: Local Service

Description: Local service from the CTC to LCC West Campus.

Key Points

of Interest:

CTC, Davenport University, Lansing Center, Jackson Field, Riverfront Park, UM Health-Sparrow St. Lawrence Hospital, LCC Main Campus, WMU Cooley Law School, Capital Area District Library.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:00 AM - 11:10 PM	06:00 AM - 11:10 PM
Peak Frequency	30 min	30 min
Off-Peak Frequency	60 min	60 min
Evening Frequency	60 min	60 min

	June	Rank	Oct	Rank
Revenue Hours	20.8	10/15	20.8	10/15
Revenue Miles	316	10/15	316	10/15
Average Daily Boardings	281	11/15	347	11/15
Passengers per Hour	13.5	11/15	16.7	12/15
Passengers per Trip	6.1	11/15	7.5	12/15

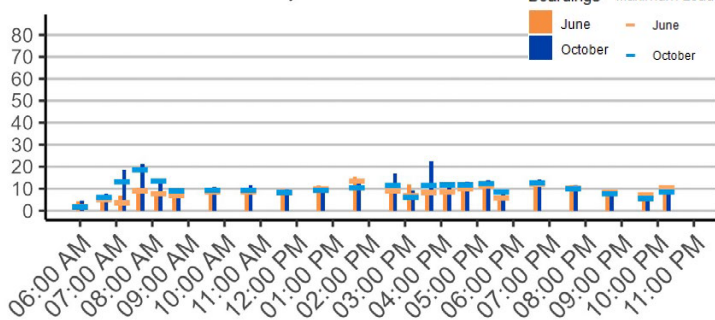
	June	Oct
Early	6%	2%
On-Time	81%	81%
Late	14%	17%

	June	Rank	Oct	Rank
Population Within ½ Mile	21,854			18/32
Jobs Within ½ Mile	43,354			11/32
Passengers per Capita	1.3%	11/15	1.6%	11/15
Passengers per Mile	0.8	11/15	1.0	12/15

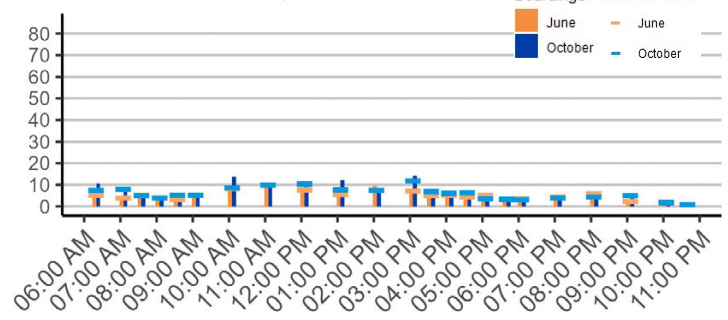
Note: Rankings are by service type

Weekday Ridership by Trip

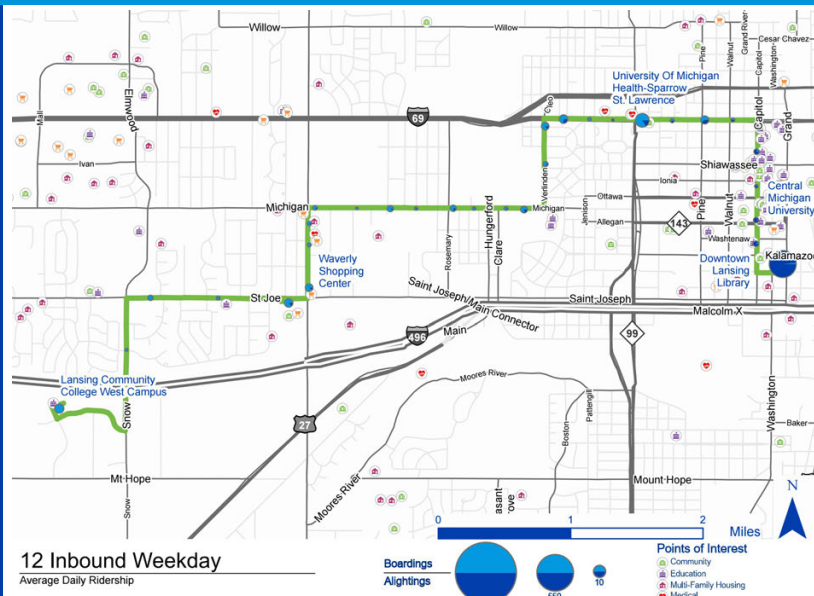
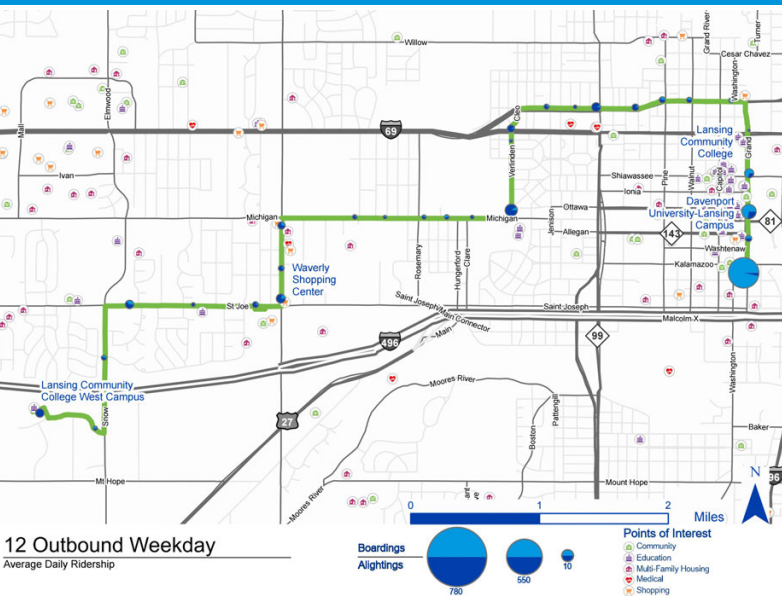
12 Outbound Weekday



12 Inbound Weekday



Weekday Ridership by Stop



ROUTE: 12

W. MICHIGAN - WAVERLY - LCC WEST

Service Type: Local Service

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	08:30 AM - 10:40 PM	08:30 AM - 10:40 PM
Peak Frequency	45 min	45 min
Off-Peak Frequency	45 min	45 min
Evening Frequency	45 min	45 min

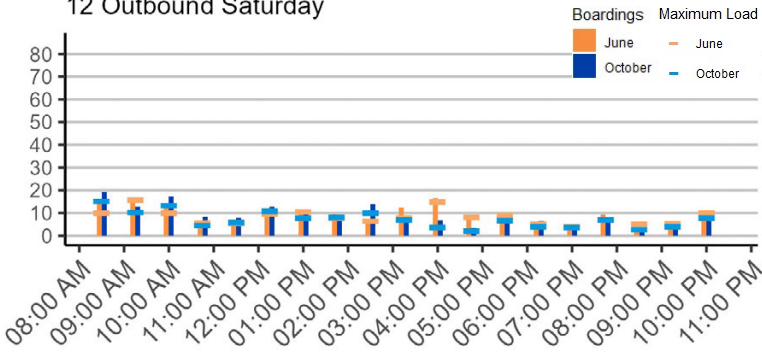
	June	Rank	Oct	Rank
Revenue Hours	12.7	10/11	12.7	9/11
Revenue Miles	186	11/11	186	11/11
Average Daily Boardings	274	8/11	256	8/11
Passengers per Hour	21.6	6/11	20.2	5/11
Passengers per Trip	7.2	9/11	6.7	9/11

	June	Oct		June	Rank	Oct	Rank
Early	4%	5%	Population Within ½ Mile	21,854		18/32	
On-Time	83%	92%	Jobs Within ½ Mile	43,354		11/32	
Late	13%	3%	Passengers per Capita	1.3%	9/11	1.2%	9/11
			Passengers per Mile	1.3	6/11	1.3	6/11

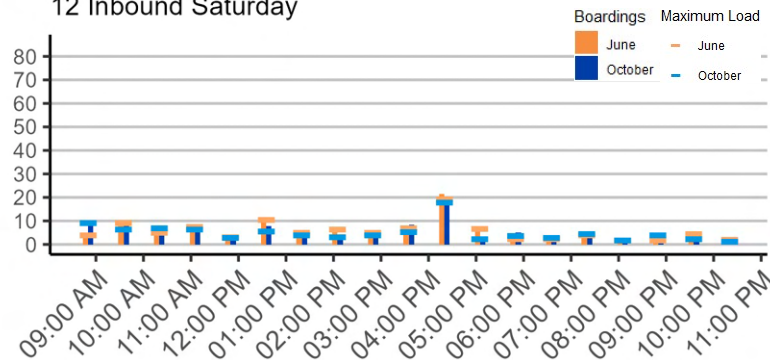
Note: Rankings are by service type

Saturday Ridership by Trip

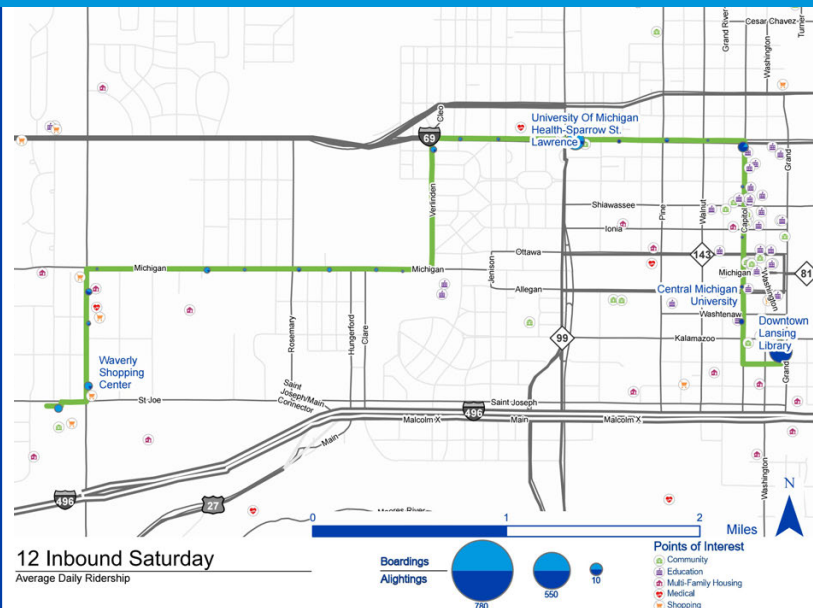
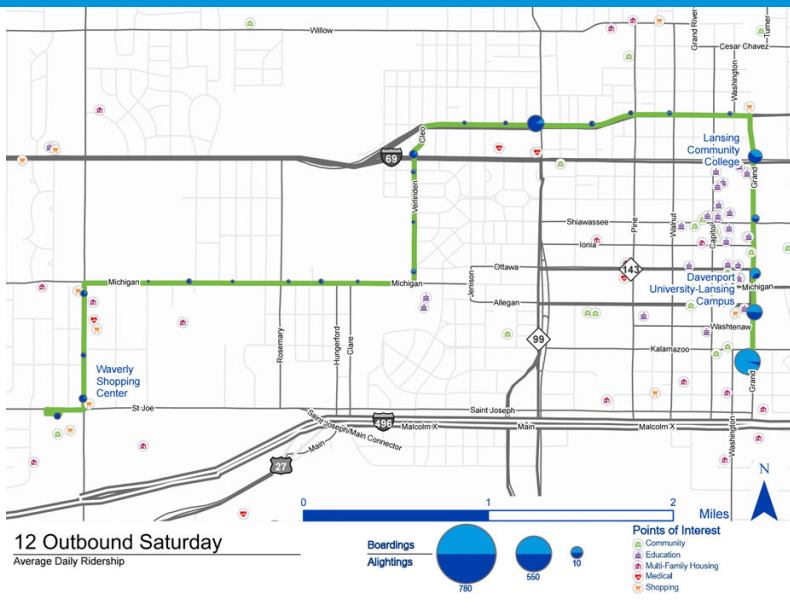
12 Outbound Saturday



12 Inbound Saturday



Saturday Ridership by Stop



ROUTE: 12

W. MICHIGAN - WAVERLY - LCC WEST

Service Type: Local Service

Sunday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	09:00 AM - 06:40 PM	09:00 AM - 06:40 PM
Peak Frequency	45 min	45 min
Off-Peak Frequency	45 min	45 min
Evening Frequency	-	-

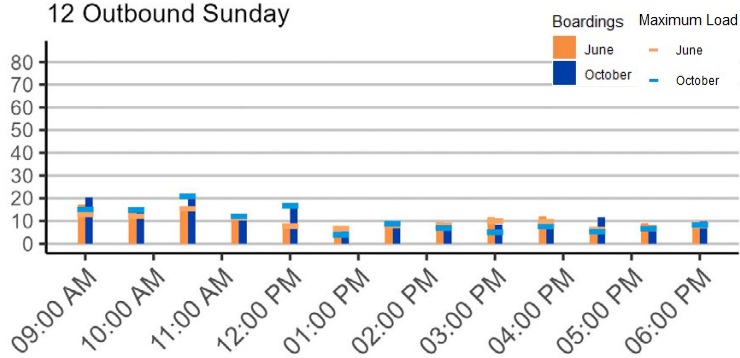
	June	Rank	Oct	Rank
Revenue Hours	8.7	8/10	8.7	8/10
Revenue Miles	127	10/10	127	10/10
Average Daily Boardings	283	7/10	185	8/10
Passengers per Hour	32.7	1/10	21.3	5/10
Passengers per Trip	10.9	5/10	7.1	7/10

	June	Oct		June	Rank	Oct	Rank
Early	2%	4%	Population Within ½ Mile	21,854			18/32
On-Time	84%	84%	Jobs Within ½ Mile	43,354			11/32
Late	14%	12%	Passengers per Capita	1.3%	7/10	0.8%	9/10
			Passengers per Mile	2.1	1/10	1.4	4/10

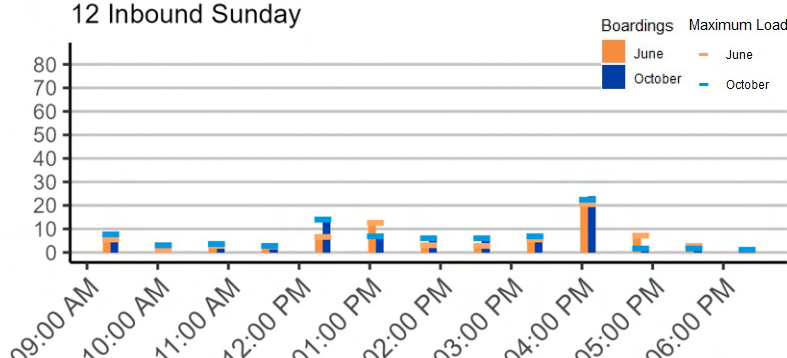
Note: Rankings are by service type

Sunday Ridership by Trip

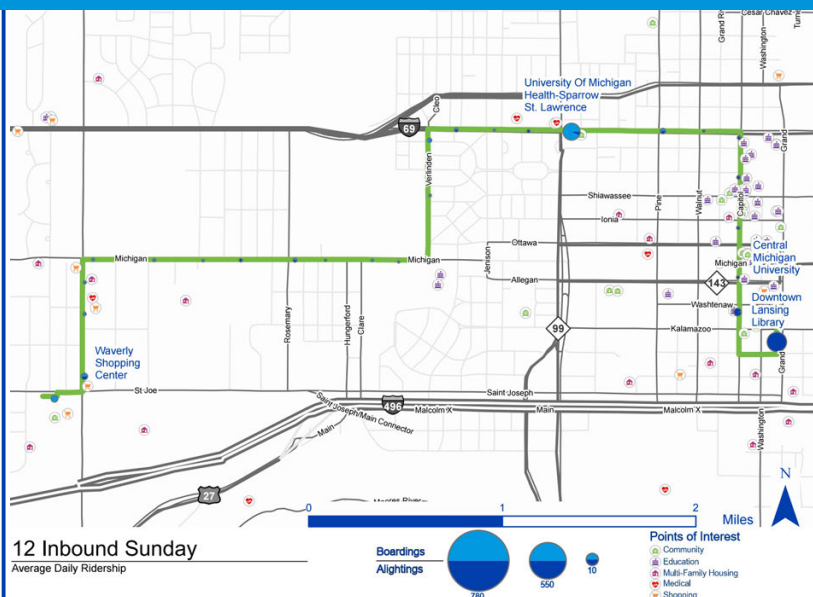
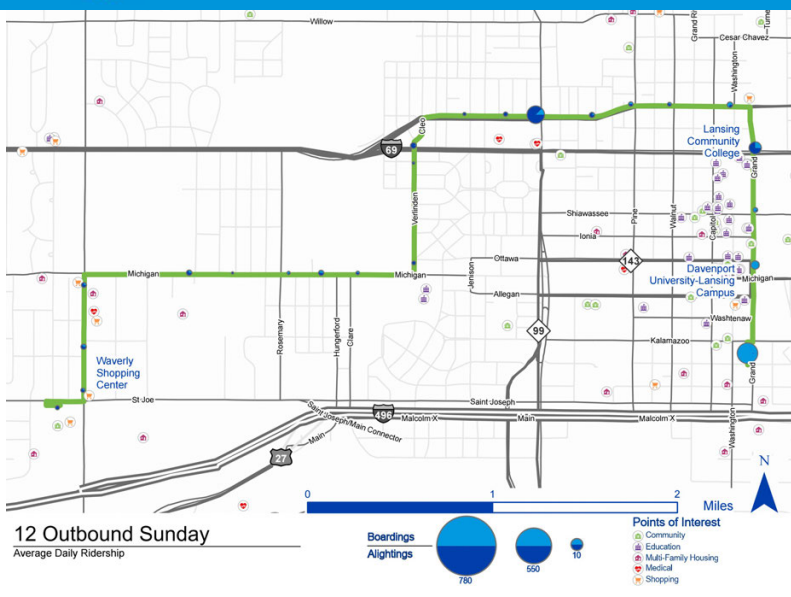
12 Outbound Sunday



12 Inbound Sunday



Sunday Ridership by Stop

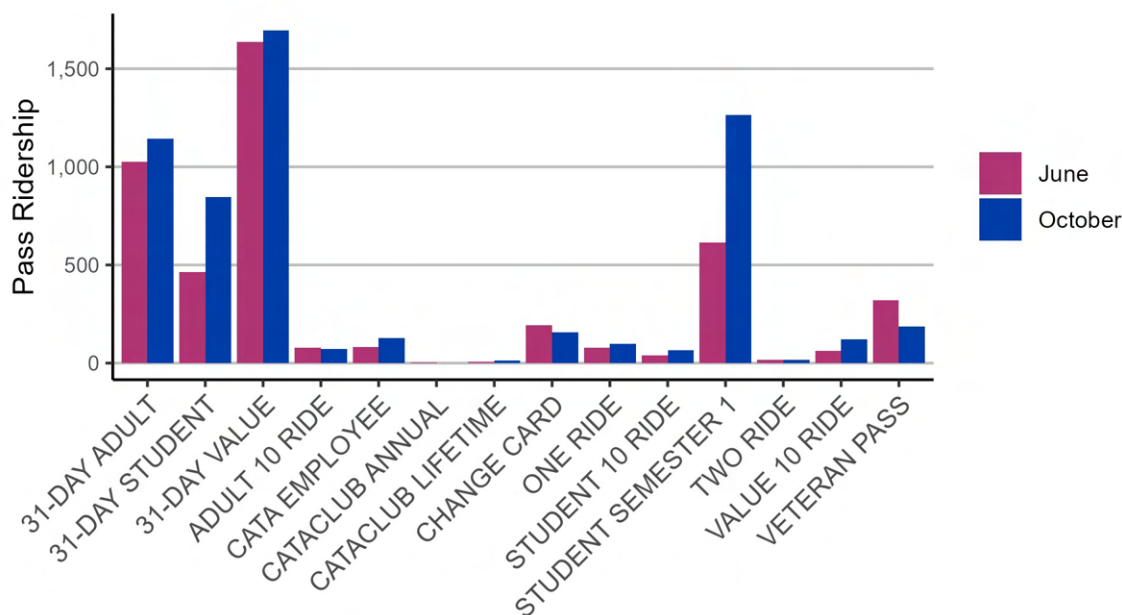


ROUTE: 12

W. MICHIGAN - WAVERLY - LCC WEST

Service Type: Local Service

Pass Usage



Route Analysis

Strengths

- Daily service.
- Easy-to-remember clockface frequency on weekdays.
- Extensive span of service.
- Mostly simple and direct alignment.
- Strong on-time performance.

Weaknesses

- Relatively low ridership and productivity during most service periods.
- Non-clockface frequencies on weekends, making schedules difficult to remember.
- Potentially missed ridership opportunities by ending route short of Mt. Hope Hwy. where there is an Amazon warehouse and numerous other industrial/manufacturing facilities.
- No direct connection to a full-service grocery store, potentially forcing passengers to make transfers with grocery bags.

Opportunities

- Consider serving LCC West Campus from Mt. Hope Hwy. and Sanders Rd. to improve job-access opportunities along the Mt. Hope Hwy. corridor.
- Interline Route 12 with Route 3 at LCC West or Lansing Mall to give riders of both routes access to more one-seat ride opportunities, including to LCC West, Waverly High School, Meijer, Target, and Lansing Mall.
- Simplify schedule by operating hourly service during low-demand service periods.

ROUTE: 13

GROESBECK AREA

Service Type: Local Service

Description:

Local service from the CTC to Meijer via Davenport University.

Key Points of Interest:

CTC, Eastwood Towne Center, Davenport University, Jackson Field, Frandor Shopping Center, Grand River-Foster Shopping Center, Lansing Community College, Lansing City Hall, WMU Cooley Law School, Capital Area District Library.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:10 AM - 06:40 PM	06:10 AM - 06:40 PM
Peak Frequency	60 min	60 min
Off-Peak Frequency	60 min	60 min
Evening Frequency	-	-

	June	Rank	Oct	Rank
Revenue Hours	10.2	13/15	10.6	13/15
Revenue Miles	163	14/15	170	13/15
Average Daily Boardings	127	13/15	199	12/15
Passengers per Hour	12.5	12/15	18.8	11/15
Passengers per Trip	5.3	12/15	8.0	10/15

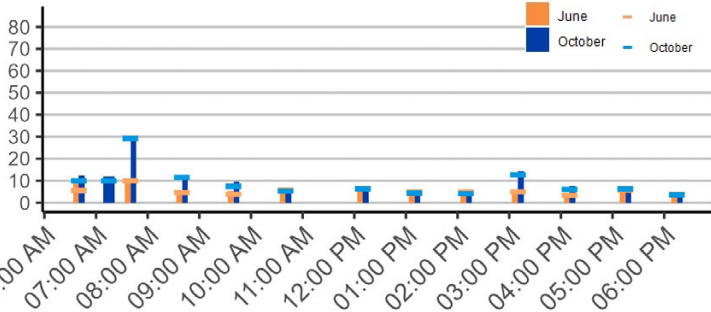
	June	Oct		June	Rank	Oct	Rank
Early	6%	5%	Population Within ½ Mile	23,804		16/32	
On-Time	81%	82%	Jobs Within ½ Mile	55,469		4/32	
Late	13%	13%	Passengers per Capita	0.5%	12/15	0.8%	12/15
			Passengers per Mile	0.7	12/15	1.1	10/15

Note: Rankings are by service type

Weekday Ridership by Trip

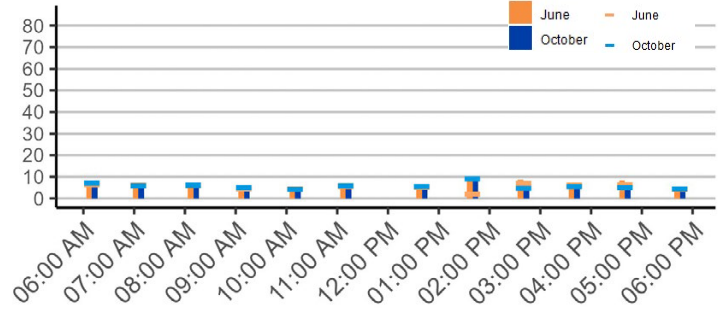
13 Outbound Weekday

Boardings Maximum Load
June October
June October

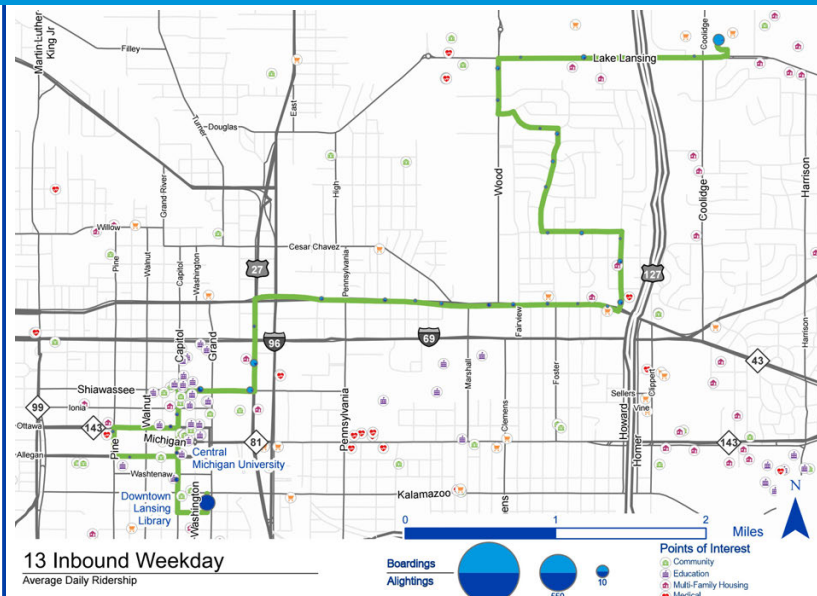
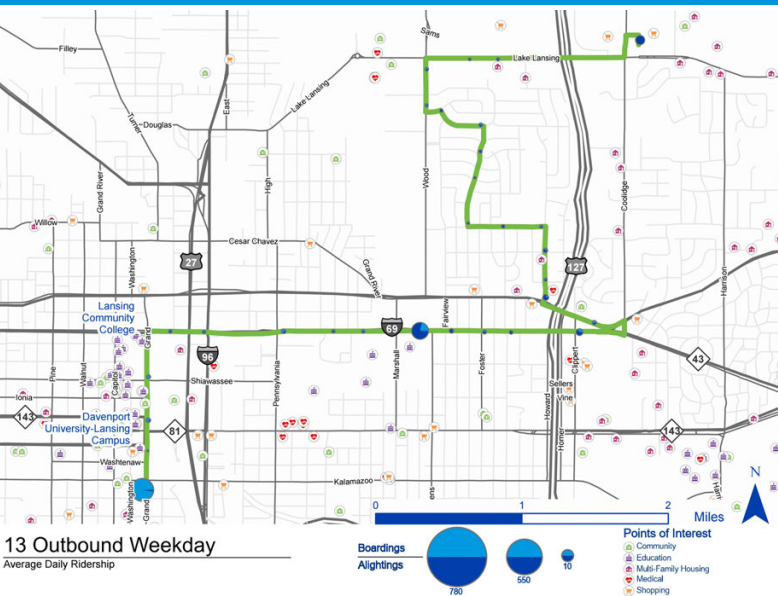


13 Inbound Weekday

Boardings Maximum Load
June October
June October



Weekday Ridership by Stop

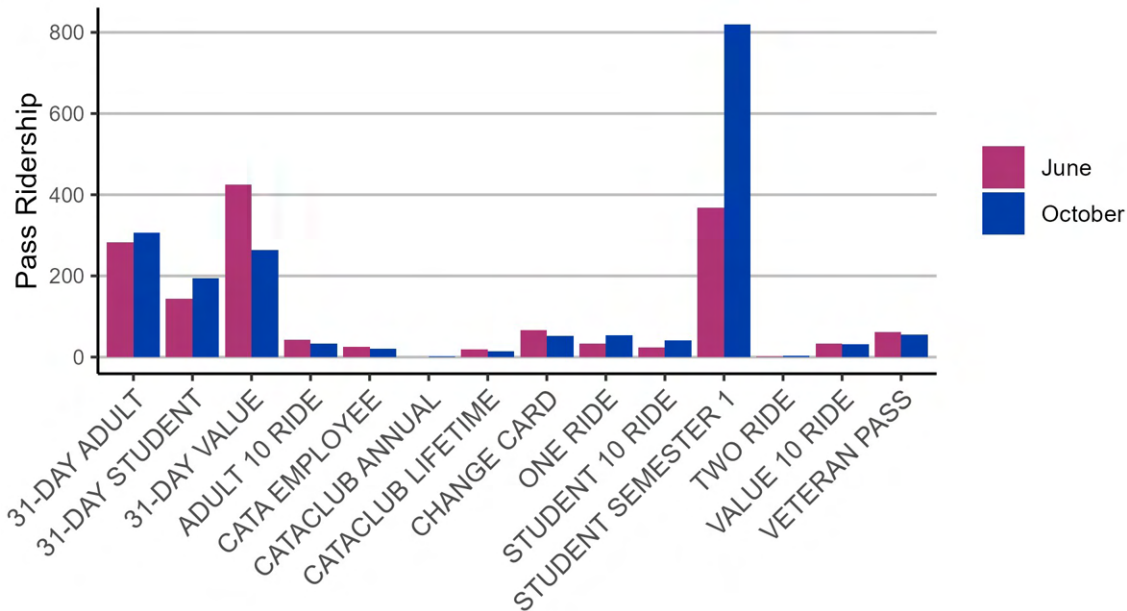


ROUTE: 13

GROESBECK AREA

Service Type: Local Service

Pass Usage



Route Analysis

Strengths

- Only route serving Groesbeck area.
- Fairly strong on-time performance.
- Strong anchors and good mix of trip generators.

Weaknesses

- Relatively long distance between inbound and outbound stops due to one-way traffic patterns along Oakland Ave. and Saginaw St.
- Somewhat circuitous alignment due to one-way streets.
- Irregular frequencies making schedules difficult to remember.
- Destinations east of US-127 served in outbound direction only, limiting utility of service.
- Low ridership at most stops other than end-of-line stops.
- No weekend service.

Opportunities

- Use Homer St. instead of Coolidge Rd. on outbound trips to streamline route and create more constant inbound and outbound alignments.
- Consider interlining or combining a restructured Route 10 with Route 13 to create a bi-directional loop serving residential, retail, and commercial destinations.
- Simplify schedule by operating with clockface frequencies.
- Shift northbound service from Grand Ave. to Lamar St. north of Shiawassee to create more consistent inbound and outbound alignments.

ROUTE: 14

NORTH GRAND RIVER-OLD TOWN-AIRPORT

Service Type: Local Service

Description:

Local service from the CTC to Capital Region International Airport.

Key Points of Interest:

CTC, Capital Regional International Airport, Davenport University, Jackson Field, Lansing Center, Lansing Community College, Old Town, Lansing City Hall, WMU Cooley Law School, Capital Area District Library.

Weekday Statistics

Operating Characteristics

	June	Oct
Span	06:00 AM - 10:55 PM	06:00 AM - 10:55 PM
Peak Frequency	25 min	25 min
Off-Peak Frequency	25 min	25 min
Evening Frequency	45 min	45 min

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	21.8	9/15	21.8	9/15
Revenue Miles	353	9/15	353	9/15
Average Daily Boardings	385	9/15	446	10/15
Passengers per Hour	17.7	9/15	20.5	9/15
Passengers per Trip	6.5	10/15	7.6	11/15

On-Time Performance

	June	Oct
Early	1%	3%
On-Time	76%	74%
Late	23%	23%

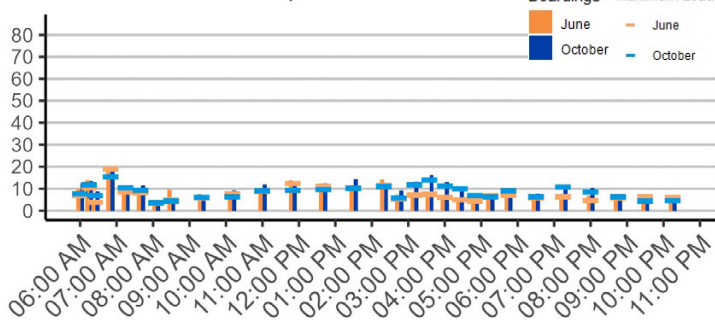
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	17,582	24/32		
Jobs Within ½ Mile	41,326	15/32		
Passengers per Capita	2.2%	10/15	2.5%	10/15
Passengers per Mile	1.0	9/15	1.1	9/15

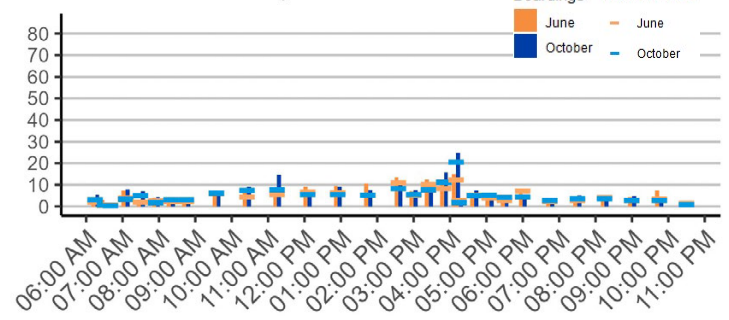
Note: Rankings are by service type

Weekday Ridership by Trip

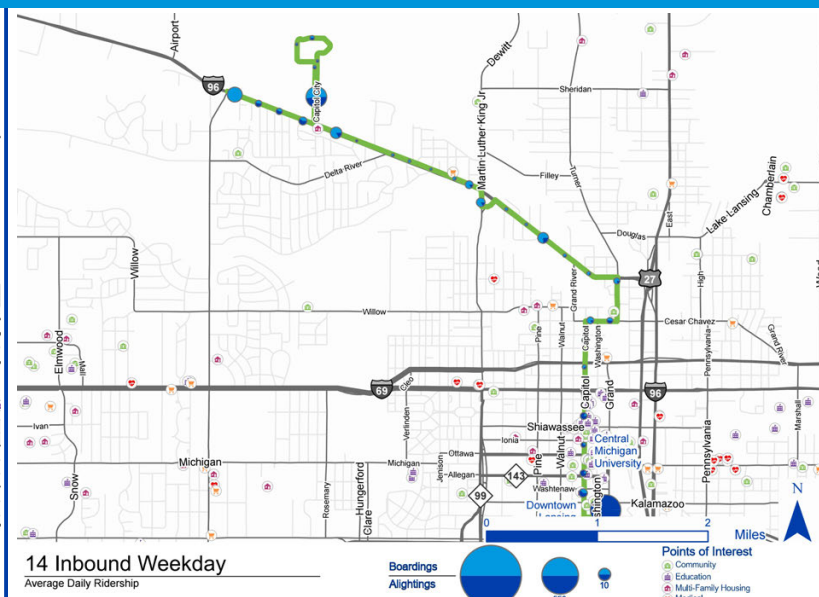
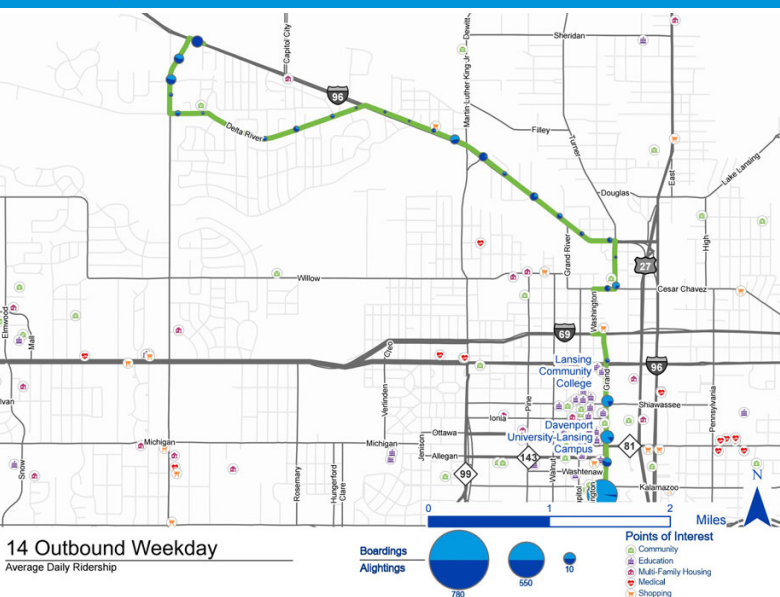
14 Outbound Weekday



14 Inbound Weekday



Weekday Ridership by Stop



ROUTE: 14

NORTH GRAND RIVER-OLD TOWN-AIRPORT

Service Type: Local Service

Saturday Statistics

Operating Characteristics

	June	Oct
Span	08:30 AM - 10:40 PM	08:30 AM - 10:40 PM
Peak Frequency	45 min	45 min
Off-Peak Frequency	45 min	45 min
Evening Frequency	45 min	45 min

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	12.7	9/11	12.7	8/11
Revenue Miles	227	8/11	227	8/11
Average Daily Boardings	434	7/11	195	10/11
Passengers per Hour	34.3	2/11	15.4	10/11
Passengers per Trip	11.4	5/11	5.1	11/11

On-Time Performance

	June	Oct
Early	13%	8%
On-Time	52%	66%
Late	35%	26%

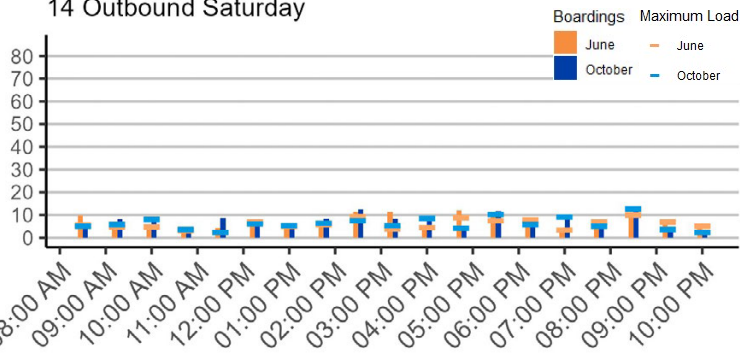
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	17,582			24/32
Jobs Within ½ Mile	41,326			15/32
Passengers per Capita	2.5%	4/11	1.1%	10/11
Passengers per Mile	1.8	2/11	0.8	10/11

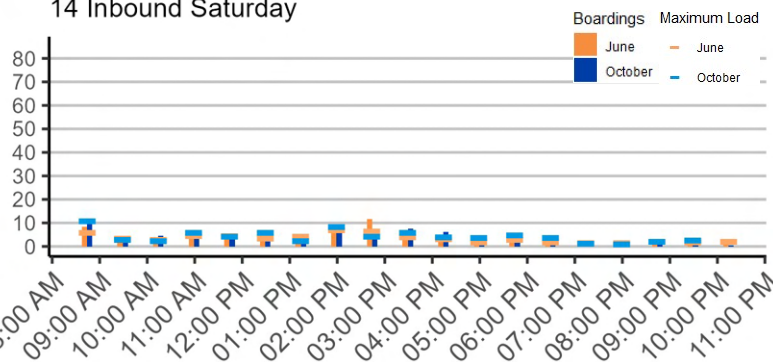
Note: Rankings are by service type

Saturday Ridership by Trip

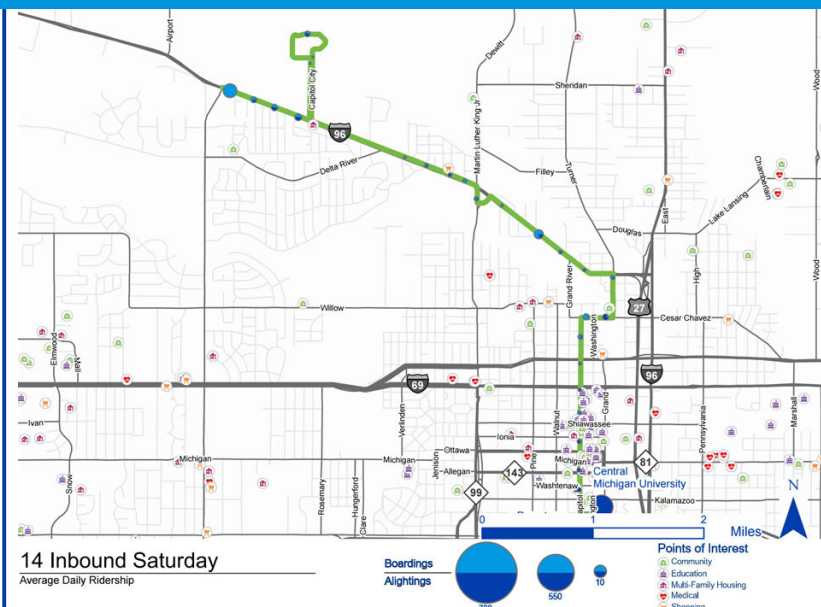
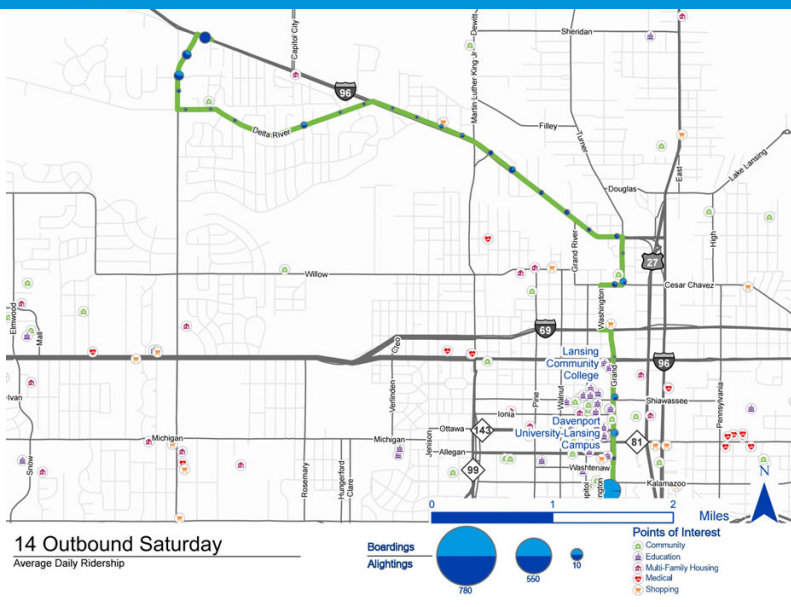
14 Outbound Saturday



14 Inbound Saturday



Saturday Ridership by Stop



ROUTE: 14

NORTH GRAND RIVER-OLD TOWN-AIRPORT

Service Type: Local Service

Sunday Statistics

Operating Characteristics

	June	Oct
Span	09:00 AM - 06:40 PM	09:00 AM - 06:40 PM
Peak Frequency	45 min	45 min
Off-Peak Frequency	45 min	45 min
Evening Frequency	-	-

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	8.7	10/10	8.7	10/10
Revenue Miles	156	8/10	156	8/10
Average Daily Boardings	92	10/10	93	10/10
Passengers per Hour	10.6	10/10	10.7	10/10
Passengers per Trip	3.5	10/10	3.6	10/10

On-Time Performance

	June	Oct
Early	2%	2%
On-Time	66%	63%
Late	32%	35%

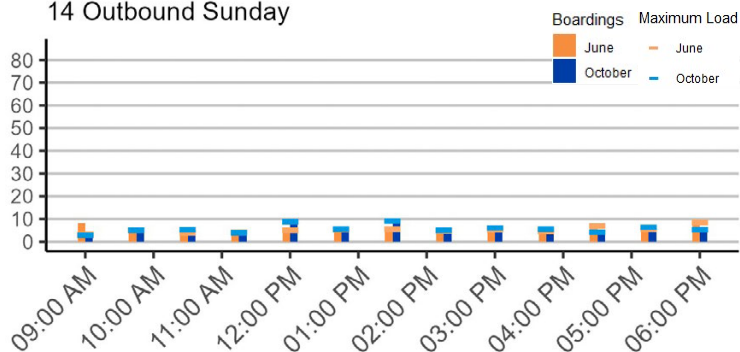
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	17,582			24/32
Jobs Within ½ Mile	41,326			15/32
Passengers per Capita	0.5%	10/10	0.5%	10/10
Passengers per Mile	0.6	10/10	0.6	10/10

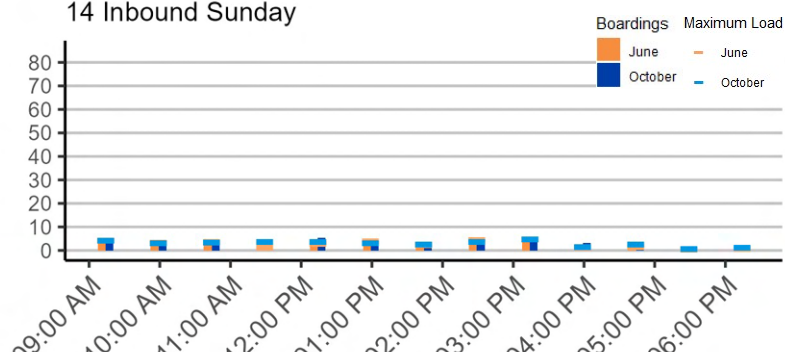
Note: Rankings are by service type

Sunday Ridership by Trip

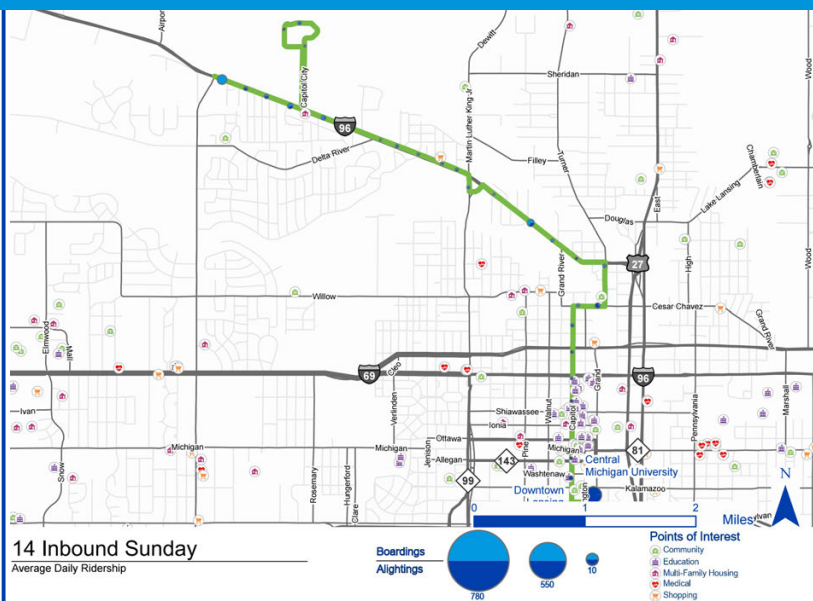
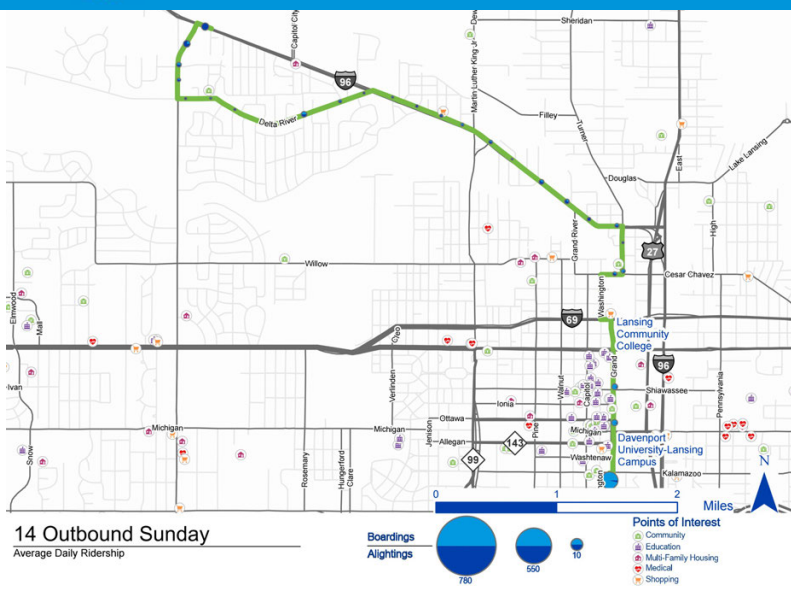
14 Outbound Sunday



14 Inbound Sunday



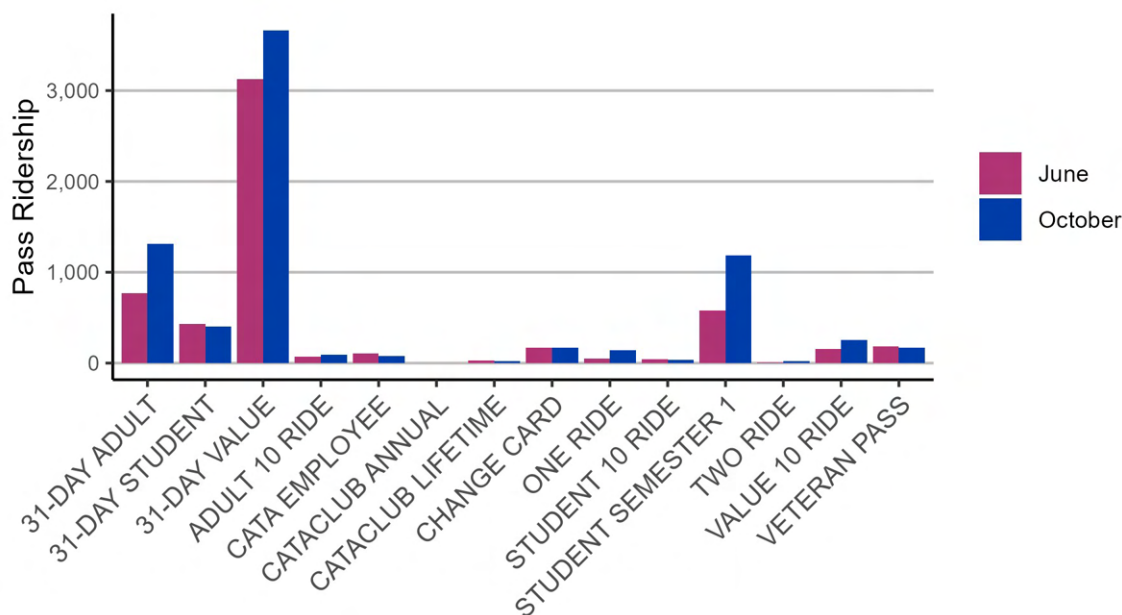
Sunday Ridership by Stop



ROUTE: 14

NORTH GRAND RIVER-OLD TOWN-AIRPORT

Pass Usage



Route Analysis

Strengths

- Daily service.
- Frequent weekday service for most of the day.
- Extensive span of service.
- Mostly simple and direct alignment.
- Good mix of trip generators.
- Provides critical connection to Lansing Housing Commission property on Waverly Rd.

Weaknesses

- Large one-way loop south of airport limits the utility of the route as passengers along the loop can go to the airport area but not back home.
- Relatively long distance between inbound and outbound stops along Capital and Grand Ave.
- Challenges with on-time performance.
- Non-clockface frequencies on weekends and evenings, making schedules difficult to remember.

Opportunities

- Restructure route to replace large one-way loop south of airport with bi-directional service ending at airport and returning along the same alignment.
- Simplify schedule by operating with clockface frequencies (every 30 or 60 minutes).
- Swap downtown alignments with Route 3 and use Grand River bridge streamline route and provide more consistent inbound and outbound alignments.

ROUTE: 15

KALAMAZOO - FRANDOR

Description: Local service from the CTC to Meijer, via the Frandor Shopping Center.

Key Points of Interest: CTC, Frandor Shopping Center, Meijer, Capital Area District Library, Davenport University, Eastwood Towne Center.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:40 AM - 07:10 PM	06:40 AM - 07:10 PM
Peak Frequency	60 min	60 min
Off-Peak Frequency	60 min	60 min
Evening Frequency	-	-

	June	Rank	Oct	Rank
Revenue Hours	10.0	14/15	10.0	14/15
Revenue Miles	168	13/15	169	14/15
Average Daily Boardings	93	14/15	159	14/15
Passengers per Hour	9.3	14/15	15.9	13/15
Passengers per Trip	3.9	14/15	6.6	13/15

	June	Oct
Early	2%	1%
On-Time	85%	72%
Late	13%	26%

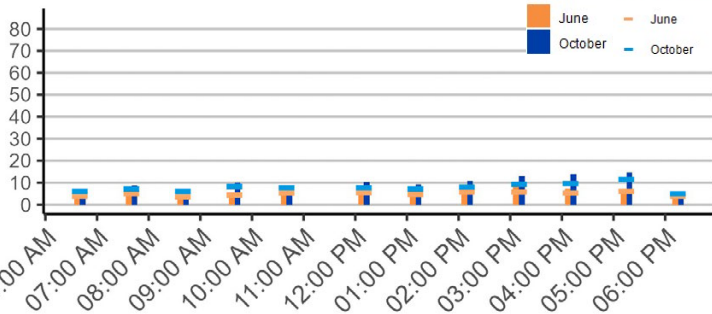
	June	Rank	Oct	Rank
Population Within ½ Mile	29,829	8/32		
Jobs Within ½ Mile	41,350	14/32		
Passengers per Capita	0.3%	15/15	0.5%	14/15
Passengers per Mile	0.5	15/15	0.8	13/15

Note: Rankings are by service type

Weekday Ridership by Trip

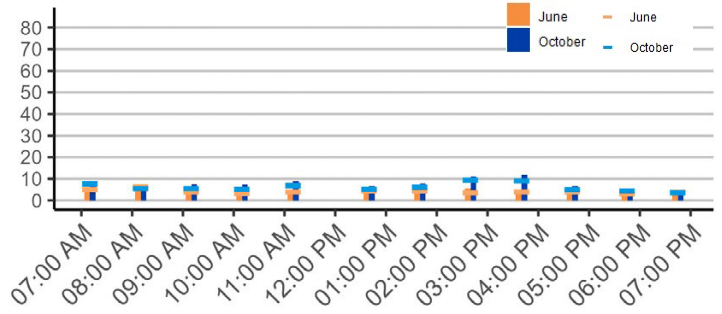
15 Outbound Weekday

Boardings Maximum Load
June October June October

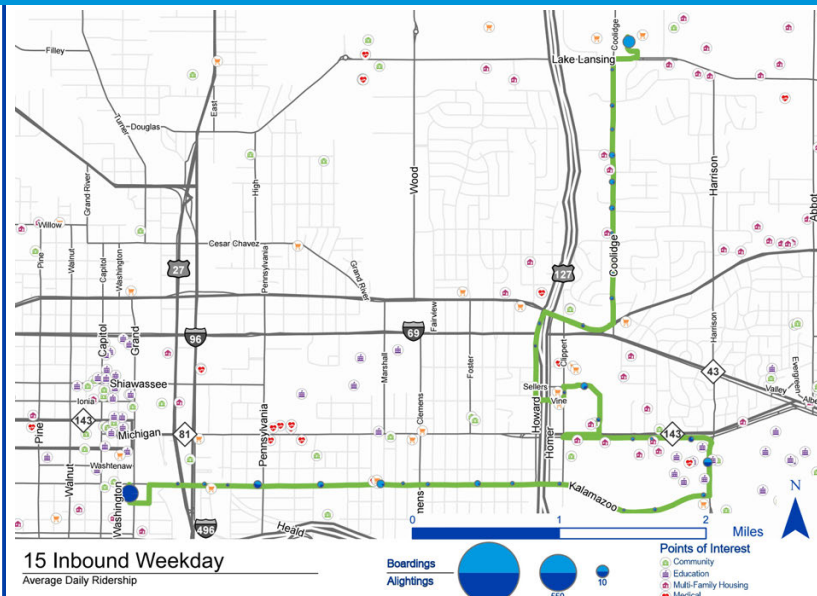
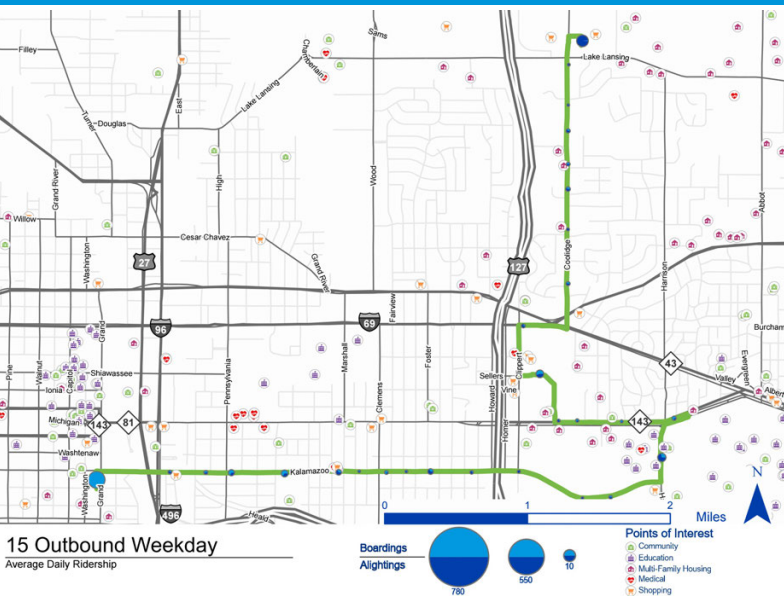


15 Inbound Weekday

Boardings Maximum Load
June October June October



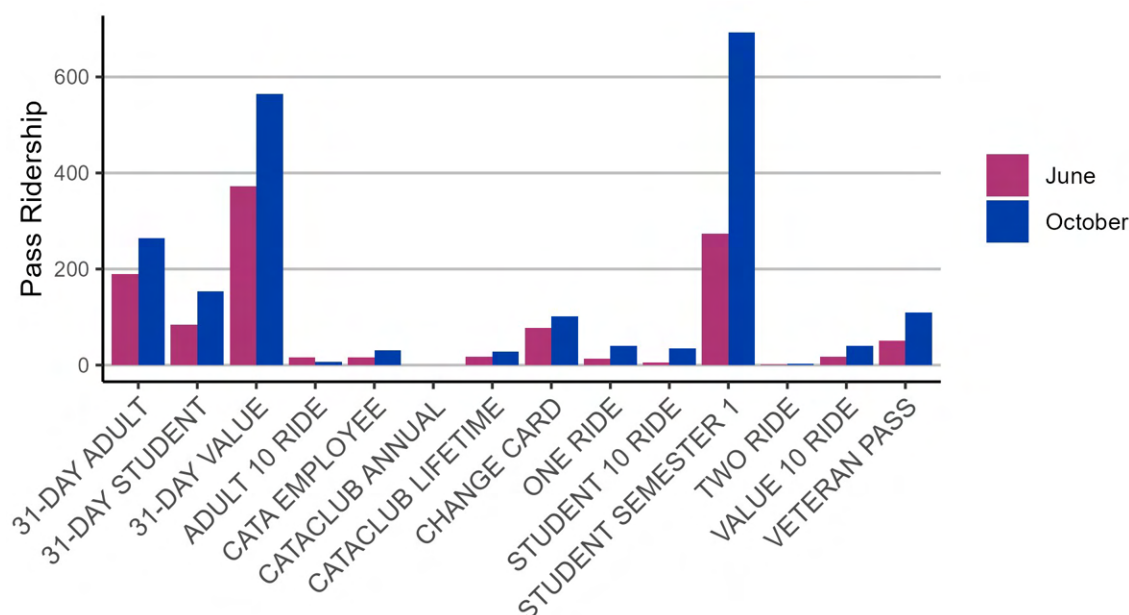
Weekday Ridership by Stop



ROUTE: 15

KALAMAZOO - FRANDOR

Pass Usage



Route Analysis

Strengths

- Easy-to-remember clockface frequency.
- Only route serving E. Kalamazoo St. and Coolidge Rd. corridors.
- Strong anchors and good mix of trip generators.

Weaknesses

- Generally low ridership and productivity, especially along Kalamazoo and Coolidge corridors.
- Potential mismatch between market and service as residents of apartments along Coolidge Rd. may be more interested in service to East Lansing than to Lansing.
- Service to Kellogg Center makes route more circuitous without adding significant ridership.
- Inconsistent inbound and outbound alignments through Frandor area reduces the utility of the route.
- Missed ridership opportunity by not extending route to Walmart.

Opportunities

- Streamline route by eliminating service to Kellogg Center and shifting route to S. Clippert St.
- Shift inbound service from Grand River to Saginaw and Clippert St. for more consistency between directions.
- Interline Route 15 with Route 16 to create one-seat ride service between Coolidge Rd. corridor and Walmart.
- Interline Route 15 with Route 18 via Harrison Rd. or via MSU, instead of serving low-ridership Kalamazoo corridor, and instead serve Kalamzoo corridor with microtransit service.

ROUTE: 16

OLD TOWN - W. LK LANSING - EASTWOOD

Description: Local service from the CTC to Meijer.

Key Points of Interest:

CTC, Meijer, Davenport University, Jackson Field, Sam's Club, Eastwood Towne Center, Walmart, Cristo Rey Community Center, Lansing Community College, Lansing City Hall, WMU Cooley Law School, Capital Area District Library.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:10 AM - 11:10 PM	06:10 AM - 11:10 PM
Peak Frequency	30 min	30 min
Off-Peak Frequency	30 min	30 min
Evening Frequency	30 min	30 min

	June	Rank	Oct	Rank
Revenue Hours	27.1	7/15	27.1	7/15
Revenue Miles	356	8/15	356	8/15
Average Daily Boardings	538	7/15	648	7/15
Passengers per Hour	19.9	7/15	23.9	7/15
Passengers per Trip	8.3	8/15	10.0	8/15

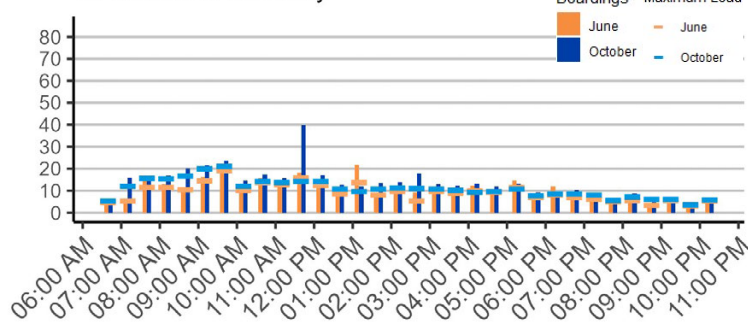
	June	Oct
Early	2%	3%
On-Time	84%	88%
Late	14%	9%

	June	Rank	Oct	Rank
Population Within ½ Mile	17,468			25/32
Jobs Within ½ Mile	42,684			13/32
Passengers per Capita	3.1%	5/15	3.7%	4/15
Passengers per Mile	1.4	5/15	1.7	4/15

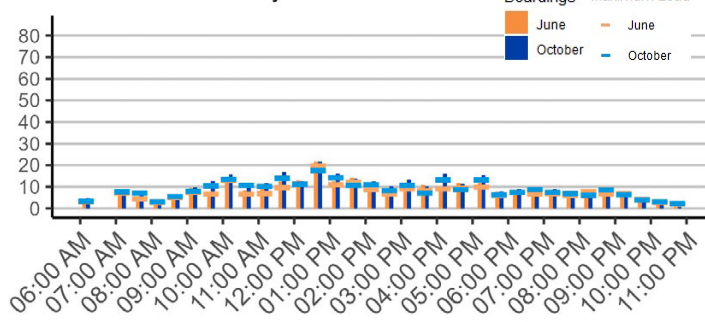
Note: Rankings are by service type

Weekday Ridership by Trip

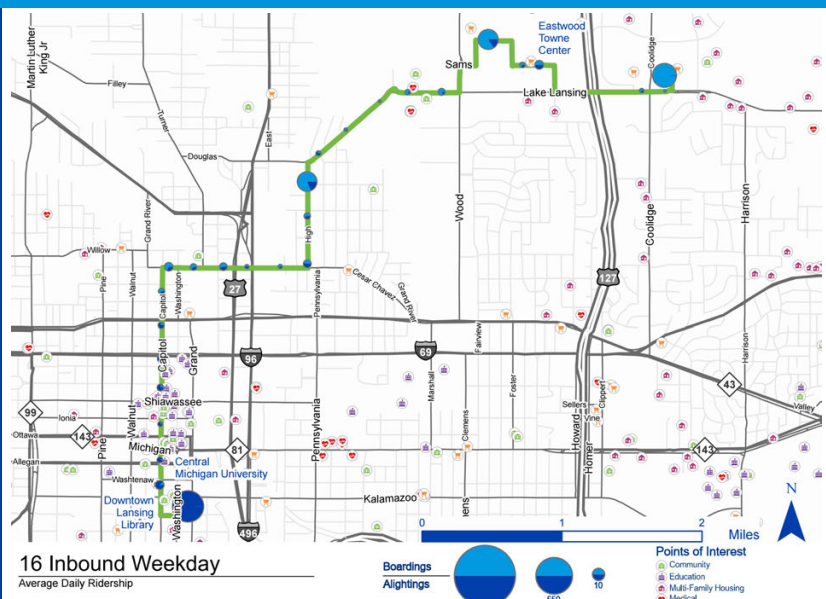
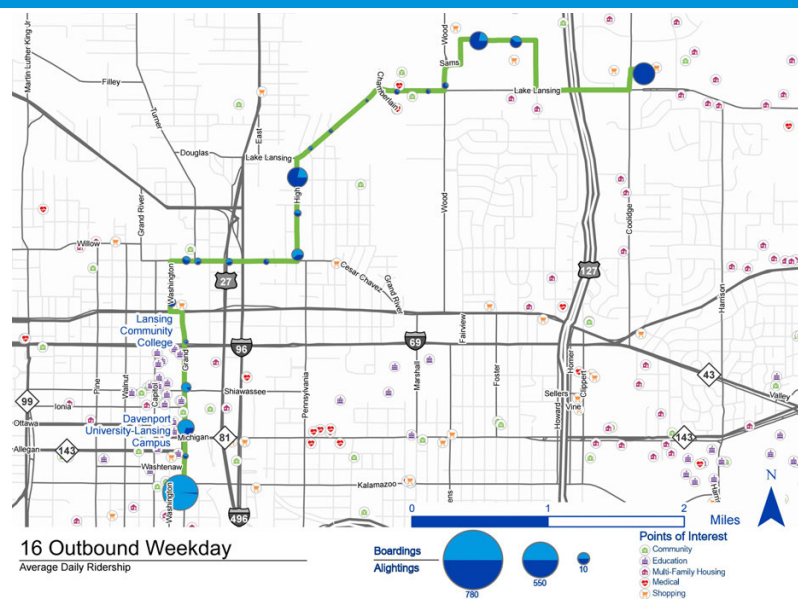
16 Outbound Weekday



16 Inbound Weekday



Weekday Ridership by Stop



ROUTE: 16

OLD TOWN - W. LK LANSING - EASTWOOD

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

Span	June 08:30 AM - 10:55 PM	Oct 08:30 AM - 10:55 PM
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Peak Frequency	30 min	30 min
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Off-Peak Frequency	30 min	30 min
--------------------	--------	--------

Evening Frequency	30 min	30 min
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Revenue Hours	June 23.3	Rank 7/11	Oct 23.3	Rank 7/11
Revenue Miles	306	7/11	306	7/11
Average Daily Boardings	-	11/11	433	7/11
Passengers per Hour	0.0	11/11	18.6	7/11
Passengers per Trip	0.0	11/11	7.7	7/11

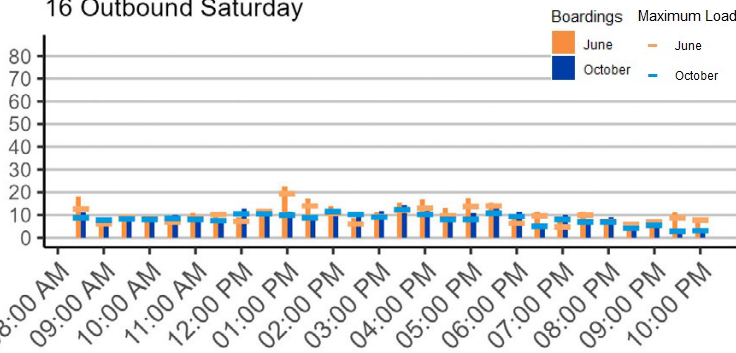
Early	June 3%	Oct 2%
On-Time	77%	68%
Late	20%	30%

	June	Rank	Oct	Rank
Population Within ½ Mile		17,468		25/32
Jobs Within ½ Mile		42,684		13/32
Passengers per Capita	0.0%	11/11	2.5%	4/11
Passengers per Mile	0.0	11/11	1.3	5/11

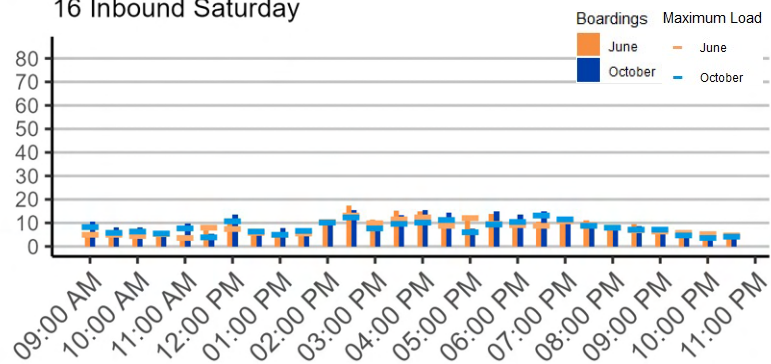
Note: Rankings are by service type

Saturday Ridership by Trip

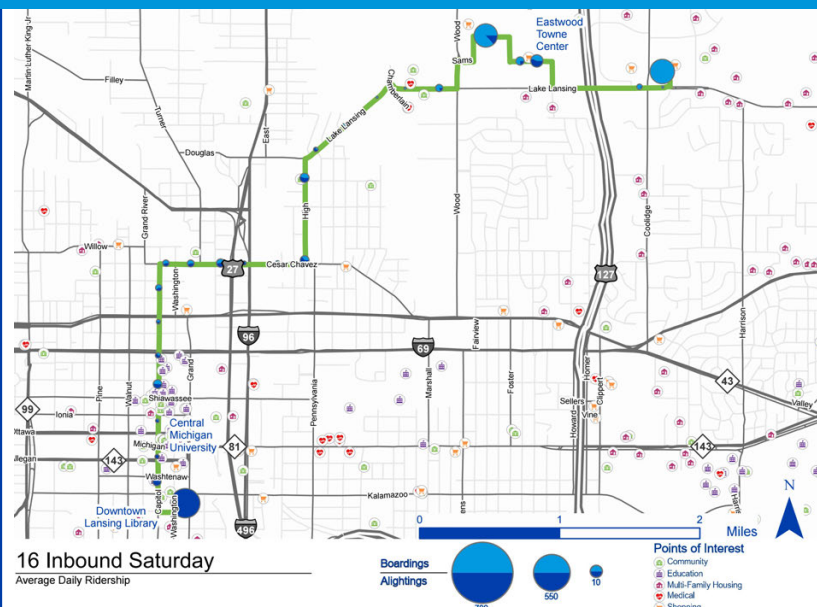
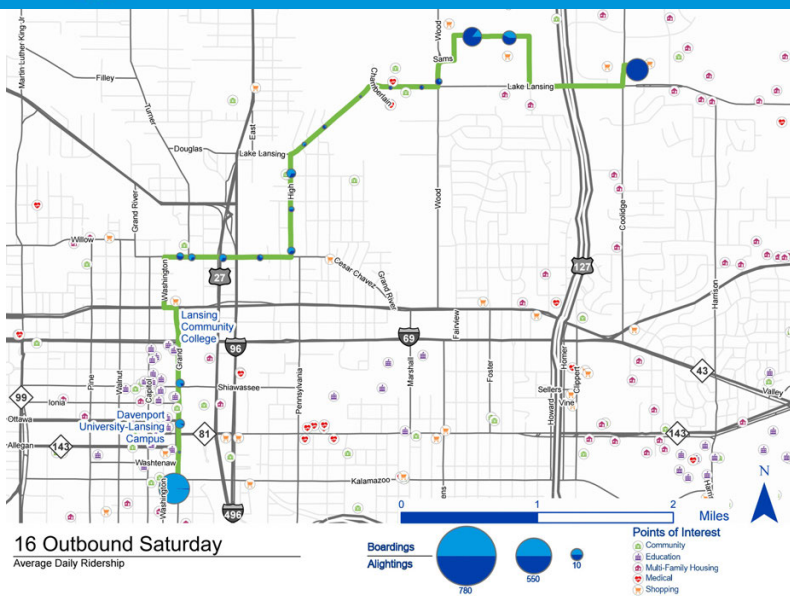
16 Outbound Saturday



16 Inbound Saturday



Saturday Ridership by Stop



ROUTE: 16

OLD TOWN - W. LK LANSING - EASTWOOD

Sunday Statistics

Daily Statistics

On-Time Performance

Market Penetration

Span	June 08:30 AM - 06:55 PM	Oct 08:30 AM - 06:55 PM
Peak Frequency	30 min	30 min
Off-Peak Frequency	30 min	30 min
Evening Frequency	-	-

Revenue Hours	June 16.7	Rank 6/10	Oct 16.7	Rank 6/10
Revenue Miles	219	6/10	219	6/10
Average Daily Boardings	312	6/10	253	7/10
Passengers per Hour	18.7	6/10	15.2	8/10
Passengers per Trip	7.8	7/10	6.3	8/10

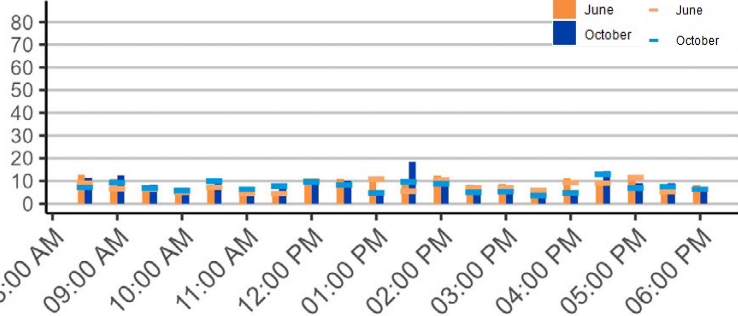
Early	June 5%	Oct 7%	Population Within ½ Mile	June 17,468	Rank 25/32
On-Time	77%	79%	Jobs Within ½ Mile	42,684	13/32
Late	18%	14%	Passengers per Capita	1.8%	3/10
			Passengers per Mile	1.3	4/10
				1.0	6/10

Note: Rankings are by service type

Sunday Ridership by Trip

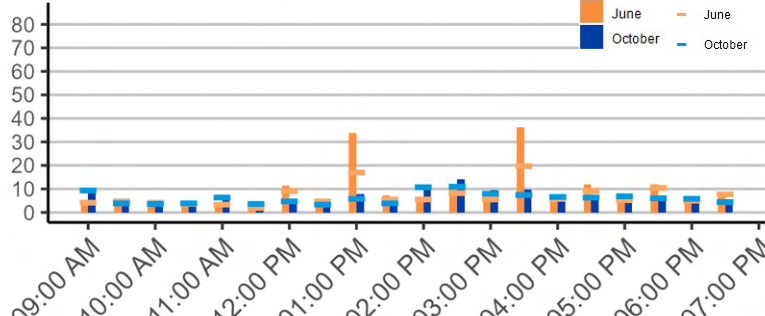
16 Outbound Sunday

Boardings Maximum Load
June October June October

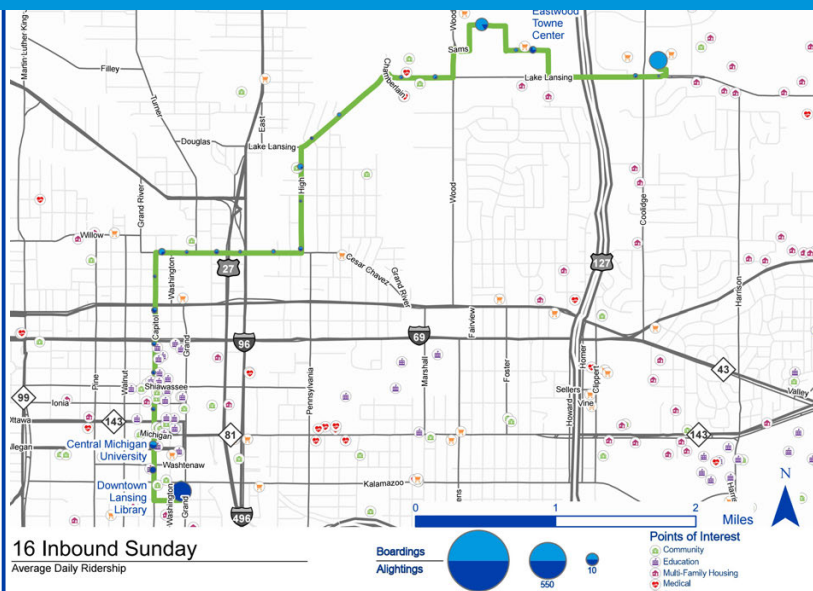
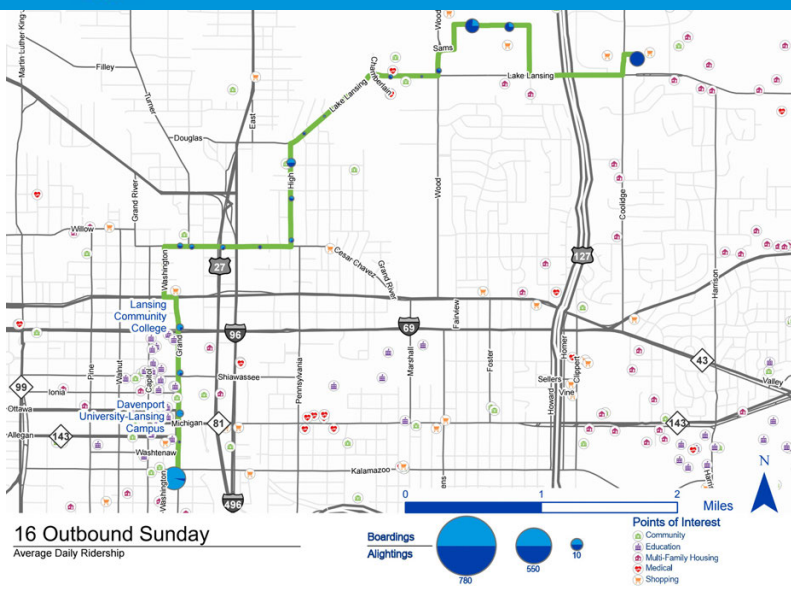


16 Inbound Sunday

Boardings Maximum Load
June October June October



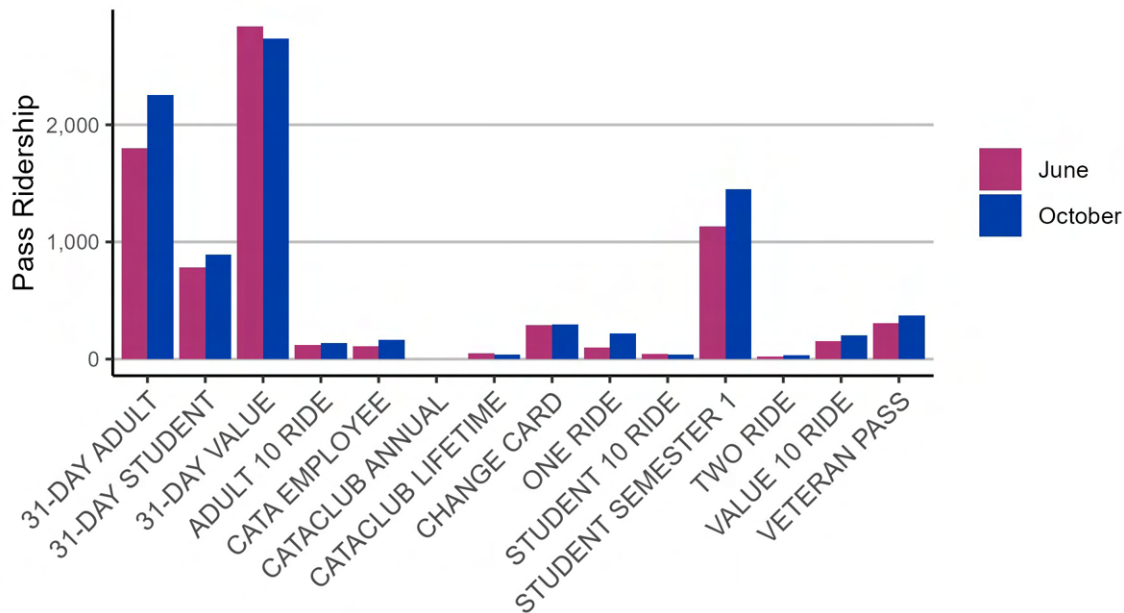
Sunday Ridership by Stop



ROUTE: 16

OLD TOWN - W. LK LANSING - EASTWOOD

Pass Usage



Route Analysis

Strengths

- Daily service.
- Relatively frequent service on all service days.
- Extensive span of service.
- Easy-to-remember clockface frequency.
- Simple and direct alignment.
- Strong weekday on-time-performance.
- Strong anchors and good mix of ridership generators.

Weaknesses

- Potentially difficult operating environment along High St. if cars are parked close to median planters, resulting in narrow passage.
- Inconsistent inbound and outbound alignment through downtown due to previously one-way traffic patterns.
- Low ridership in the evening.
- Challenges with on-time performance on weekends.

Opportunities

- Consider operating every 60 minutes instead of every 30 minutes after 6:00 PM.
- Address poor on-time performance on weekends by reducing frequency to allow for more recovery time or interlining Route 16 with another route like Route 15 to optimize running time and recovery time.
- Shift service from High St. to New York Ave. to avoid median planters on High St.
- Shift downtown service to single north-south corridor to simplify route and take advantage of new two-way street patterns.

ROUTE: 18

CAPITAL CITY CROSSTOWN

Service Type: MSU CTC

Connector

Description: Crosstown route connecting MSU and South Lansing.

Key Points

of Interest:

Capital Area Multimodal Gateway, McLaren Greater Lansing Hospital, Forest Acres Golf Course, Fenner Nature Center, Disability Network Capital Area, Colonia Village, Brody Neighborhood.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:35 AM - 10:42 PM	06:35 AM - 10:42 PM
Peak Frequency	45 min	45 min
Off-Peak Frequency	45 min	45 min
Evening Frequency	45 min	45 min

	June	Rank	Oct	Rank
Revenue Hours	30.1	1/7	30.1	3/7
Revenue Miles	412	3/7	412	5/7
Average Daily Boardings	92	7/7	98	7/7
Passengers per Hour	3.1	7/7	3.3	7/7
Passengers per Trip	2.2	7/7	2.3	7/7

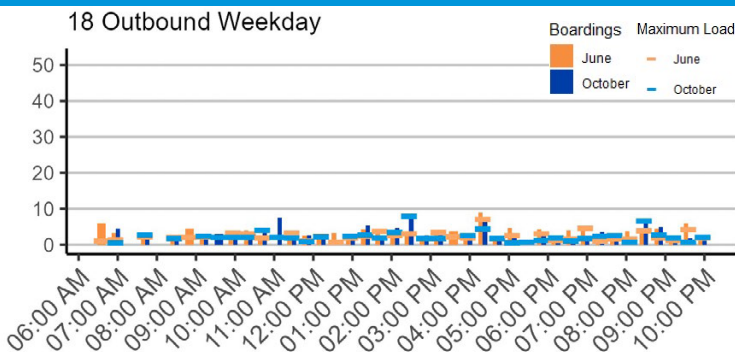
	June	Oct
Early	1%	9%
On-Time	86%	83%
Late	3%	8%

	June	Rank	Oct	Rank
Population Within ½ Mile	40,380	3/32		
Jobs Within ½ Mile	18,043	18/32		
Passengers per Capita	0.2%	7/7	0.2%	7/7
Passengers per Mile	0.2	7/7	0.2	7/7

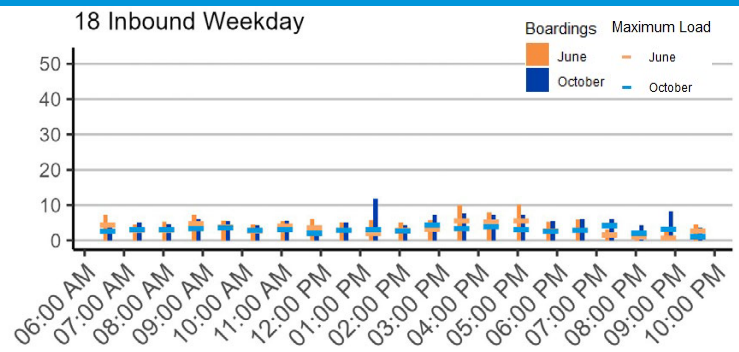
Note: Rankings are by service type

Weekday Ridership by Trip

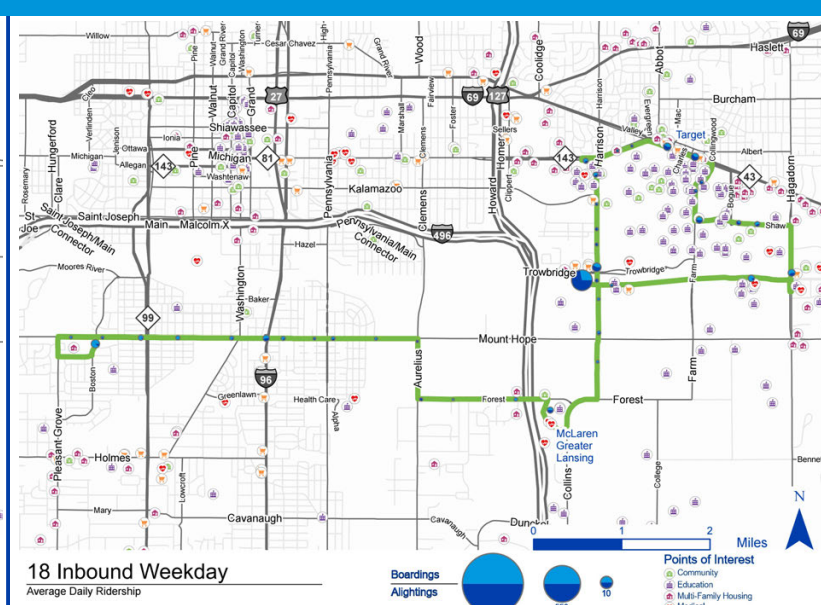
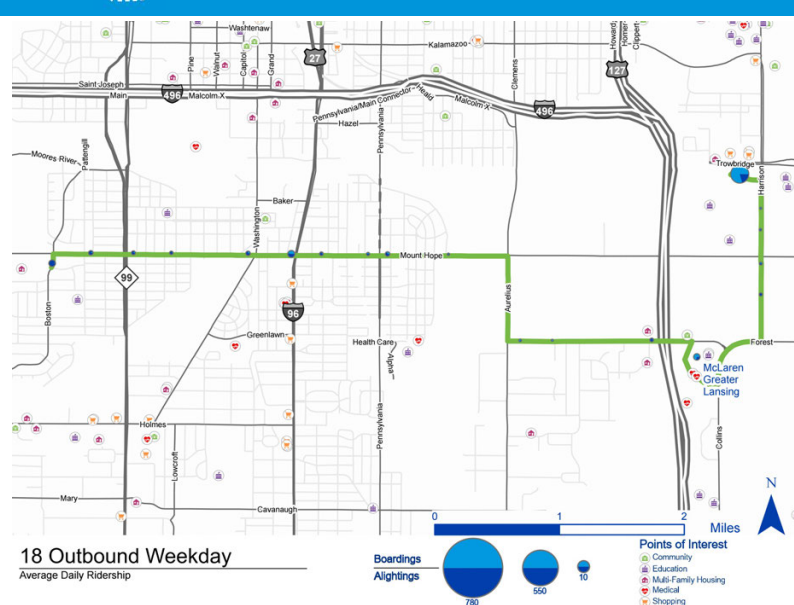
18 Outbound Weekday



18 Inbound Weekday



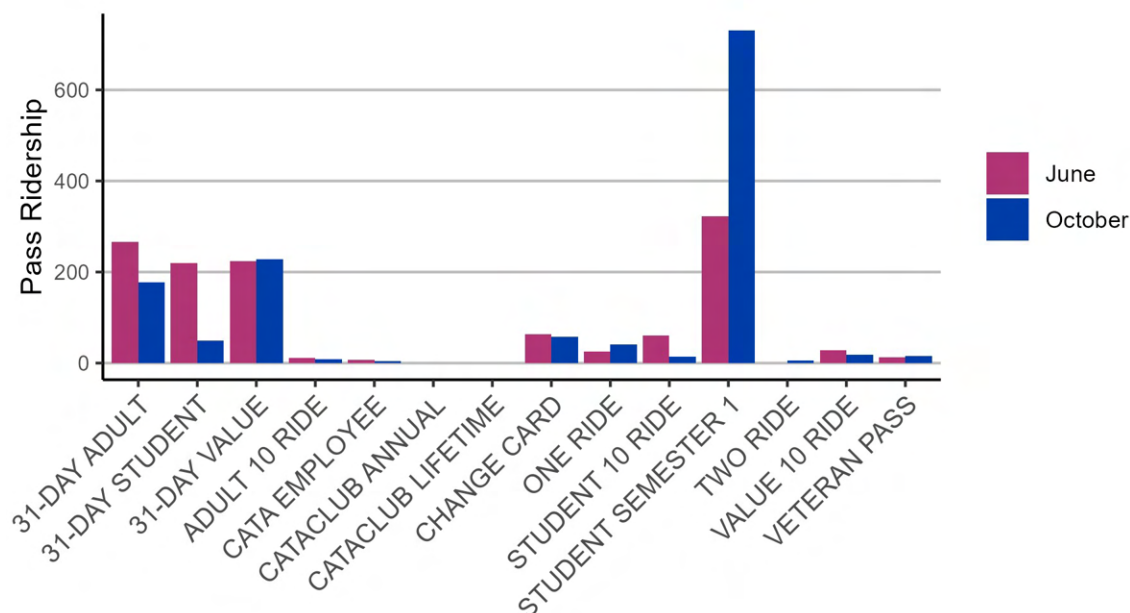
Weekday Ridership by Stop



ROUTE: 18

CAPITAL CITY CROSSTOWN

Pass Usage



Route Analysis

Strengths

- Provides cross-town service linking MSU with neighborhoods south of I-496.
- Connects MSU campus with University Health Park.
- Facilitates transfer opportunities outside of downtown Lansing.
- Extensive span of service.
- Relatively strong on-time performance.

Weaknesses

- Lowest ridership and productivity among MSU CTC routes.
- Time-consuming one-way loop around MSU attracts very few riders.
- Lack of strong anchor on the west end of the route.
- Non-clockface frequencies, making schedules difficult to remember

Opportunities

- Simplify schedule by operating with clockface frequencies (every 60 minutes).
- Consider extending route to LCC West to serve a stronger anchor and potentially serve students taking classes at both locations.
- Integrate into a full or partial loop route by interlining or combining with restructured Route 15, Route 16, and/or Route 10.

ROUTE: 20

SOUTH HARRISON - JOLLY - DUNCKEL

Service Type: MSU CTC

Connector

Description: Connector between MSU and South Lansing.

Key Points of Interest: Brody Neighborhood, Capital Area Multimodal Gateway, International Center, East Lansing City Hall, MSU.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:40 AM - 10:30 PM	06:30 AM - 10:55 PM

Peak Frequency	35 min	30 min
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Off-Peak Frequency	35 min	30 min
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Evening Frequency	60 min	45 min
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	June	Rank	Oct	Rank
Revenue Hours	23.5	4/7	38.7	1/7

Revenue Miles	391	5/7	490	2/7
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Average Daily Boardings	239	4/7	342	6/7
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Passengers per Hour	10.2	4/7	8.8	6/7
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Passengers per Trip	5.1	4/7	5.9	6/7
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	June	Oct
Early	9%	10%

On-Time	85%	75%
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Late	6%	15%
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	June	Rank	Oct	Rank
Population Within ½ Mile	28,546			10/32

Jobs Within ½ Mile	18,656			17/32
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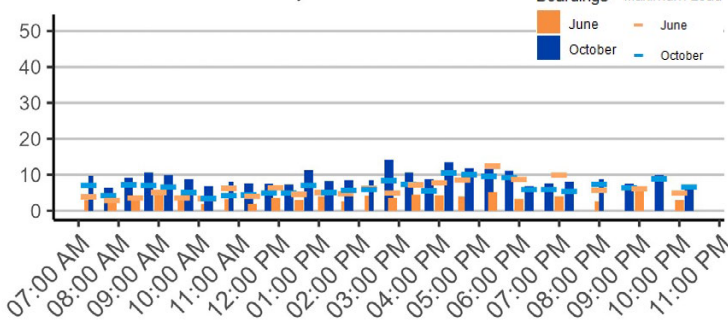
Passengers per Capita	0.8%	4/7	1.2%	4/7
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Passengers per Mile	0.6	4/7	0.7	4/7
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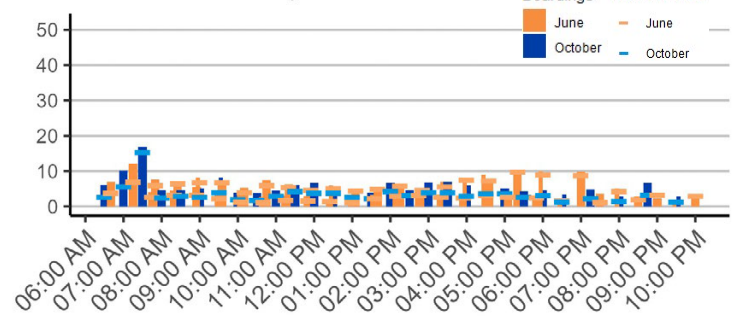
Note: Rankings are by service type

Weekday Ridership by Trip

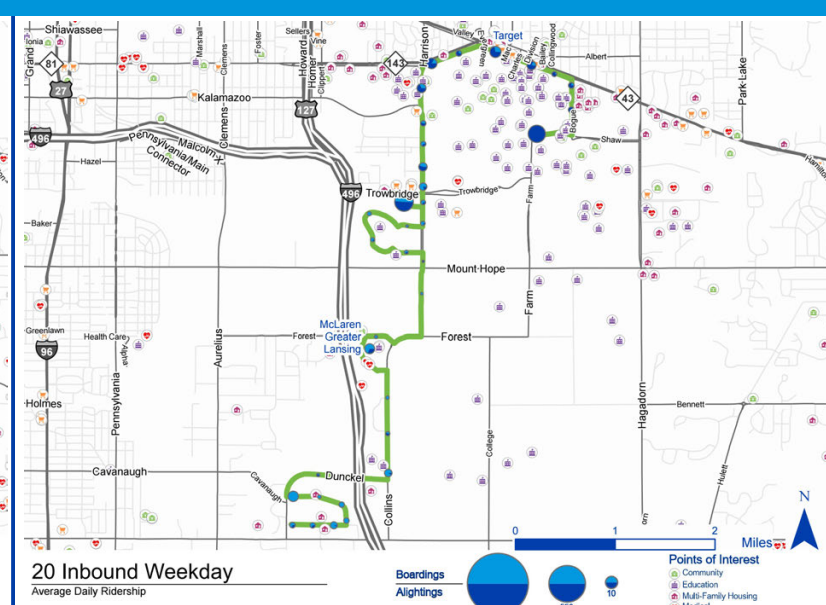
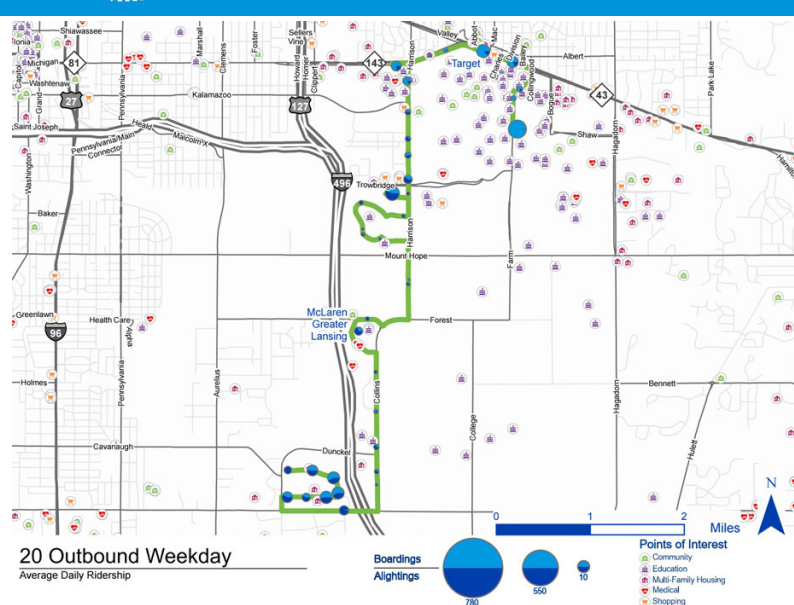
20 Outbound Weekday



20 Inbound Weekday



Weekday Ridership by Stop



ROUTE: 20

SOUTH HARRISON - JOLLY - DUNCKEL

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	08:25 AM - 10:55 PM	08:15 AM - 11:10 PM

Peak Frequency	60 min	45 min
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Off-Peak Frequency	60 min	45 min
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Evening Frequency	60 min	45 min
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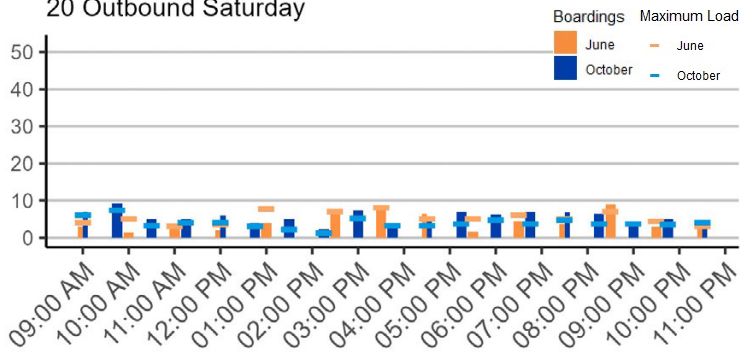
	June	Rank	Oct	Rank
Revenue Hours	11.7	3/6	25.3	1/6
Revenue Miles	233	1/6	320	1/6
Average Daily Boardings	100	6/6	122	5/6
Passengers per Hour	8.6	6/6	4.8	6/6
Passengers per Trip	3.6	6/6	3.2	6/6

	June	Oct		June	Rank	Oct	Rank
Early	3%	17%	Population Within 1/2 Mile	28,546			10/32
On-Time	67%	70%	Jobs Within 1/2 Mile	18,656			17/32
Late	30%	13%	Passengers per Capita	0.4%	4/6	0.4%	4/6
			Passengers per Mile	0.4	6/6	0.4	6/6

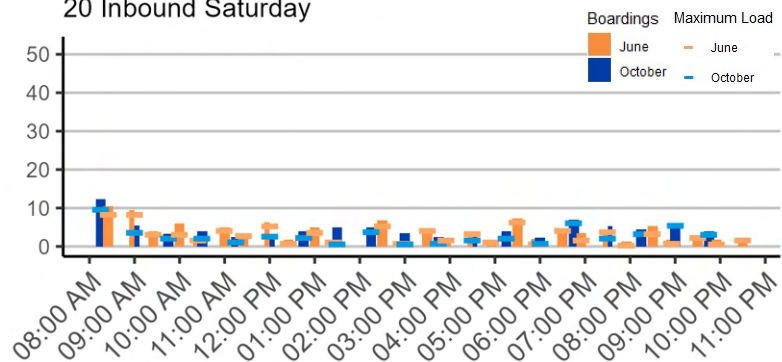
Note: Rankings are by service type

Saturday Ridership by Trip

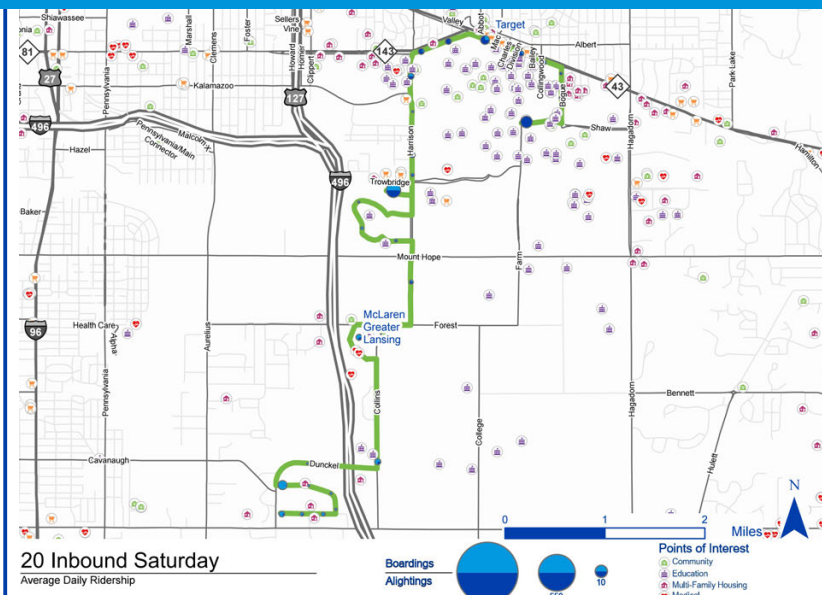
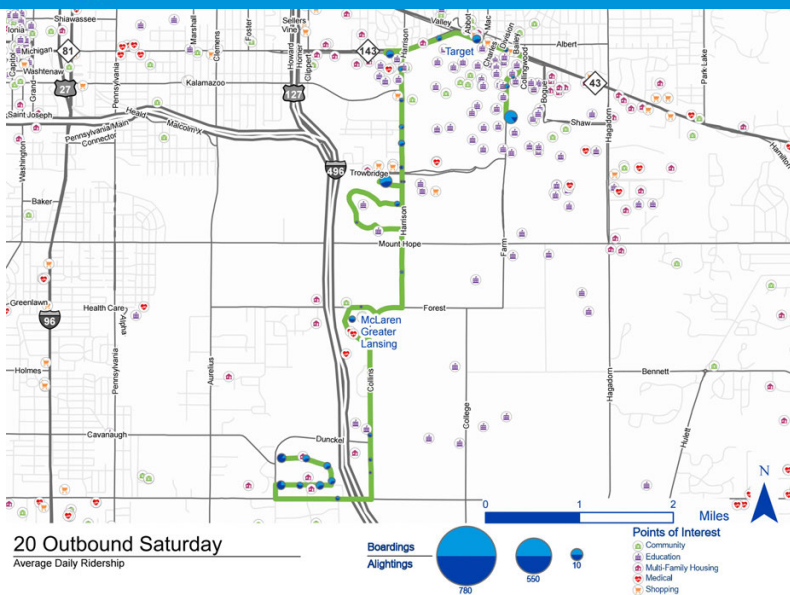
20 Outbound Saturday



20 Inbound Saturday



Saturday Ridership by Stop



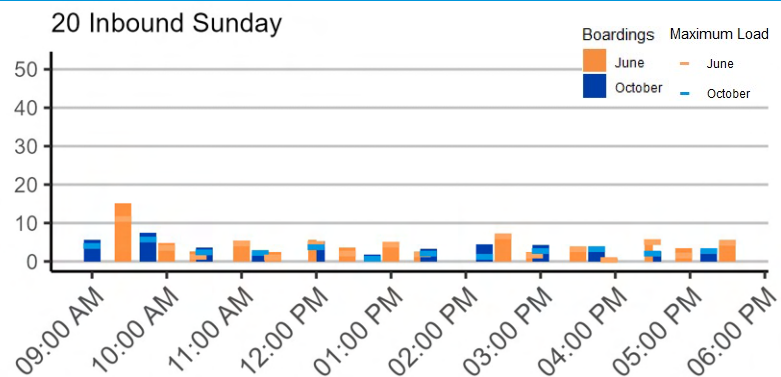
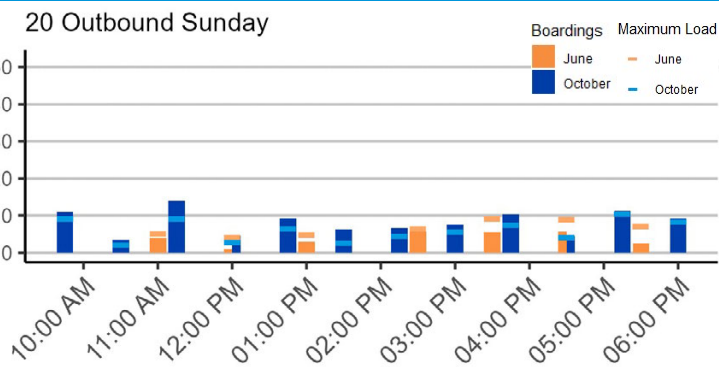
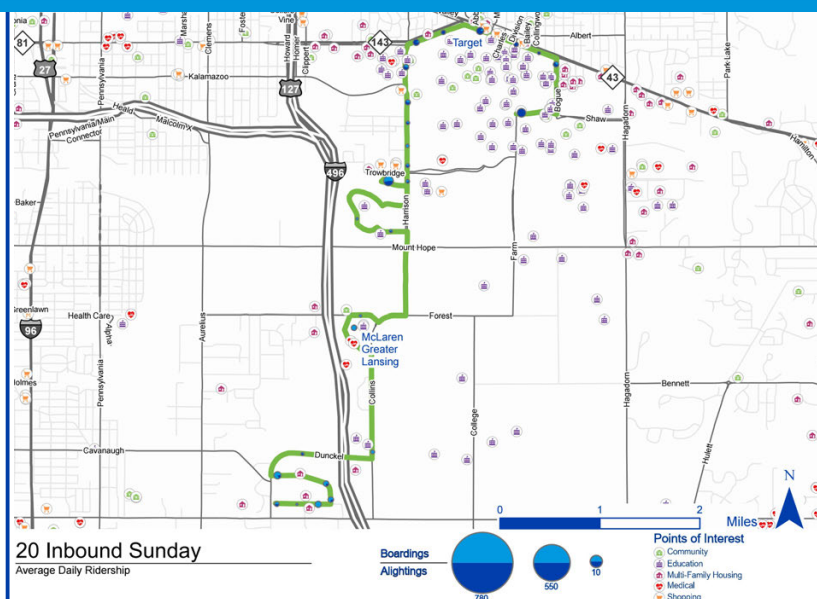
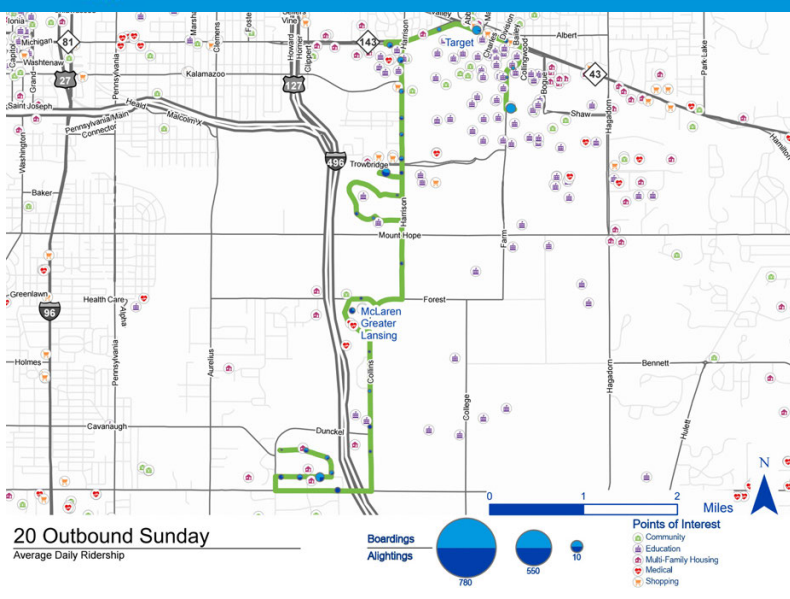
SOUTH HARRISON - JOLLY - DUNCKEL

Sunday Statistics

Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	09:25 AM - 05:55 PM	09:00 AM - 06:40 PM	Revenue Hours	7.3	3/4	16.0	1/4	Early	9%	5%	Population Within ½ Mile	28,546		10/32	
Peak Frequency	60 min	45 min	Revenue Miles	134	3/4	203	1/4	On-Time	78%	70%	Jobs Within ½ Mile	18,656		17/32	
Off-Peak Frequency	60 min	45 min	Average Daily Boardings	58	4/4	98	4/4	Late	13%	25%	Passengers per Capita	0.2%	4/4	0.3%	4/4
Evening Frequency	-	-	Passengers per Hour	7.9	4/4	6.1	4/4				Passengers per Mile	0.4	4/4	0.5	4/4
			Passengers per Trip	3.6	4/4	4.1	4/4								
Note: Rankings are by service type															

Note: Rankings are by service type

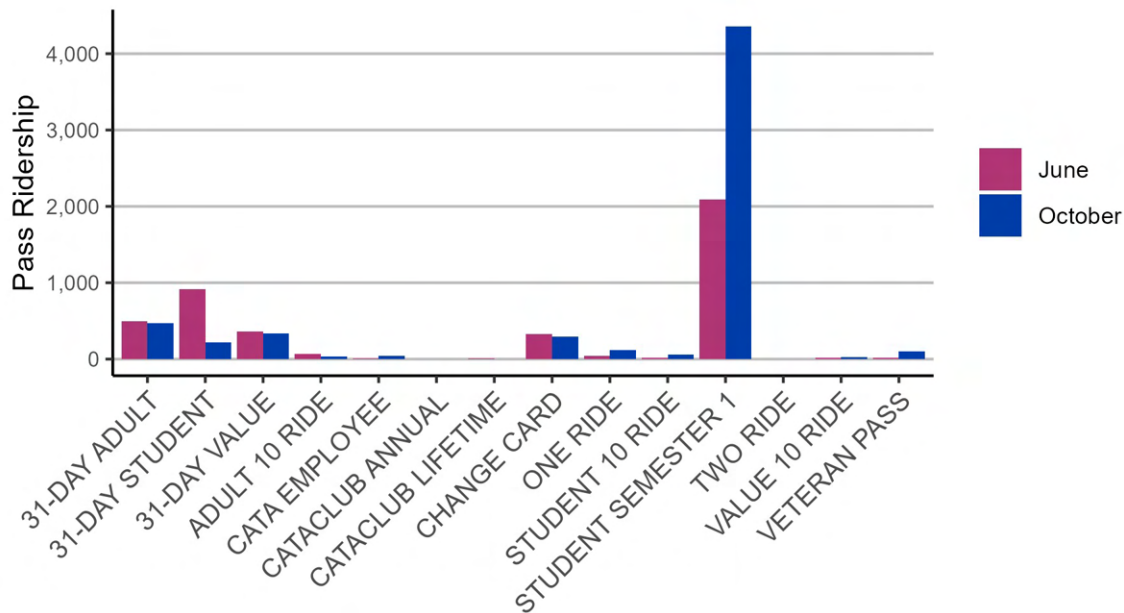
Sunday Ridership by Trip


Sunday Ridership by Stop

ROUTE: 20

SOUTH HARRISON - JOLLY - DUNCKEL

Pass Usage



Route Analysis

Strengths

- Daily service.
- Relatively frequent service on weekdays.
- Connects MSU campus with University Health Park.
- Serves several large clusters of off-campus housing.
- Fairly strong weekday on-time performance, especially in summer months.

Weaknesses

- Non-clockface frequencies during many service periods, making schedules difficult to remember.
- Lowest ridership and productivity among MSU CTC weekend routes.
- Low ridership at Spartan Village and along Jolly Rd.
- Lack of a strong anchor on the southern end of the route.
- Challenges with on-time performance on weekends.

Opportunities

- Simplify schedule by operating with clockface frequencies (every 30 or 60 minutes).
- Consider removing the Spartan Village deviation due to low ridership.
- Consider extending the route to Meijer on Miller Rd. to establish a stronger anchor, create more transfer opportunities, and potentially attract riders from Spartan Village and other off-campus housing clusters.
- Streamline route by removing unproductive Collins Rd. and Jolly Rd. segments.
- Consider reducing service span in the evening on Saturdays.

ROUTE: 22

MSU - HASLETT - OKEMOS

Service Type: MSU CTC

Connector

Description: Connector between MSU, Haslett, and Carriage Lane Apts.

Key Points of Interest: Meridian Mall, Auditorium, Parkwood YMCA, Meridian Township Hall, Walmart, Meridian Town Center, Meijer, Okemos Library, College of Law.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:05 AM - 10:00 PM	06:05 AM - 10:00 PM
Peak Frequency	35 min	45 min
Off-Peak Frequency	35 min	35 min
Evening Frequency	70 min	70 min

	June	Rank	Oct	Rank
Revenue Hours	25.5	3/7	25.5	5/7
Revenue Miles	476	2/7	471	4/7
Average Daily Boardings	238	5/7	357	4/7
Passengers per Hour	9.3	5/7	14.0	4/7
Passengers per Trip	5.1	5/7	7.6	4/7

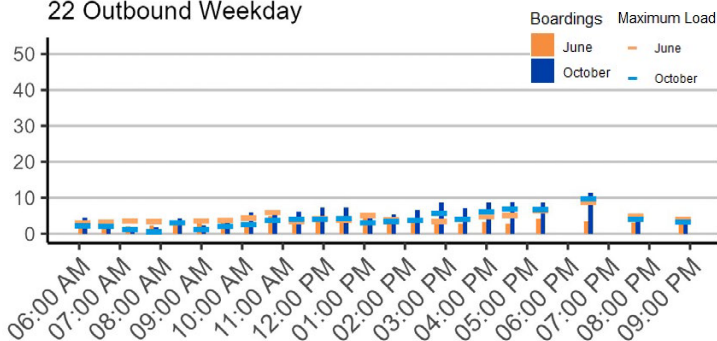
	June	Oct
Early	4%	3%
On-Time	84%	83%
Late	13%	13%

	June	Rank	Oct	Rank
Population Within ½ Mile	38,631			4/32
Jobs Within ½ Mile	14,682			20/32
Passengers per Capita	0.6%	6/7	0.9%	6/7
Passengers per Mile	0.5	5/7	0.7	5/7

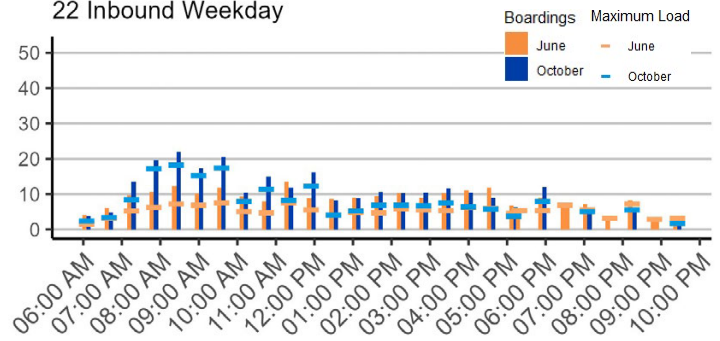
Note: Rankings are by service type

Weekday Ridership by Trip

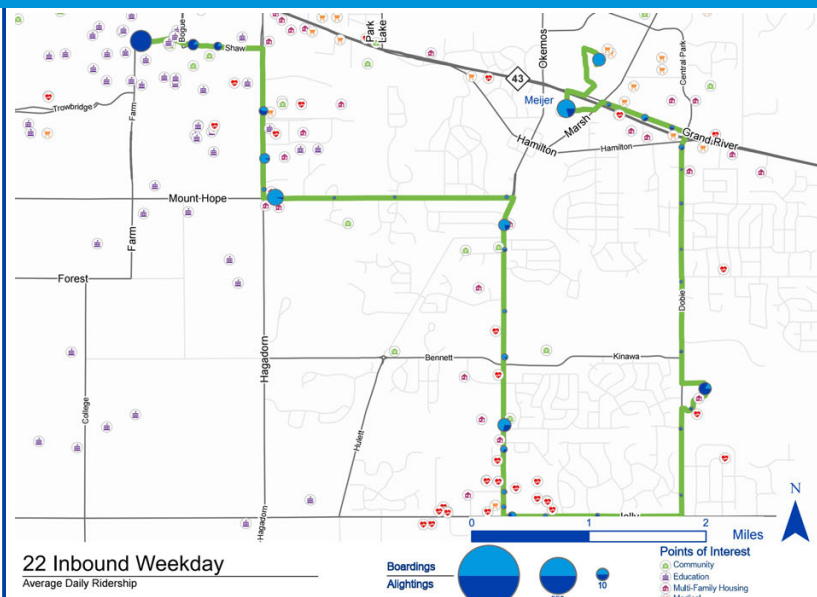
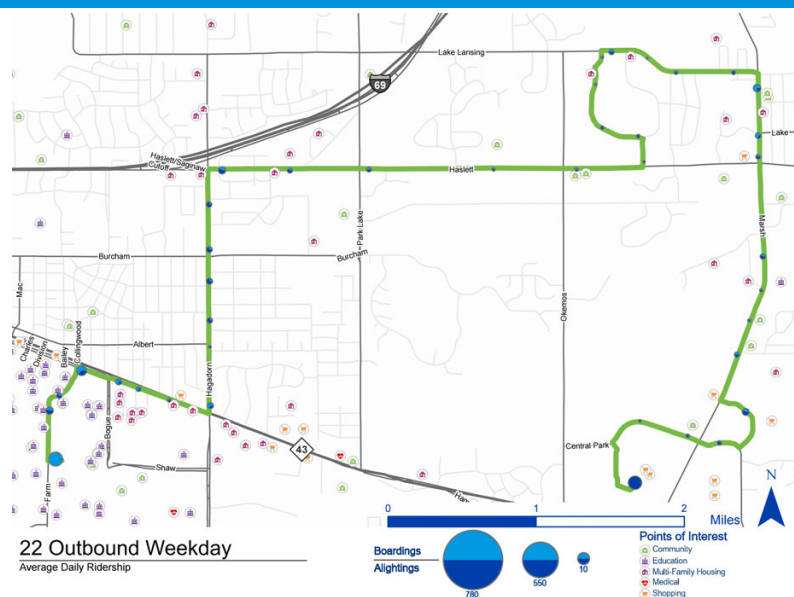
22 Outbound Weekday



22 Inbound Weekday



Weekday Ridership by Stop



ROUTE: 22

MSU - HASLETT - OKEMOS

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	07:50 AM - 08:05 PM	07:50 AM - 08:05 PM
Peak Frequency	70 min	70 min
Off-Peak Frequency	70 min	70 min
Evening Frequency	-	-

	June	Rank	Oct	Rank
Revenue Hours	10.8	4/6	10.8	5/6
Revenue Miles	202	2/6	200	3/6
Average Daily Boardings	118	5/6	140	4/6
Passengers per Hour	10.9	5/6	12.9	4/6
Passengers per Trip	5.9	4/6	7.0	3/6

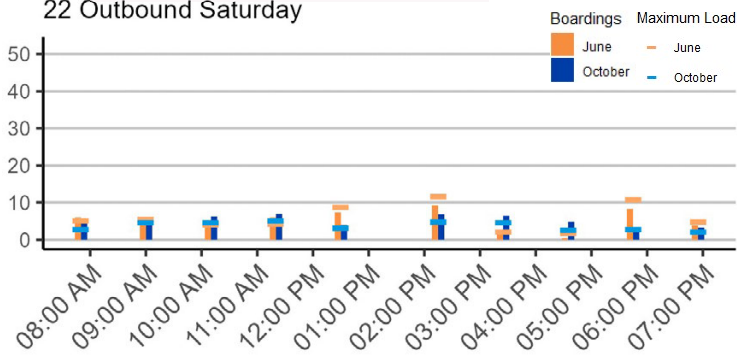
	June	Oct
Early	4%	5%
On-Time	79%	78%
Late	18%	17%

	June	Rank	Oct	Rank
Population Within ½ Mile	38,631			4/32
Jobs Within ½ Mile	14,682			20/32
Passengers per Capita	0.3%	6/6	0.4%	5/6
Passengers per Mile	0.5	5/6	0.7	4/6

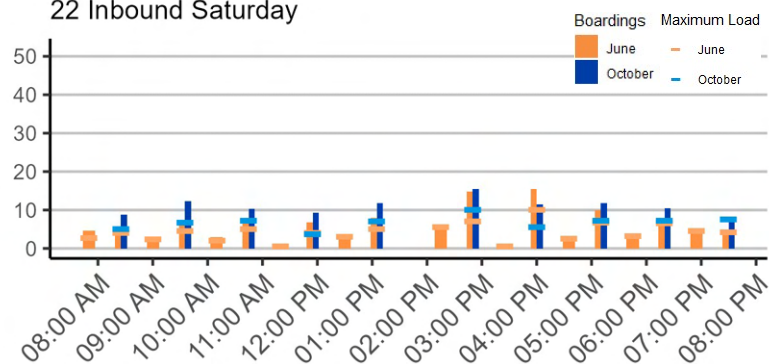
Note: Rankings are by service type

Saturday Ridership by Trip

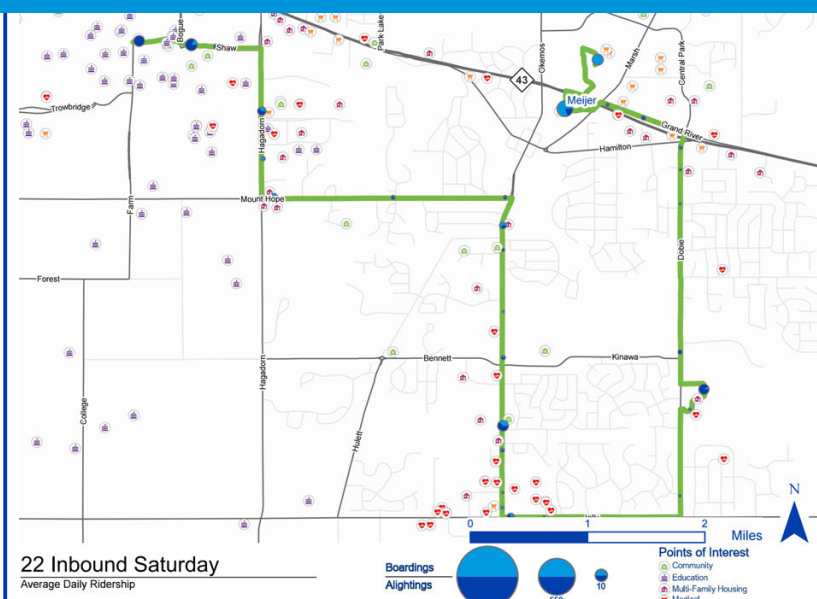
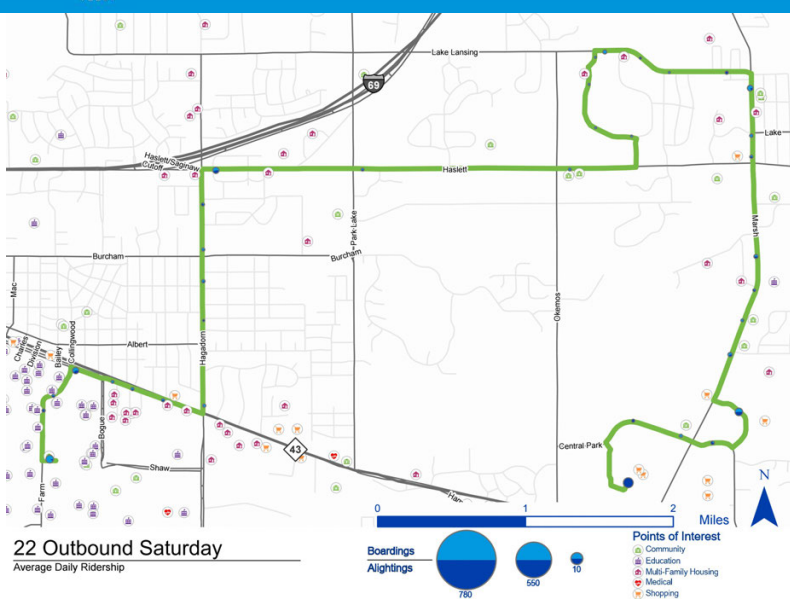
22 Outbound Saturday



22 Inbound Saturday



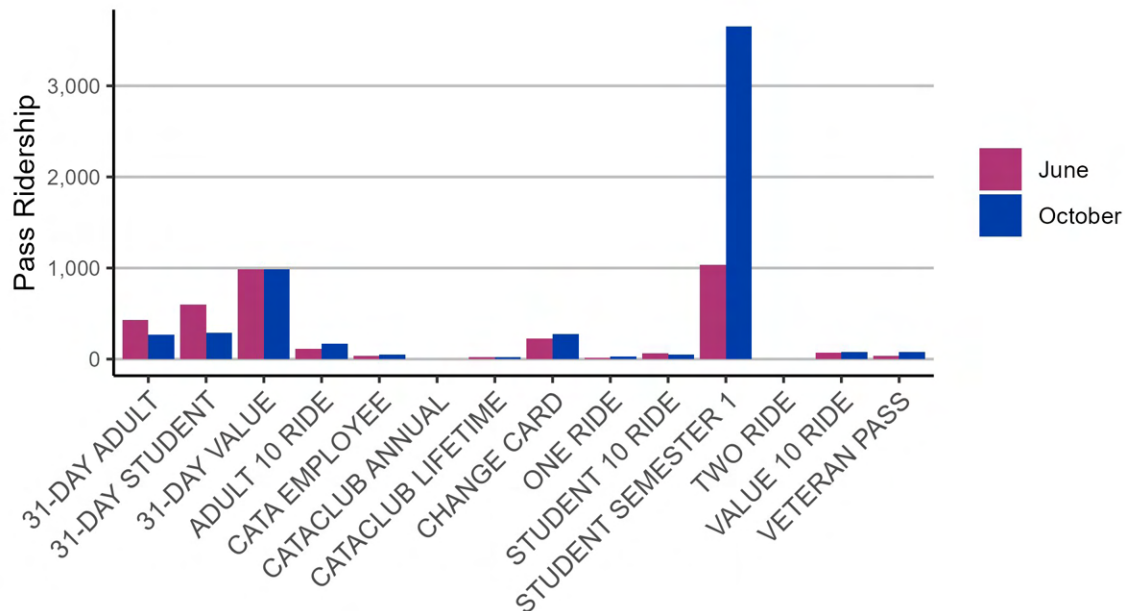
Saturday Ridership by Stop



ROUTE: 22

MSU - HASLETT - OKEMOS

Pass Usage



Route Analysis

Strengths

- Weekday and Saturday service.
- Extensive span of service.
- Complements Route 23 with counterclockwise service.
- Provides broad service coverage east of East Lansing, linking communities to MSU and the rest of the CATA network.
- Strong anchors and good mix of ridership generators
- Strong on-time performance, especially on weekdays.

Weaknesses

- Non-clockface frequencies during many service periods, making schedules difficult to remember.
- Challenging transit and pedestrian environment due to suburban land-use, which limits the effective reach of the route.
- Parking lot operations and unprotected left-turns required to serve the Carriage Lane Apartments.
- Low ridership along Lac Du Mont Dr.
- Potential for passenger confusion (especially at shared stops like Meridian Mall) as Route 22 and 23 serve the same route but in different directions and often with different frequencies.

Opportunities

- Split Route 22 and 23 by service area, rather than direction of travel to reduce potential confusion among passengers - end both routes at Meijer or Meridian Mall.
- Shift service from Luc Du Mont to Okemos Rd. due to low ridership.
- Consider truncating route at Mt. Hope Rd., proceeding to Meijer and Meridian Mall via Okemos Rd., and replacing eliminated service with a microtransit zone anchored at the mall and covering areas south of Grand River Ave., including Okemos High School, and The Carriage Lane Apartments.

ROUTE: 23

MSU - OKEMOS - HASLETT

Service Type: MSU CTC

Connector

Description: Connector between MSU, Haslett, and Carriage Lane Apts.

Key Points of Interest: Meridian Mall, College of Law, Residence Halls, Okemos Library, Meijer, Walmart, Meridian Town Center, Parkwood YMCA.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:05 AM - 09:55 PM	06:05 AM - 09:55 PM

Peak Frequency	35 min	20 min
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Off-Peak Frequency	25 min	25 min
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Evening Frequency	70 min	70 min
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	June	Rank	Oct	Rank
Revenue Hours	28.7	2/7	28.7	4/7
Revenue Miles	535	1/7	530	1/7
Average Daily Boardings	234	6/7	356	5/7
Passengers per Hour	8.2	6/7	12.4	5/7
Passengers per Trip	4.4	6/7	6.7	5/7

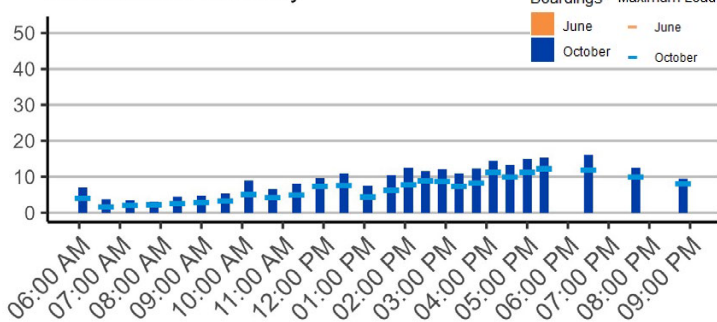
	June	Oct
Early	3%	6%
On-Time	82%	78%
Late	14%	16%

	June	Rank	Oct	Rank
Population Within ½ Mile	37,893			5/32
Jobs Within ½ Mile	14,071			21/32
Passengers per Capita	0.6%	5/7	0.9%	5/7
Passengers per Mile	0.4	6/7	0.6	6/7

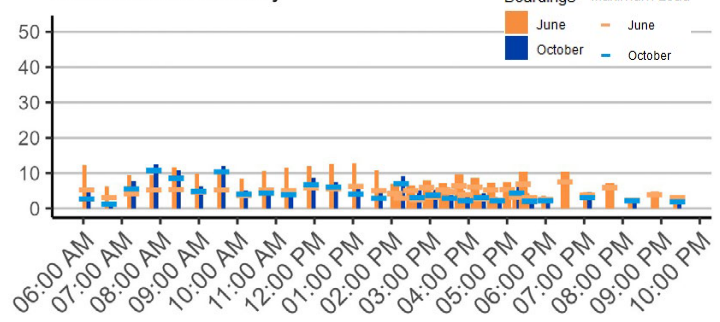
Note: Rankings are by service type

Weekday Ridership by Trip

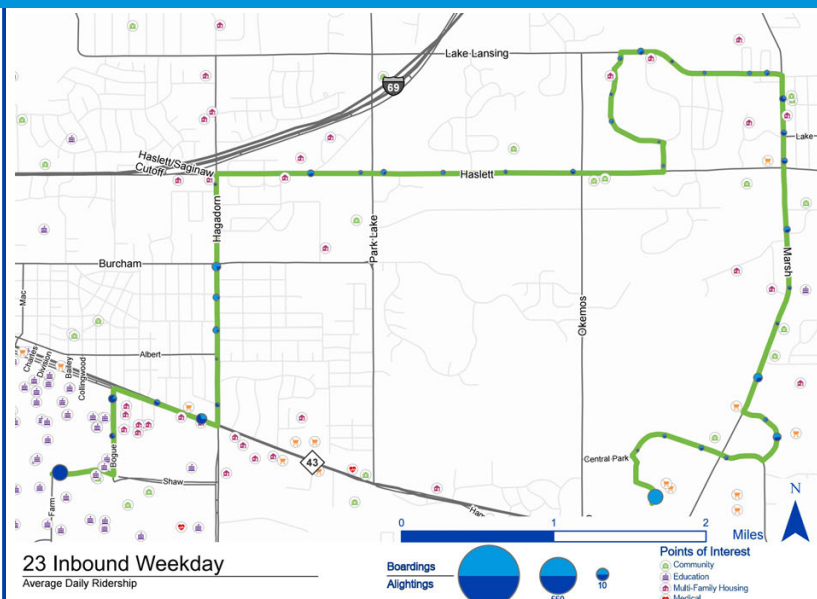
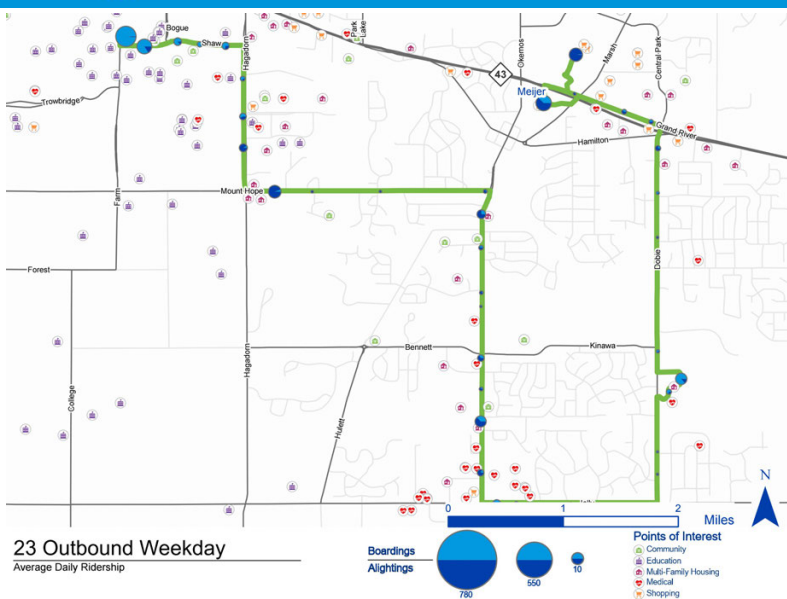
23 Outbound Weekday



23 Inbound Weekday



Weekday Ridership by Stop



ROUTE: 23

MSU - OKEMOS - HASLETT

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	07:50 AM - 08:00 PM	07:50 AM - 08:00 PM
Peak Frequency	70 min	70 min
Off-Peak Frequency	70 min	70 min
Evening Frequency	-	-

	June	Rank	Oct	Rank
Revenue Hours	10.8	5/6	10.8	4/6
Revenue Miles	202	3/6	200	2/6
Average Daily Boardings	122	4/6	109	6/6
Passengers per Hour	11.3	4/6	10.1	5/6
Passengers per Trip	6.1	3/6	5.5	5/6

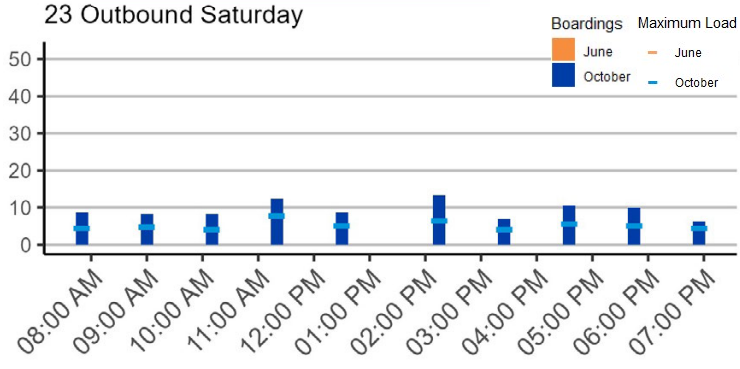
	June	Oct
Early	2%	5%
On-Time	94%	84%
Late	4%	11%

	June	Rank	Oct	Rank
Population Within ½ Mile	37,893			5/32
Jobs Within ½ Mile	14,071			21/32
Passengers per Capita	0.3%	5/6	0.3%	6/6
Passengers per Mile	0.6	4/6	0.5	5/6

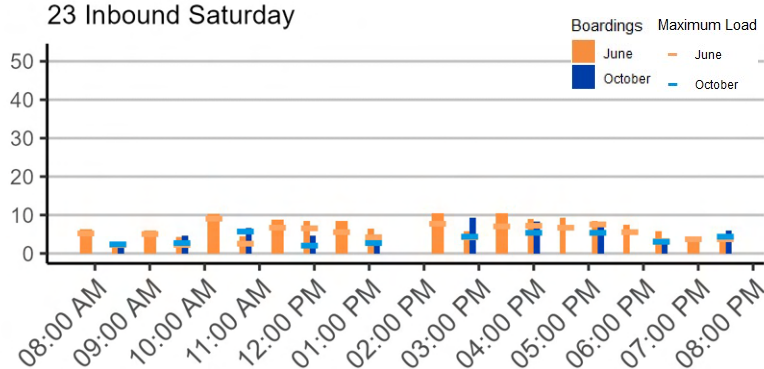
Note: Rankings are by service type

Saturday Ridership by Trip

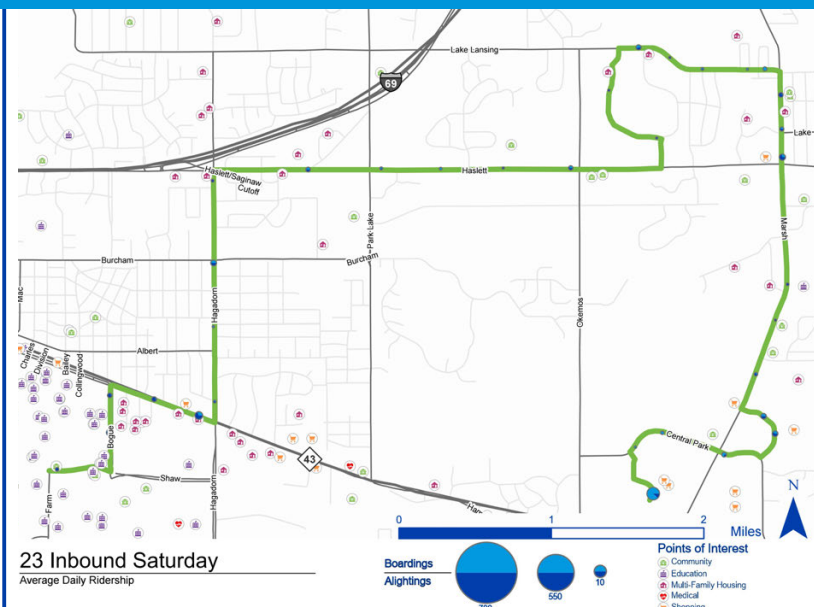
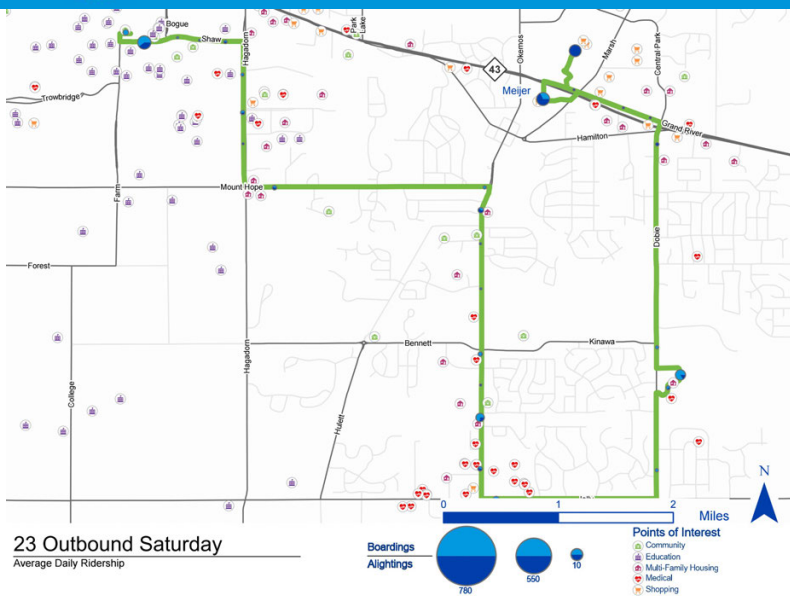
23 Outbound Saturday



23 Inbound Saturday



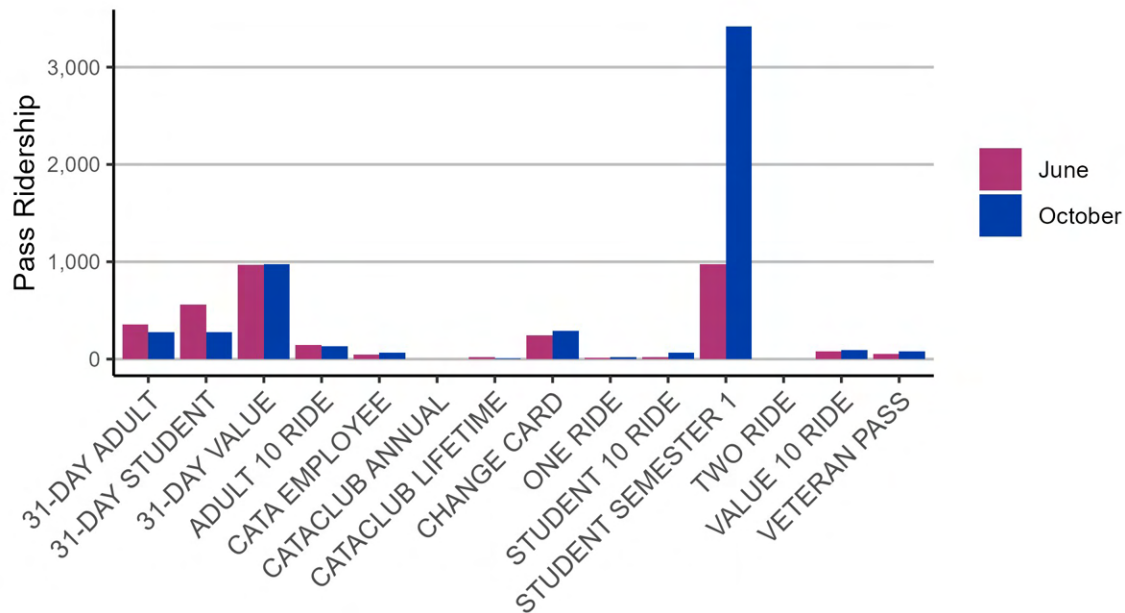
Saturday Ridership by Stop



ROUTE: 23

MSU - OKEMOS - HASLETT

Pass Usage



Route Analysis

Strengths

- Weekday and Saturday service.
- Extensive span of service.
- Complements Route 22 with clockwise service.
- Provides broad service coverage east of East Lansing, linking communities to MSU and the rest of the CATA network.
- Strong anchors and good mix of ridership generators
- Strong on-time performance, especially on Saturdays.

Weaknesses

- Non-clockface frequencies during many service periods, making schedules difficult to remember.
- Challenging transit and pedestrian environment due to suburban land-use, which limits the effective reach of the route.
- Parking lot operations and unprotected left-turns required to serve the Carriage Lane Apartments.
- Low ridership along Lac Du Mont Dr.
- Potential for passenger confusion (especially at shared stops like Meridian Mall) as Route 22 and 23 serve the same route but in different directions and often with different frequencies.

Opportunities

- Split Route 22 and 23 by service area, rather than direction of travel to reduce potential confusion among passengers - end both routes at Meijer or Meridian Mall.
- Shift service from Luc Du Mont to Okemos Rd. due to low ridership.
- Consider truncating route at Mt. Hope Rd., proceeding to Meijer and Meridian Mall via Okemos Rd., and replacing eliminated service with a microtransit zone anchored at the mall and covering areas south of Grand River Ave., including Okemos High School, and The Carriage Lane Apartments.

ROUTE: 24

EAST LANSING - E. LAKE LANSING ROAD

Service Type: MSU CTC

Connector

Description: Connector between MSU and Meijer Lake Lansing.

Key Points of Interest: MSU, Meijer, Auditorium, Residence Halls, East Lansing City Hall.

Weekday Statistics

Operating Characteristics

	June	Oct
Span	06:00 AM - 11:25 PM	06:00 AM - 11:25 PM
Peak Frequency	35 min	35 min
Off-Peak Frequency	35 min	35 min
Evening Frequency	60 min	60 min

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	21.7	6/7	21.7	7/7
Revenue Miles	356	6/7	356	7/7
Average Daily Boardings	293	3/7	485	3/7
Passengers per Hour	13.5	3/7	22.3	3/7
Passengers per Trip	5.6	3/7	9.3	3/7

On-Time Performance

	June	Oct
Early	4%	4%
On-Time	82%	85%
Late	14%	11%

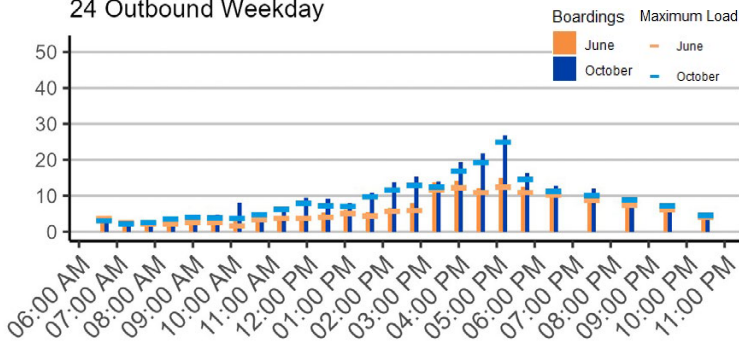
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	24,853			14/32
Jobs Within ½ Mile	16,128			19/32
Passengers per Capita	1.2%	3/7	2.0%	3/7
Passengers per Mile	0.8	3/7	1.3	3/7

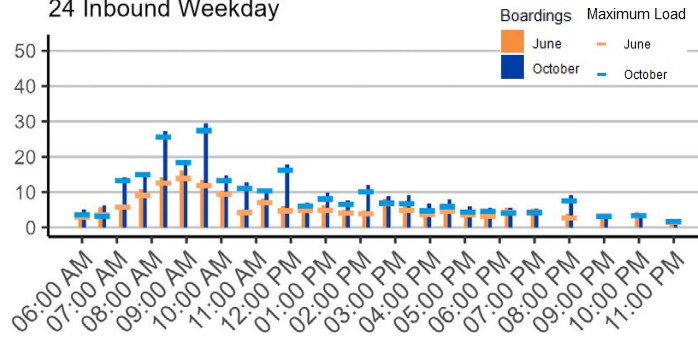
Note: Rankings are by service type

Weekday Ridership by Trip

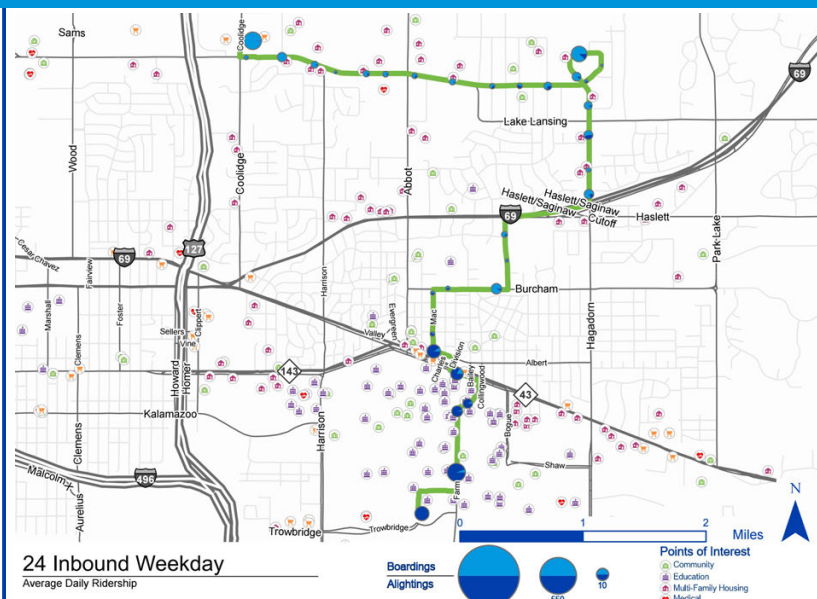
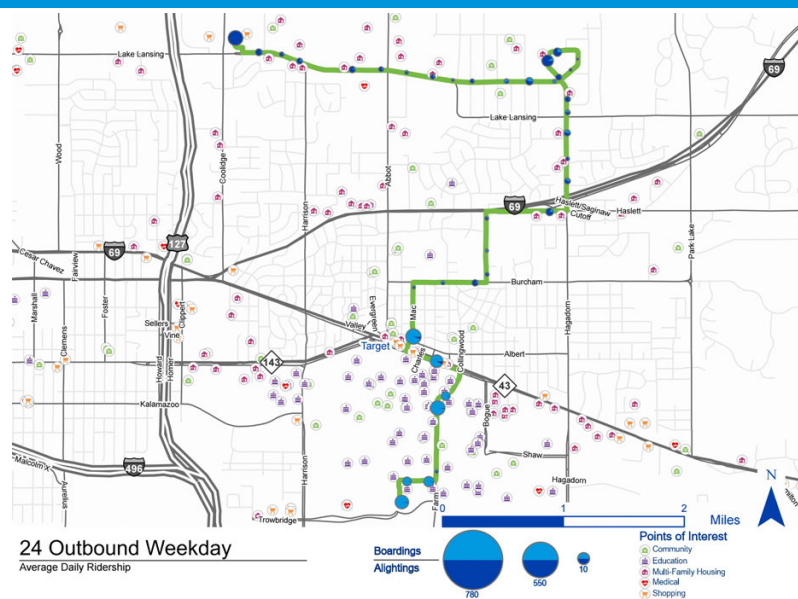
24 Outbound Weekday



24 Inbound Weekday



Weekday Ridership by Stop



ROUTE: 24

EAST LANSING - E. LAKE LANSING ROAD

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

Span	June 08:30 AM - 10:55 PM	Oct 08:30 AM - 10:55 PM
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Peak Frequency	60 min	60 min
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Off-Peak Frequency	60 min	60 min
--------------------	--------	--------

Evening Frequency	60 min	60 min
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Revenue Hours	June	Rank	Oct	Rank
	11.7	2/6	11.7	3/6
Revenue Miles	June	Rank	Oct	Rank
	192	5/6	192	5/6
Average Daily Boardings	June	Rank	Oct	Rank
	148	3/6	181	3/6
Passengers per Hour	June	Rank	Oct	Rank
	12.7	3/6	15.5	3/6
Passengers per Trip	June	Rank	Oct	Rank
	5.3	5/6	6.5	4/6

Early	June	Oct
	6%	7%
On-Time	June	Oct
	91%	83%
Late	June	Oct
	3%	11%

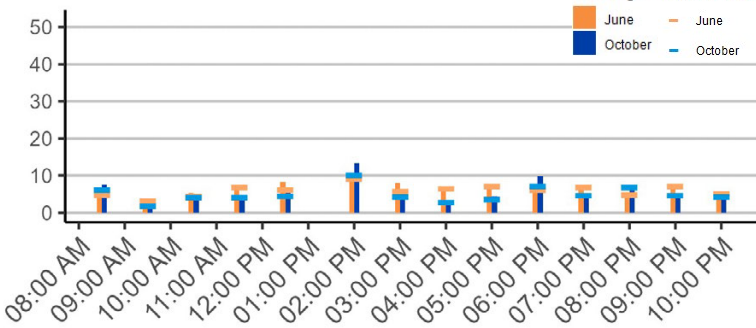
Population Within ½ Mile	June	Rank	Oct	Rank
	24,853			14/32
Jobs Within ½ Mile	June	Rank	Oct	Rank
	16,128			19/32
Passengers per Capita	June	Rank	Oct	Rank
	0.6%	3/6	0.7%	3/6
Passengers per Mile	June	Rank	Oct	Rank
	0.7	3/6	0.9	3/6

Note: Rankings are by service type

Saturday Ridership by Trip

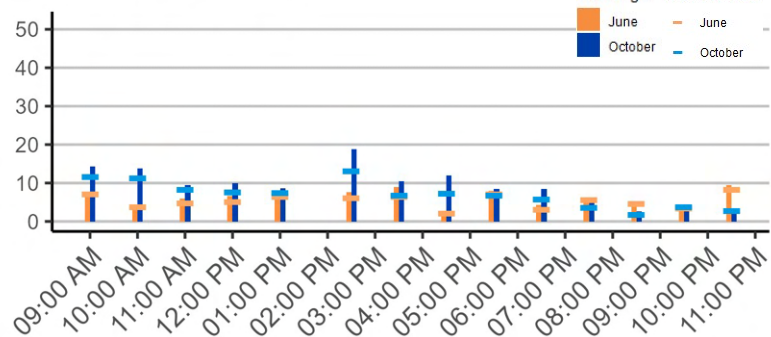
24 Outbound Saturday

Boardings Maximum Load
June October June October

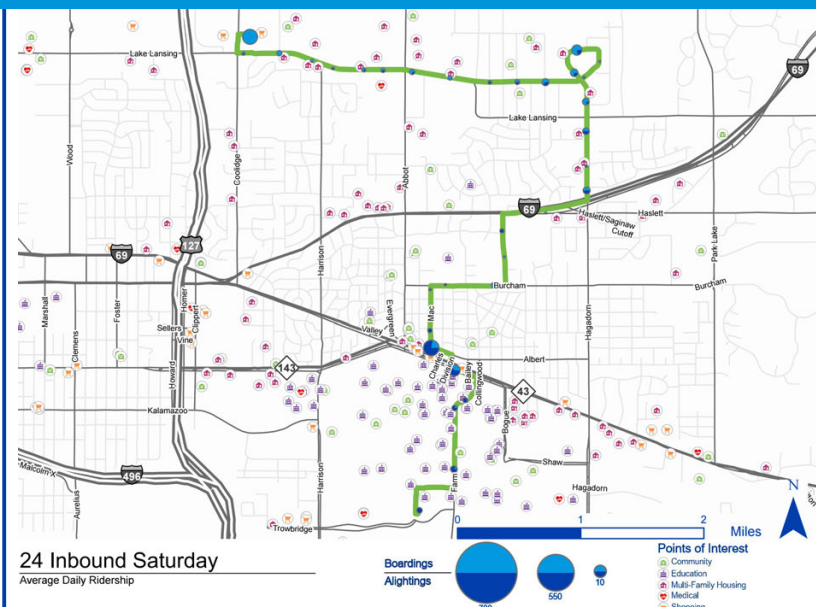
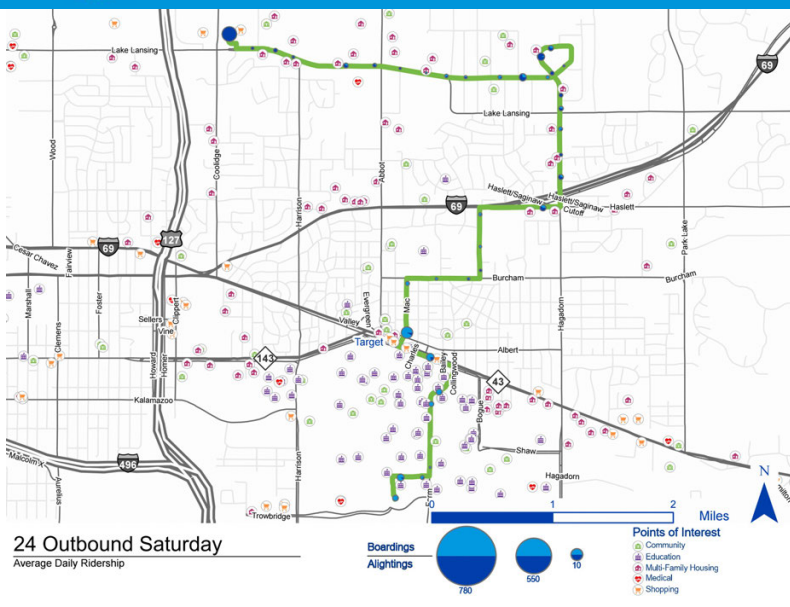


24 Inbound Saturday

Boardings Maximum Load
June October June October



Saturday Ridership by Stop



ROUTE: 24

EAST LANSING - E. LAKE LANSING ROAD

Sunday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

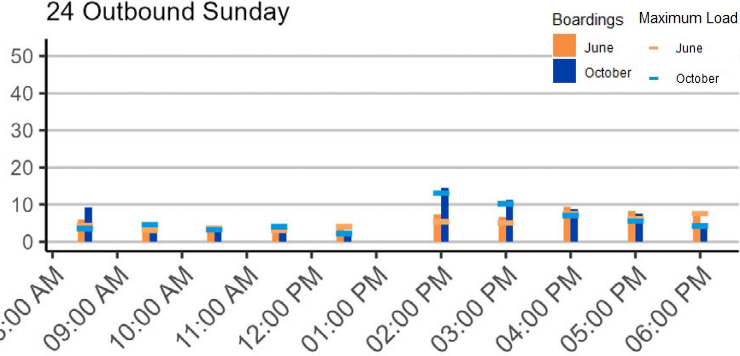
Span	June		Revenue Hours	June		Oct	Rank
	08:30 AM - 06:55 PM	08:30 AM - 06:55 PM		8.3	2/4		
Peak Frequency	60 min	60 min	Revenue Miles	137	2/4	137	3/4
Off-Peak Frequency	60 min	60 min	Average Daily Boardings	89	3/4	119	3/4
Evening Frequency	-	-	Passengers per Hour	10.7	3/4	14.3	3/4
			Passengers per Trip	4.5	2/4	6.0	3/4

Early	June		Population Within 1/2 Mile	June		Oct	Rank
	14%	2%		24,853			
On-Time	84%	94%	Jobs Within 1/2 Mile	16,128			19/32
Late	2%	4%	Passengers per Capita	0.4%	3/4	0.5%	3/4
			Passengers per Mile	0.6	3/4	0.8	3/4

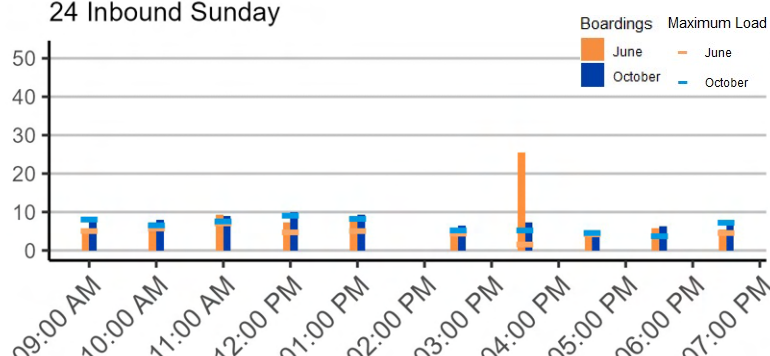
Note: Rankings are by service type

Sunday Ridership by Trip

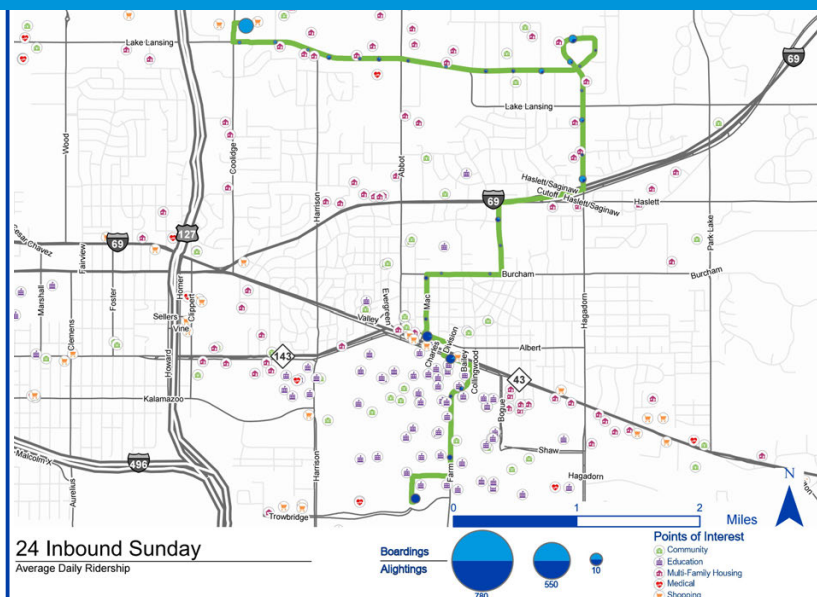
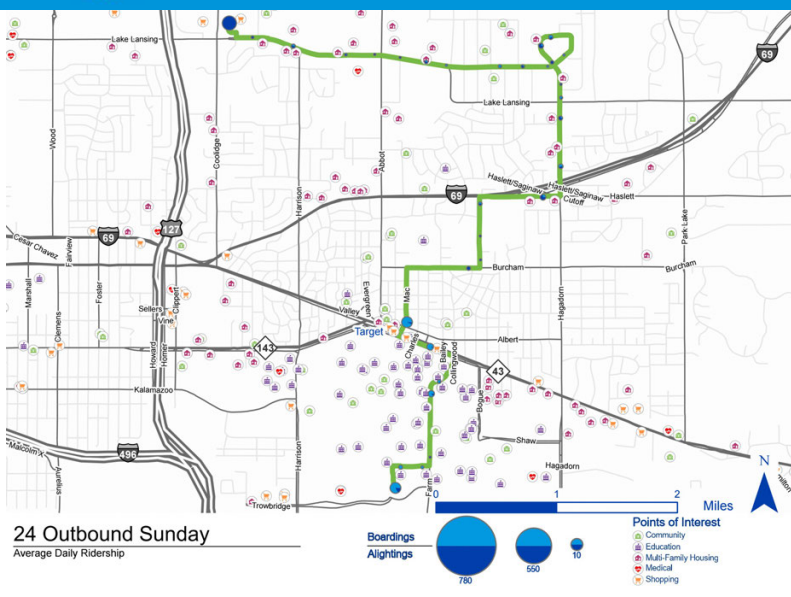
24 Outbound Sunday



24 Inbound Sunday



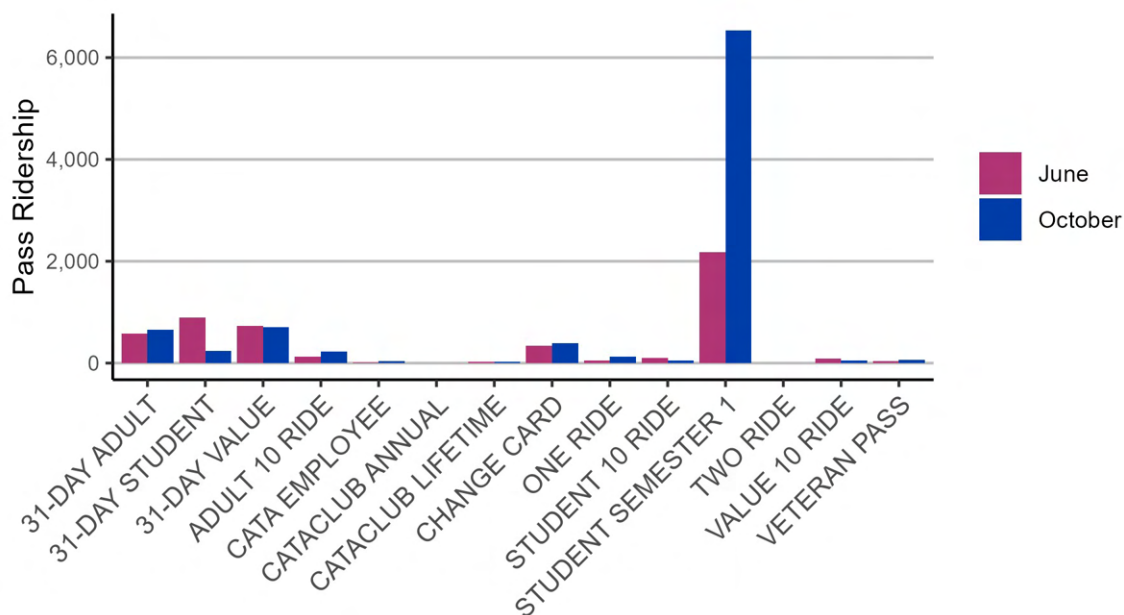
Sunday Ridership by Stop



ROUTE: 24

EAST LANSING - E. LAKE LANSING ROAD

Pass Usage



Route Analysis

Strengths

- Daily service.
- Strong on-time performance.
- High ridership during peak periods, especially when school is in session.
- Strong anchors and good mix of ridership generators.

Weaknesses

- Does not serve MSU CTC, which could cause confusion for prospective riders searching for service.
- Circuitous routing north of MSU with route jogging east to serve Castle Point Apartments before turning west to serve Meijer.
- Non-clockface frequencies on weekdays, making schedules difficult to remember.

Opportunities

- Swap segments between Route 24 and Route 22/23 to provide more direct service on all routes; Route 24 would continue along Hagadorn Rd. south of Saginaw Hwy, while Route 22/23 would pick up service along Alton, Burcham, and M.A.C. Ave.
- Simplify schedule by operating with clockface frequencies (every 30 or 60 minutes).
- Consider serving MSU-CTC to facilitate seamless transfers.

ROUTE: 25

NORTH HARRISON

Service Type: MSU CTC
Connector

Description: Connector between MSU, Brody Neighborhood, and Meijer Lake Lansing.

Key Points of Interest: MSU, Meijer, Communication Arts & Sciences, Natural Resources, International Center, Wells Hall, Kellogg Center, Breslin Centre, Spartan Stadium, Engineering Building.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:10 AM - 10:09 PM	06:10 AM - 10:09 PM
Peak Frequency	30 min	30 min
Off-Peak Frequency	30 min	30 min
Evening Frequency	60 min	60 min

	June	Rank	Oct	Rank
Revenue Hours	23.3	5/7	23.3	6/7
Revenue Miles	392	4/7	392	6/7
Average Daily Boardings	456	1/7	844	2/7
Passengers per Hour	19.6	2/7	36.3	2/7
Passengers per Trip	8.0	2/7	14.8	2/7

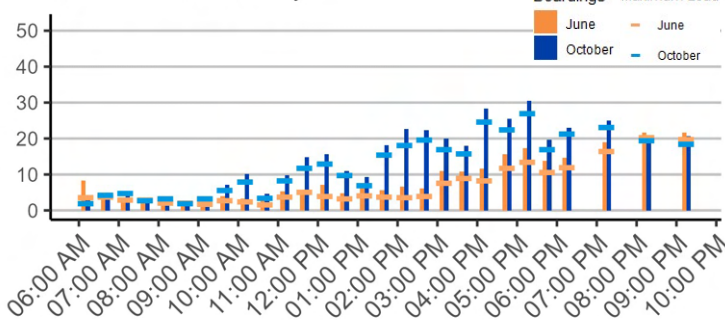
	June	Oct
Early	2%	3%
On-Time	89%	89%
Late	9%	8%

	June	Rank	Oct	Rank
Population Within ½ Mile	27,968			11/32
Jobs Within ½ Mile	14,009			22/32
Passengers per Capita	1.6%	2/7	3.0%	2/7
Passengers per Mile	1.1	2/7	2.1	2/7

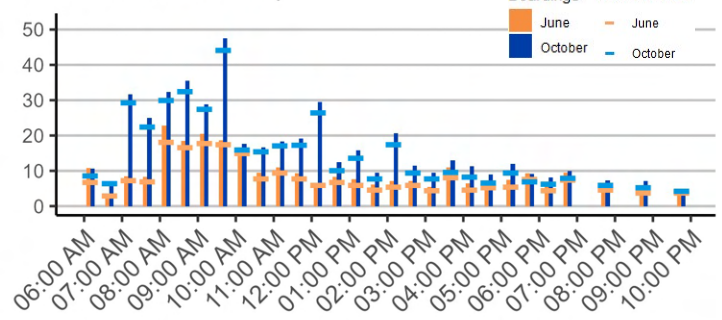
Note: Rankings are by service type

Weekday Ridership by Trip

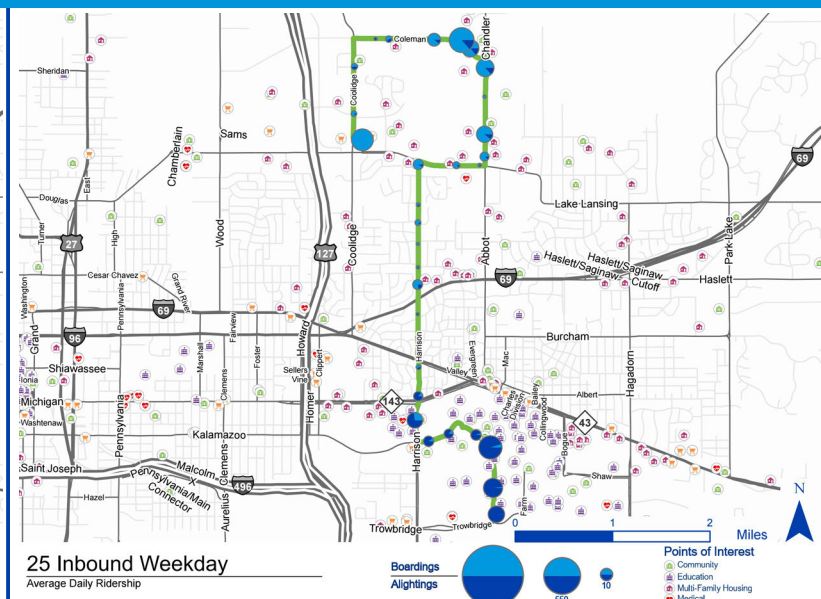
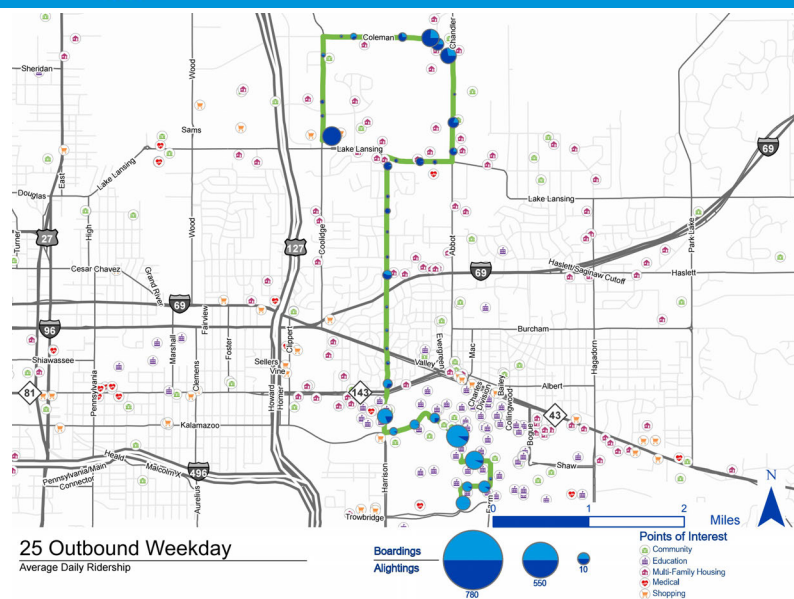
25 Outbound Weekday



25 Inbound Weekday



Weekday Ridership by Stop



ROUTE: 25

NORTH HARRISON

Service Type: MSU CTC

Connector

Saturday Statistics

Operating Characteristics

	June	Oct
Span	08:30 AM - 10:55 PM	08:30 AM - 10:55 PM
Peak Frequency	60 min	60 min
Off-Peak Frequency	60 min	60 min
Evening Frequency	60 min	60 min

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	11.7	1/6	11.7	2/6
Revenue Miles	192	4/6	192	4/6
Average Daily Boardings	214	1/6	297	2/6
Passengers per Hour	18.3	2/6	25.4	2/6
Passengers per Trip	7.6	1/6	10.6	2/6

On-Time Performance

	June	Oct
Early	7%	4%
On-Time	75%	85%
Late	17%	11%

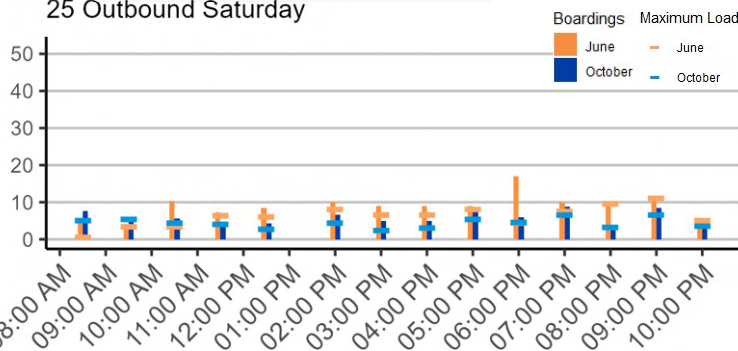
Market Penetration

	June	Rank	Oct	Rank
Population Within 1/2 Mile	27,968			11/32
Jobs Within 1/2 Mile	14,009			22/32
Passengers per Capita	0.8%	2/6	1.1%	2/6
Passengers per Mile	1.1	2/6	1.5	2/6

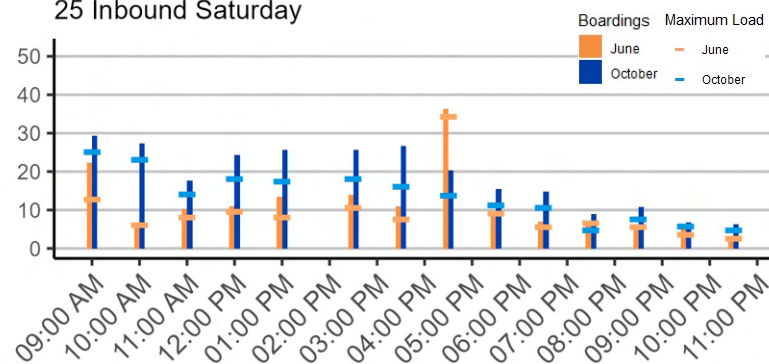
Note: Rankings are by service type

Saturday Ridership by Trip

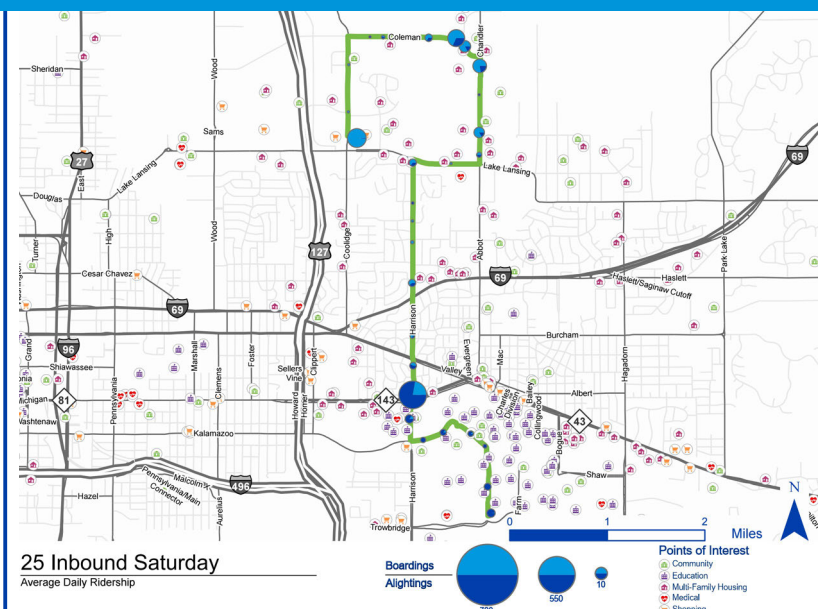
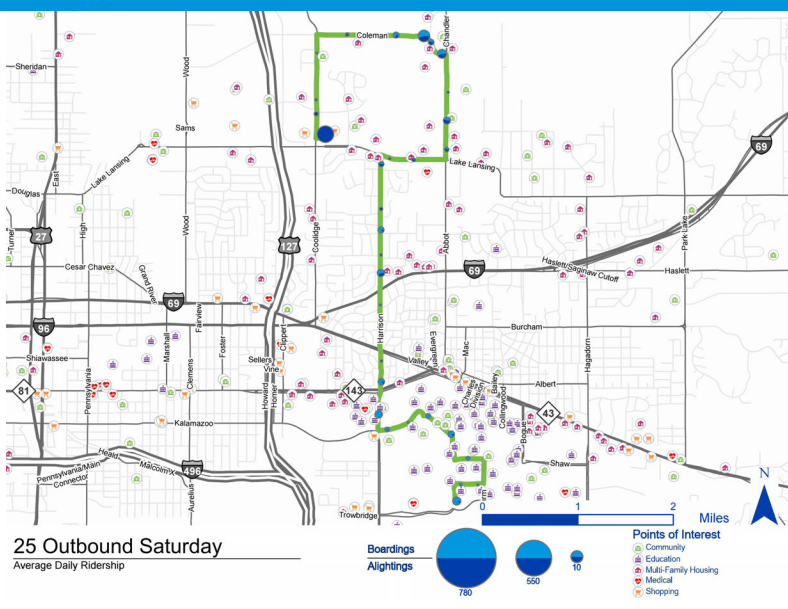
25 Outbound Saturday



25 Inbound Saturday



Saturday Ridership by Stop



ROUTE: 25

NORTH HARRISON

Service Type: MSU CTC

Connector

Sunday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

Span
June 08:30 AM - 06:55 PM
Oct 08:30 AM - 06:55 PM

Peak Frequency
60 min 60 min

Off-Peak Frequency
60 min 60 min

Evening Frequency
- -

Revenue Hours	June	Rank	Oct	Rank
Revenue Miles	137	1/4	137	2/4
Average Daily Boardings	130	1/4	178	2/4
Passengers per Hour	15.6	2/4	21.4	2/4
Passengers per Trip	6.5	1/4	8.9	2/4

Early	June	Oct
On-Time	86%	94%
Late	8%	1%

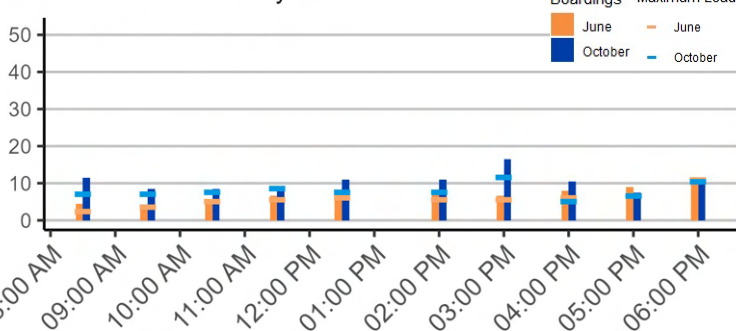
Population Within 1/2 Mile	June	Rank	Oct	Rank
Jobs Within 1/2 Mile	27,968			11/32
Passengers per Capita	14,009			22/32
Passengers per Mile	0.5%	2/4	0.6%	2/4
	0.9	2/4	1.2	2/4

Note: Rankings are by service type

Sunday Ridership by Trip

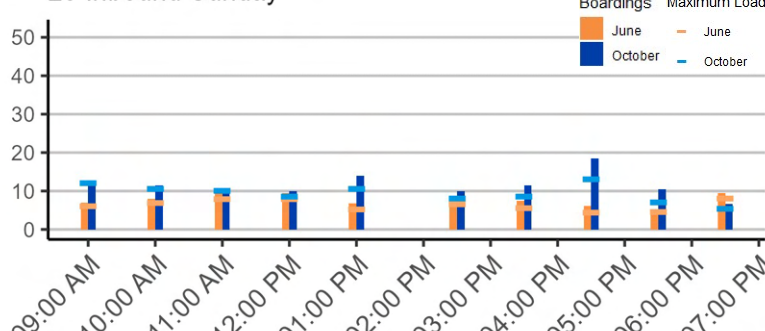
25 Outbound Sunday

Boardings Maximum Load
June October June October

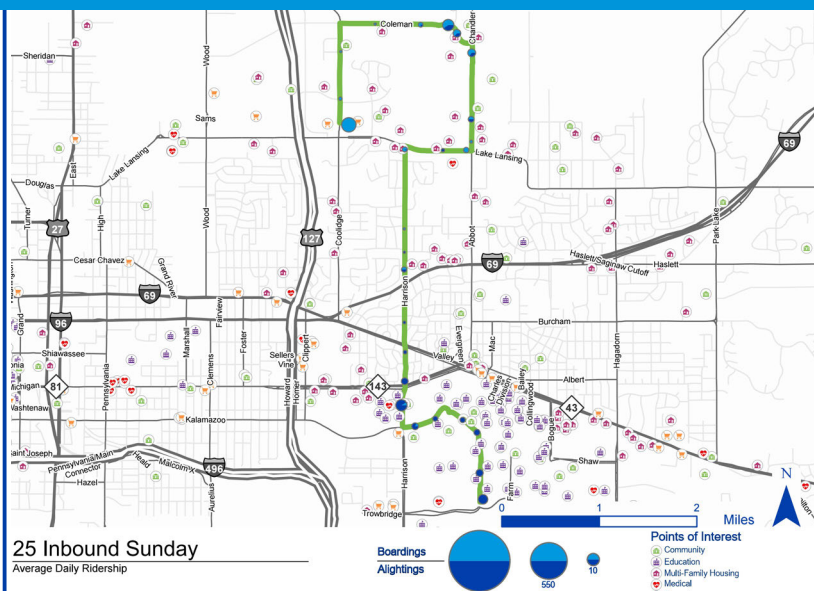
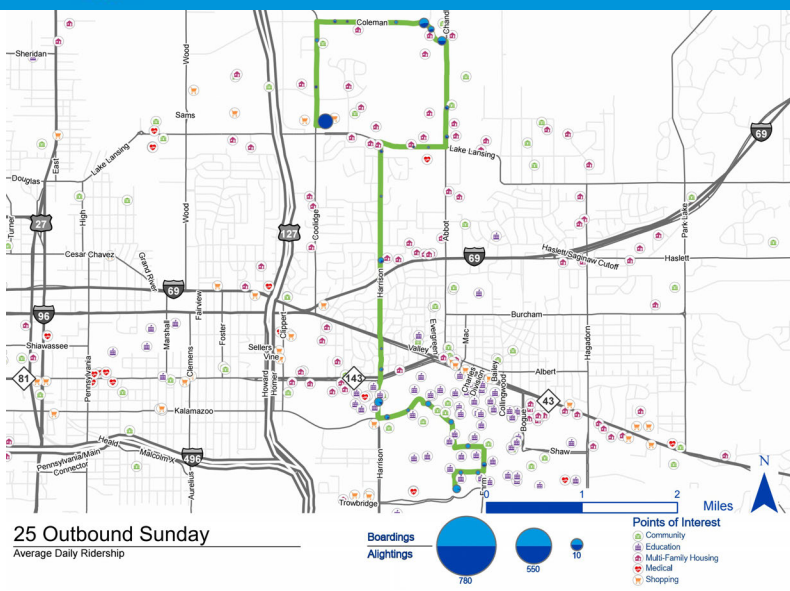


25 Inbound Sunday

Boardings Maximum Load
June October June October



Sunday Ridership by Stop



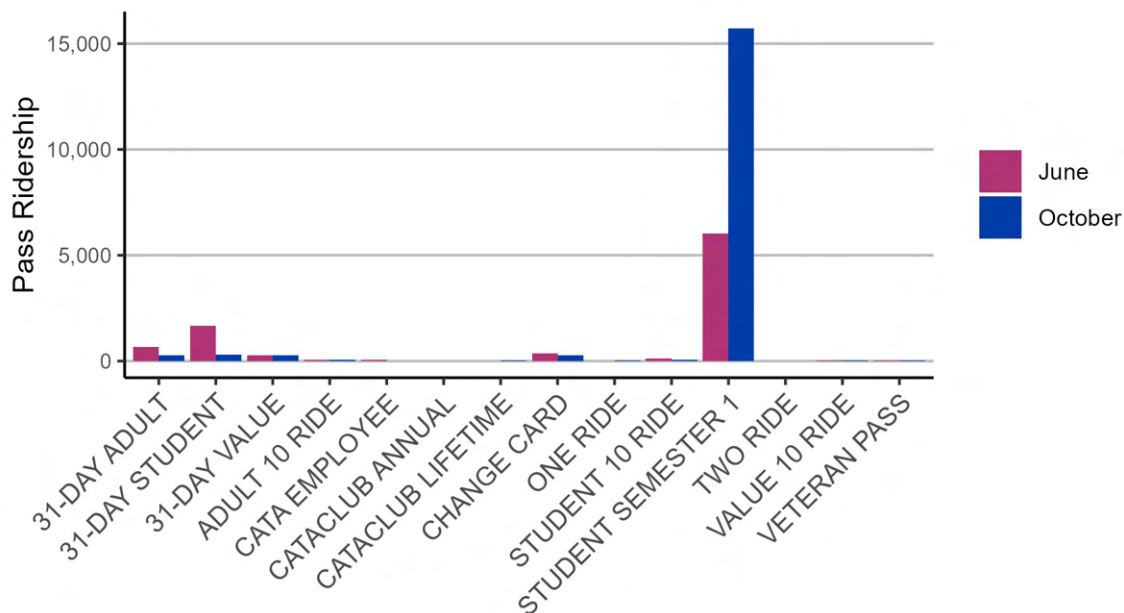
ROUTE: 25

NORTH HARRISON

Service Type: MSU CTC

Connector

Pass Usage



Route Analysis

Strengths

- Daily service.
- Easy-to-remember clockface frequency.
- Extensive span of service.
- Connects MSU campus with several large clusters of off-campus housing.
- Connects off-campus housing with grocery and retail destinations to facilitate car-free living.
- Strong ridership and productivity.
- Helps relieve Route 26 which has very high ridership demand.
- Strong on-time performance.

Weaknesses

- High ridership in the outbound direction at the very end of the day suggests demand for later service.
- Potential overcrowding on some trips that exceed 30 passengers, depending on vehicle type used.
- Inconsistent inbound and outbound alignments through campus could create some confusion.
- Somewhat circuitous alignment with buses traveling north on Coolidge Rd. to Coleman before turning south toward MSU.

Opportunities

- Interline Route 25 with Route 26 to create a bi-directional loop providing frequent on-campus circulation and connections to off-campus housing, retail, and CATA connections.
- From Harrison Rd. serve Meijer before continuing to apartments on Coleman and Abbott to streamline route, and together with Route 26 continue to provide bi-directional connections between apartments and Meijer.
- Match service frequency to Route 26 to help relieve overcrowding on both routes.
- Simplify on-campus routing by operating along the same alignment inbound and outbound - if routing is different, change headsign as part of interline before beginning different route.

ROUTE: 26

ABBOT - CHANDLER

Service Type: MSU CTC

Connector

Description: Connector between MSU and many apartments.

Key Points

of Interest:

MSU, College of Law, Auditorium, East Lansing Library, East Lansing Post Office, East Lansing Aquatic Center, Hannah Community Center, East Lansing City Hall, MSU Union, Olin Health Center.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:54 AM - 07:15 PM	06:54 AM - 11:45 PM
Peak Frequency	45 min	15 min
Off-Peak Frequency	45 min	15 min
Evening Frequency	-	45 min

	June	Rank	Oct	Rank
Revenue Hours	11.0	7/7	35.0	2/7
Revenue Miles	149	7/7	479	3/7
Average Daily Boardings	360	2/7	1,902	1/7
Passengers per Hour	32.7	1/7	54.4	1/7
Passengers per Trip	10.9	1/7	17.9	1/7

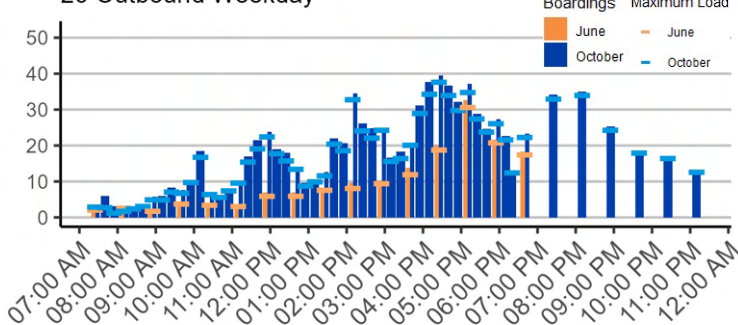
	June	Oct
Early	3%	2%
On-Time	80%	82%
Late	17%	16%

	June	Rank	Oct	Rank
Population Within ½ Mile	19,494		21/32	
Jobs Within ½ Mile	13,010		23/32	
Passengers per Capita	1.8%	1/7	9.8%	1/7
Passengers per Mile	2.1	1/7	3.6	1/7

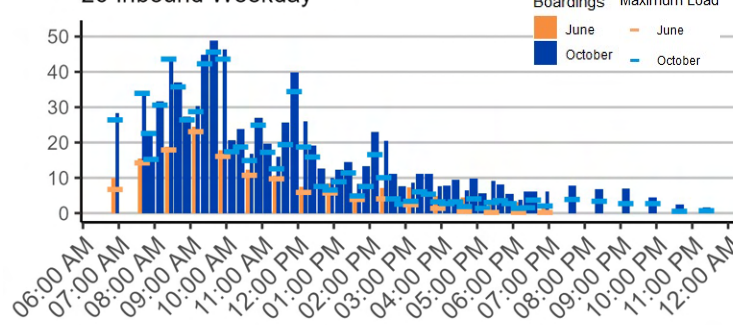
Note: Rankings are by service type

Weekday Ridership by Trip

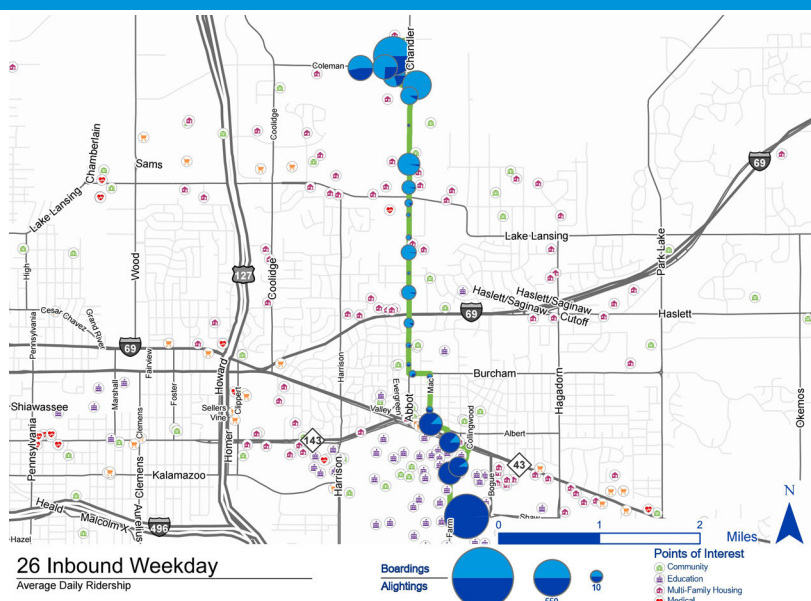
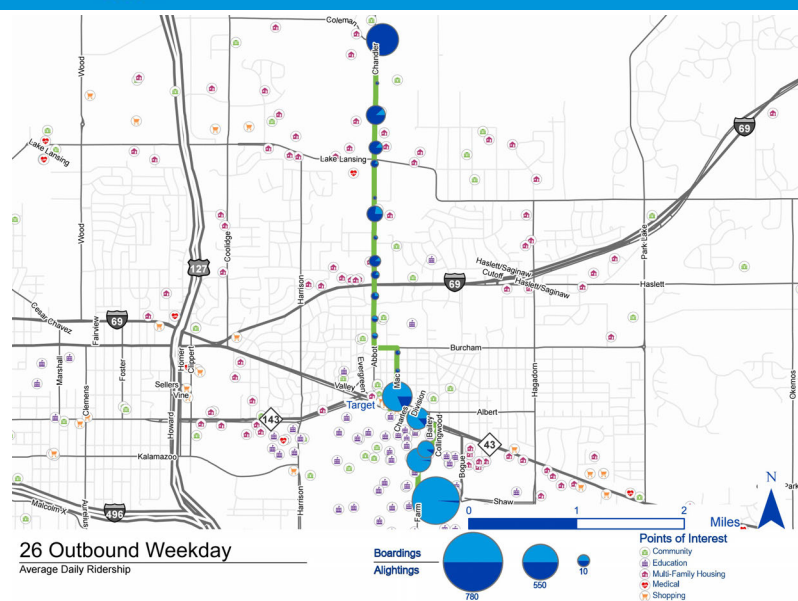
26 Outbound Weekday



26 Inbound Weekday



Weekday Ridership by Stop



ROUTE: 26

ABBOT - CHANDLER

Service Type: MSU CTC

Connector

Saturday Statistics

Operating Characteristics

	June	Oct
Span	09:33 AM - 07:15 PM	09:33 AM - 11:17 PM
Peak Frequency	40 min	40 min
Off-Peak Frequency	40 min	40 min
Evening Frequency	-	40 min

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	8.5	6/6	12.0	1/6
Revenue Miles	131	6/6	185	6/6
Average Daily Boardings	197	2/6	465	1/6
Passengers per Hour	23.0	1/6	38.7	1/6
Passengers per Trip	6.8	2/6	11.3	1/6

On-Time Performance

	June	Oct
Early	4%	2%
On-Time	92%	50%
Late	3%	48%

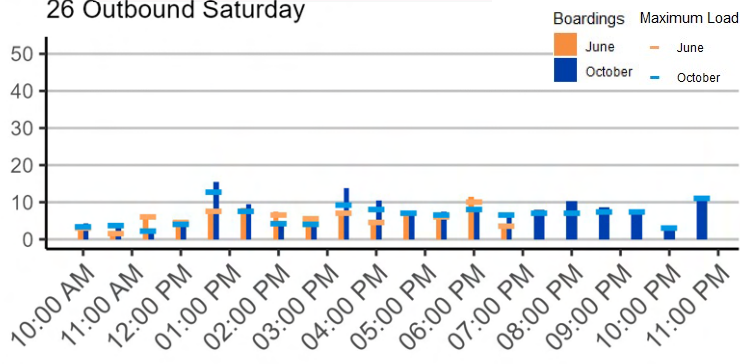
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	19,494			21/32
Jobs Within ½ Mile	13,010			23/32
Passengers per Capita	1.0%	1/6	2.4%	1/6
Passengers per Mile	1.4	1/6	2.2	1/6

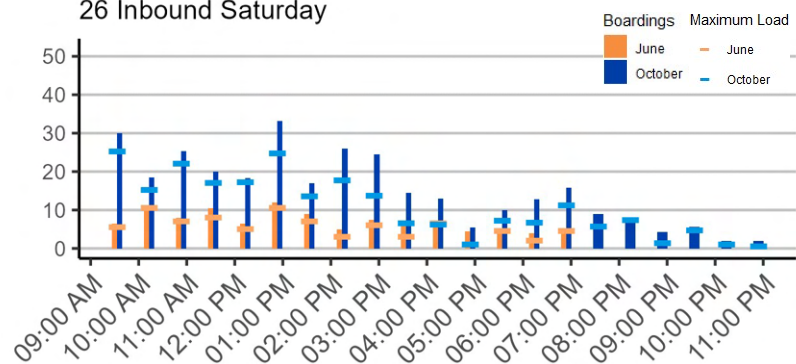
Note: Rankings are by service type

Saturday Ridership by Trip

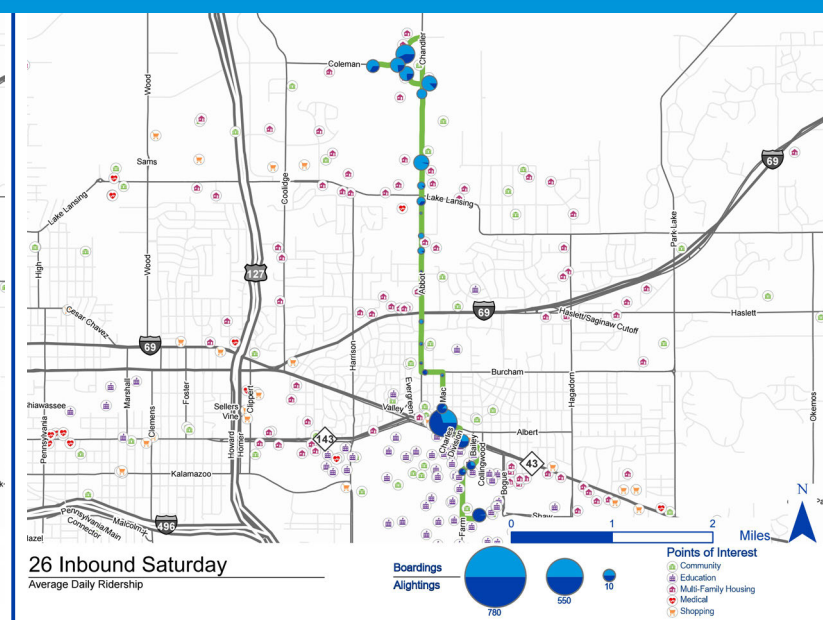
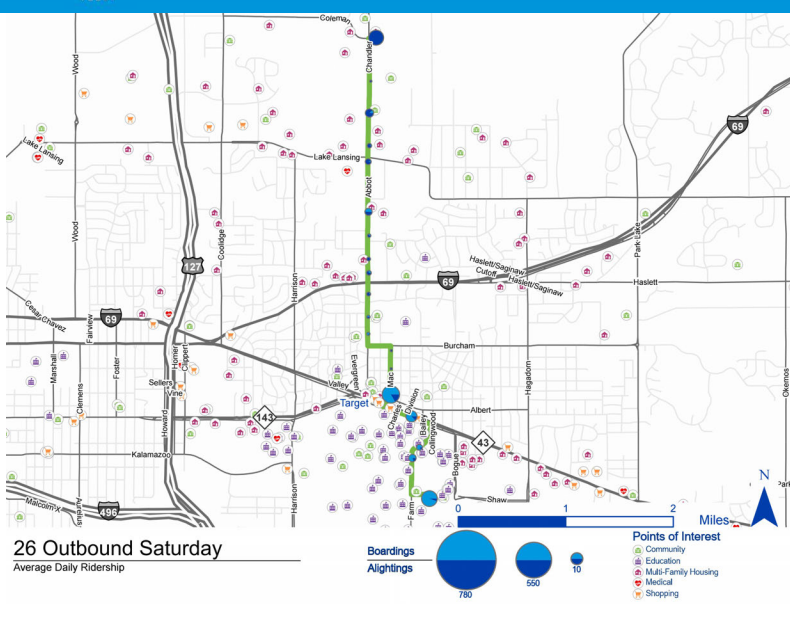
26 Outbound Saturday



26 Inbound Saturday



Saturday Ridership by Stop



ROUTE: 26

ABBOT - CHANDLER

Service Type: MSU CTC

Connector

Sunday Statistics

Operating Characteristics

	June	Oct
Span	09:33 AM - 06:30 PM	09:33 AM - 06:30 PM
Peak Frequency	40 min	40 min
Off-Peak Frequency	40 min	40 min
Evening Frequency	-	-

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	6.8	4/4	6.8	4/4
Revenue Miles	122	4/4	122	4/4
Average Daily Boardings	119	2/4	258	1/4
Passengers per Hour	17.6	1/4	38.1	1/4
Passengers per Trip	4.4	3/4	9.6	1/4

On-Time Performance

	June	Oct
Early	3%	3%
On-Time	94%	84%
Late	3%	13%

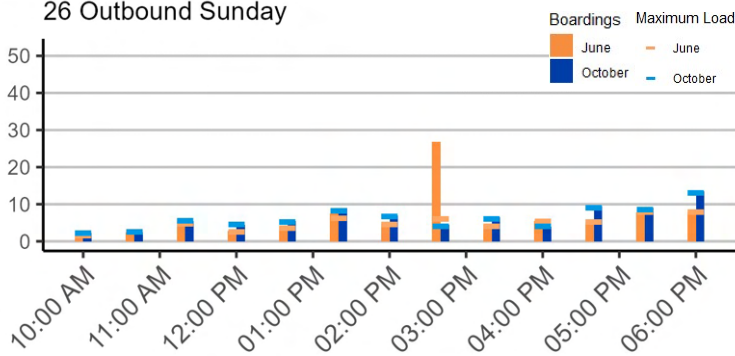
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	19,494			21/32
Jobs Within ½ Mile	13,010			23/32
Passengers per Capita	0.6%	1/4	1.3%	1/4
Passengers per Mile	0.9	1/4	1.8	1/4

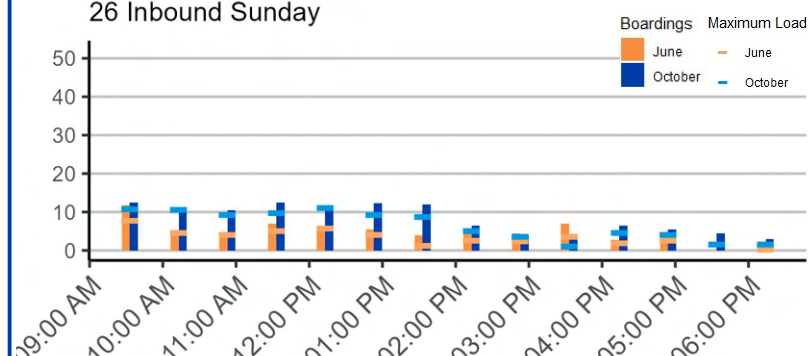
Note: Rankings are by service type

Sunday Ridership by Trip

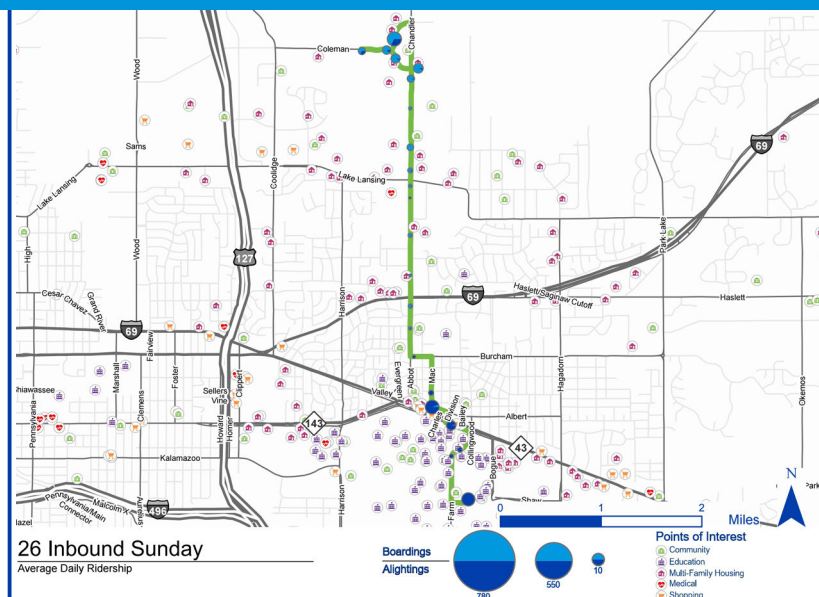
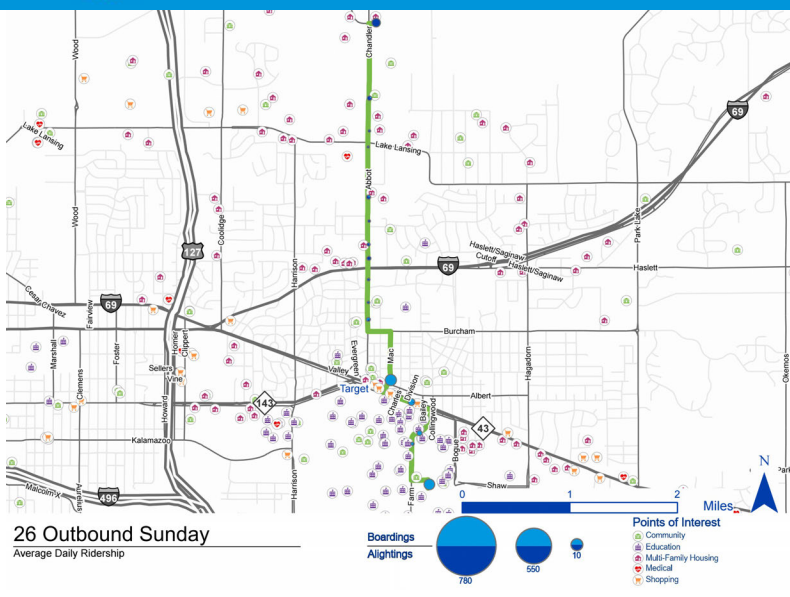
26 Outbound Sunday



26 Inbound Sunday



Sunday Ridership by Stop



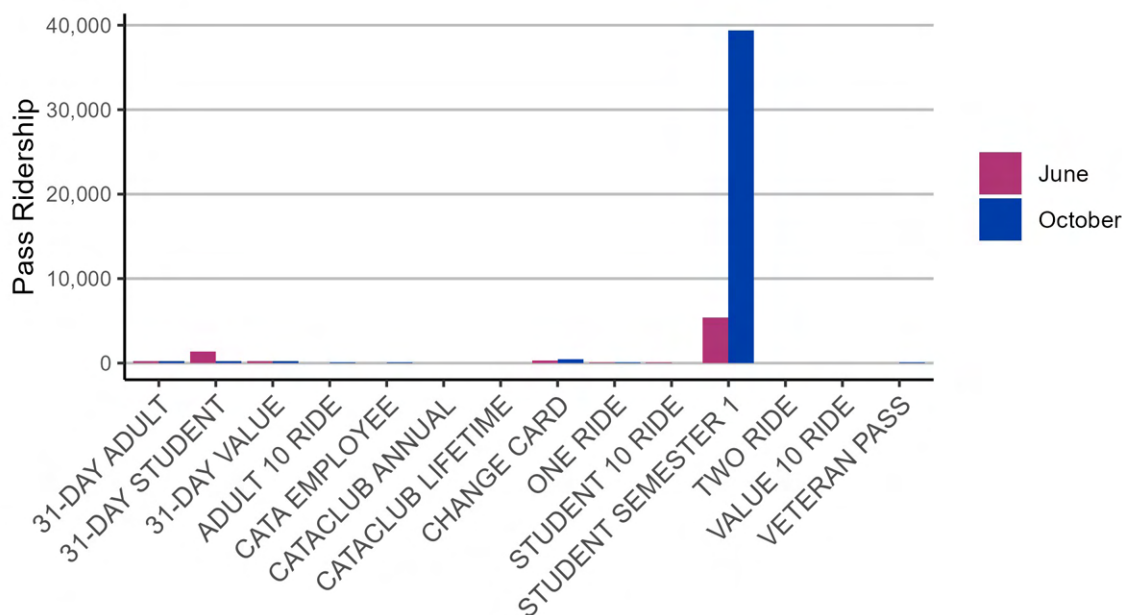
ROUTE: 26

ABBOT - CHANDLER

Service Type: MSU CTC

Connector

Pass Usage



Route Analysis

Strengths

- Daily service.
- Frequent service during peak periods.
- Extensive span of service.
- Highest ridership and productivity among routes serving the MSU-CTC, when school is in session.
- Mostly simple and direct alignment.

Weaknesses

- High ridership in the inbound direction at the very start of the day on weekdays and Saturdays suggests demand for earlier service.
- Potential overcrowding on some trips that exceed 30 passengers, depending on vehicle type used.
- Non-clockface frequencies outside of peak periods, making schedules difficult to remember.
- Poor on-time performance on Saturdays when school is in session.
- Challenging operating environments including tight turns at Grand River and M.A.C. Ave., and inside The Landing Apartments.

Opportunities

- Interline Route 25 with Route 26 to create a bi-directional loop providing frequent on-campus circulation and connections to off-campus housing, retail, and CATA connections.
- Serve The Landing Apartments from Chandler Road to avoid challenging operating environment.
- Consider shifting service to Collingwood, Albert, and Abbott Rd. to simplify the route alignment and operations.
- Simplify schedule by operating with clockface frequencies (every 15, 20, 30 or 60 minutes).

ROUTE: 30

SOUTH & EAST NEIGHBORHOODS

Service Type: MSU Campus
Circulator

Description: Campus circulator between MSU CTC, South Neighborhood, and East Neighborhood.

Key Points of Interest: MSU, South Neighborhood, East Neighborhood, Admin Building, Chemistry, College of Law, Engineering, Eppley Center, Farrall Agricultural Engineering, International Center, Library.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

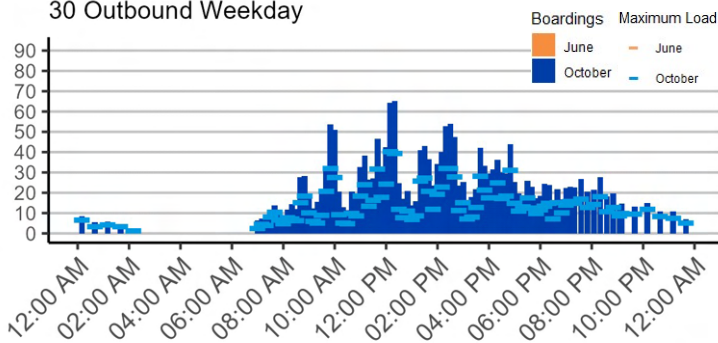
	Operating Characteristics			Daily Statistics			
	June	Oct		June	Rank	Oct	Rank
Span	-	07:00 AM - 12:30 AM	Revenue Hours	-	-	54.9	2/5
Peak Frequency	-	10 min	Revenue Miles	-	-	515	2/5
Off-Peak Frequency	-	10 min	Average Daily Boardings	-	-	5,645	2/5
Evening Frequency	-	15 min	Passengers per Hour	-	-	102.9	2/5
			Passengers per Trip	-	-	30.2	2/5

	On-Time Performance			Market Penetration			
	June	Oct		June	Rank	Oct	Rank
Early	-	8%	Population Within ½ Mile	20,161	20/32		
On-Time	-	92%	Jobs Within ½ Mile	7,681	27/32		
Late	-	0%	Passengers per Capita	-	-	28%	2/5
			Passengers per Mile	-	-	10.1	3/5

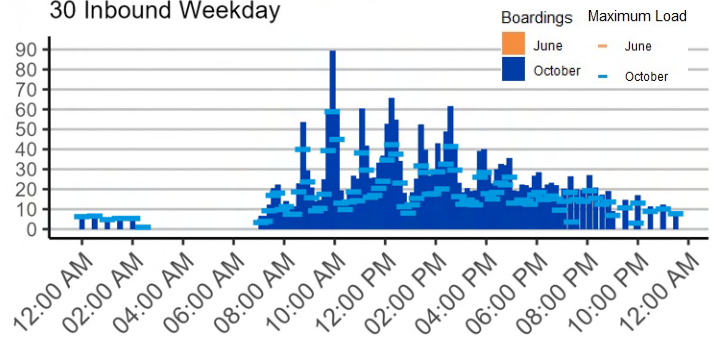
Note: Rankings are by service type

Weekday Ridership by Trip

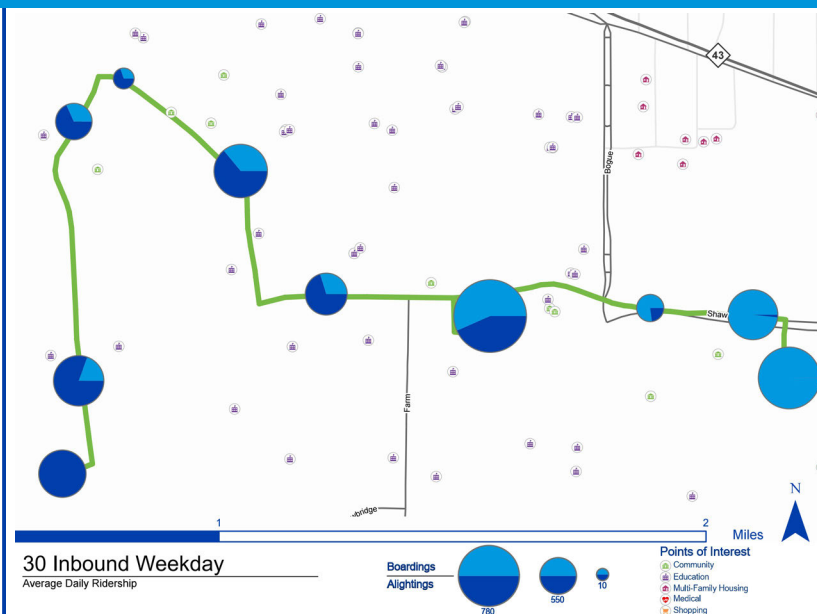
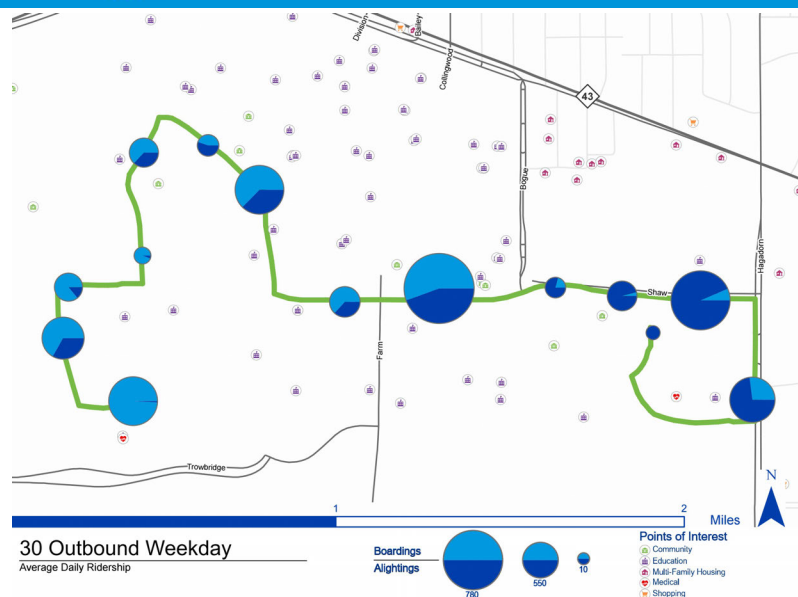
30 Outbound Weekday



30 Inbound Weekday



Weekday Ridership by Stop



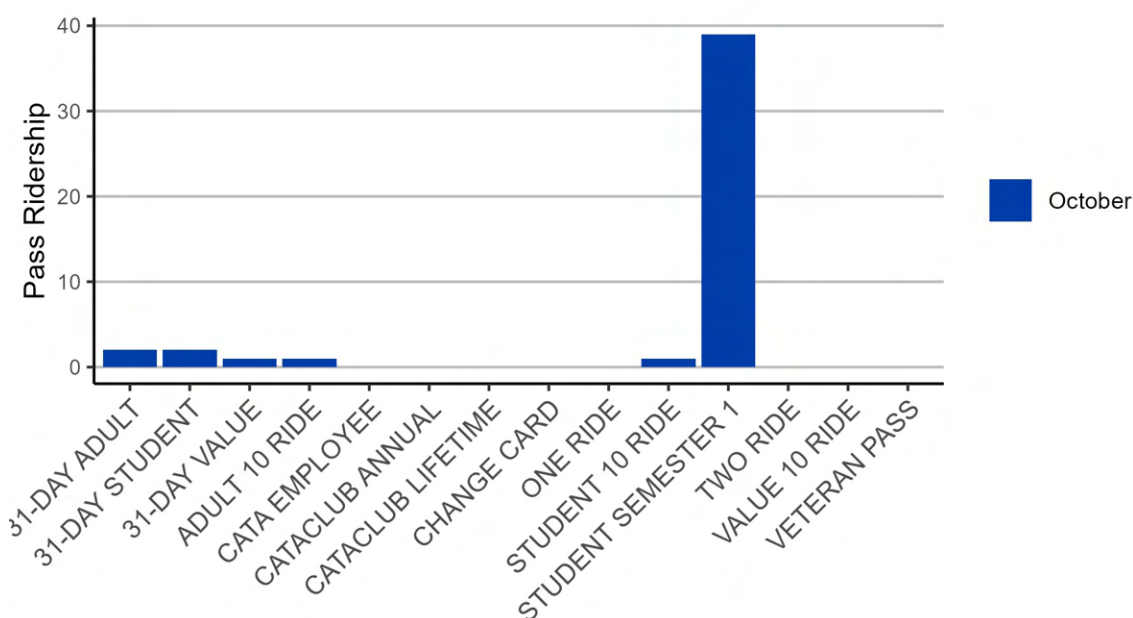
ROUTE: 30

SOUTH & EAST NEIGHBORHOODS

Service Type: MSU Campus

Circulator

Pass Usage



Route Analysis

Strengths

- High-frequency weekday service, when school is in session.
- Provides on-campus circulation between residential and academic buildings.
- Extensive span of service, including service until 2:30 am.
- Very strong ridership and productivity.
- Strong on-time performance.

Weaknesses

- Potential overcrowding on some trips that exceed 30 passengers, depending on vehicle type used.
- Low ridership after midnight.

Opportunities

- Reduce service frequency after midnight.
- Replace late-night fixed-route service with microtransit service due to low ridership.
- Ensure 60-ft buses used during peak periods, if they are not already.

ROUTE: 31

BRODY & EAST NEIGHBORHOODS

Service Type: MSU Campus
Circulator

Description: Campus circulator between MSU CTC, East Neighborhood, Grand River, and Brody Neighborhood.

Key Points of Interest: East Neighborhood, Brody Neighborhood, Admin, Auditorium, Biomedical & Physical Sciences, Chemistry, College of Law, Library, Olin Health Center, Plant & Soil Sciences, Wharton Center.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

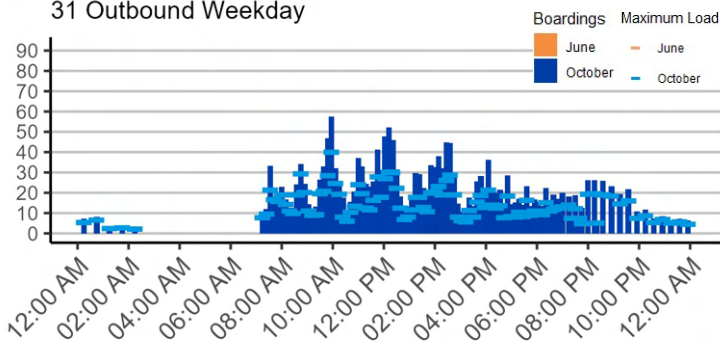
	June	Oct		June	Rank	Oct	Rank
Span	-	07:00 AM - 12:30 AM	Revenue Hours	-	-	73.6	1/5
Peak Frequency	-	9 min	Revenue Miles	-	-	574	1/5
Off-Peak Frequency	-	9 min	Average Daily Boardings	-	-	7,447	1/5
Evening Frequency	-	2 min	Passengers per Hour	-	-	101.1	3/5
			Passengers per Trip	-	-	35.8	1/5

	June	Oct		June	Rank	Oct	Rank
Early	-	4%	Population Within ½ Mile	23,585	17/32		
On-Time	-	93%	Jobs Within ½ Mile	10,903	24/32		
Late	-	3%	Passengers per Capita	-	-	32%	1/5
			Passengers per Mile	-	-	11.6	1/5

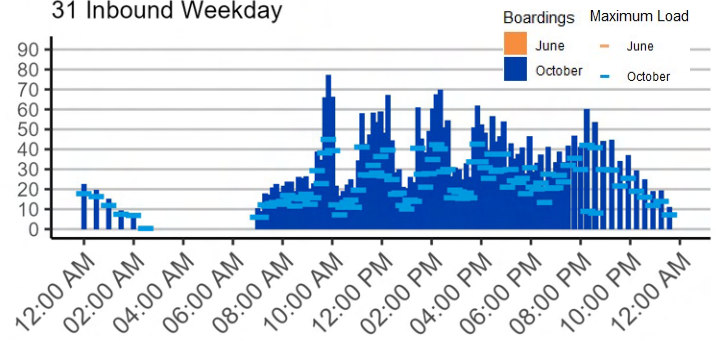
Note: Rankings are by service type

Weekday Ridership by Trip

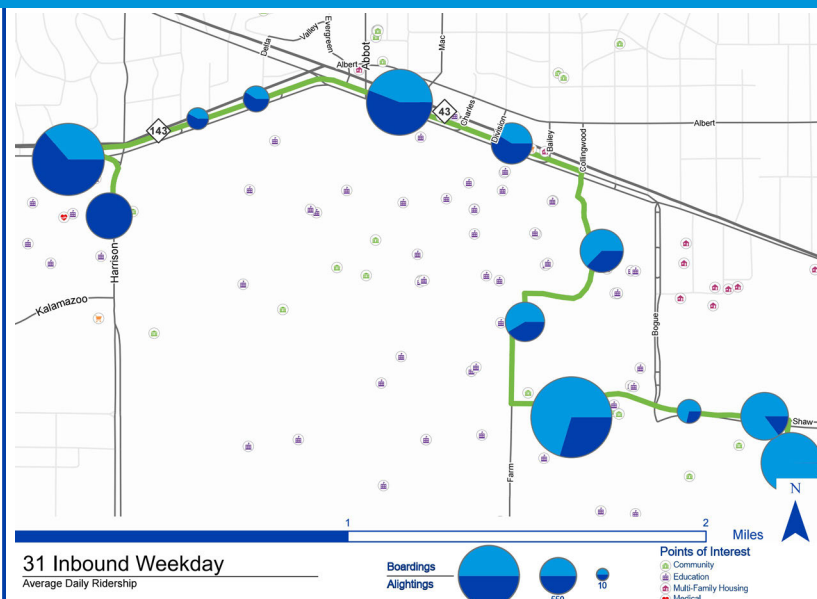
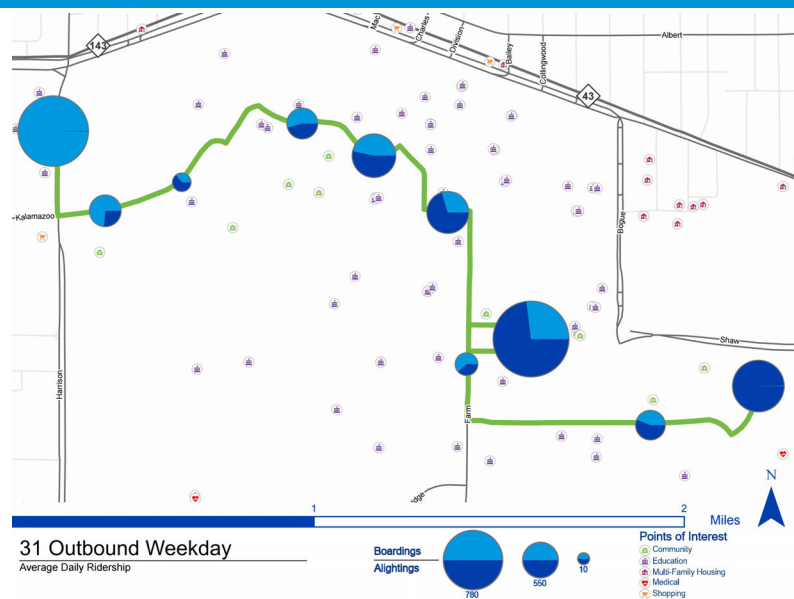
31 Outbound Weekday



31 Inbound Weekday



Weekday Ridership by Stop



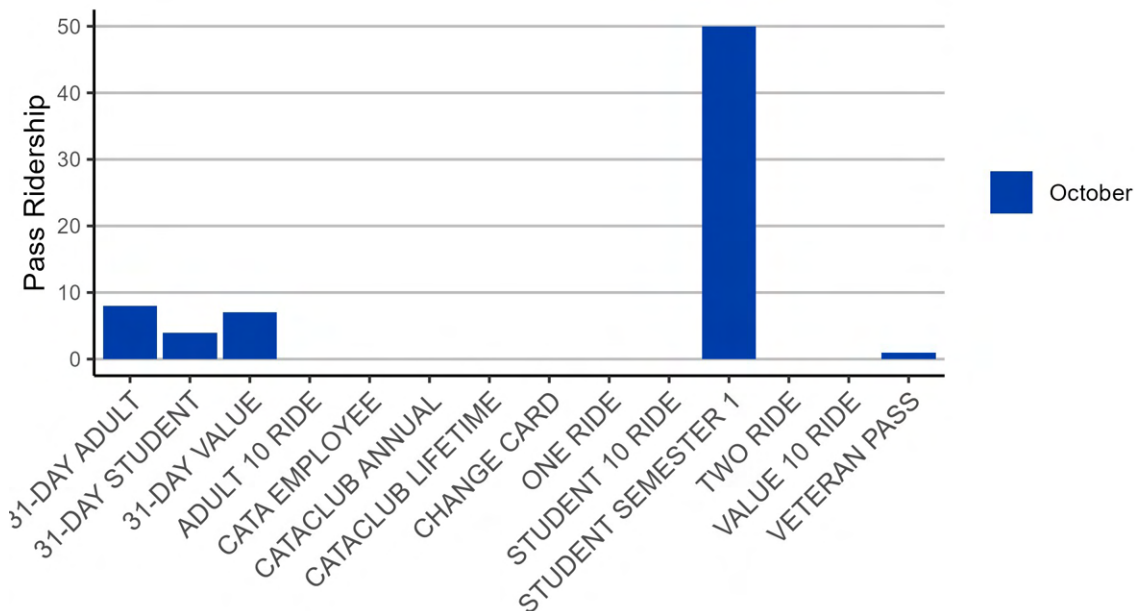
ROUTE: 31

BRODY & EAST NEIGHBORHOODS

Service Type: MSU Campus

Circulator

Pass Usage



Route Analysis

Strengths

- Provides cross-campus link between East Neighborhood, MSU-CTC, North Neighborhood, and Brody Neighborhood.
- Very frequent weekday service.
- Extensive span of service, including late-night service until 2:30 am.
- Highest ridership and productivity among MSU Campus routes.
- Strong on-time performance.

Weaknesses

- Large one-way loop north of the Red Cedar River limits the utility of the route as passengers along the loop can travel from Physics Road to Brody Square but not vice-versa without traveling out-of-direction to the East Neighborhood first.
- Similarly, the southern loop of the route only provides service in one direction.
- Provides similar, but slightly different circulation pattern through the North Neighborhood than Route 33, which may create some confusion for riders and prospective riders.

Opportunities

- Restructure route to maximize bi-directional travel opportunities - for example, from Farm Ln., continue north to E. Circle Dr., complete a loop of W. Circle Dr., and then return to E. Circle Dr. and Farm Ln.
- Restructure route to have three branches emanating from the MSU-CTC - one serving the North Neighborhood, one serving the South Neighborhood, and one serving the East Neighborhood. Together with Route 30, this would give riders from each neighborhood a one-seat ride service to each of the other neighborhoods, and would likely reduce over-crowding on all routes by giving riders more travel options.

ROUTE: 32

COMM LOT- SNYDER HALL - CLIN CENTER

Service Type: MSU Campus
Circulator

Description:

Campus circulator between MSU CTC, Auditorium, Clinical Center, and Commuter Lot.

Key Points of Interest:

Auditorium, Bio Engineering, Botts Nursing Building, College of Law, Engineering, Life Sciences, Natural Resources, Radiology.

Weekday Statistics

Operating Characteristics

	June	Oct
Span	07:00 AM - 07:25 PM	07:00 AM - 07:25 PM
Peak Frequency	30 min	15 min
Off-Peak Frequency	30 min	15 min
Evening Frequency	-	-

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	10.0	1/1	19.8	4/5
Revenue Miles	146	1/1	288	4/5
Average Daily Boardings	81	1/1	1,479	4/5
Passengers per Hour	8.1	1/1	74.8	4/5
Passengers per Trip	1.6	1/1	14.9	4/5

On-Time Performance

	June	Oct
Early	6%	14%
On-Time	92%	83%
Late	2%	3%

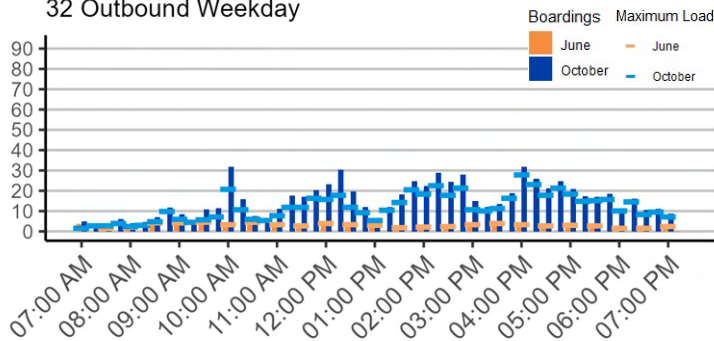
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	9,990			30/32
Jobs Within ½ Mile	5,919			30/32
Passengers per Capita	0.8%	1/1	14.8%	4/5
Passengers per Mile	0.5	1/1	4.8	4/5

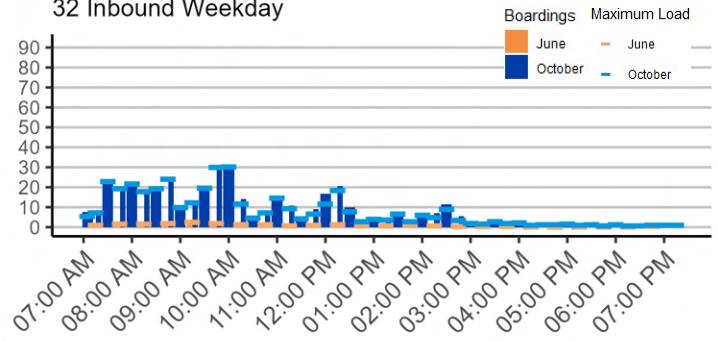
Note: Rankings are by service type

Weekday Ridership by Trip

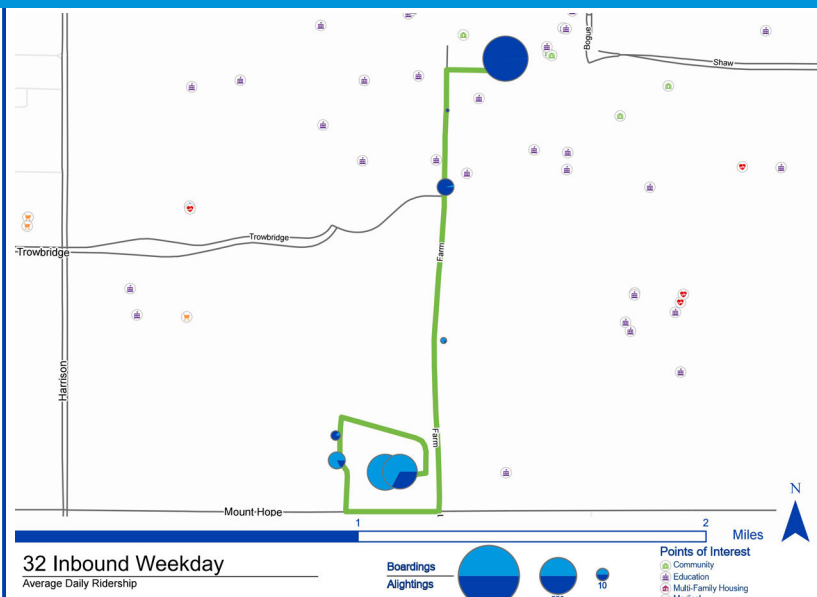
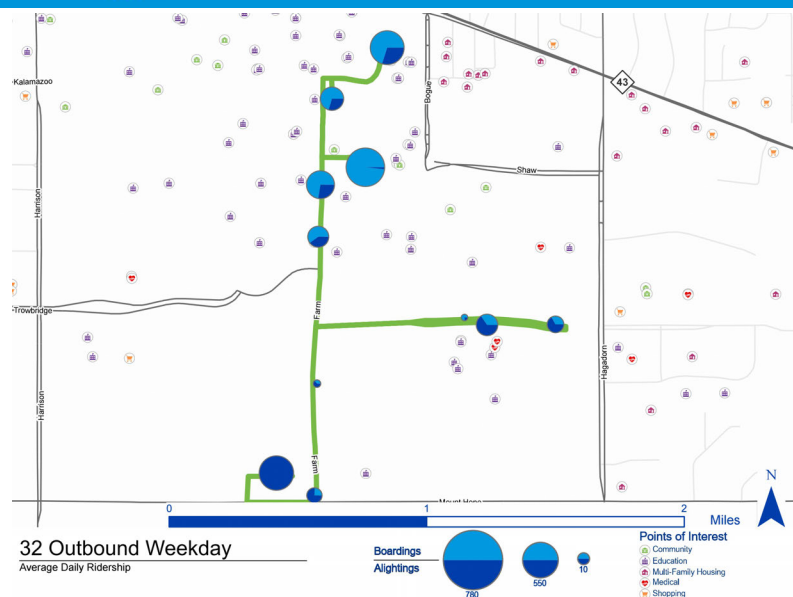
32 Outbound Weekday



32 Inbound Weekday



Weekday Ridership by Stop



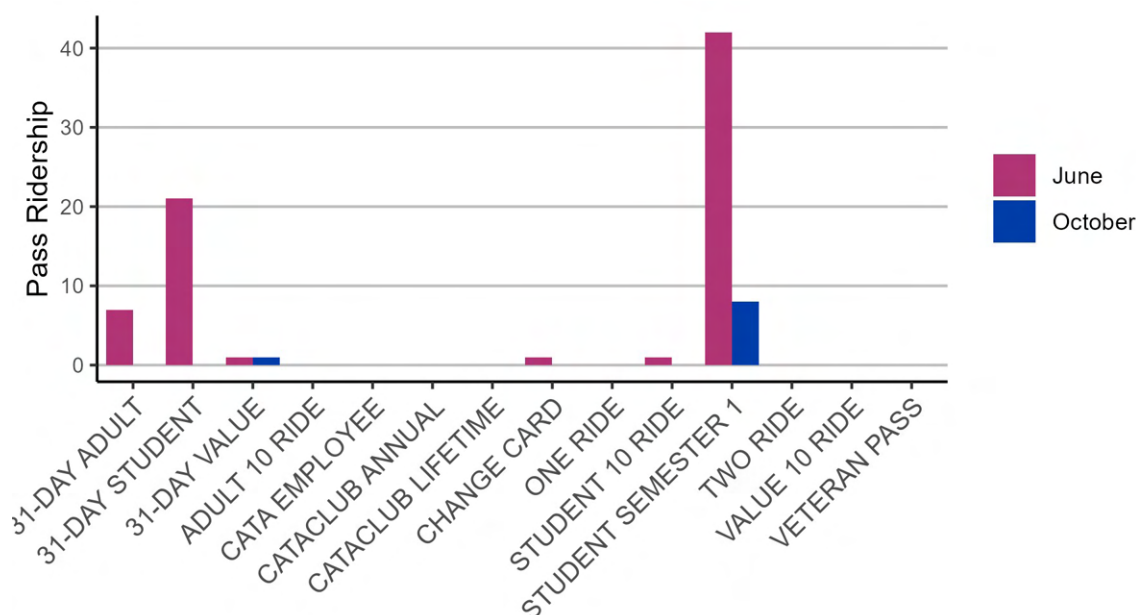
ROUTE: 32

COMM LOT- SNYDER HALL - CLIN CENTER

Service Type: MSU Campus

Circulator

Pass Usage



Route Analysis

Strengths

- Links commuter parking lots and the MSU Clinical Center with the MSU-CTC and North Neighborhood.
- Frequent service, especially when school is in session.
- Provides year-round service.
- Strong on-time performance.

Weaknesses

- MSU Clinical Center served in southbound direction only, meaning northbound passengers to the MSU-CTC or North Neighborhood must first travel south to Lot 89 before continuing north.

Opportunities

- Restructure route as a bi-directional campus-wide circulator - from Lot 89, the route would serve the MSU Clinical Center, East Neighborhood, MSU-CTC, South Neighborhood, Brody Neighborhood, and North Neighborhood, before returning to Lot 89 along the same alignment but in reverse.
- Interline the campus-wide circulator described above with an express route operating between Grand River Ave. and Lot 89 via Farm Ln.

ROUTE: 33

UNION - S.NEIGHBORHOOD

Service Type: MSU Campus

Circulator

Description: Campus circulator between MSU CTC, South Neighborhood, and MSU Union.

Key Points of Interest: South Neighborhood, Admin Building, Auditorium, Chemistry, College of Law, Engineering, Library, Olin Health Center, Urban Planning.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

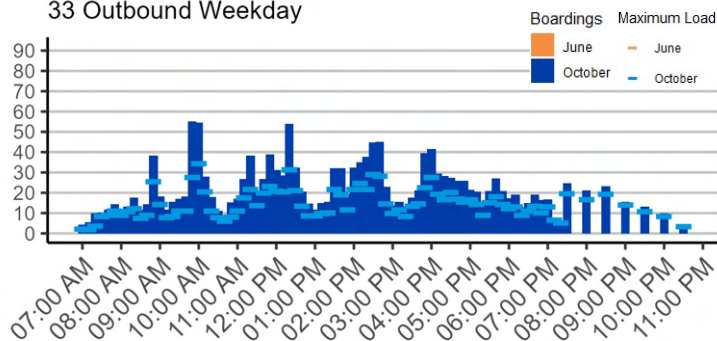
	June	Oct		June	Rank	Oct	Rank
Span	-	07:00 AM - 10:36 PM	Revenue Hours	-	-	37.8	3/5
Peak Frequency	-	10 min	Revenue Miles	-	-	359	3/5
Off-Peak Frequency	-	10 min	Average Daily Boardings	-	-	3,902	3/5
Evening Frequency	-	30 min	Passengers per Hour	-	-	103.3	1/5
			Passengers per Trip	-	-	24.2	3/5

	June	Oct		June	Rank	Oct	Rank
Early	-	6%	Population Within ½ Mile	-	-	17,884	23/32
On-Time	-	93%	Jobs Within ½ Mile	-	-	9,592	26/32
Late	-	1%	Passengers per Capita	-	-	22%	3/5
			Passengers per Mile	-	-	10.4	2/5

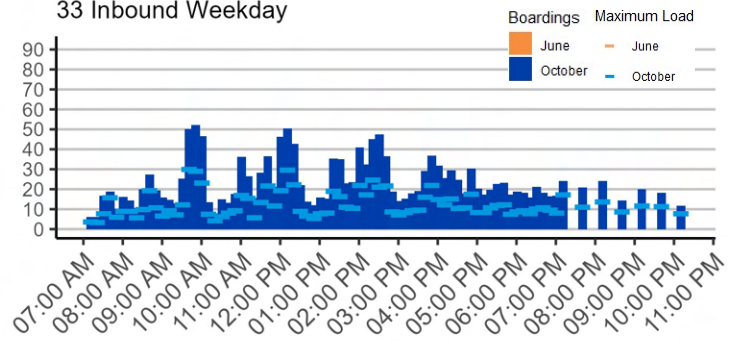
Note: Rankings are by service type

Weekday Ridership by Trip

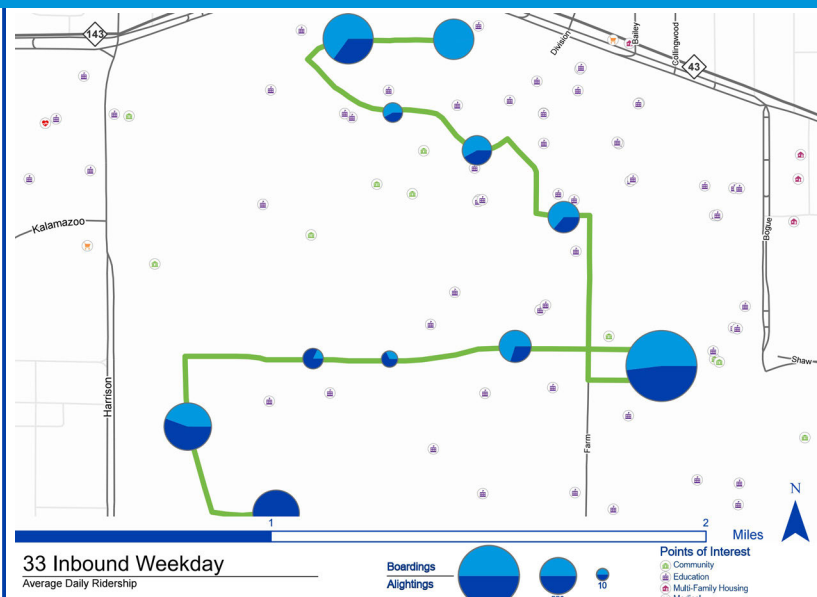
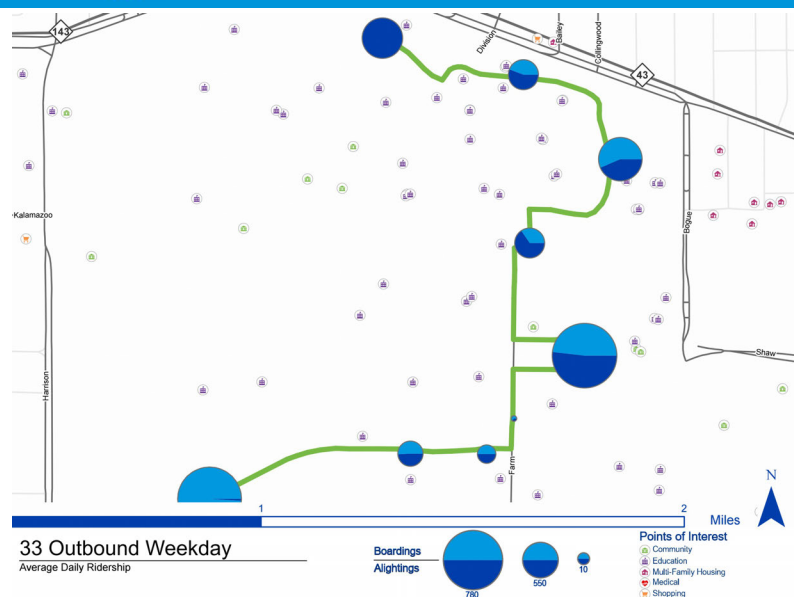
33 Outbound Weekday



33 Inbound Weekday



Weekday Ridership by Stop

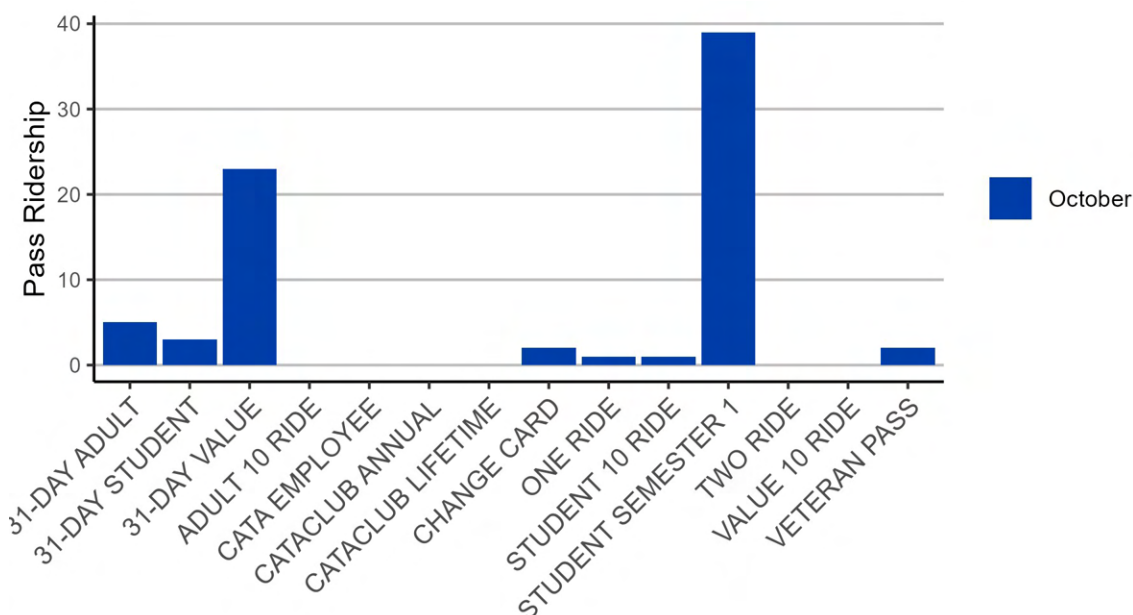


ROUTE: 33

UNION - S.NEIGHBORHOOD

Service Type: MSU Campus

Pass Usage



Route Analysis

Strengths

- Provides cross-campus link between South Neighborhood, MSU-CTC, and North Neighborhood.
- Frequent weekday service for much of the service day.
- Extensive span of service.
- Highest productivity among MSU Campus routes in terms of passengers per hour.
- Strong on-time performance.

Weaknesses

- One-way loop north of the Red Cedar River limits the utility of the route as passengers along the loop can travel from Physics Road to W. Circle Dr. but not vice-versa without traveling out-of-direction to the South Neighborhood first.
- Similarly, the southern loop of the route only provides service in one direction.
- Provides similar, but slightly different circulation pattern through the North Neighborhood than Route 31, which may create some confusion for riders and prospective riders.

Opportunities

- Restructure route to maximize bi-directional travel opportunities - for example, from Farm Ln., continue north to E. Circle Dr., complete a loop of W. Circle Dr., and then return to E. Circle Dr. and Farm Ln.
- Restructure route to have three branches emanating from the MSU-CTC - one serving the North Neighborhood, one serving the South Neighborhood, and one serving the East Neighborhood. Together with Route 30, this would give riders from each neighborhood a one-seat ride service to each of the other neighborhoods, and would likely reduce over-crowding on all routes by giving riders more travel options.

ROUTE: 34

BRODY NEIGHBORHOOD - UNIV. VILLAGE

Service Type: MSU Campus

Circulator

Description:

MSU Weekend Circulator through North neighborhood & Brody Neighborhood.

Key Points of Interest:

Admin Building, Auditorium, Breslin Center, Chemistry, College of Law, Demonstration Hall, Library, Library, MSU Union, Olin Health Center, 1855 Place.

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

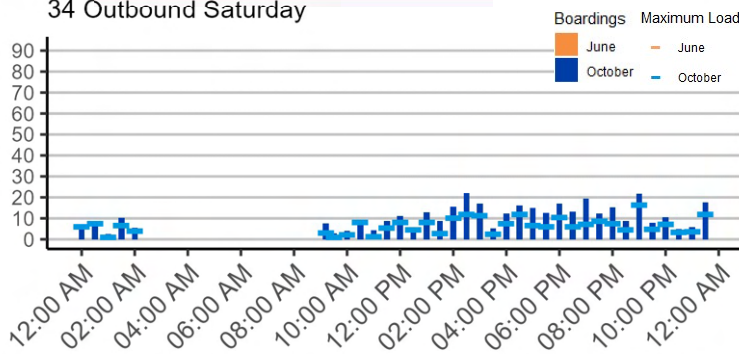
	June	Oct		June	Rank	Oct	Rank
Span	-	09:10 AM - 02:20 AM	Revenue Hours	-	-	14.3	1/3
Peak Frequency	-	30 min	Revenue Miles	-	-	156	2/3
Off-Peak Frequency	-	30 min	Average Daily Boardings	-	-	452	1/3
Evening Frequency	-	30 min	Passengers per Hour	-	-	31.6	2/3
			Passengers per Trip	-	-	12.9	1/3

	June	Oct		June	Rank	Oct	Rank
Early	-	0%	Population Within 1/2 Mile	-	-	20,279	19/32
On-Time	-	84%	Jobs Within 1/2 Mile	-	-	10,630	25/32
Late	-	16%	Passengers per Capita	-	-	2.2%	2/3
			Passengers per Mile	-	-	2.7	2/3

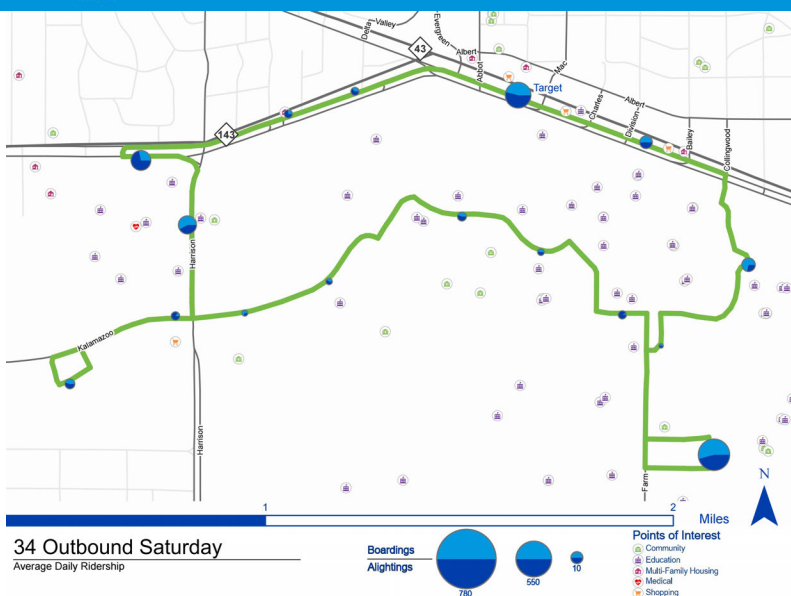
Note: Rankings are by service type

Saturday Ridership by Trip

34 Outbound Saturday



Saturday Ridership by Stop



ROUTE: 34

BRODY NEIGHBORHOOD - UNIV. VILLAGE

Service Type: MSU Campus

Circulator

Sunday Statistics

Operating Characteristics

	June	Oct
Span	-	09:12 AM - 12:30 AM
Peak Frequency	-	30 min
Off-Peak Frequency	-	30 min
Evening Frequency	-	30 min

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	-	-	14.3	1/3
Revenue Miles	-	-	156	2/3
Average Daily Boardings	-	-	743	1/3
Passengers per Hour	-	-	52.0	2/3
Passengers per Trip	-	-	21.2	1/3

On-Time Performance

	June	Oct
Early	-	8%
On-Time	-	82%
Late	-	9%

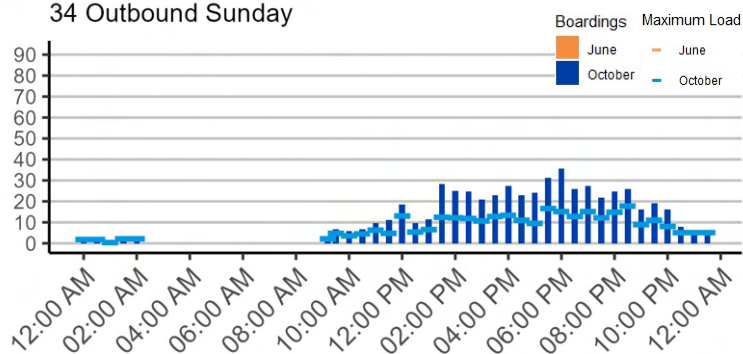
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	-	-	20,279	19/32
Jobs Within ½ Mile	-	-	10,630	25/32
Passengers per Capita	-	-	3.7%	2/3
Passengers per Mile	-	-	4.4	2/3

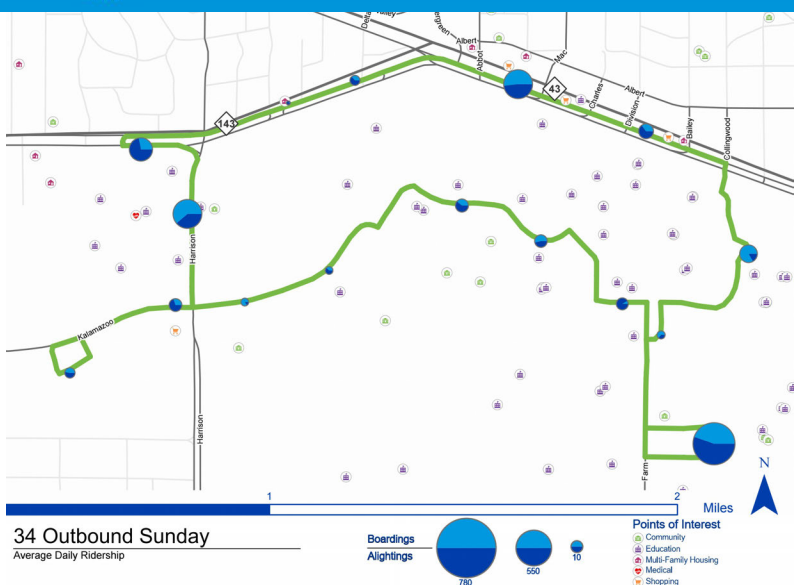
Note: Rankings are by service type

Sunday Ridership by Trip

34 Outbound Sunday



Sunday Ridership by Stop



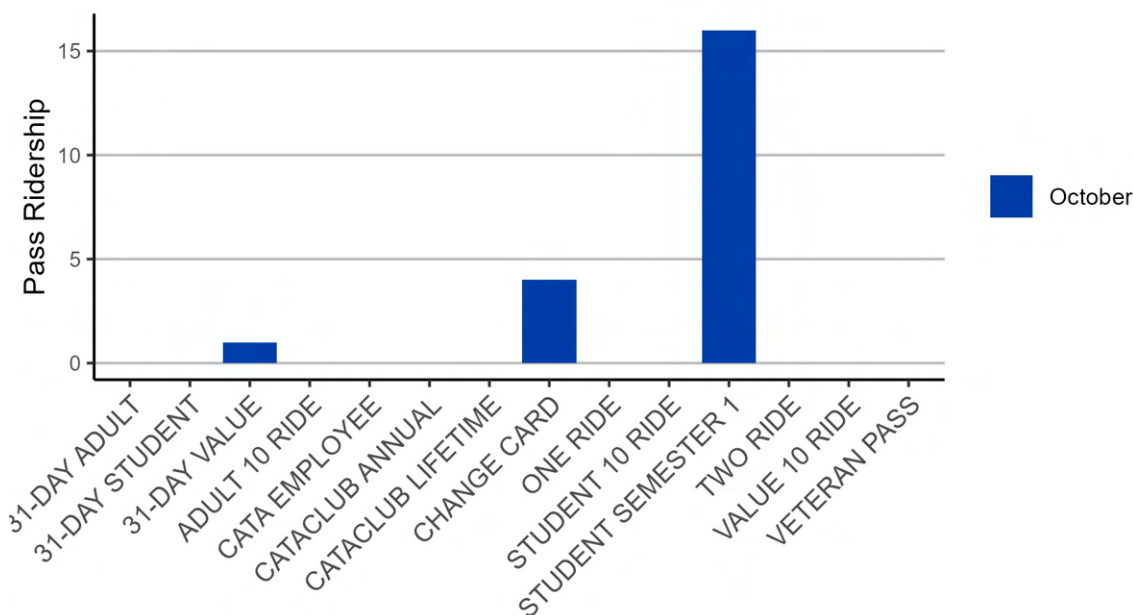
ROUTE: 34

BRODY NEIGHBORHOOD - UNIV. VILLAGE

Service Type: MSU Campus

Circulator

Pass Usage



Route Analysis

Strengths

- Together with routes 35 and 36, helps provide comprehensive service coverage at MSU on weekends.
- Offers late-night weekend service until 2:20 am.
- Relatively high ridership and productivity on Sundays.
- Easy-to-remember clockface frequency.

Weaknesses

- Large one-way loop north of the Red Cedar River limits the utility of the route as passengers along the loop can travel from Physics Road to Brody Square but not vice-versa without traveling out-of-direction to the MSU-CTC first.
- Similar, but not identical service coverage to Route 31, which may create some confusion for riders and prospective riders.

Opportunities

- Simplify the route by operating the proposed restructured weekday Route 31 on weekends but with a reduced frequency.
- Replace late-night fixed-route service with microtransit service due to low ridership.

ROUTE: 35

SOUTH NEIGHBORHOOD

Service Type: MSU Campus
Circulator

Description: MSU Weekend Circulator through South Neighborhood.

Key Points of Interest: Chemistry, College of Law, Demonstration Hall, Engineering, International Center, Spartan Stadium, Student Recreation & Wellness Center.

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	-	09:05 AM - 02:10 AM
Peak Frequency	-	30 min
Off-Peak Frequency	-	30 min
Evening Frequency	-	30 min

	June	Rank	Oct	Rank
Revenue Hours	-	-	14.1	2/3
Revenue Miles	-	-	187	1/3
Average Daily Boardings	-	-	136	3/3
Passengers per Hour	-	-	9.6	3/3
Passengers per Trip	-	-	3.9	3/3

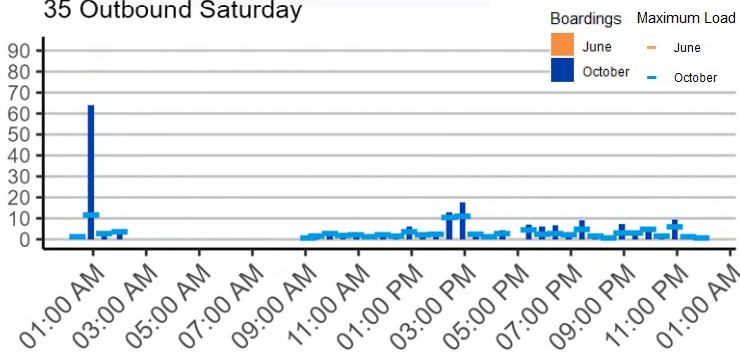
	June	Oct
Early	-	n/a
On-Time	-	n/a
Late	-	n/a

	June	Rank	Oct	Rank
Population Within 1/2 Mile	-	14,777	-	28/32
Jobs Within 1/2 Mile	-	6,594	-	28/32
Passengers per Capita	-	-	0.9%	3/3
Passengers per Mile	-	-	0.7	3/3

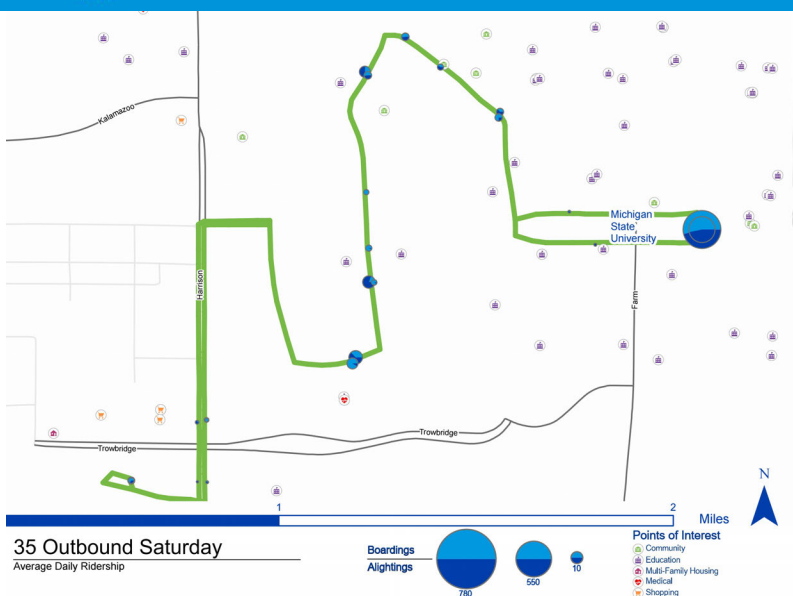
Note: Rankings are by service type

Saturday Ridership by Trip

35 Outbound Saturday



Saturday Ridership by Stop



ROUTE: 35

SOUTH NEIGHBORHOOD

Service Type: MSU Campus

Circulator

Sunday Statistics

Operating Characteristics

	June	Oct
Span	-	09:07 AM - 12:30 AM
Peak Frequency	-	30 min
Off-Peak Frequency	-	30 min
Evening Frequency	-	30 min

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	-	-	14.1	2/3
Revenue Miles	-	-	187	1/3
Average Daily Boardings	-	-	222	3/3
Passengers per Hour	-	-	15.7	3/3
Passengers per Trip	-	-	6.3	3/3

On-Time Performance

	June	Oct
Early	-	0%
On-Time	-	0%
Late	-	0%

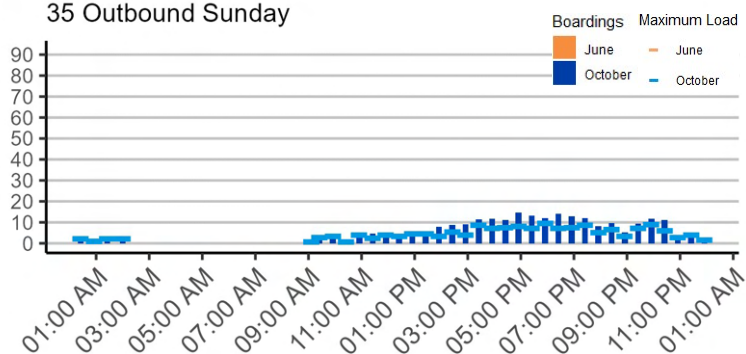
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	-	14,777	-	28/32
Jobs Within ½ Mile	-	6,594	-	28/32
Passengers per Capita	-	-	1.5%	3/3
Passengers per Mile	-	-	1.1	3/3

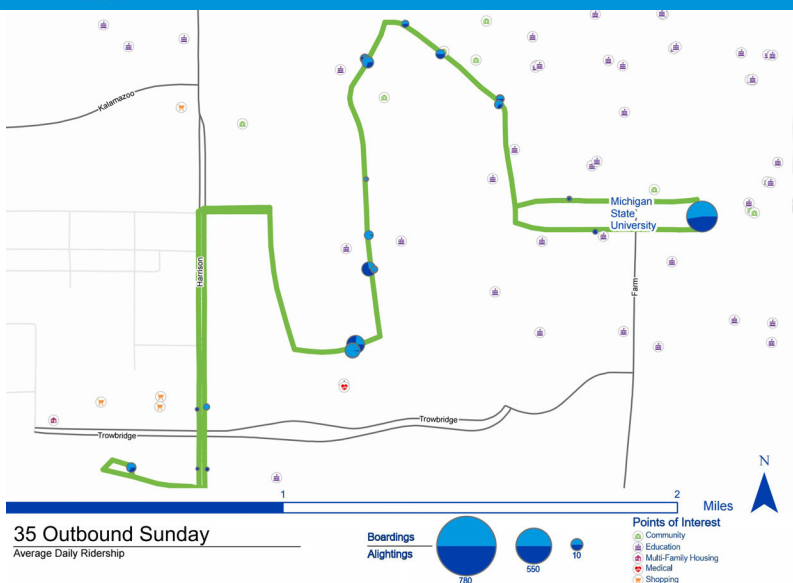
Note: Rankings are by service type

Sunday Ridership by Trip

35 Outbound Sunday



Sunday Ridership by Stop



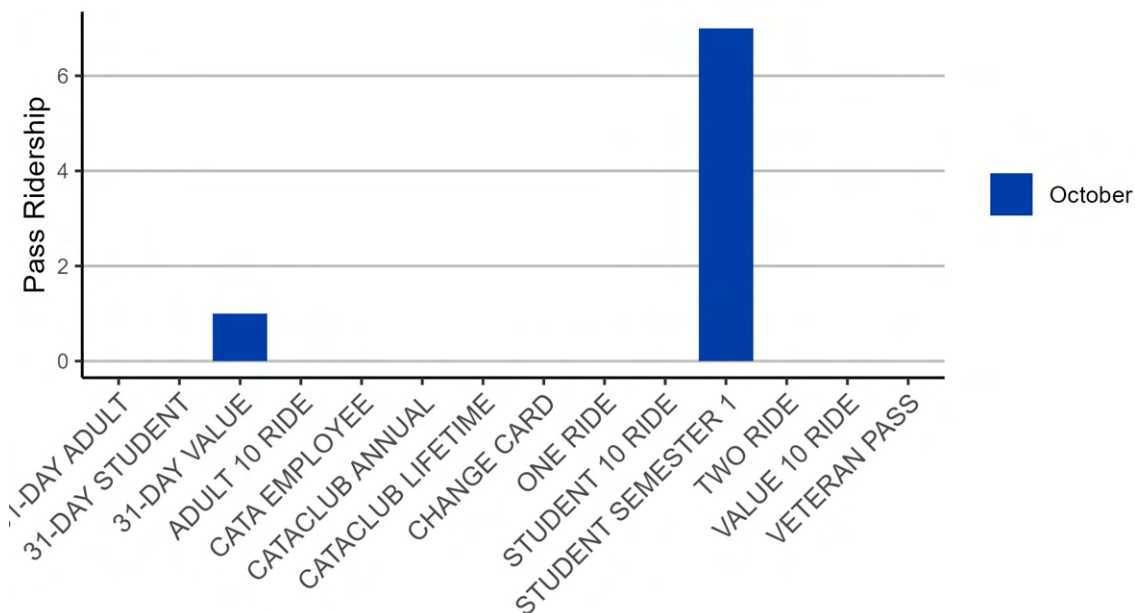
ROUTE: 35

SOUTH NEIGHBORHOOD

Service Type: MSU Campus

Circulator

Pass Usage



Route Analysis

Strengths

- Together with routes 34 and 36, helps provide comprehensive service coverage at MSU on weekends.
- Facilitates inter-city connections at the Multimodal Gateway.
- Offers late-night weekend service until 2:10 am.
- Easy-to-remember clockface frequency.
- Mostly bi-directional service.

Weaknesses

- Lowest ridership and productivity among MSU weekend routes.
- Low ridership at the Multimodal Gateway.
- Somewhat redundant with Route 20.

Opportunities

- Eliminate route to avoid redundancy with Route 20.
- Incorporate MSU stops into proposed restructured Route 31.
- Replace late-night fixed-route service with microtransit service due to low ridership.

ROUTE: 36

EAST NEIGHBORHOOD

Service Type: MSU Campus
Circulator

Description: MSU Weekend Circulator to East neighborhood.

Key Points of Interest: Biomedical & Physical Sciences, College of Law, Eppley Center, Farrall Agricultural Engineering, Molecular Plant Sciences, Veterinary Medical Center, Wharton Center.

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

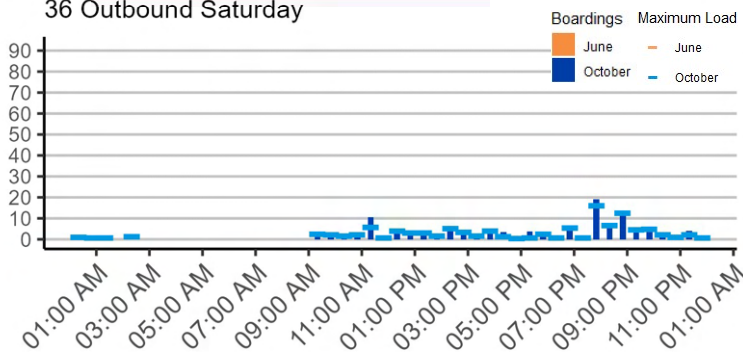
	June	Oct		June	Rank	Oct	Rank
Span	-	09:20 AM - 02:30 AM	Revenue Hours	-	-	5.8	3/3
Peak Frequency	-	30 min	Revenue Miles	-	-	62	3/3
Off-Peak Frequency	-	30 min	Average Daily Boardings	-	-	315	2/3
Evening Frequency	-	30 min	Passengers per Hour	-	-	54.0	1/3
			Passengers per Trip	-	-	9.0	2/3

	June	Oct		June	Rank	Oct	Rank
Early	-	3%	Population Within ½ Mile	-	8,333	-	31/32
On-Time	-	90%	Jobs Within ½ Mile	-	2,568	-	32/32
Late	-	7%	Passengers per Capita	-	-	3.8%	1/3
			Passengers per Mile	-	-	3.3	1/3

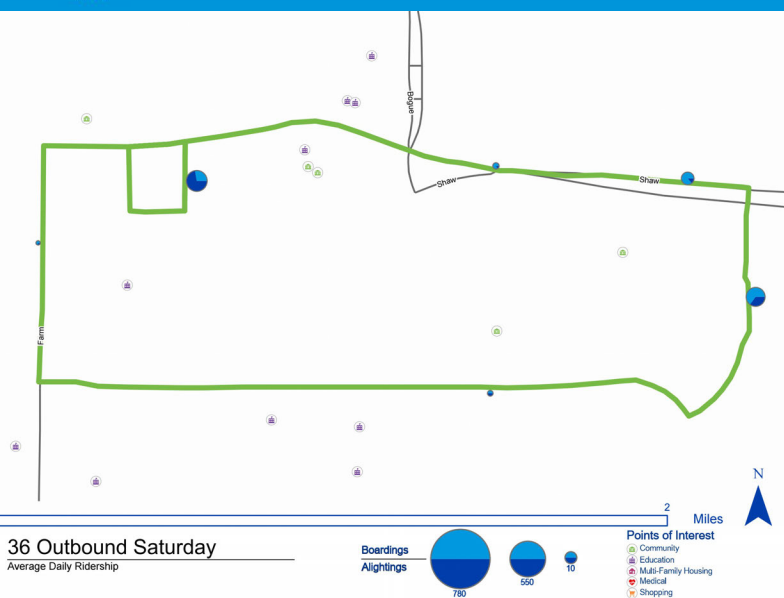
Note: Rankings are by service type

Saturday Ridership by Trip

36 Outbound Saturday



Saturday Ridership by Stop



ROUTE: 36

EAST NEIGHBORHOOD

Service Type: MSU Campus

Circulator

Sunday Statistics

Operating Characteristics

	June	Oct
Span	-	09:20 AM - 12:30 AM
Peak Frequency	-	30 min
Off-Peak Frequency	-	30 min
Evening Frequency	-	30 min

Daily Statistics

	June	Rank	Oct	Rank
Revenue Hours	-	-	5.8	3/3
Revenue Miles	-	-	62	3/3
Average Daily Boardings	-	-	362	2/3
Passengers per Hour	-	-	62.1	1/3
Passengers per Trip	-	-	10.3	2/3

On-Time Performance

	June	Oct
Early	-	7%
On-Time	-	88%
Late	-	5%

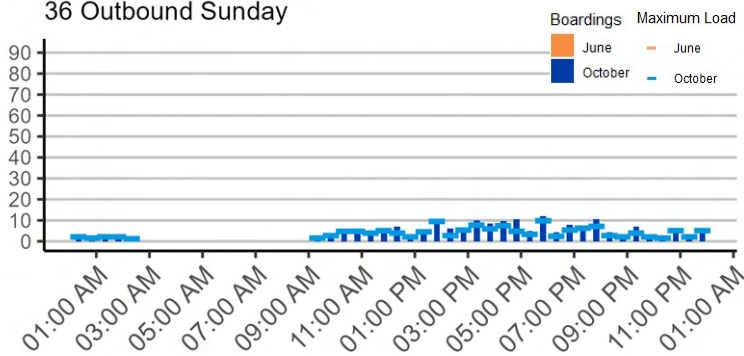
Market Penetration

	June	Rank	Oct	Rank
Population Within ½ Mile	-	8,333	-	31/32
Jobs Within ½ Mile	-	2,568	-	32/32
Passengers per Capita	-	-	4.3%	1/3
Passengers per Mile	-	-	4.4	1/3

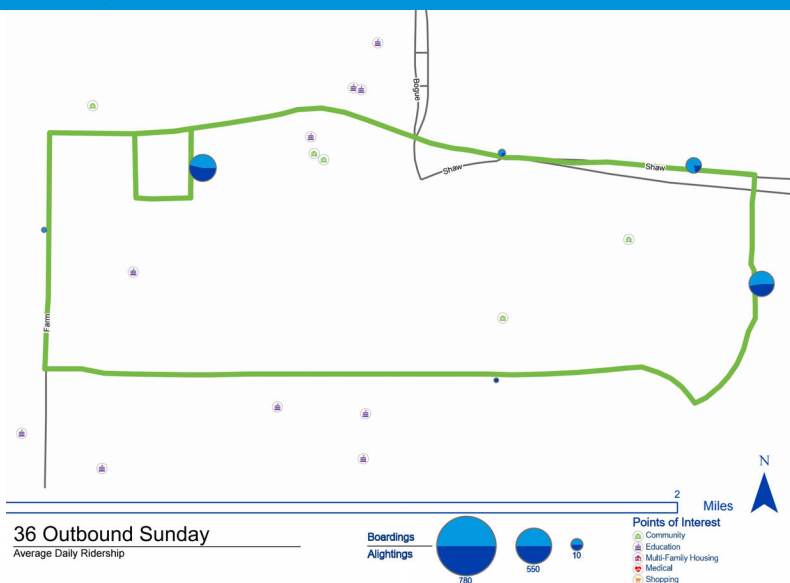
Note: Rankings are by service type

Sunday Ridership by Trip

36 Outbound Sunday



Sunday Ridership by Stop



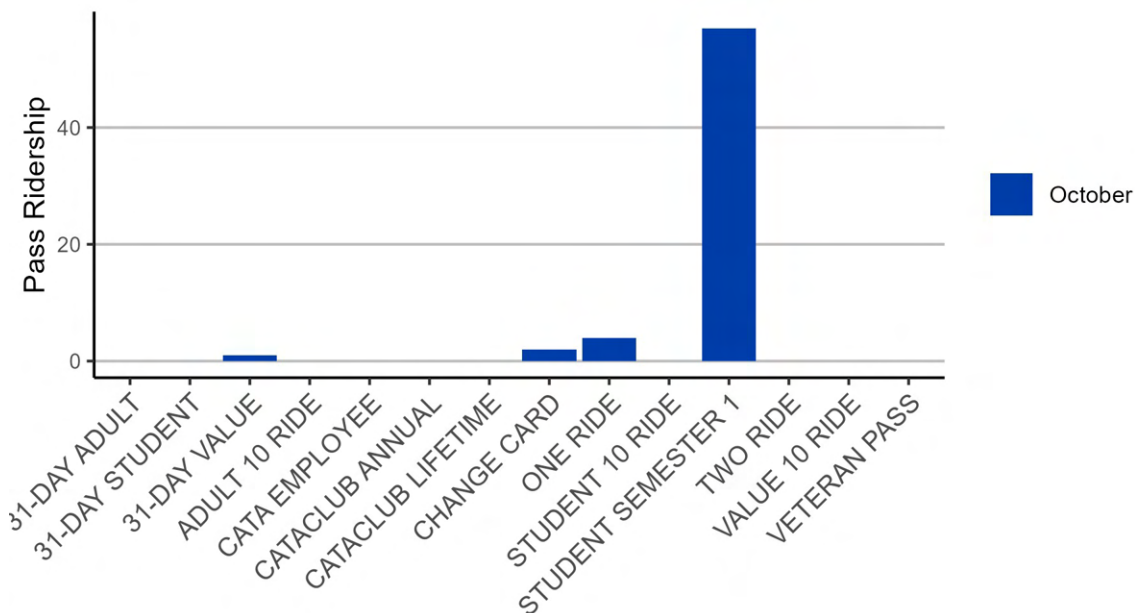
ROUTE: 36

EAST NEIGHBORHOOD

Service Type: MSU Campus

Circulator

Pass Usage



Route Analysis

Strengths

- Together with routes 34 and 35, helps provide comprehensive service coverage at MSU on weekends.
- Offers late-night weekend service until 2:30 am.
- Easy-to-remember clockface frequency.
- Strong on-time performance.

Weaknesses

- One-way service design limits the utility of the route and forces out-of-direction travel for some riders.
- Generally low ridership, especially during late-night hours.

Opportunities

- Eliminate route and incorporate into proposed restructured Route 31.
- Replace late-night fixed-route service with microtransit service due to low ridership.

ROUTE: 39

UNIVERSITY VILLAGE

Service Type: MSU Campus
Circulator

Description: Campus circulator between MSU CTC and University Village.

Key Points of Interest: University Village, Anthony Hall, Berkowitz Basketball Complex, Chemistry, College of Law, Engineering, International Center, Spartan Stadium.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	-	06:58 AM - 12:30 AM
Peak Frequency	-	20 min
Off-Peak Frequency	-	20 min
Evening Frequency	-	20 min

	June	Rank	Oct	Rank
Revenue Hours	-	-	15.2	5/5
Revenue Miles	-	-	206	5/5
Average Daily Boardings	-	-	568	5/5
Passengers per Hour	-	-	37.3	5/5
Passengers per Trip	-	-	5.0	5/5

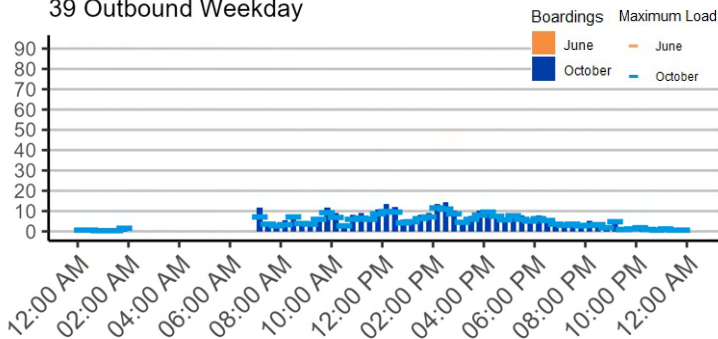
	June	Oct
Early	-	0%
On-Time	-	100%
Late	-	0%

	June	Rank	Oct	Rank
Population Within ½ Mile	15,740			26/32
Jobs Within ½ Mile	6,459			29/32
Passengers per Capita	-	-	3.6%	5/5
Passengers per Mile	-	-	2.8	5/5

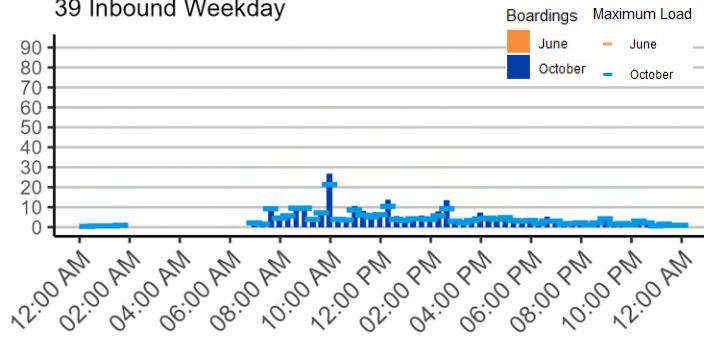
Note: Rankings are by service type

Weekday Ridership by Trip

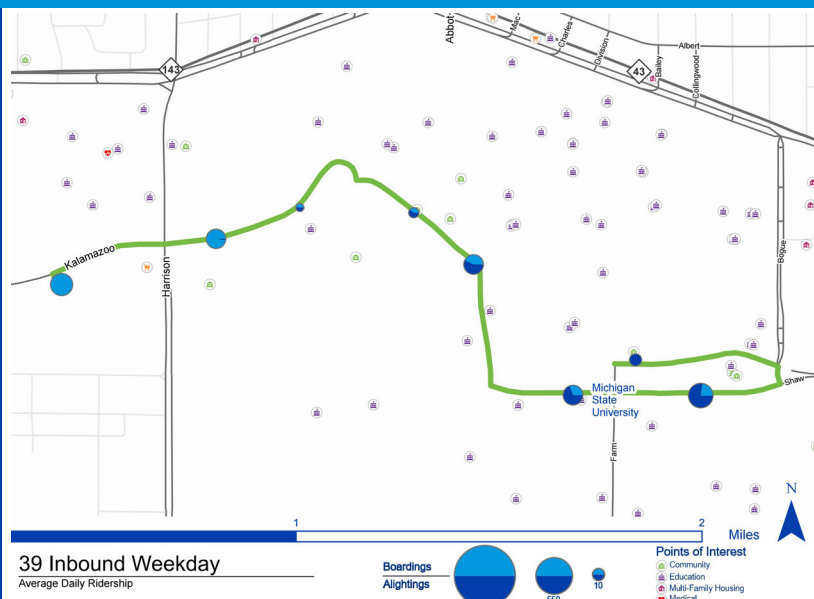
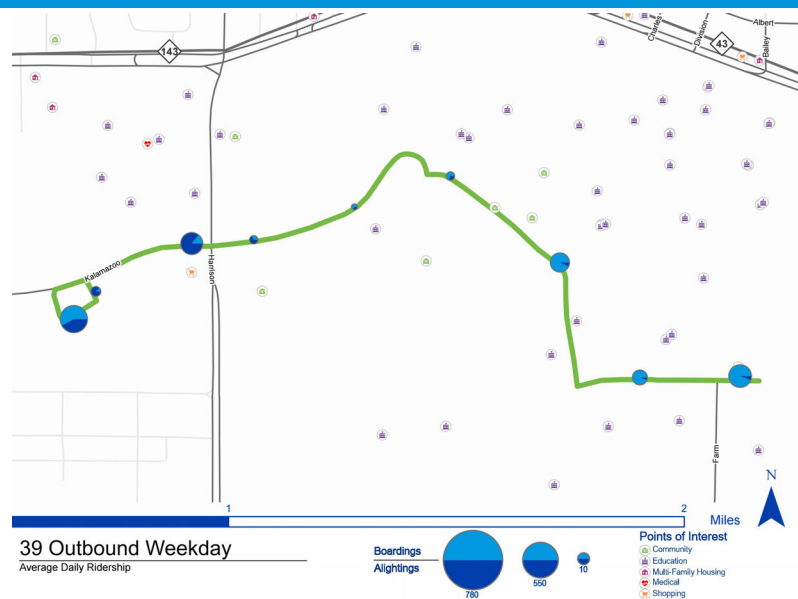
39 Outbound Weekday



39 Inbound Weekday



Weekday Ridership by Stop



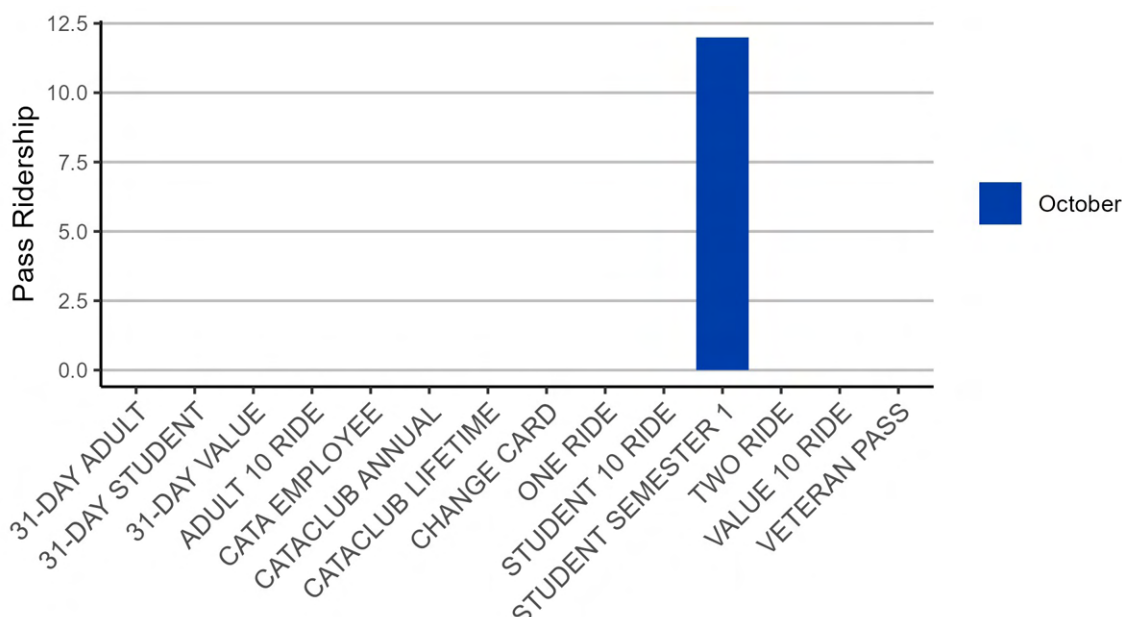
ROUTE: 39

UNIVERSITY VILLAGE

Service Type: MSU Campus

Circulator

Pass Usage



Route Analysis

Strengths

- Provides cross-campus link between University Village and MSU-CTC.
- Frequent weekday service.
- Extensive span of service, including late-night service until 2:00 am.
- Easy-to-remember clockface frequency.
- Simple and direct alignment.
- Strong on-time performance.

Weaknesses

- Lowest ridership and productivity among MSU weekday campus routes.
- Generally low ridership, especially during late-night hours.
- Apparently low demand for direct service between University Village and MSU-CTC / East Neighborhood based on low ridership coupled with high-frequency service.

Opportunities

- Restructure route to focus on connecting University Village with North Neighborhood area.
- Eliminate route due to low demand and instead connect University Village with MSU-CTC via a bi-directional campus-wide circulator (proposed Route 32).
- Replace late-night fixed-route service with microtransit service due to low ridership.

ROUTE: 46

MASON LTD

Service Type: Limited

Description: Express bus between Mason and Lansing, with one AM and one PM trip.

Key Points of Interest: Meijer, Meijer Mason, CTC, Ingham County Sheriff, Ingham County Courthouse, Lansing Community College.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:45 AM - 06:05 PM	06:45 AM - 06:05 PM

	June	Rank	Oct	Rank
Revenue Hours	2.1	2/2	2.1	2/2
Revenue Miles	65	2/2	65	2/2
Average Daily Boardings	8	2/2	8	2/2
Passengers per Hour	3.8	2/2	3.8	2/2
Passengers per Trip	4.0	2/2	4.0	2/2

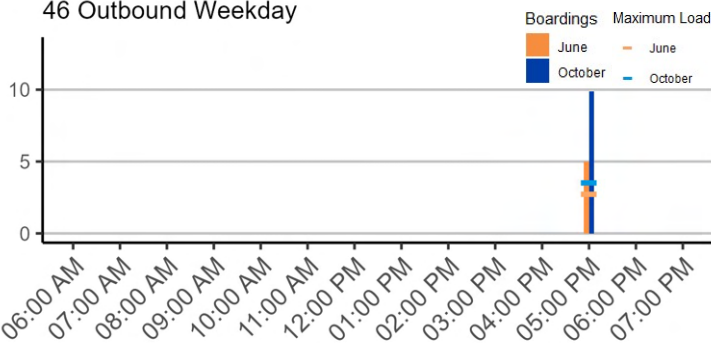
	June	Oct
Early	2%	30%
On-Time	44%	43%
Late	36%	27%

	June	Rank	Oct	Rank
Population Within ½ Mile	12,695			29/32
Jobs Within ½ Mile	48,580			7/32
Passengers per Capita	0.1%	1/2	0.1%	1/2
Passengers per Mile	0.1	1/2	0.1	1/2

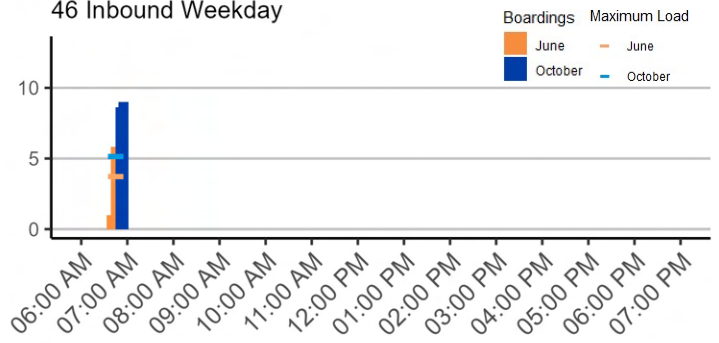
Note: Rankings are by service type

Weekday Ridership by Trip

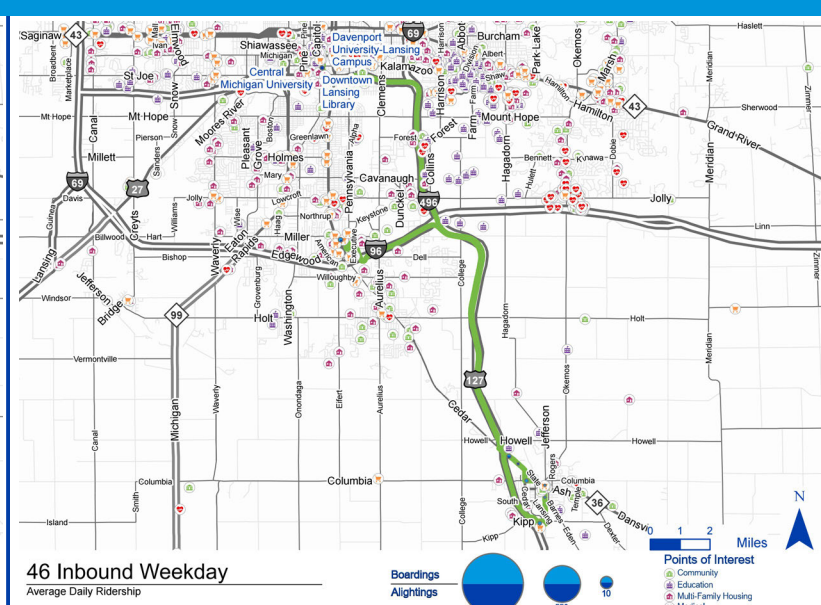
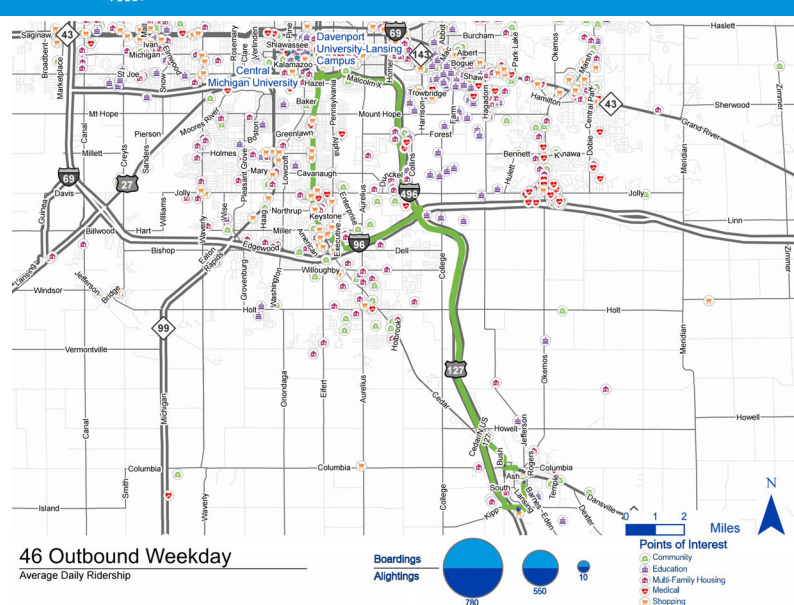
46 Outbound Weekday



46 Inbound Weekday



Weekday Ridership by Stop

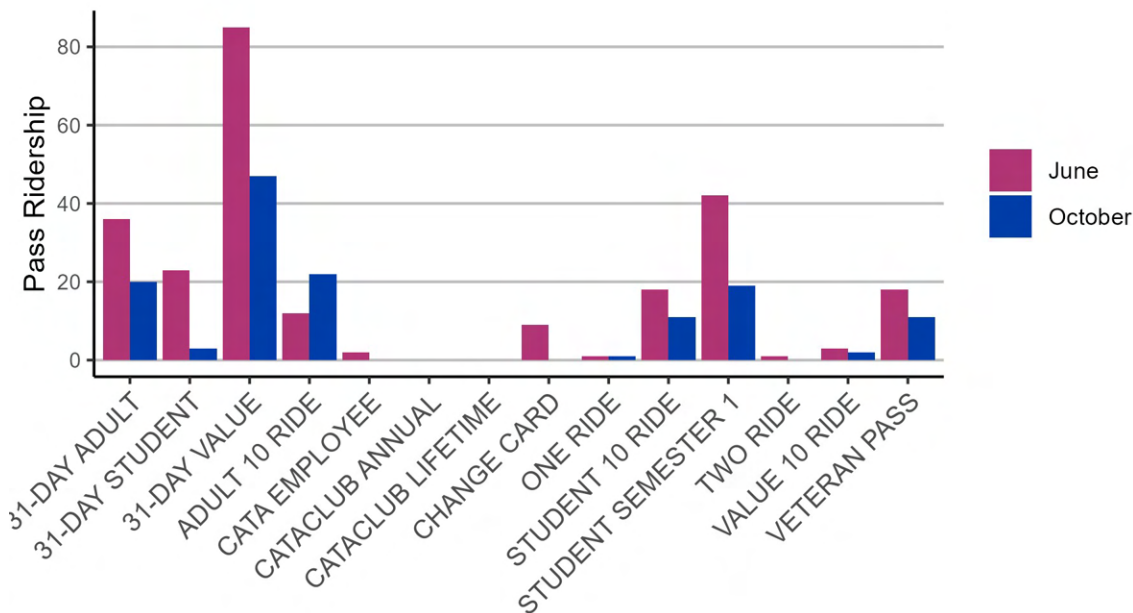


ROUTE: 46

MASON LTD

Service Type: Limited

Pass Usage



Route Analysis

Strengths

- Provides weekday connection between Mason and Lansing to facilitate access to jobs, services, and educational opportunities.

Weaknesses

- Very limited service.
- Generally low ridership and productivity.
- Poor on-time performance.
- No weekend service.

Opportunities

- Reinvest resources into shorter, more frequent route or microtransit service focused on internal circulation in Mason and the nearest CATA connections in Holt or southern Lansing.

ROUTE: 48

WILLIAMSTON-WEBBERVILLE

Service Type: Limited

Description: Express bus between Williamston/Webberville and downtown Lansing, with one AM and one PM trip.

Key Points of Interest: Webberville Library, Williamson Library, Brookfield Plaza, Lansing Community College, WMU Cooley Law School, Capital Area District Library, Davenport University, MSU Union, Meijer Okemos.

Weekday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

Market Penetration

	June	Oct
Span	06:55 AM - 06:23 PM	06:55 AM - 06:23 PM

Peak Frequency	-	-
----------------	---	---

Off-Peak Frequency	-	-
--------------------	---	---

Evening Frequency	-	-
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	June	Rank	Oct	Rank
Revenue Hours	2.4	1/2	2.4	1/2

Revenue Miles	72	1/2	72	1/2
---------------	----	-----	----	-----

Average Daily Boardings	12	1/2	13	1/2
-------------------------	----	-----	----	-----

Passengers per Hour	4.9	1/2	5.3	1/2
---------------------	-----	-----	-----	-----

Passengers per Trip	6.0	1/2	6.5	1/2
---------------------	-----	-----	-----	-----

	June	Oct
Early	4%	3%

On-Time	69%	61%
---------	-----	-----

Late	28%	36%
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	June	Rank	Oct	Rank
Population Within 1/2 Mile	41,666			2/32

Jobs Within 1/2 Mile	59,322			3/32
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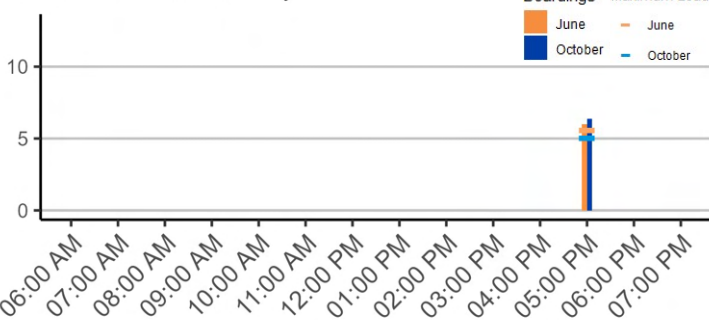
Passengers per Capita	0.02 %	2/2	0.03 %	2/2
-----------------------	--------	-----	--------	-----

Passengers per Mile	0.1	2/2	0.1	2/2
---------------------	-----	-----	-----	-----

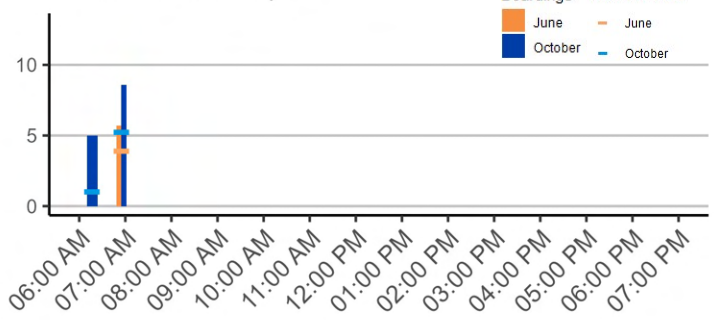
Note: Rankings are by service type

Weekday Ridership by Trip

48 Outbound Weekday



48 Inbound Weekday

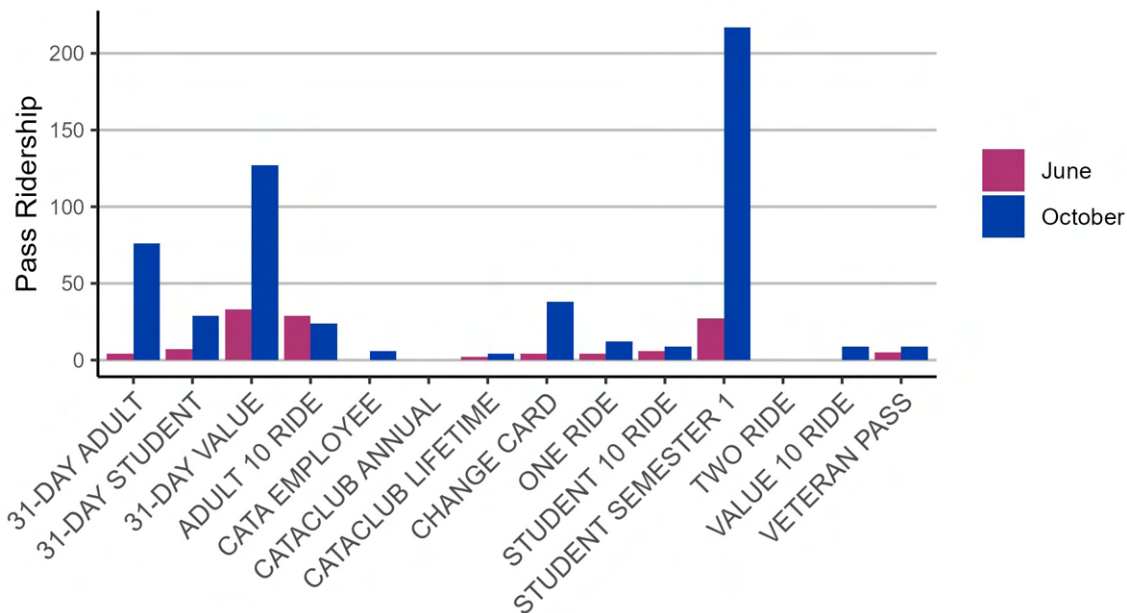


ROUTE: 48

WILLIAMSTON-WEBBERVILLE

Service Type: Limited

Pass Usage



Route Analysis

Strengths

- Provides weekday connection between Williamston and Webberville, and Lansing to facilitate access to jobs, services, and educational opportunities.

Weaknesses

- Very limited service.
- Generally low ridership and productivity.
- Poor on-time performance.
- No weekend service.

Opportunities

- Reinvest resources into shorter, more frequent route or microtransit service focused on internal circulation in Williamston and Webberville, and the nearest CATA connections in the Meridian Mall area.

Spec-Tran Directly Operated

Service Type: ADA Paratransit
Operated by: CATA

Description: ADA Paratransit that complements the fixed-route network. Customers must apply to be eligible for this service.

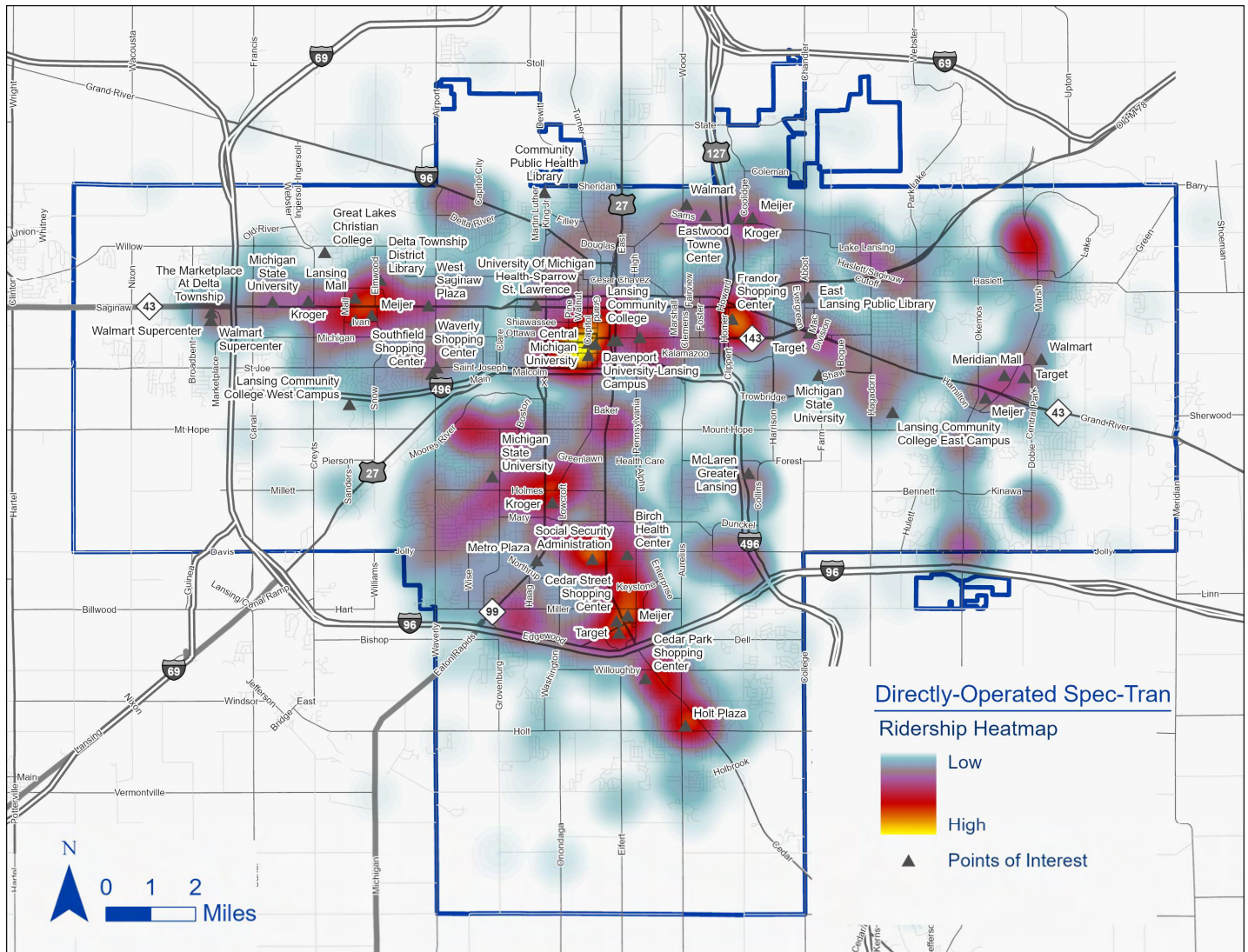
Key Points of Interest: Anywhere the fixed-route network serves.

Monthly Statistics

Monthly Ridership	June	Rank	October	Rank
	8,458	2/2	9,021	2/2
Monthly Average Wait Time	n/a	-	n/a	-

Note: Rankings are by service type

Existing Ridership Distribution



Spec-Tran Directly Operated

Service Type: ADA Paratransit

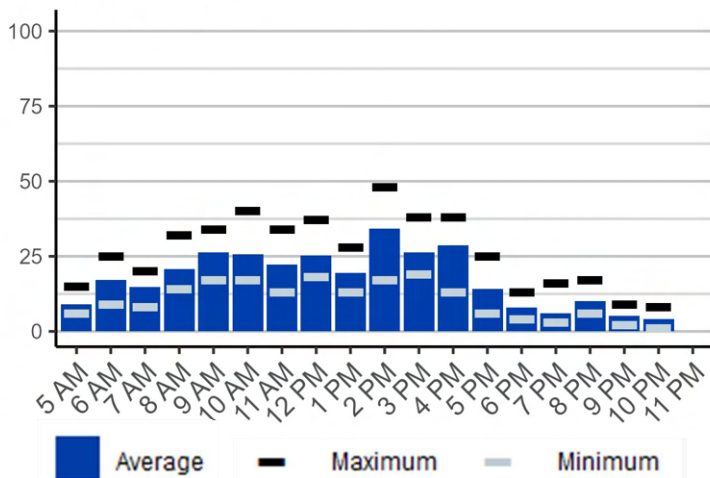
Operated by: CATA

Weekday Statistics

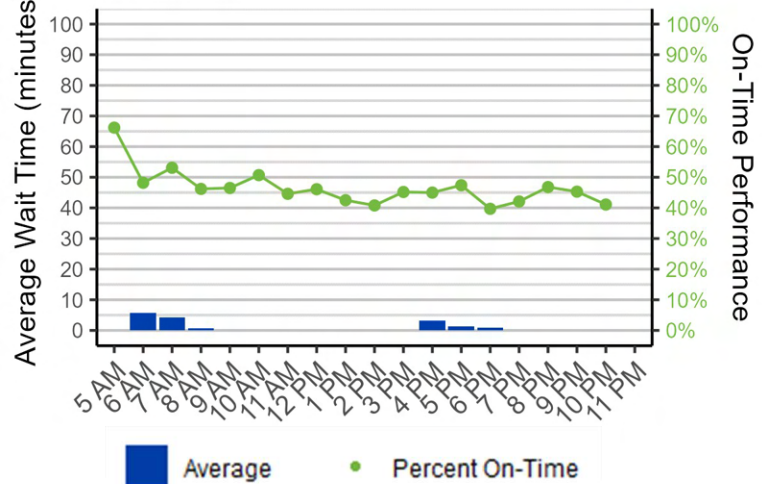
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	5:00 AM - 12:00 AM	5:00 AM - 12:00 AM	Average Daily Boardings	325	2/2	344	2/2	Early	31%	12%	Population Within Zone	n/a		-	
Number of Vehicles	31	29	Average Wait Time (min)	n/a	-	n/a	-	On-Time	66%	71%	Jobs Within Zone	n/a		-	
Note: Rankings are by service type			Average Trip Duration (min)	n/a	-	n/a	-	Late	3%	17%	Passengers per Capita	n/a	-	n/a	-
			Average Trip Length (miles)	n/a	-	n/a	-								
			Passengers per Hour	1.9	2/2	2.1	2/2								

Weekday Graphs

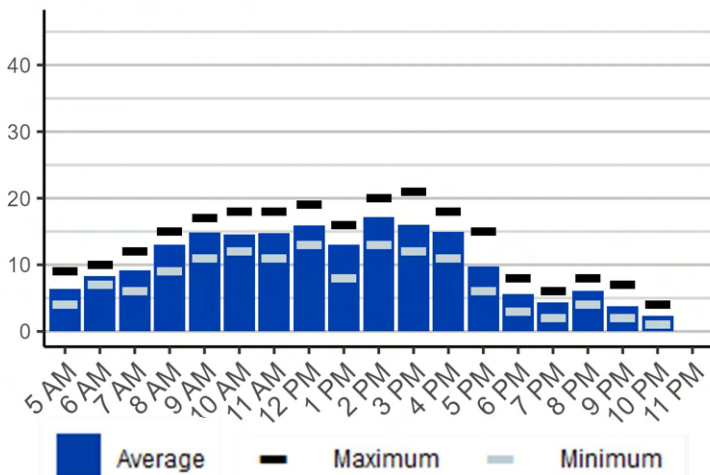
Average Daily Ridership



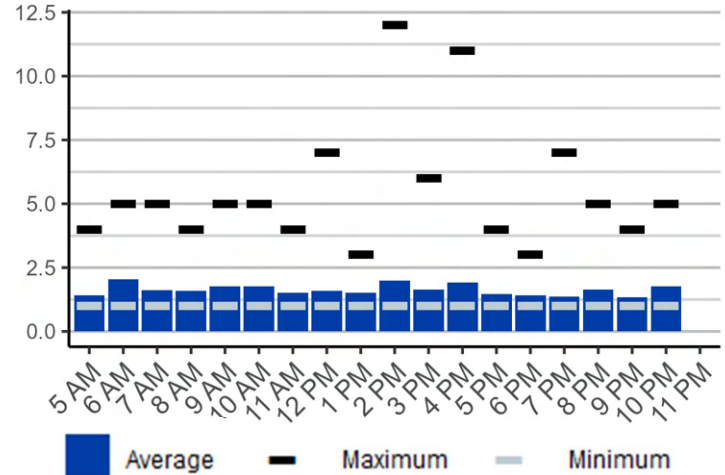
Wait Time



Vehicle Count



Average Ridership per Vehicle



Spec-Tran Directly Operated

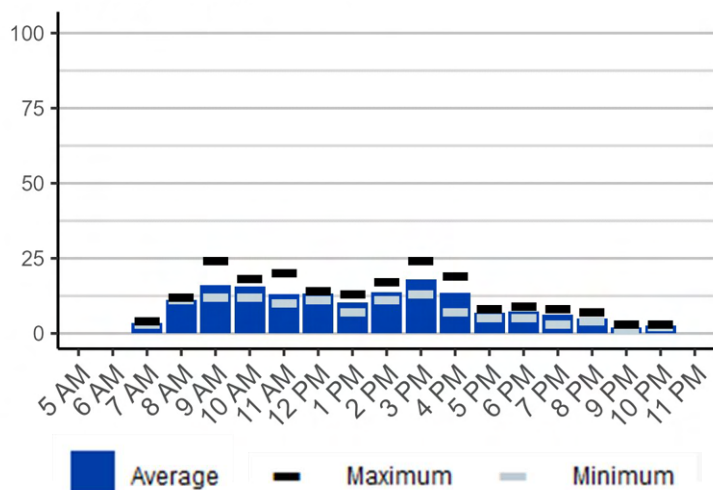
Service Type: ADA Paratransit
Operated by: CATA

Saturday Statistics

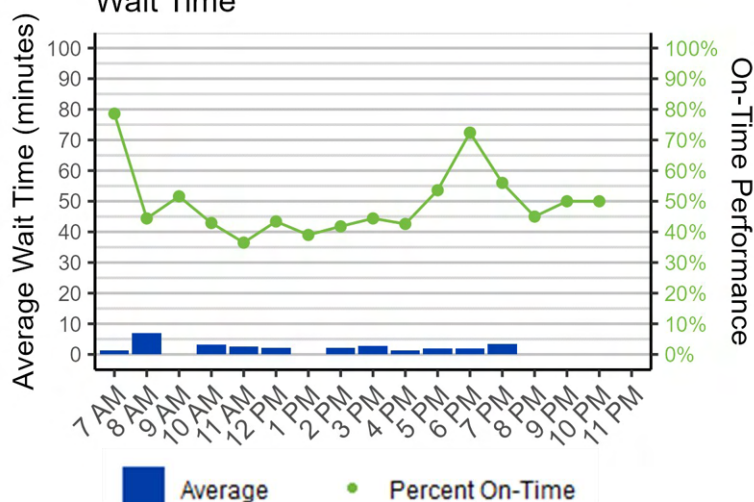
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
Span	June	Oct	Average Daily Boardings	June	Rank	Oct	Rank	Early	June	Oct	Population Within Zone	June	Rank	Oct	Rank
	7:00 AM - 12:00 AM	7:00 AM - 12:00 AM		193	2/2	141	2/2		17%	22%		n/a	-		
Number of Vehicles	15	15	Average Wait Time (min)	n/a	-	n/a	-	On-Time	71%	69%	Jobs Within Zone	n/a			-
			Average Trip Duration (min)	n/a	-	n/a	-		Late	11%		9%	Passengers per Capita	n/a	-
Note: Rankings are by service type			Average Trip Length (miles)	n/a	-	n/a	-								
			Passengers per Rev. Hour	2.0	2/2	1.5	2/2								

Saturday Graphs

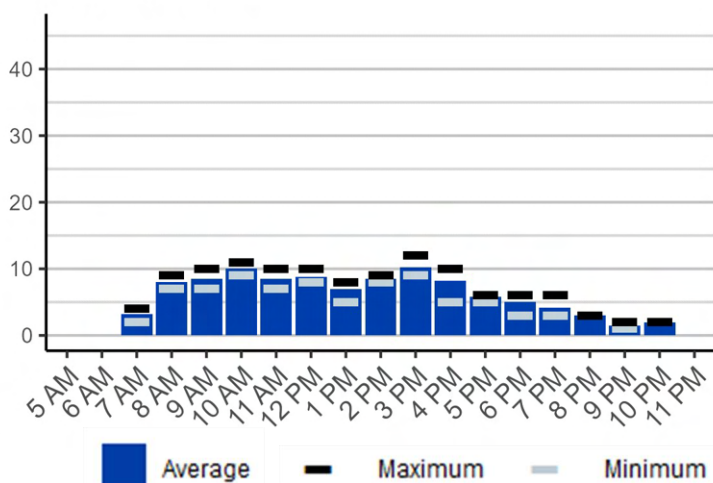
Average Daily Ridership



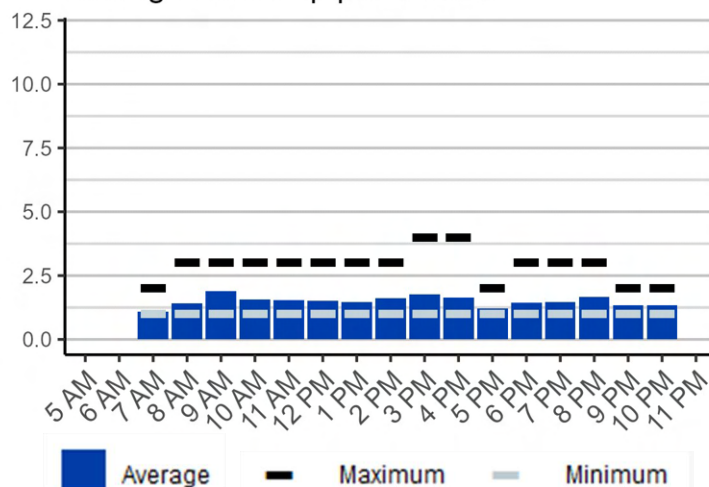
Wait Time



Vehicle Count



Average Ridership per Vehicle



Service Type: ADA Paratransit
Operated by: CATA

Service Type: ADA Paratransit
Operated by: CATA

Operating Characteristics

	June	Oct		June	Rank	Oct	Rank
Span	7:00 AM - 7:00 PM	7:00 AM - 7:00 PM	Average Daily Boardings	172	2/2	134	2/2
Number of Vehicles	11	11	Average Wait Time (min)	n/a	-	n/a	-
			Average Trip Duration (min)	n/a	-	n/a	-
			Average Trip Length (miles)	n/a	-	n/a	-
			Passengers per Rev. Hour	1.9	2/2	1.7	2/2

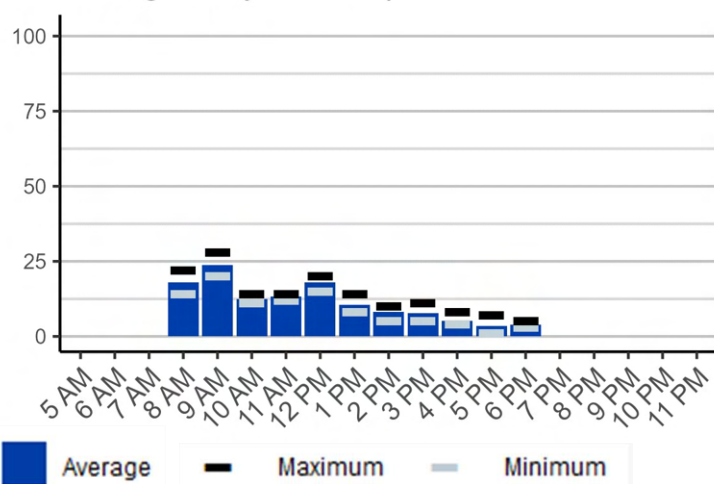
Note: Rankings are by service type

On-Time Performance

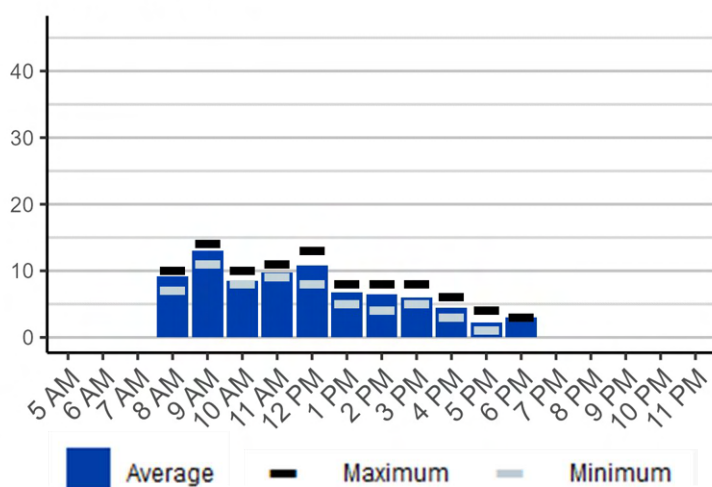
	June	Oct		June	Rank	Oct	Rank
Early	17%	27%	Population Within Zone	n/a			-
On-Time	69%	66%	Jobs Within Zone	n/a			-
Late	14%	7%	Passengers per Capita	n/a	-	n/a	-

Market Penetration

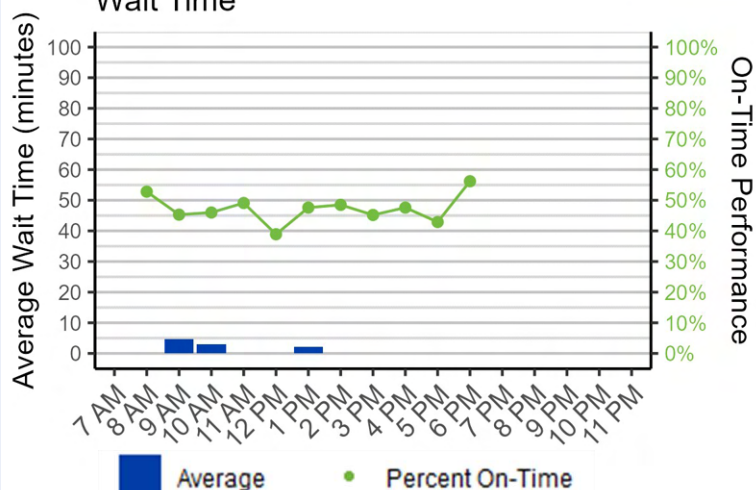
Average Daily Ridership



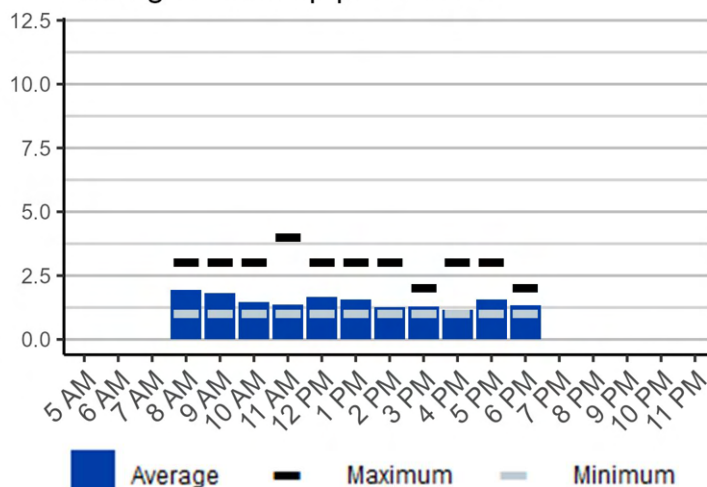
Vehicle Count



Wait Time



Average Ridership per Vehicle



Spec-Tran Directly Operated

Service Type: ADA Paratransit
Operated by: CATA

Zone Analysis

Strengths

- Complements CATA's fixed-route network with curb-to-curb service for qualified riders with certified disabilities.
- Allows riders to be accompanied by personal assistants, guests, or children.
- Allows travel to be booked up to 14 days in advance.
- Affordable fares compared to private medical transportation.

Weaknesses

- No same-day reservations.
- Poor on-time performance, based on ability to meet 15-minute pick-up window.
- Relatively low ridership per vehicle per hour throughout the service day.

Opportunities

- Expand accessible microtransit services in region, where appropriate, to give more paratransit riders access to same-day on-demand service.
- Incorporate microtransit technology into Spec-Tran service to allow for same-day reservations for riders.

Spec-Tran Contracted

Service Type: ADA Paratransit

Operated by: Transdev

Description: ADA Paratransit that complements the fixed-route network. Customers must apply to be eligible for this service.

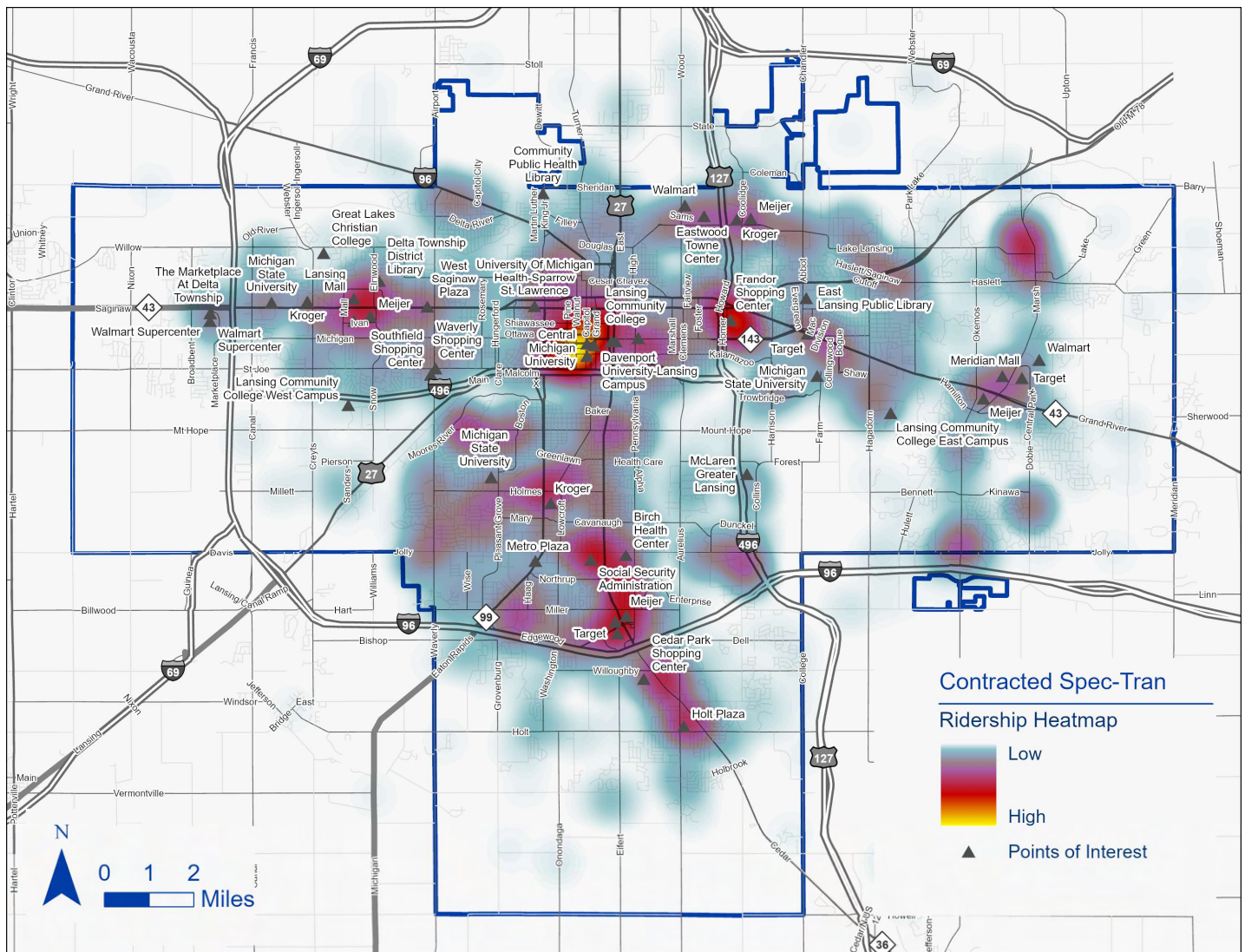
Key Points of Interest: Anywhere the the fixed-route network serves.

Monthly Statistics

Monthly Ridership	June	Rank	October	Rank
	17,509	1/2	25,592	1/2
Monthly Average Wait Time	n/a	-	n/a	-

Note: Rankings are by service type

Existing Ridership Distribution



Spec-Tran Contracted

Service Type: ADA Paratransit

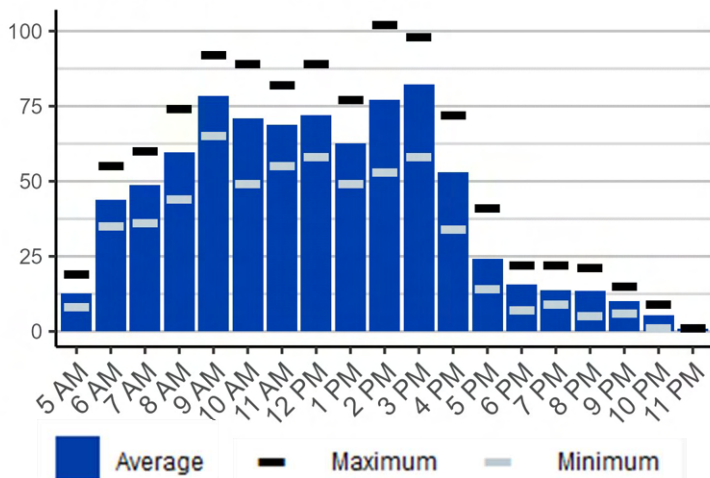
Operated by: Transdev

Weekday Statistics

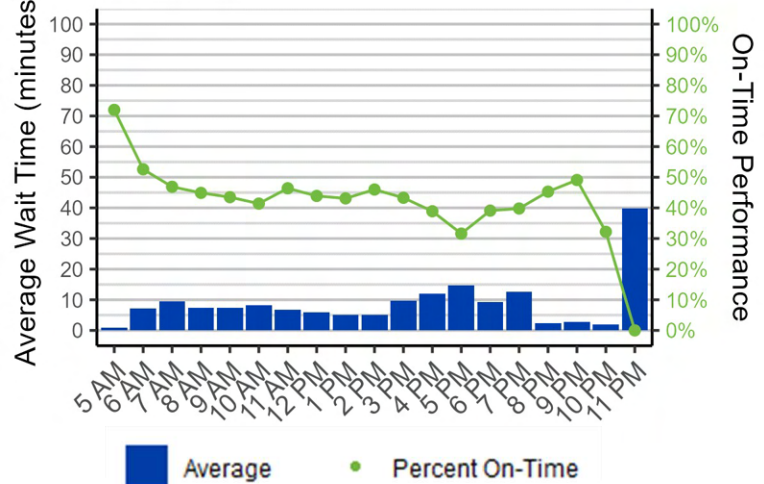
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	5:00 AM - 12:00 AM	5:00 AM - 12:00 AM	Average Daily Boardings	720	1/2	815	1/2	Early	10%	26%	Population Within Zone	n/a		-	
Number of Vehicles	45	48	Average Wait Time (min)	n/a	-	n/a	-	On-Time	81%	68%	Jobs Within Zone	n/a		-	
Note: Rankings are by service type			Average Trip Duration (min)	n/a	-	n/a	-	Late	9%	6%	Passengers per Capita	n/a	-	n/a	-
			Average Trip Length (miles)	n/a	-	n/a	-								
			Passengers per Hour	2.1	1/2	2.2	1/2								

Weekday Graphs

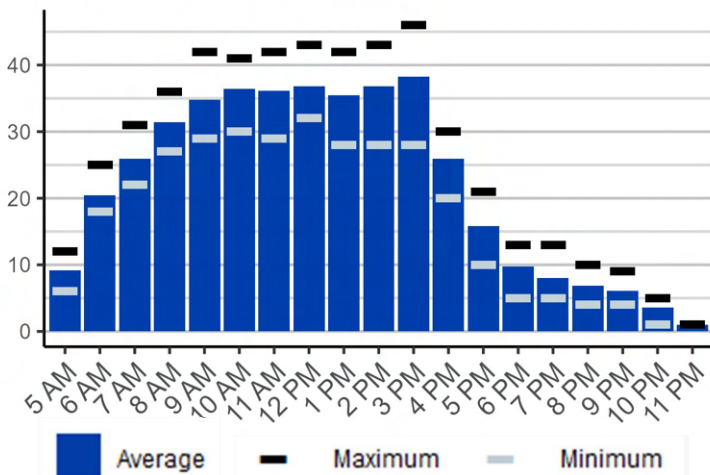
Average Daily Ridership



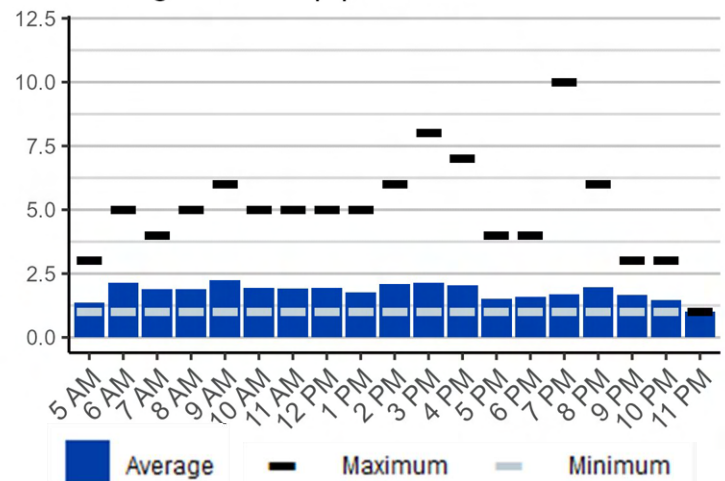
Wait Time



Vehicle Count



Average Ridership per Vehicle



Spec-Tran Contracted

Service Type: ADA Paratransit

Operated by: Transdev

Saturday Statistics

Operating Characteristics

Daily Statistics

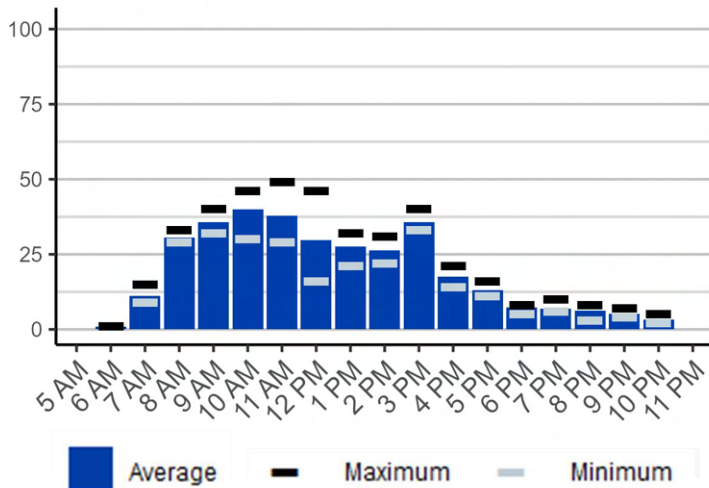
On-Time Performance

Market Penetration

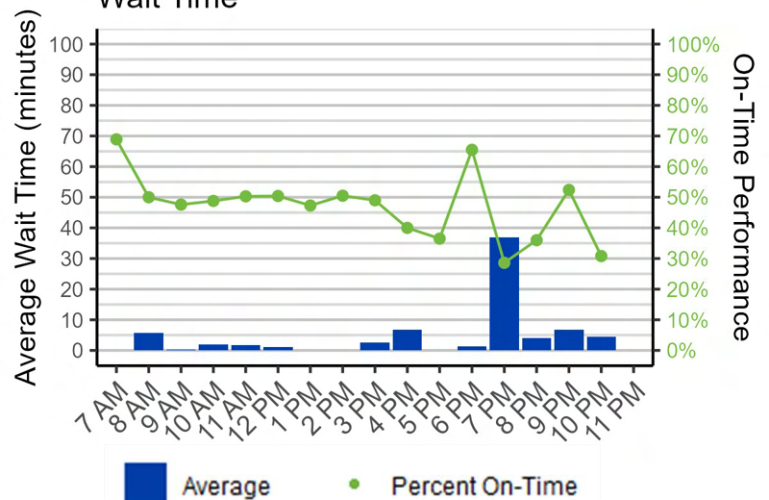
		June	Oct			June	Rank	Oct	Rank			June	Oct			June	Rank	Oct	Rank
Span	7:00 AM - 12:00 AM	7:00 AM - 12:00 AM	Average Daily Boardings	303	1/2	335	1/2	Early	7%	19%	Population Within Zone	n/a						-	
	Number of Vehicles	21	39	Average Wait Time (min)	n/a	-	n/a		-	On-Time	77%	74%	Jobs Within Zone	n/a					
Note: Rankings are by service type				Average Trip Duration (min)	n/a	-	n/a	-	Late		16%	8%	Passengers per Capita	n/a	-	n/a			-
				Average Trip Length (miles)	n/a	-	n/a	-											
				Passengers per Rev. Hour	2.2	1/2	7.2	1/2											

Saturday Graphs

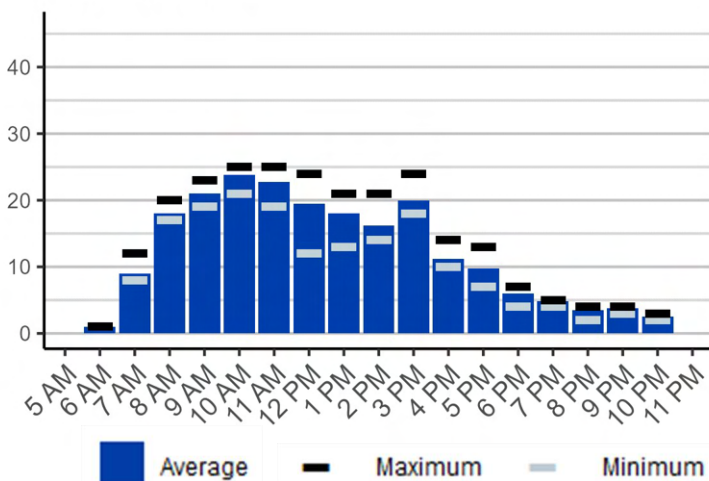
Average Daily Ridership



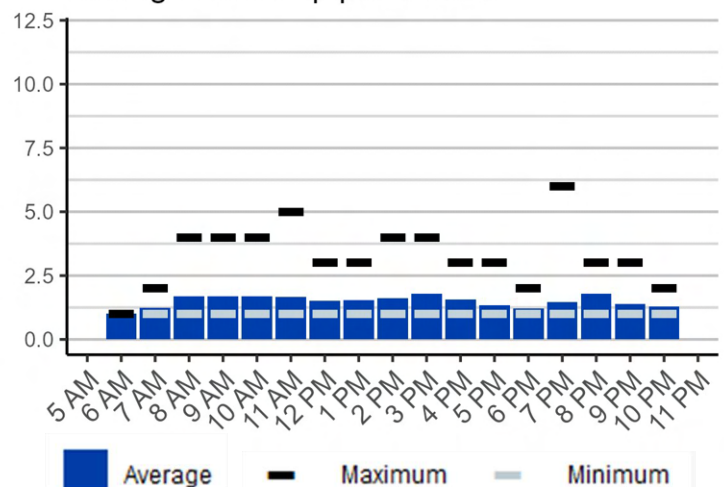
Wait Time



Vehicle Count



Average Ridership per Vehicle



Service Type: ADA Paratransit
Operated by: Transdev

Operating Characteristics

	June	Oct
Span	7:00 AM - 7:00 PM	7:00 AM - 7:00 PM
Number of Vehicles	20	31

Daily Statistics

	June	Rank	Oct	Rank
Average Daily Boardings	234	1/2	283	1/2
Average Wait Time (min)	n/a	-	n/a	-
Average Trip Duration (min)	n/a	-	n/a	-
Average Trip Length (miles)	n/a	-	n/a	-
Passengers per Rev. Hour	2.3	1/2	1.8	1/2

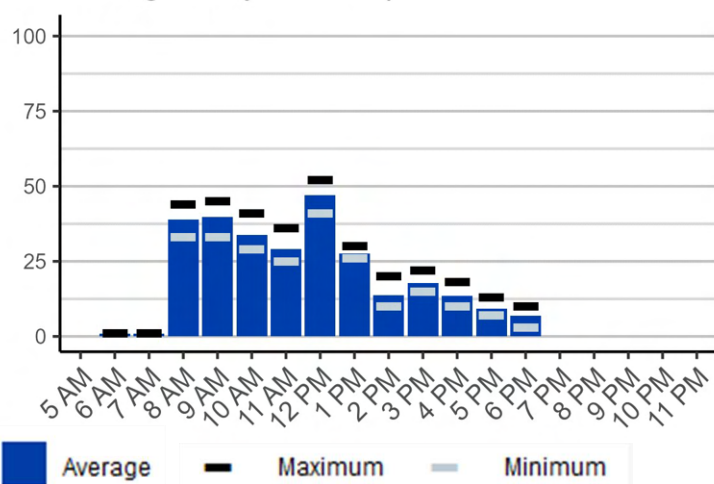
On-Time Performance

	June	Oct
Early	9%	20%
On-Time	58%	75%
Late	34%	5%

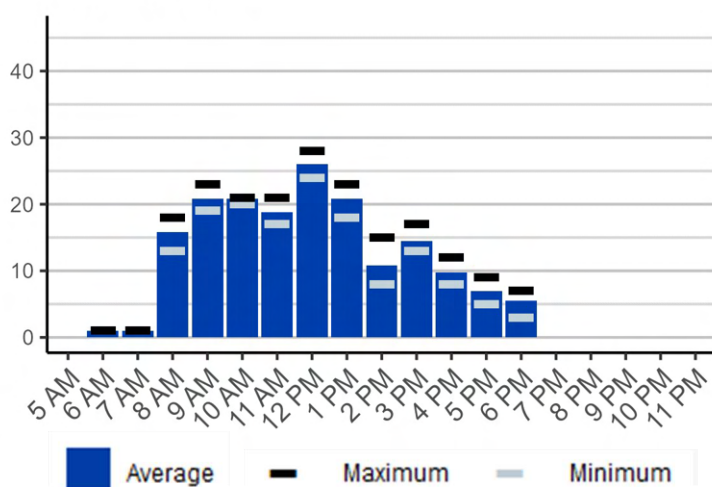
Market Penetration

	June	Rank	Oct	Rank
Population Within Zone		n/a		-
Jobs Within Zone		n/a		-
Passengers per Capita	n/a	-	n/a	-

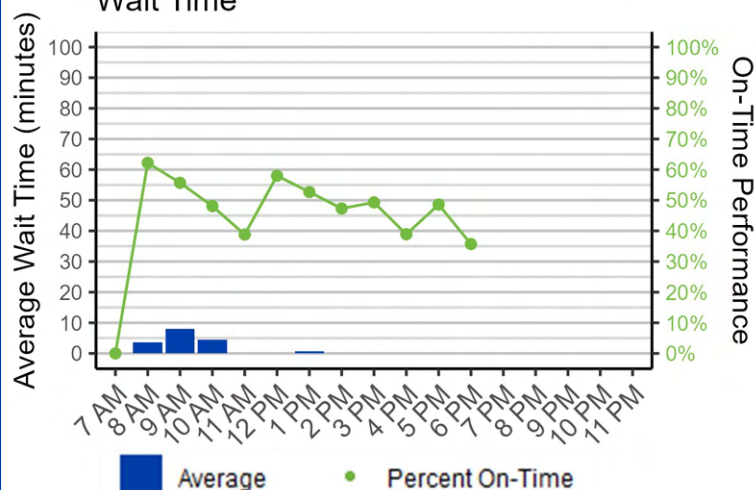
Average Daily Ridership



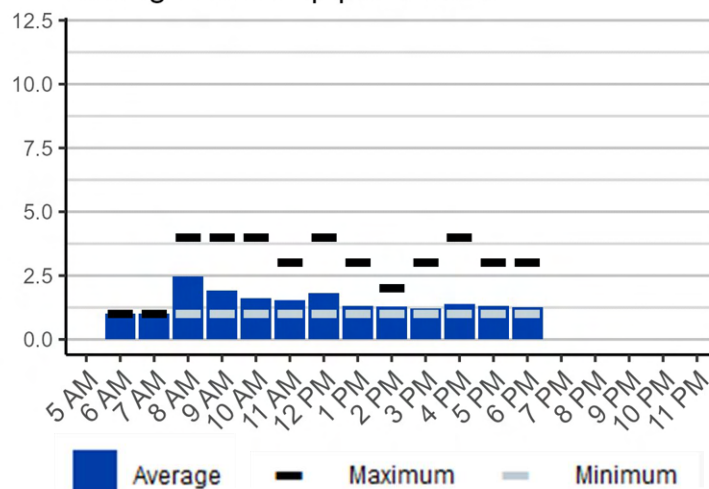
Vehicle Count



Wait Time



Average Ridership per Vehicle



Spec-Tran Contracted

Service Type: ADA Paratransit

Operated by: Transdev

Zone Analysis

Strengths

- Carries majority of Spec-Tran ridership.
- Likely offers more flexibility than directly-operated service to expand fleet when needed.

Weaknesses

- Inexplicably large jump in Saturday ridership when school is in session may indicate error in data collection.
- No same-day reservations.
- Poor on-time performance, based on ability to meet 15-minute pick-up window.
- Relatively low ridership per vehicle per hour throughout the service day.

Opportunities

- Expand accessible microtransit services in region, where appropriate, to give more paratransit riders access to same-day on-demand service.
- Incorporate microtransit technology into Spec-Tran service to allow for same-day reservations for riders.

Redi-Ride

Service Type: Non-ADA Paratransit
Operated by: CATA and Transdev

Description:

Redi-Ride consists of a curb-to-curb service operating in three zones in Meridian, Delhi, and Mason. Trips must be scheduled at least four hours in advance.

Key Points of Interest:

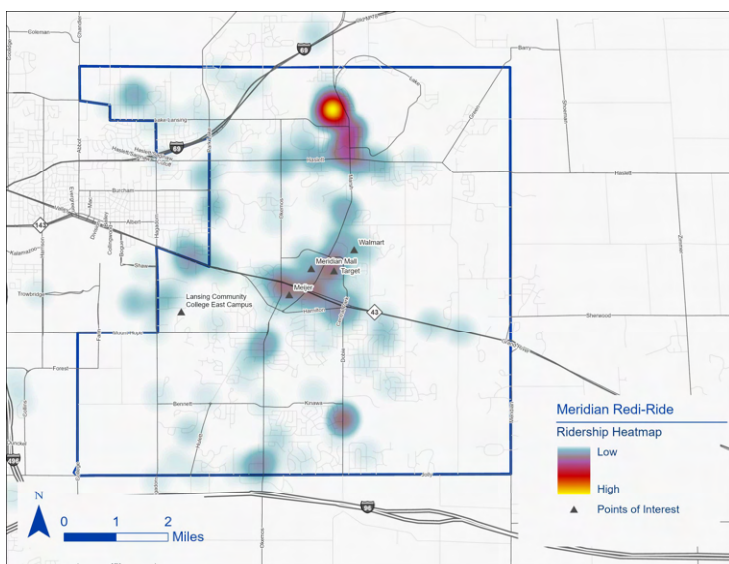
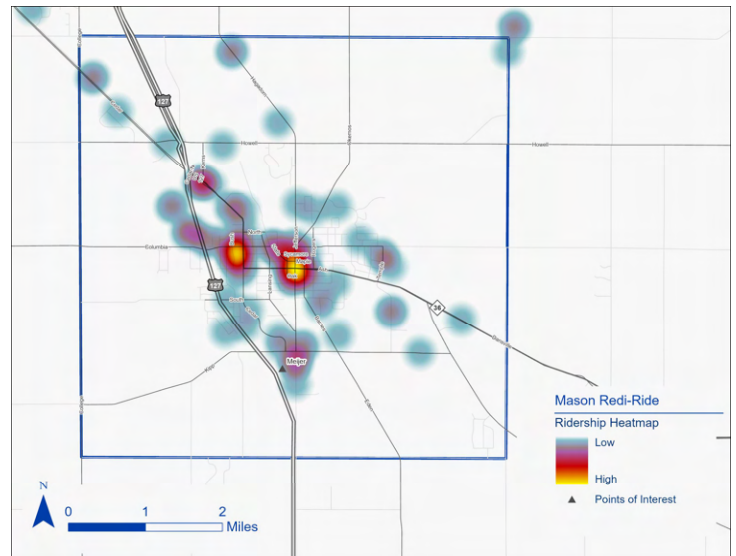
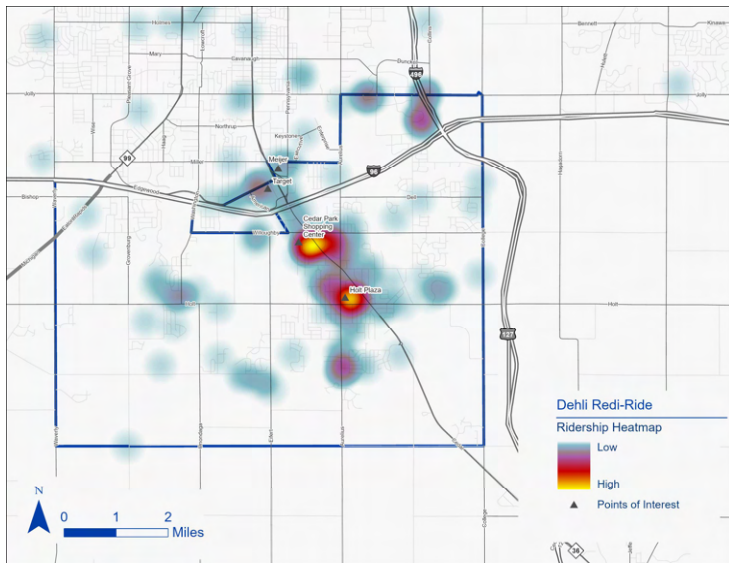
Meridian: Costco, East Lansing Aquatic Center, McLaren Greater Lansing Hospital. Delhi: Target, Cedar Park Shopping Center, Holt Plaza. Mason: Meijer

Monthly Statistics

	June	Rank	October	Rank
Monthly Ridership	2,748	1/3	3,769	1/5
Monthly Average Wait Time	4.6	1/3	3.5	1/5

Note: Rankings are by service type

Existing Ridership Distribution



Redi-Ride

Service Type: Non-ADA Paratransit
Operated by: CATA and Transdev

Saturday Statistics

Operating Characteristics

Daily Statistics

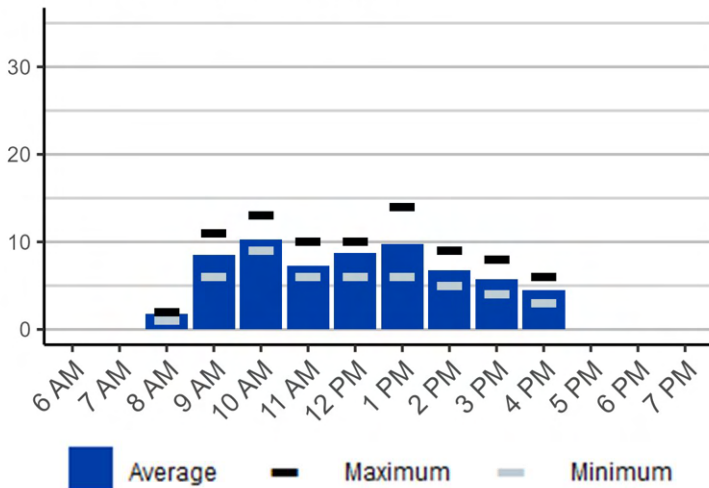
On-Time Performance

Market Penetration

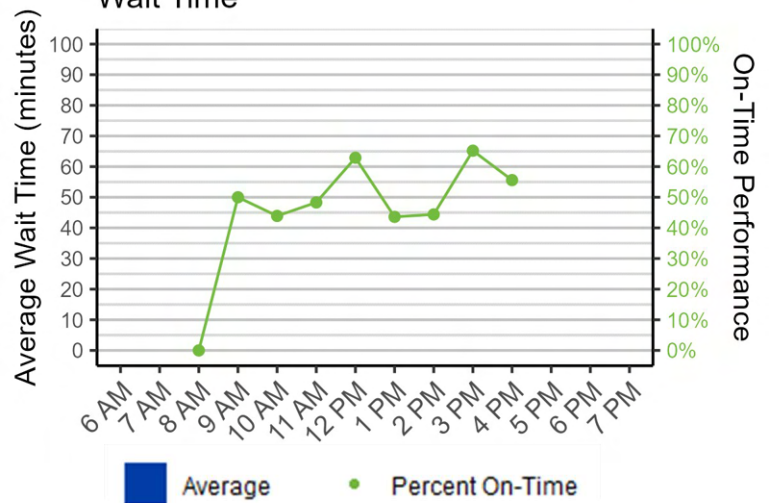
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	8:00 AM - 5:00 PM	8:00 AM - 5:00 PM	Average Daily Boardings	69	1/1	72	1/3	Early	13%	26%	Population Within Zone	81,600			1/5
Number of Vehicles	6	7	Average Wait Time (min)	n/a	-	n/a	-	On-Time	77%	72%	Jobs Within Zone	34,119			1/5
Note: Rankings are by service type			Average Trip Duration (min)	n/a	-	n/a	-	Late	10%	2%	Passengers per Capita	0.08%	1/1	0.09%	1/3
			Average Trip Length (miles)	n/a	-	n/a	-								
			Passengers per Rev. Hour	2.5	1/1	2.6	1/3								

Saturday Graphs

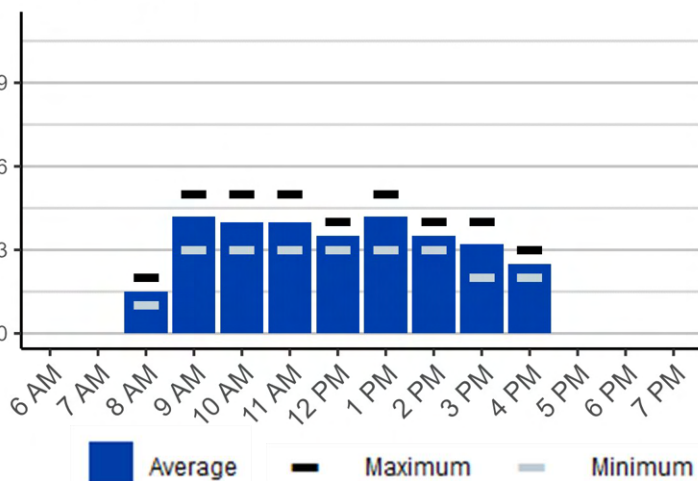
Average Daily Ridership



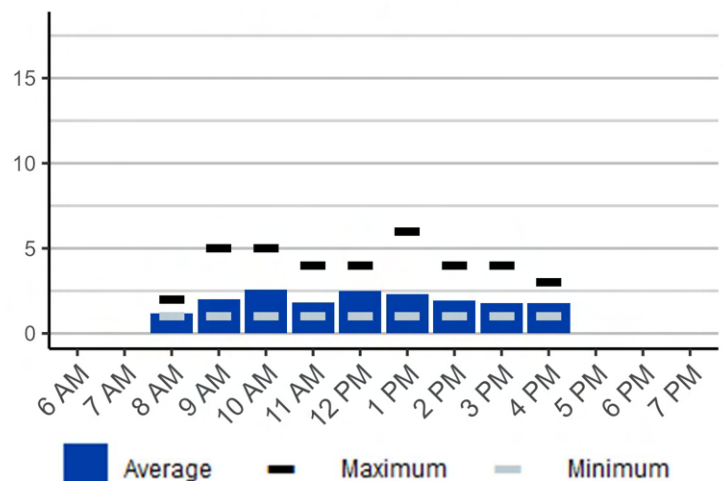
Wait Time



Vehicle Count



Average Ridership per Vehicle



Redi-Ride

Service Type: Non-ADA Paratransit
Operated by: CATA and Transdev

Zone Analysis

Strengths

- Provides curb-to-curb service in suburban communities that are difficult to serve effectively with fixed-route service.
- Operates weekdays and Saturdays.
- Same-day service available for trips after 10:30 am.
- Same fares as fixed-route service (except in Meridian Township).
- Service within 30 minutes in Mason.
- Zones include a diverse and robust mix of potential ridership generators and fixed-route connection opportunities.

Weaknesses

- Requires at least four hours advance reservations (except in Mason).
- Service before 10:30 am must be booked the previous day.
- No Sunday service.
- Reservations must be made by phone only, with no online or mobile app booking option currently available.

Opportunities

- Transition service to modern microtransit service including mobile booking, real-time vehicle information, and more immediate service availability.
- Invest resources from poorly-performing fixed-route services including Routes 46 and 48, and CATA Connector routes into robust microtransit services within existing Redi-Ride zones.
- Add zone serving Webberville and Williamston, allowing for fixed-route connections at Meridian Mall.
- Expand Meridian zone to include Webberville and Williamston while also facilitating fixed-route connections at Meridian Mall.
- Combine Mason and Delhi zones to facilitate fixed-route connections at Meijer on Miller Rd.

Rural Service

Service Type: Non-ADA Paratransit
Operated by: Transdev

Description:

Demand-response service that connects Ingham County residents with other CATA services. Requires advance reservations 1 day before the trip

Key Points of Interest:

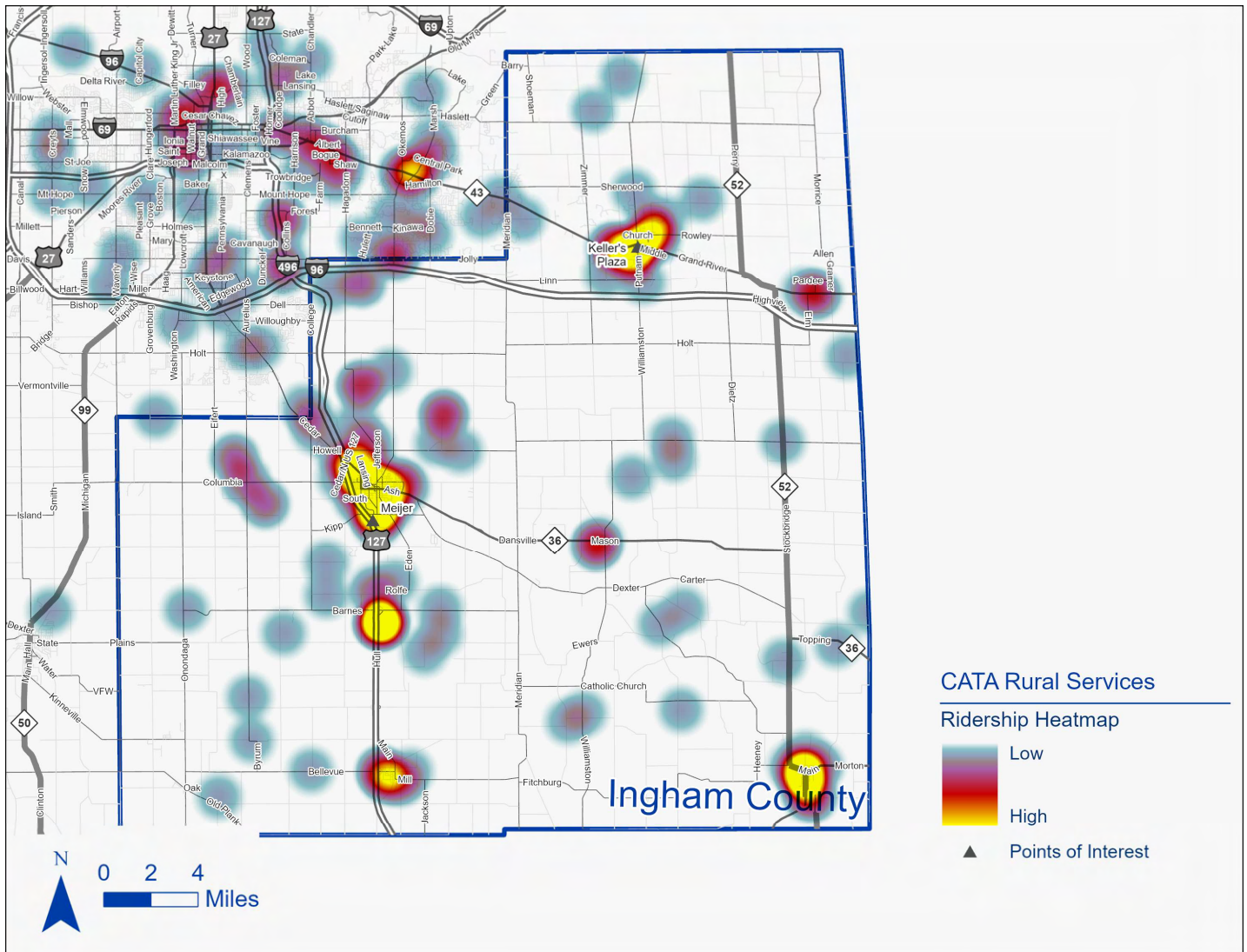
Mason Meijer, Meridian Mall in Okemos

Monthly Statistics

	June	Rank	October	Rank
Monthly Ridership	1,132	2/3	1,527	2/5
Monthly Average Wait Time	8.1	2/3	6.8	2/5

Note: Rankings are by service type

Existing Ridership Distribution



Rural Service

Service Type: Non-ADA Paratransit

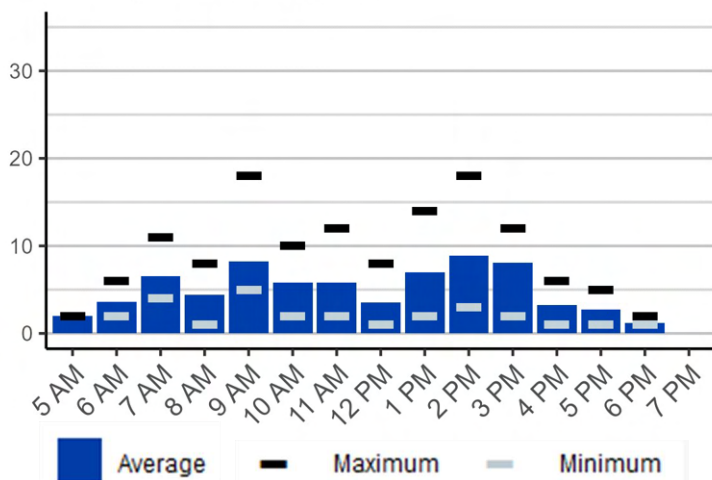
Operated by: Transdev

Weekday Statistics

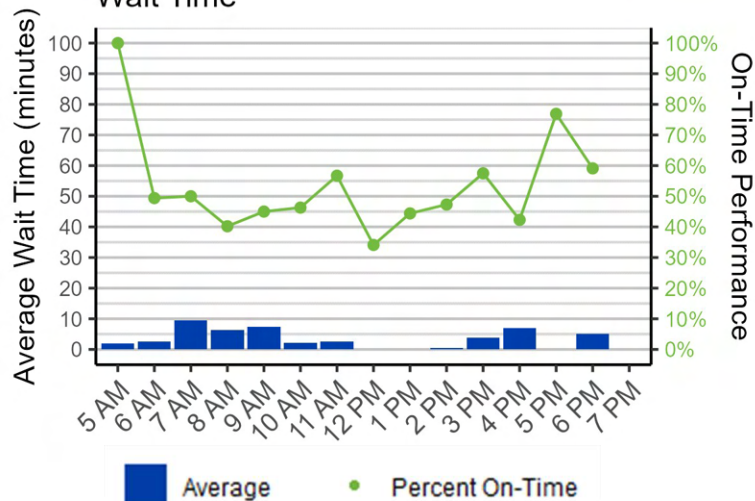
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration						
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank	
Span	7:00 AM - 6:00 PM	7:00 AM - 6:00 PM	Average Daily Boardings	54	2/3	66	2/5	Early	9%	19%	Population Within Zone	56,324			2/5	
Number of Vehicles	11	11	Average Wait Time (min)	8.1	2/3	6.8	2/5	On-Time	85%	73%	Jobs Within Zone	19,087			2/5	
Note: Rankings are by service type			Average Trip Duration (min)	47.0	2/3	40.4	4/5	Late	6%	9%	Passengers per Capita	0.10%	2/3	0.12%	2/5	
			Average Trip Length (miles)	12.3	3/3	12.1	5/5									
			Passengers per Hour	1.4	3/3	1.6	4/5									

Weekday Graphs

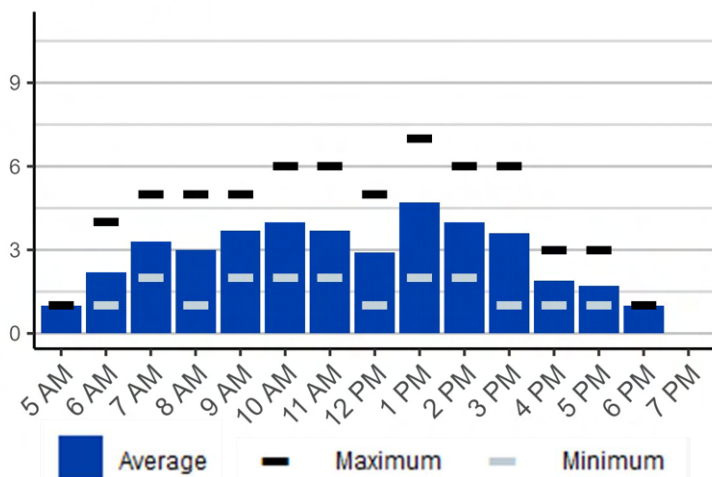
Average Daily Ridership



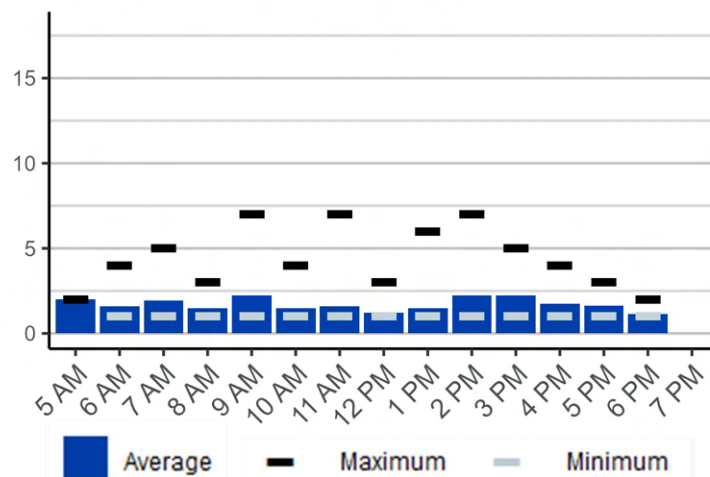
Wait Time



Vehicle Count



Average Ridership per Vehicle



Rural Service

Service Type: Non-ADA Paratransit

Operated by: Transdev

Zone Analysis

Strengths

- Provides on-demand service coverage in rural parts of Ingham County.
- Facilitates connections to CATA's fixed-route network.

Weaknesses

- Service must be booked at least a day in advance.
- No weekend service.
- Reservations must be made by phone only.
- Meijer in Mason offers limited connection opportunities and likely forces many riders to make multiple transfers to reach their final destination.

Opportunities

- Consider more self-booking options to lower barriers to access for prospective riders with limited English proficiency and/or speech/hearing issues.
- Anchor southern zone at Meijer on Miller Rd. to simplify fixed-route connections.

Night Owl

Service Type: Non-ADA Paratransit
Operated by: Transdev

Description:

Curb-to-curb service on MSU campus when other CATA services are not running. No advance registration required; must call for service.

Key Points of Interest:

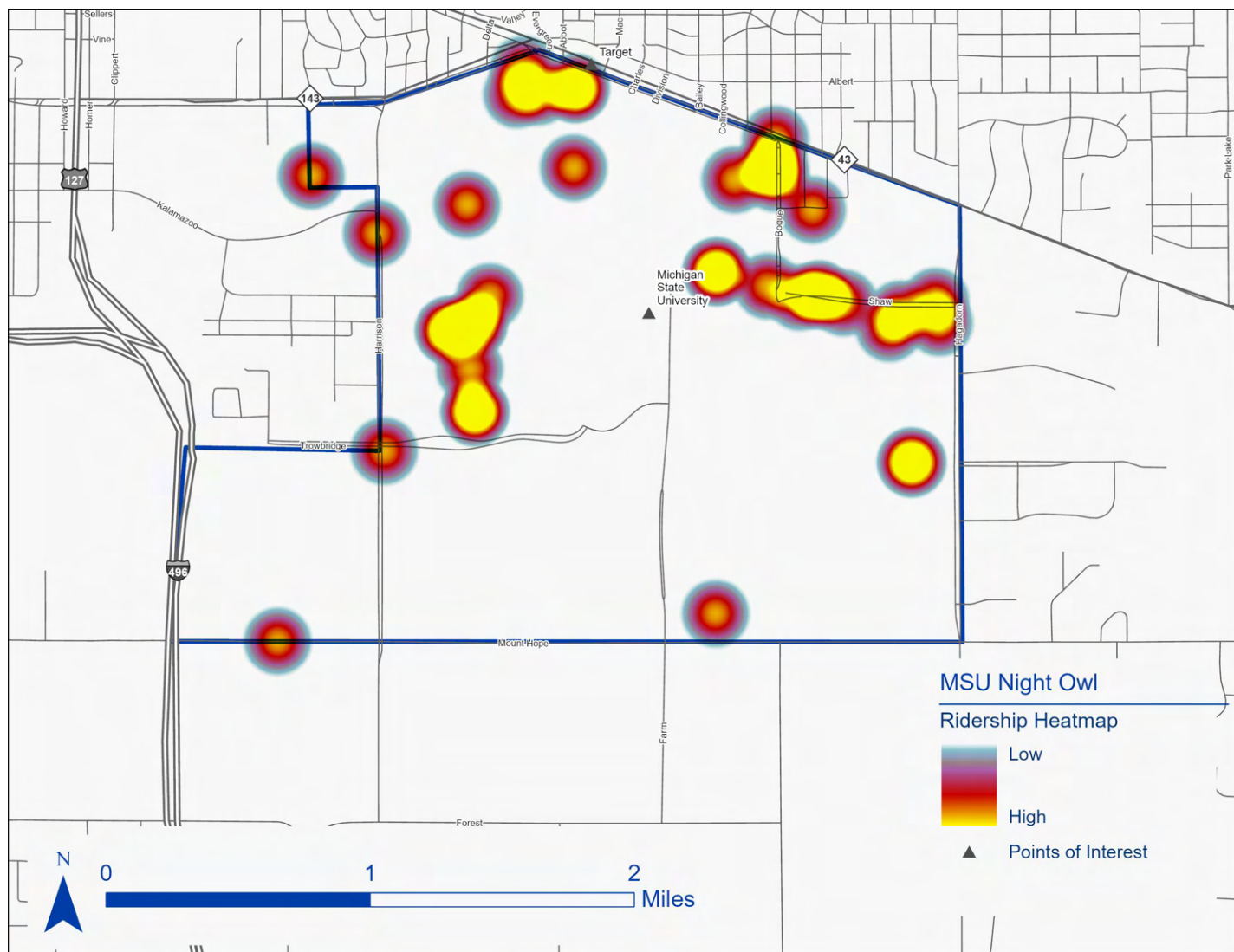
Any campus destination

Monthly Statistics

	June	Rank	October	Rank
Monthly Ridership	-	-	126	4/5
Monthly Average Wait Time	-	-	9.4	3/5

Note: Rankings are by service type

Existing Ridership Distribution



Night Owl

Service Type: Non-ADA Paratransit

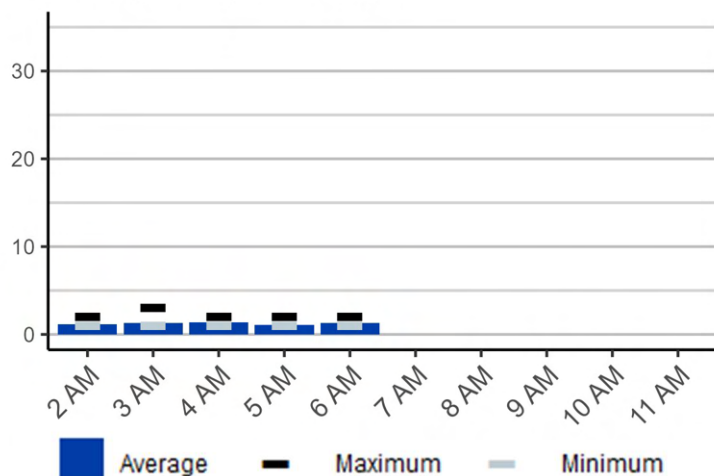
Operated by: Transdev

Weekday Statistics

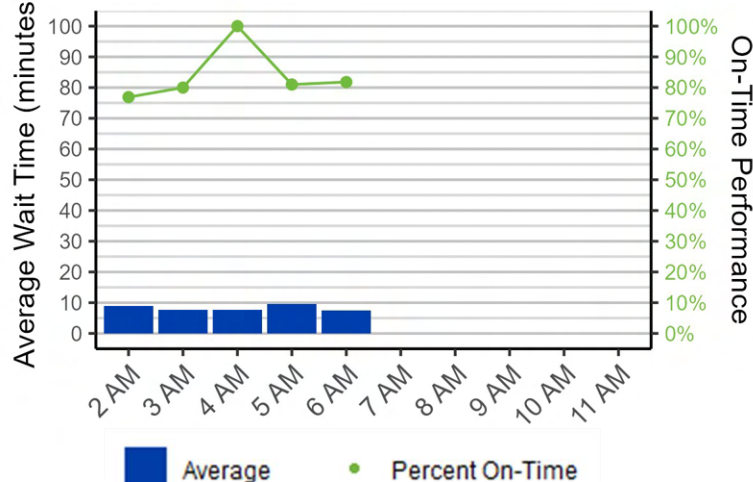
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	-	2:00 AM - 7:00 AM	Average Daily Boardings	-	-	4	4/5	Early	-	0%	Population Within Zone	17,289			4/5
Number of Vehicles	-	2	Average Wait Time (min)	-	-	9.4	3/5	On-Time	-	99%	Jobs Within Zone	3,692			4/5
Note: Rankings are by service type			Average Trip Duration (min)	-	-	40.1	3/5	Late	-	1%	Passengers per Capita	-	-	0.02%	3/5
			Average Trip Length (miles)	-	-	1.7	2/5								
			Passengers per Hour	-	-	2.5	3/5								

Weekday Graphs

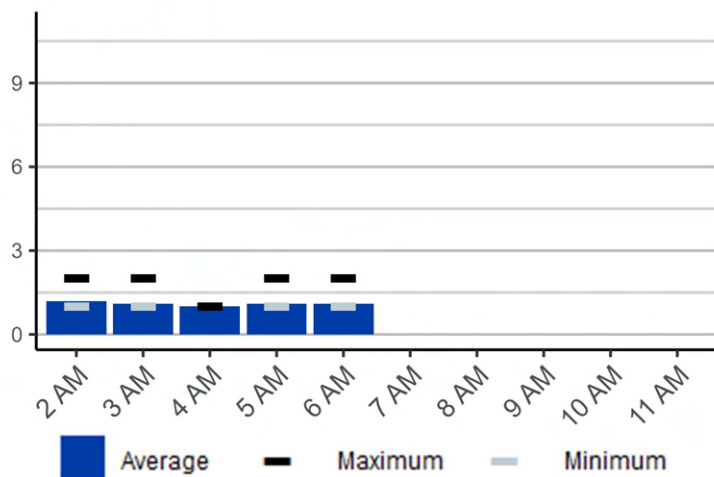
Average Daily Ridership



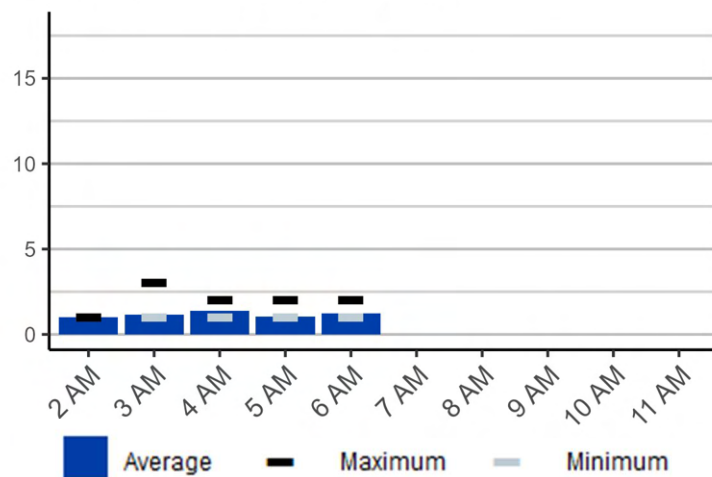
Wait Time



Vehicle Count



Average Ridership per Vehicle



Night Owl

Service Type: Non-ADA Paratransit

Operated by: Transdev

Saturday Statistics

Operating Characteristics

Daily Statistics

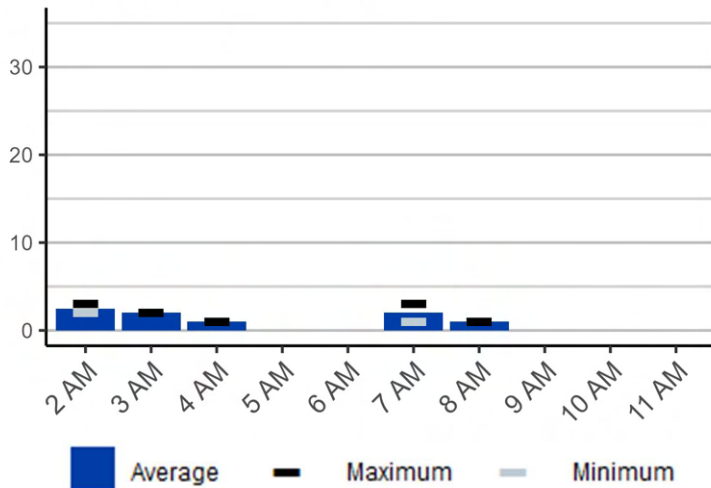
On-Time Performance

Market Penetration

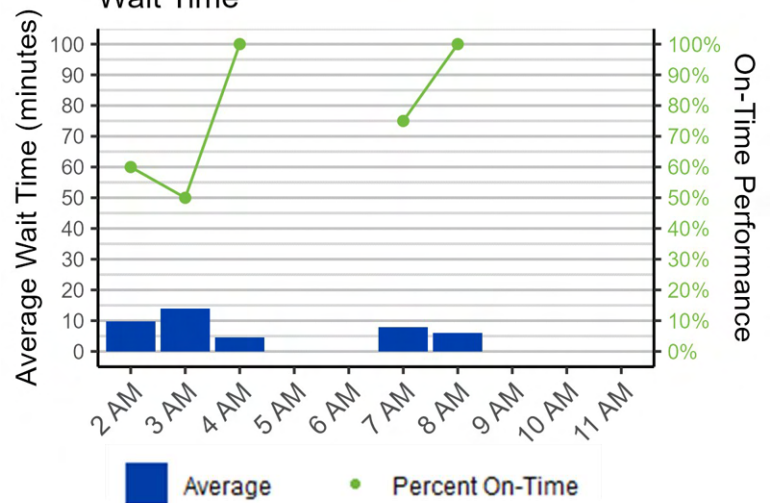
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	-	2:00 AM - 9:00 AM	Average Daily Boardings	-	-	6	2/3	Early	-	0%	Population Within Zone	-	-	17,289	4/5
Number of Vehicles	-	2	Average Wait Time (min)	-	-	n/a	-	On-Time	-	100%	Jobs Within Zone	-	-	3,692	4/5
Note: Rankings are by service type			Average Trip Duration (min)	-	-	n/a	-	Late	-	0%	Passengers per Capita	-	-	0.03%	2/3
			Average Trip Length (miles)	-	-	n/a	-								
			Passengers per Rev. Hour	-	-	1.9	2/3								

Saturday Graphs

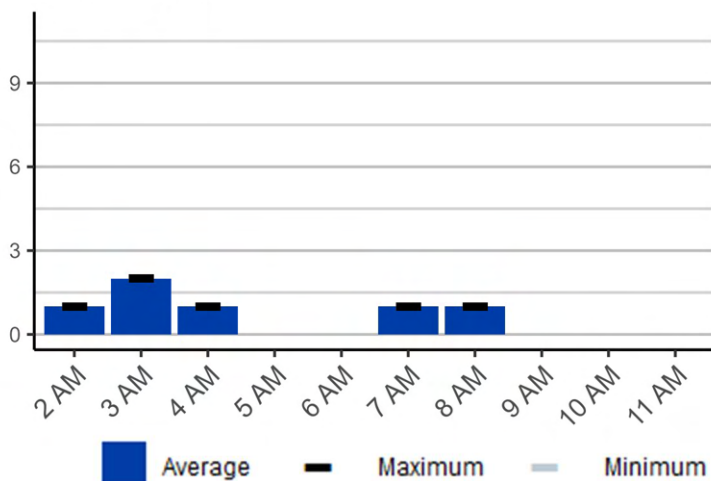
Average Daily Ridership



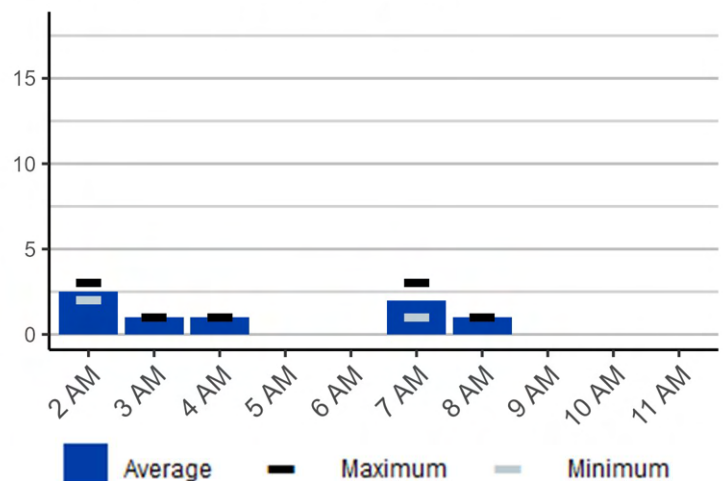
Wait Time



Vehicle Count



Average Ridership per Vehicle



Night Owl

Service Type: Non-ADA Paratransit

Operated by: Transdev

Sunday Statistics

Operating Characteristics

Daily Statistics

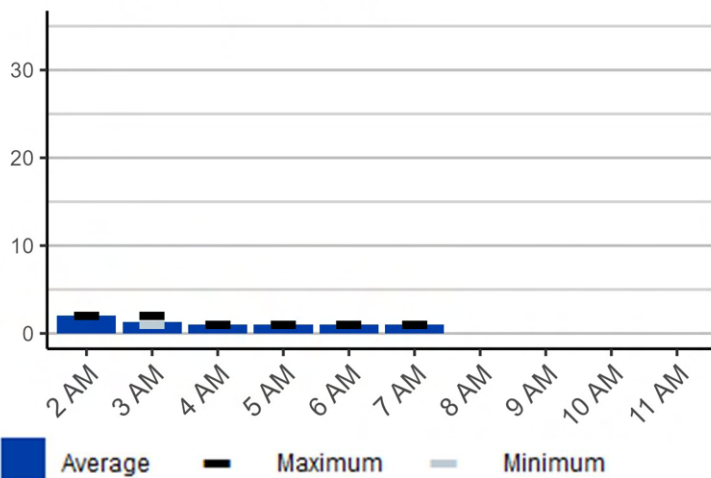
On-Time Performance

Market Penetration

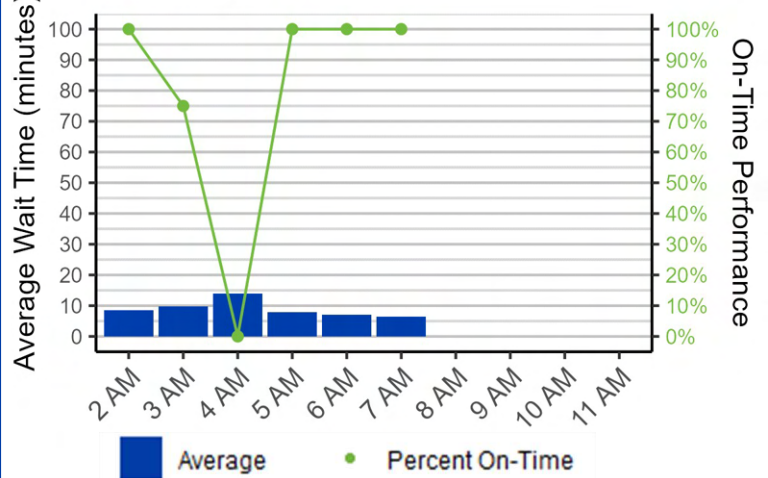
			June	Oct			June	Rank	Oct	Rank				June	Oct			June	Rank	Oct	Rank
Span	-	2:00 AM - 9:00 AM	Average Daily Boardings	-	-	5	1/2				Early	-	0%	Population Within Zone			17,289			4/5	
Number of Vehicles	-	2	Average Wait Time (min)	-	-	n/a	-				On-Time	-	100%	Jobs Within Zone			3,692			4/5	
Note: Rankings are by service type			Average Trip Duration (min)	-	-	n/a	-				Late	-	0%	Passengers per Capita	-	-	0.03 %	1/2			
			Average Trip Length (miles)	-	-	n/a	-														
			Passengers per Rev. Hour	-	-	3.0	1/2														

Sunday Graphs

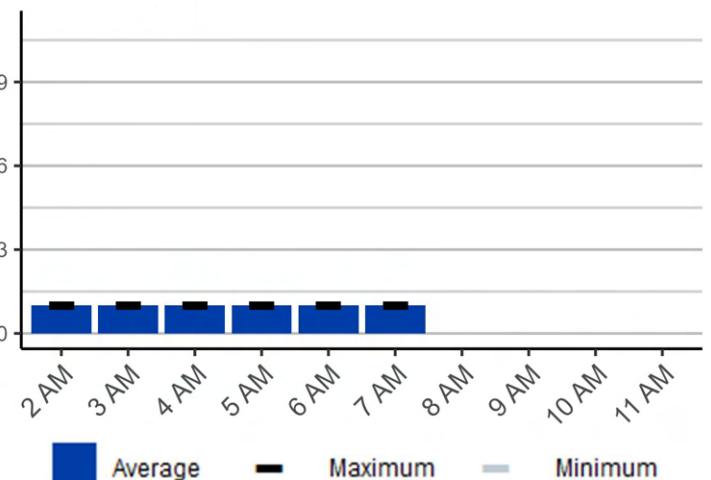
Average Daily Ridership



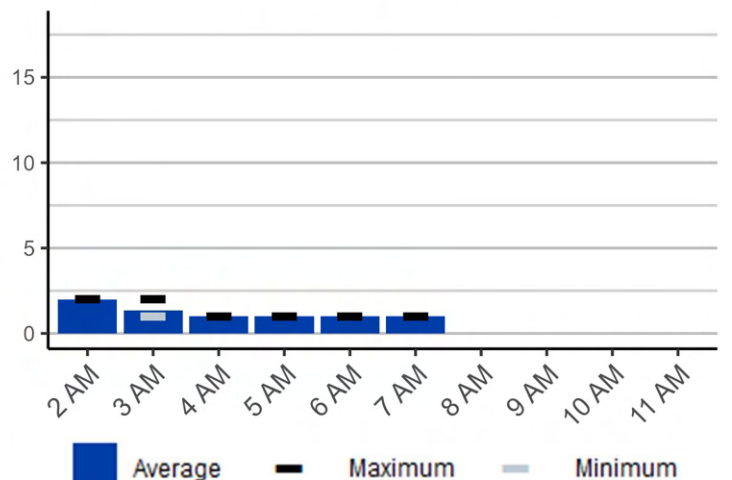
Wait Time



Vehicle Count



Average Ridership per Vehicle



Night Owl

Service Type: Non-ADA Paratransit

Operated by: Transdev

Zone Analysis

Strengths

- Provides on-demand late-night/early-morning service throughout the MSU campus.
- Operates 7 days a week when school is in session.
- Low fares for students with valid student ID.
- Short wait times.

Weaknesses

- Low ridership, with average daily boardings never exceeding 6 passenger trips.
- Fare policy may limit ridership.
- Reservations must be made by phone only, with no online or mobile app booking option currently available.

Opportunities

- Transition service to modern microtransit service including mobile booking, real-time vehicle information, and more immediate service availability.
- Invest resources from poorly-performing late-night fixed-route services into robust microtransit services within existing MSU Night Owl zone.
- Expand zone to include select off-campus housing with high concentrations of MSU students.
- Eliminate direct fares to reduce barriers to access for prospective riders.

Lot Link

Service Type: Non-ADA Paratransit
 Operated by: Transdev

Description: Evening & weekend campus service between parking lots and other campus destinations

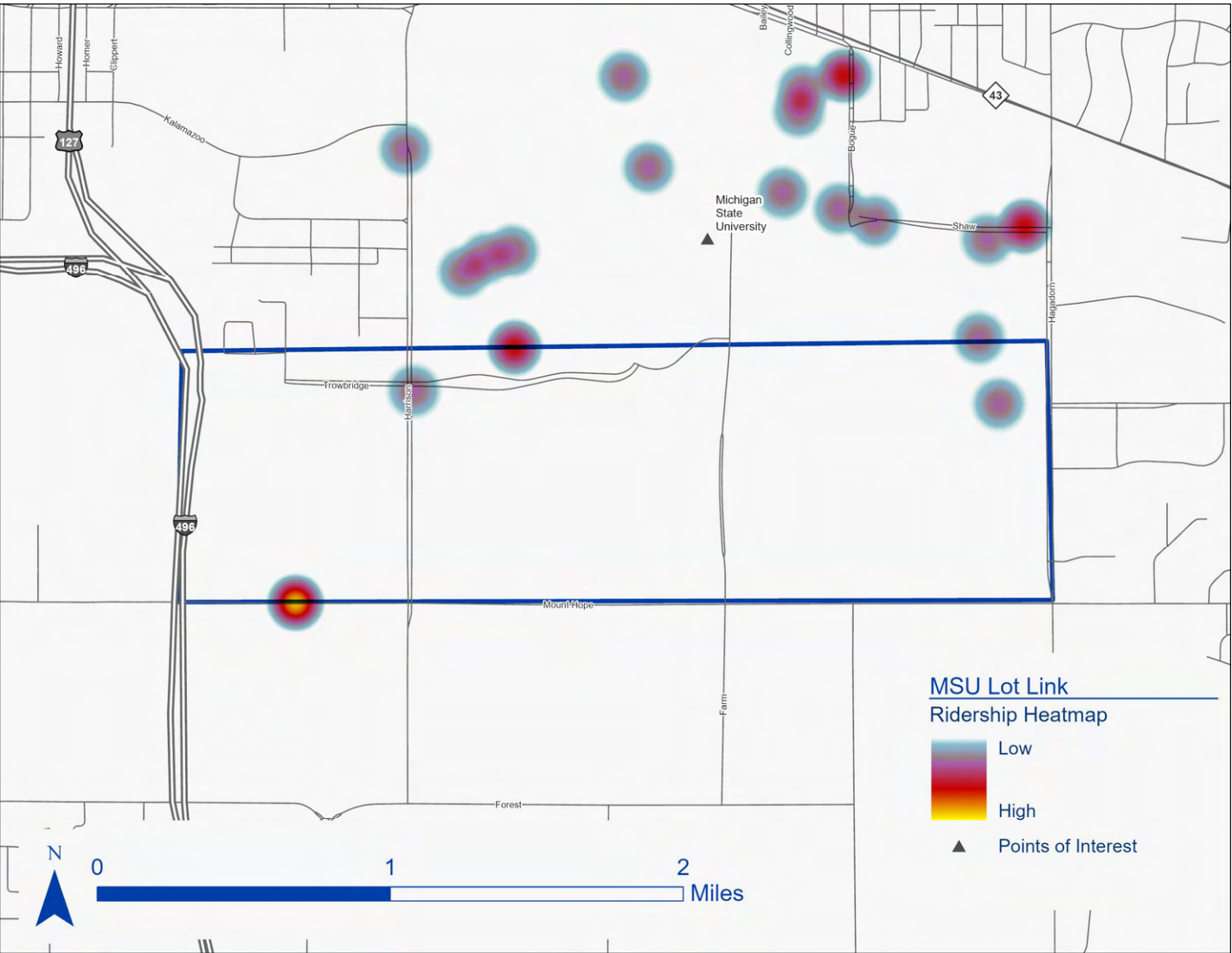
Key Points of Interest: Any campus destination

Monthly Statistics

	June	Rank	October	Rank
Monthly Ridership	-	-	85	5/5
Monthly Average Wait Time	-	-	10.5	4/5

Note: Rankings are by service type

Existing Ridership Distribution



Lot Link

Service Type: Non-ADA Paratransit

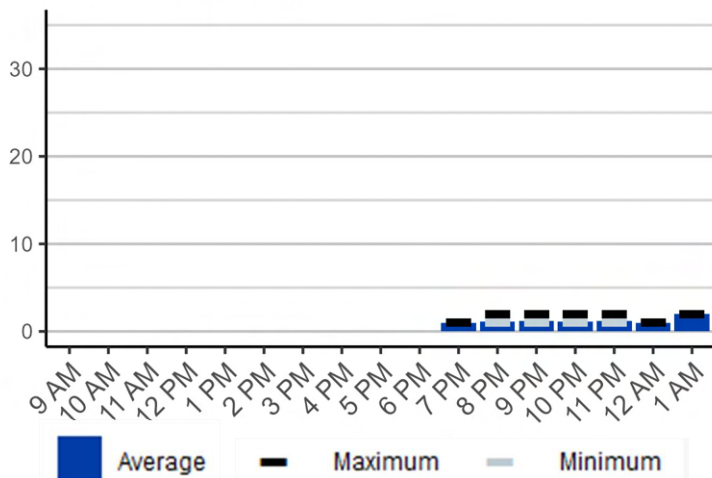
Operated by: Transdev

Weekday Statistics

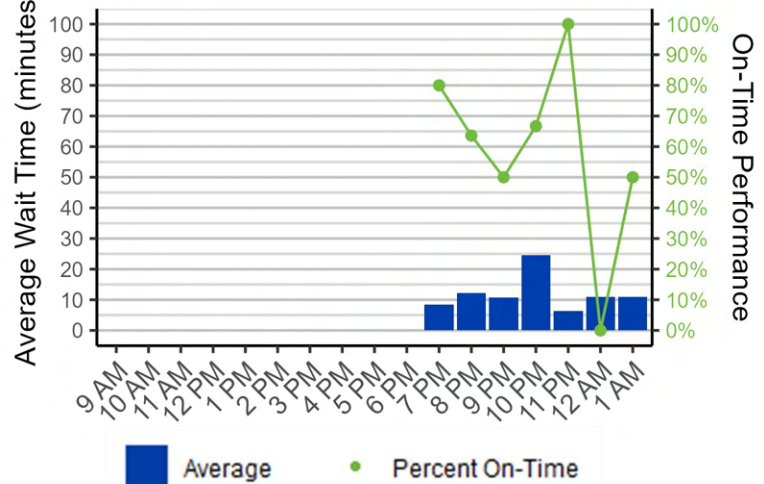
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	-	7:00 PM - 2:00 AM	Average Daily Boardings	-	-	2	5/5	Early	-	0%	Population Within Zone	17,731			3/5
Number of Vehicles	-	2	Average Wait Time (min)	-	-	10.5	4/5	On-Time	-	93%	Jobs Within Zone	4,273			3/5
Note: Rankings are by service type			Average Trip Duration (min)	-	-	36.9	2/5	Late	-	7%	Passengers per Capita	-	-	0.01%	4/5
			Average Trip Length (miles)	-	-	1.5	1/5								
			Passengers per Hour	-	-	2.5	2/5								

Weekday Graphs

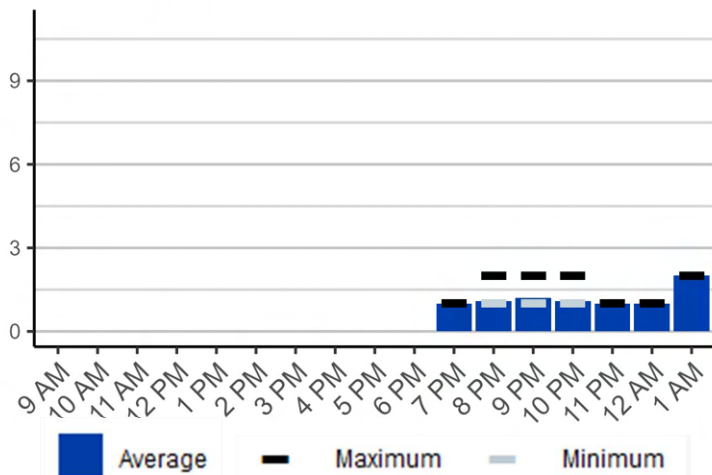
Average Daily Ridership



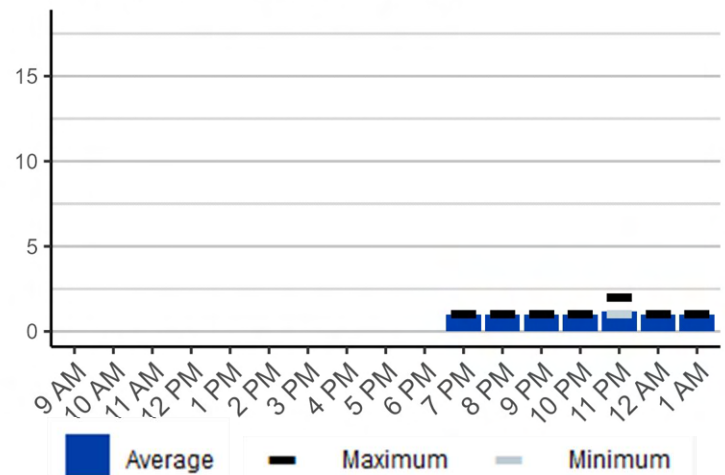
Wait Time



Vehicle Count



Average Ridership per Vehicle



Lot Link

Service Type: Non-ADA Paratransit

Operated by: Transdev

Saturday Statistics

Operating Characteristics

Daily Statistics

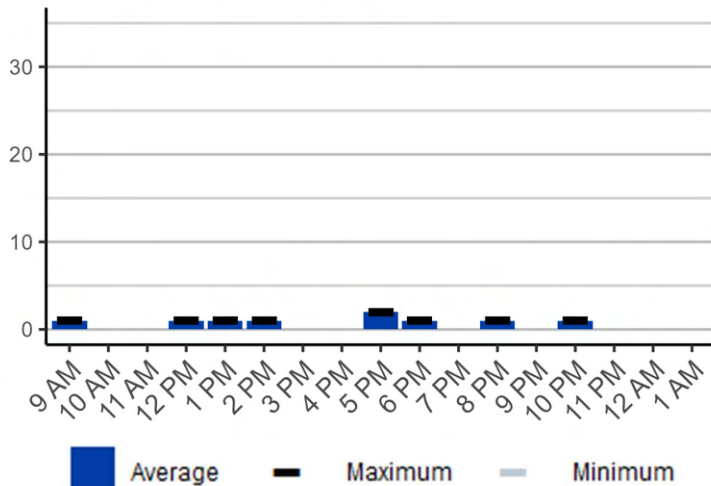
On-Time Performance

Market Penetration

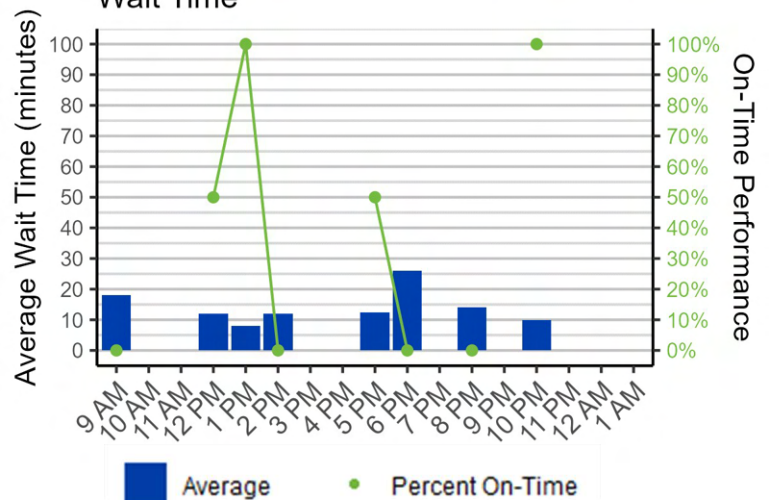
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	-	9:00 AM - 2:00 PM	Average Daily Boardings	-	-	2	3/3	Early	-	0%	Population Within Zone	-	17,731	-	3/5
Number of Vehicles	-	2	Average Wait Time (min)	-	-	n/a	-	On-Time	-	90%	Jobs Within Zone	-	4,273	-	3/5
Note: Rankings are by service type			Average Trip Duration (min)	-	-	n/a	-	Late	-	10%	Passengers per Capita	-	-	0.01%	3/3
			Average Trip Length (miles)	-	-	n/a	-								
			Passengers per Rev. Hour	-	-	0.7	3/3								

Saturday Graphs

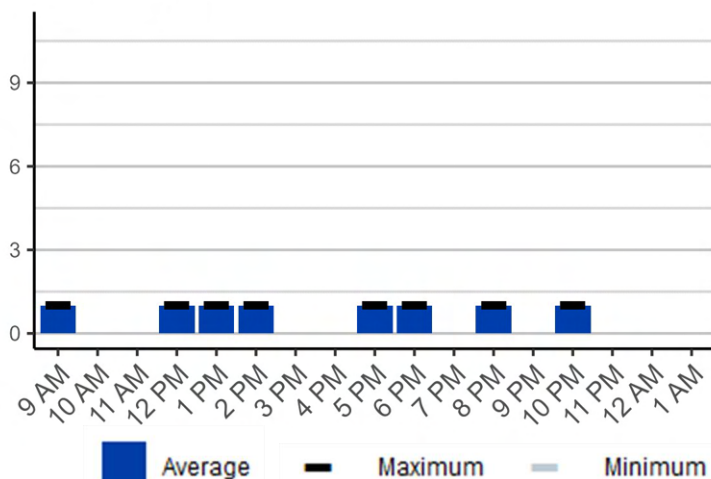
Average Daily Ridership



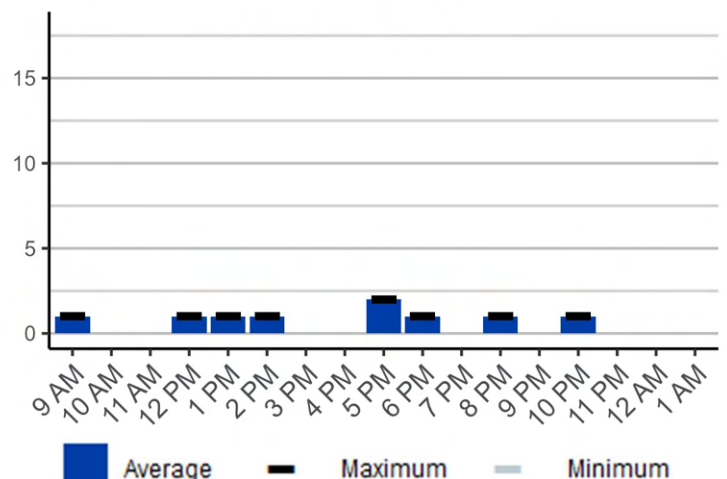
Wait Time



Vehicle Count



Average Ridership per Vehicle



Lot Link

Service Type: Non-ADA Paratransit

Operated by: Transdev

Sunday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

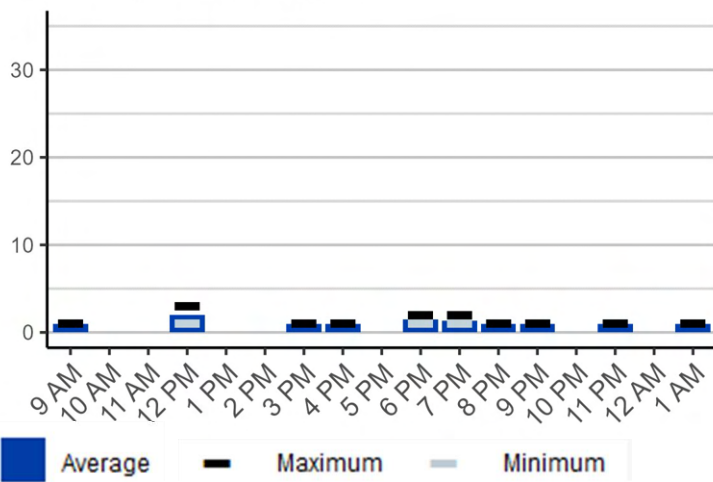
Market Penetration

	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	-	9:00 AM - 2:00 PM	Average Daily Boardings	-	-	6	1/2	Early	-	0%	Population Within Zone	17,731			3/5
Number of Vehicles	-	2	Average Wait Time (min)	-	-	n/a	-	On-Time	-	95%	Jobs Within Zone	4,273			3/5
			Average Trip Duration (min)	-	-	n/a	-	Late	-	5%	Passengers per Capita	-	-	0.03%	1/2
			Average Trip Length (miles)	-	-	n/a	-								
			Passengers per Rev. Hour	-	-	1.6	2/2								
Note: Rankings are by service type															

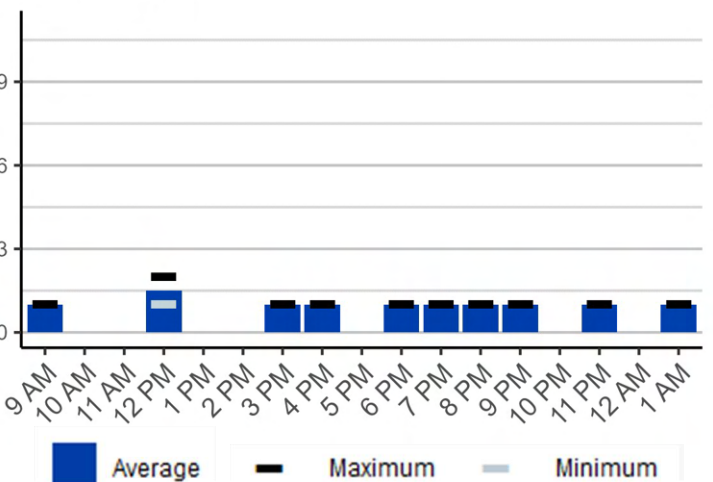
Note: Rankings are by service type

Sunday Graphs

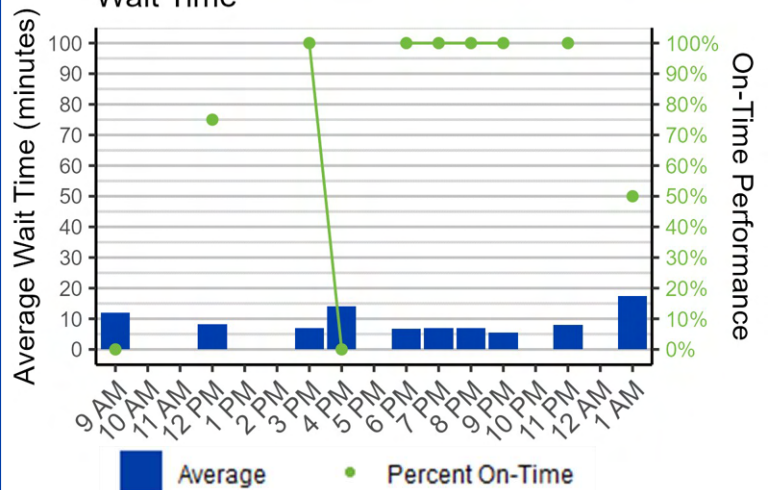
Average Daily Ridership



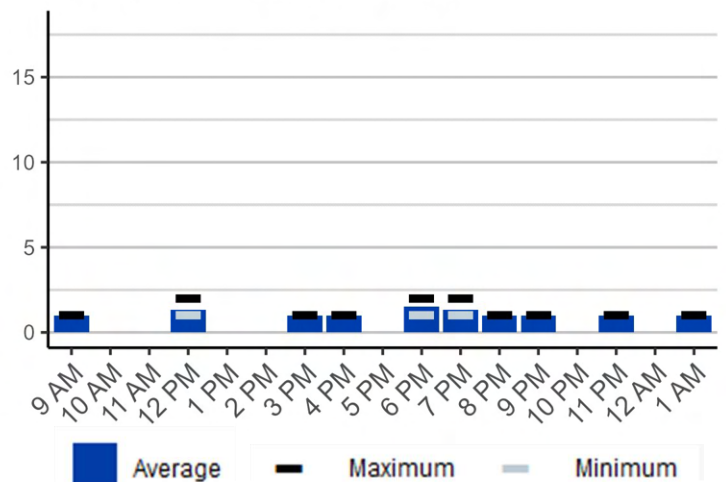
Vehicle Count



Wait Time



Average Ridership per Vehicle



Lot Link

Service Type: Non-ADA Paratransit
Operated by: Transdev

Zone Analysis

Strengths

- Provides weekday on-demand late-night/early-morning service between remote parking lots and destinations within the MSU campus.
- Provides daytime on-demand service between remote parking lots and destinations within the MSU campus on weekends.
- Low fares with a valid student ID.

Weaknesses

- Redundant with Night Owl service on weekdays.
- Low ridership, with average daily boardings never exceeding 6 passenger trips.
- Fare policy may limit ridership.
- Reservations must be made by phone only, with no online or mobile app booking option currently available.

Opportunities

- Eliminate weekday Lot Link service as comparable service is already provided by the Night Owl.
- Transition service to modern microtransit service including mobile booking, real-time vehicle information, and more immediate service availability.
- Eliminate direct fares to reduce barriers to access for prospective riders.

Shopping Bus

Service Type: Non-ADA Paratransit
Operated by: Transdev

Description:

Connects senior housing complexes to grocery stores and shopping centers on a fixed schedule. Reservations are not required. Locations served vary based on the day of the week.

Key Points of Interest:

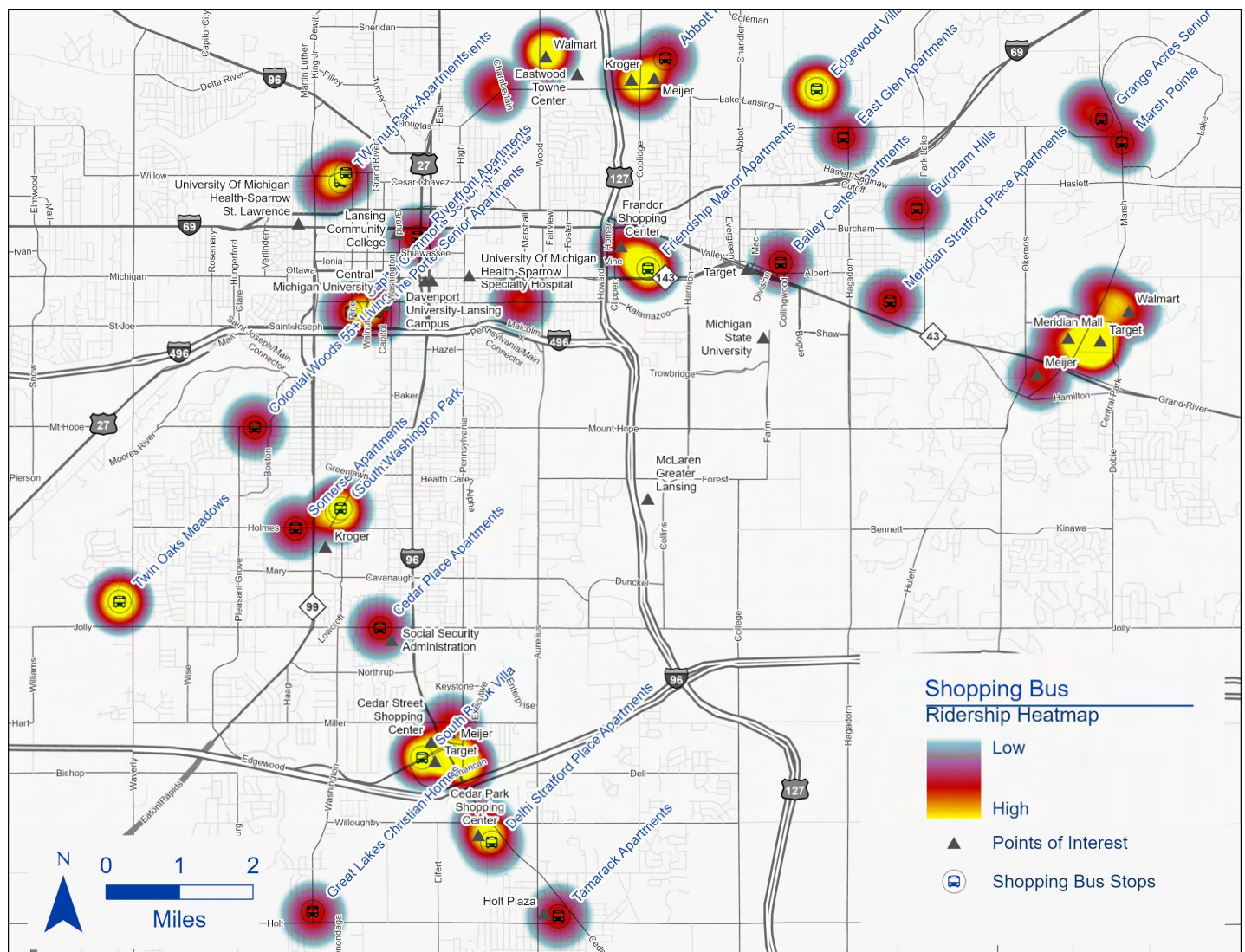
Senior housing complexes and shopping centers

Monthly Statistics

Monthly Ridership	June	Rank	October	Rank
	164	3/3	158	3/5
Monthly Average Wait Time	n/a	/3	n/a	/5

Note: Rankings are by service type

Existing Ridership Distribution



Shopping Bus

Service Type: Non-ADA Paratransit

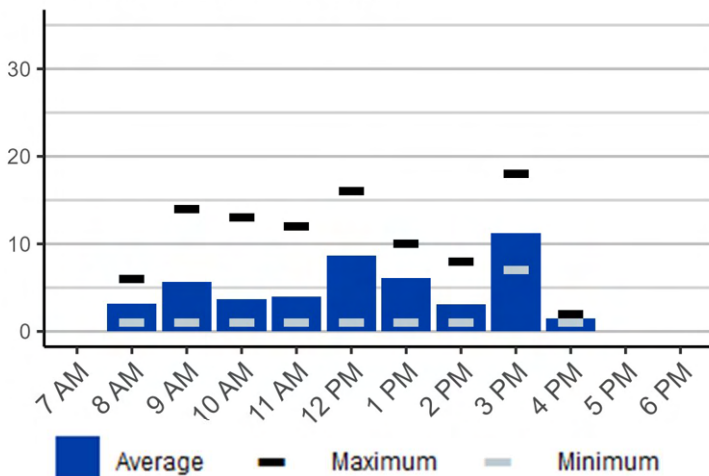
Operated by: Transdev

Weekday Statistics

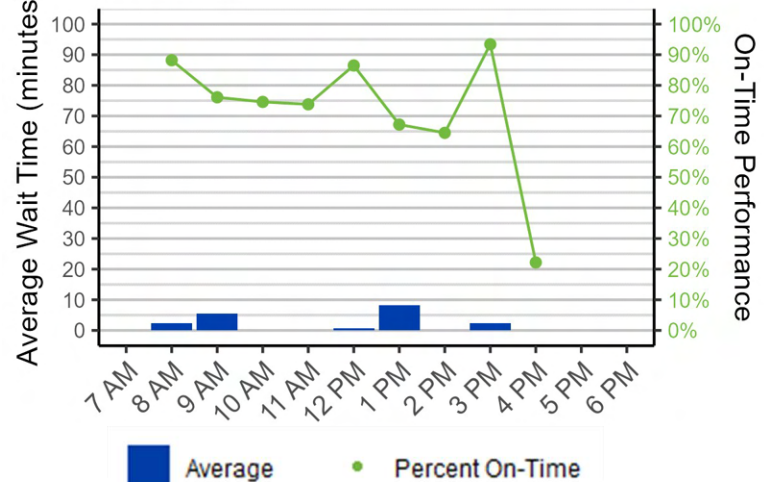
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	8:45 AM - 3:00 PM	8:45 AM - 3:00 PM	Average Daily Boardings	8	3/3	7	3/5	Early	7%	6%	Population Within Zone	n/a		-	
Number of Vehicles	1	1	Average Wait Time (min)	n/a	-	n/a	-	On-Time	93%	93%	Jobs Within Zone	n/a		-	
Note: Rankings are by service type			Average Trip Duration (min)	50.4	3/3	58.6	5/5	Late	0%	1%	Passengers per Capita	n/a	-	n/a	-
			Average Trip Length (miles)	5.9	2/3	6.1	4/5								
			Passengers per Hour	1.5	2/3	1.4	5/5								

Weekday Graphs

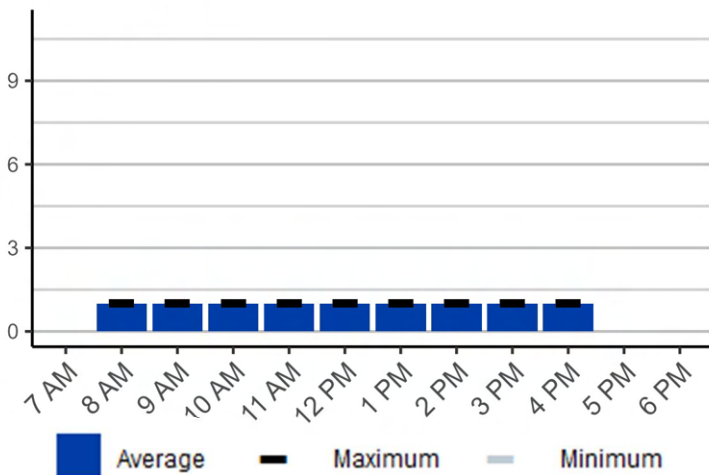
Average Daily Ridership



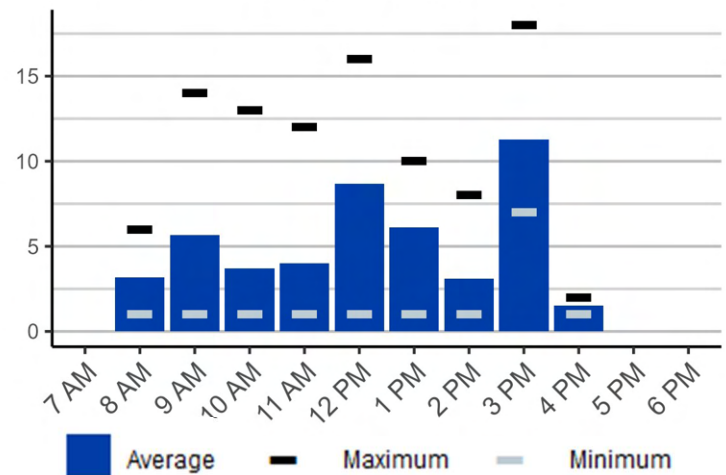
Wait Time



Vehicle Count



Average Ridership per Vehicle



Shopping Bus

Service Type: Non-ADA Paratransit

Operated by: Transdev

Zone Analysis

Strengths

- Important lifeline service connecting senior housing complexes to grocery and retail destinations once or twice a week, depending on the complex.
- Affordable fares compared to taxi service.
- No reservations necessary.

Weaknesses

- Relatively low ridership, with average daily boardings never exceeding 8 passenger trips.
- Limited shopping options for each complex.

Opportunities

- Where microtransit services exist (currently or in the future), provide travel training to encourage Shopping Bus users to use the service which offers more flexibility and expanded options.

CATA Rydz Late Night

Service Type: Microtransit

Operated by: Via

Description:

App-based microtransit service during evening hours, requiring advance booking at least 2 hours in advance

Key Points of Interest:

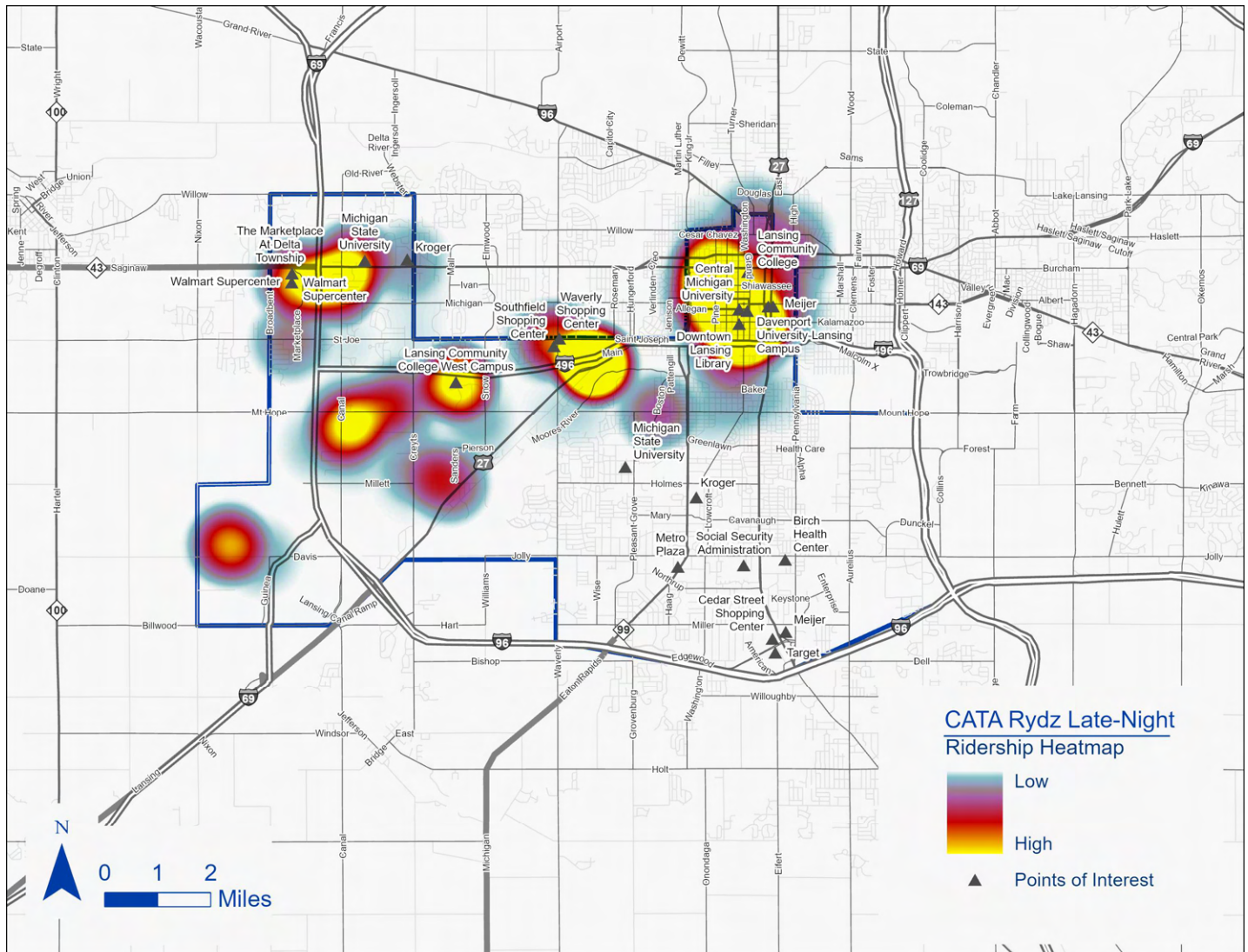
Between Delta Township and Lansing

Monthly Statistics

	June	Rank	October	Rank
Monthly Ridership	n/a	-	217	3/4
Monthly Average Wait Time	n/a	-	n/a	-

Note: Rankings are by service type

Existing Ridership Distribution



CATA Rydz Late Night

Service Type: Microtransit

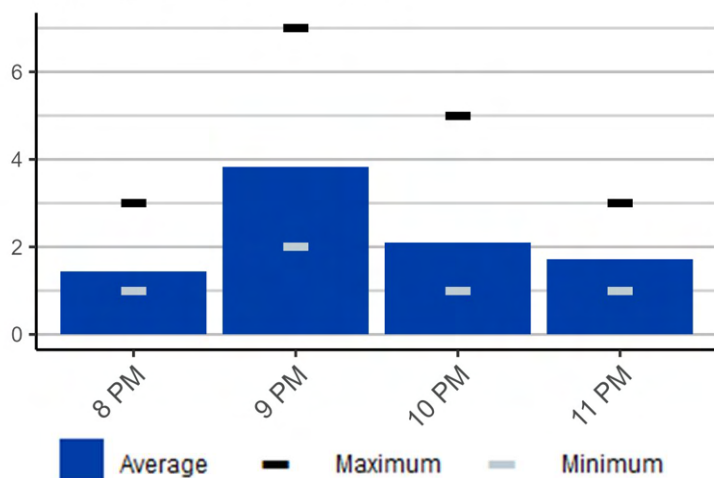
Operated by: Via

Weekday Statistics

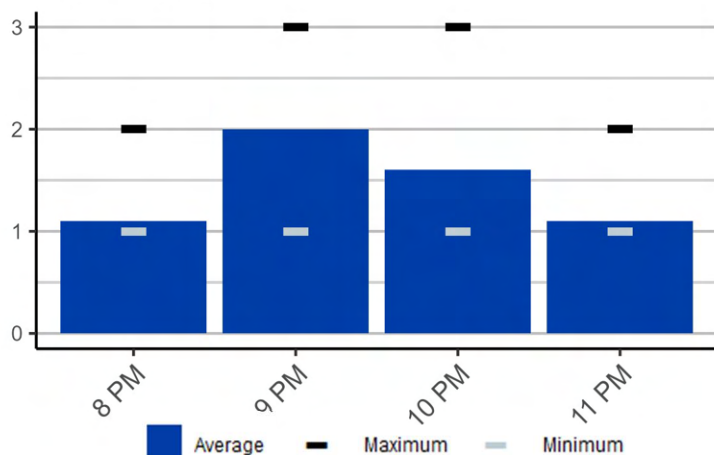
Operating Characteristics			Daily Statistics				On-Time Performance		Market Penetration						
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	8:00 PM - 11:30 PM	8:00 PM - 11:30 PM	Average Daily Boardings	n/a	-	8	3/4	Early	n/a	59%	Population Within Zone	75,710			1/4
Number of Vehicles	n/a	5	Average Wait Time (min)	n/a	-	n/a	-	On-Time	n/a	41%	Jobs Within Zone	78,815			1/4
Note: Rankings are by service type			Average Trip Duration (min)	n/a	-	13.8	3/4	Late	n/a	0%	Passengers per Capita	n/a	-	0.01%	3/4
			Average Trip Length (miles)	n/a	-	8.9	4/4								
			Passengers per Hour	n/a	-	1.3	4/4								

Weekday Graphs

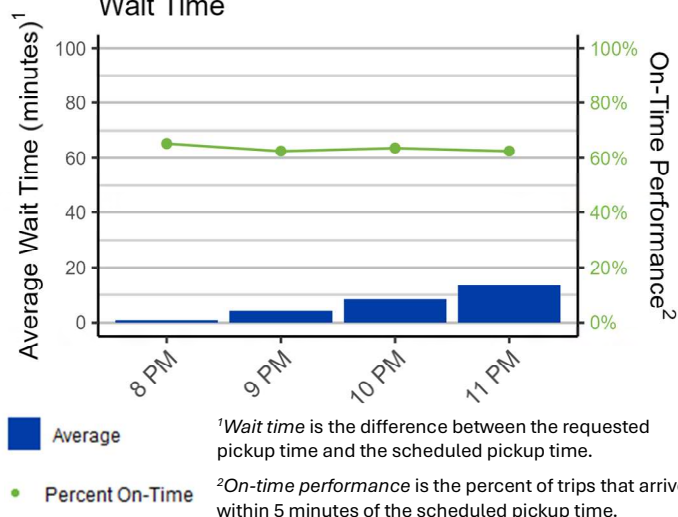
Average Daily Ridership



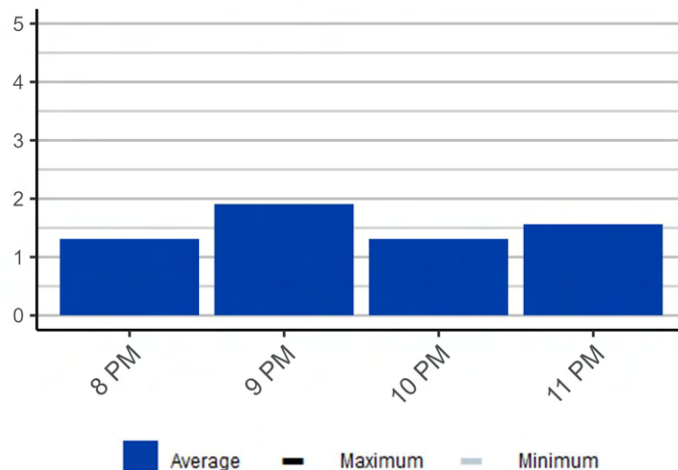
Vehicle Count



Wait Time



Average Ridership per Vehicle



CATA Rydz Late Night

Service Type: Microtransit

Operated by: Via

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

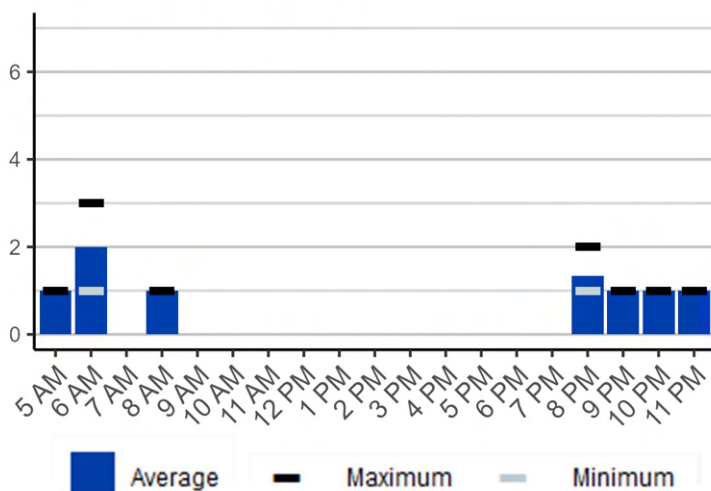
Market Penetration

		June	Oct			June	Rank	Oct	Rank			June	Oct			June	Rank	Oct	Rank
Span		5:30 AM - 9:00 AM; 8:00 PM - 11:30 PM	5:30 AM - 9:00 AM; 8:00 PM - 11:30 PM	Average Daily Boardings		n/a	-	4	3/4	Early		n/a	69%	Population Within Zone		75,710		1/4	
				Average Wait Time (min)		n/a	-	n/a	-	On-Time		n/a	31%	Jobs Within Zone		78,815		1/4	
Number of Vehicles		n/a	5	Average Trip Duration (min)		n/a	-	15.4	3/4	Late		n/a	0%	Passengers per Capita		n/a	-	0.01%	3/4
				Average Trip Length (miles)		n/a	-	7.8	3/4										
				Passengers per Rev. Hour		n/a	-	1.1	4/4										
Note: Rankings are by service type																			

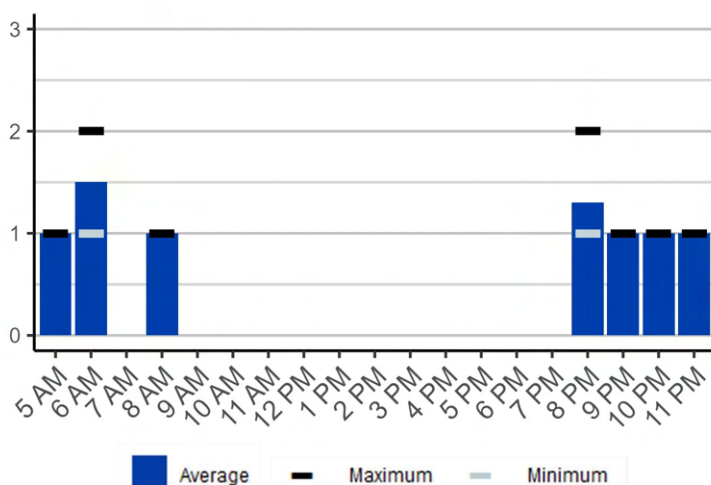
Note: Rankings are by service type

Saturday Graphs

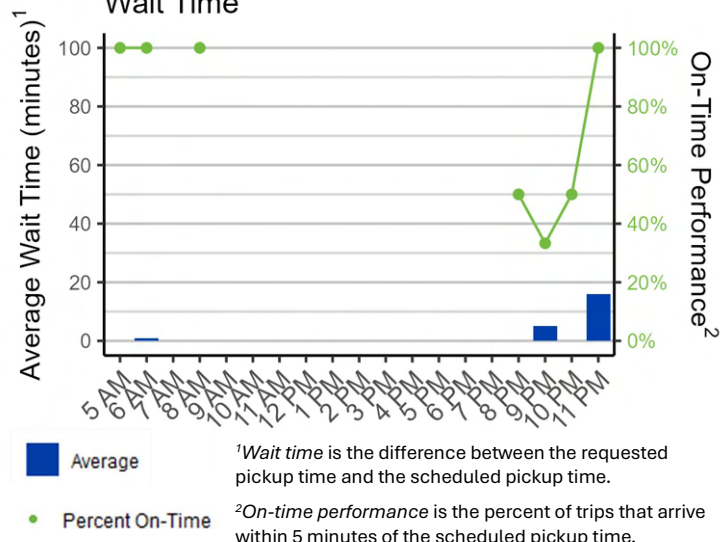
Average Daily Ridership



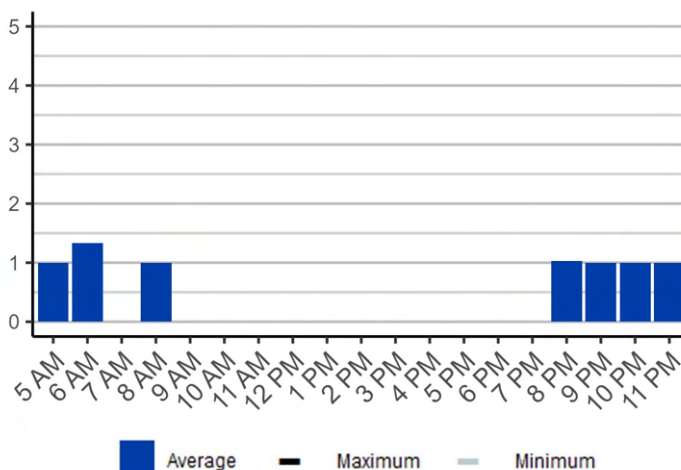
Vehicle Count



Wait Time



Average Ridership per Vehicle



CATA Rydz Late Night

Service Type: Microtransit

Operated by: Via

Sunday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

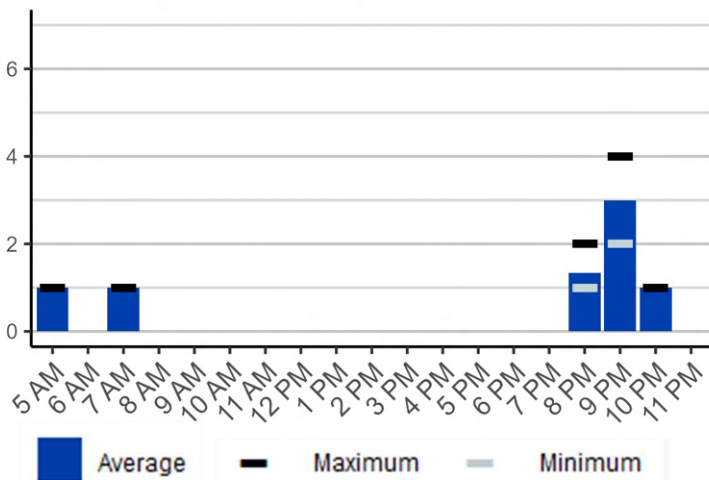
Market Penetration

				June	Rank	Oct	Rank					June	Rank	Oct	Rank		
Span	June	Oct	Average Daily Boardings	n/a	-	5	3/4	Early	n/a	71%	Population Within Zone	75,710					
	5:30 AM - 9:00 AM; 8:00 PM - 11:30 PM	5:30 AM - 9:00 AM; 8:00 PM - 11:30 PM															
	Average Wait Time (min)	n/a		-	n/a	-	On-Time		n/a	29%		Jobs Within Zone	78,815				
Number of Vehicles	n/a	5	Average Trip Duration (min)	n/a	-	14.3		3/4	Late	n/a	0%		Passengers per Capita	n/a	-	0.01%	
				Average Trip Length (miles)	n/a	-		8.6		4/4							
	Note: Rankings are by service type			Passengers per Rev. Hour	n/a	-	0.9	2/4									

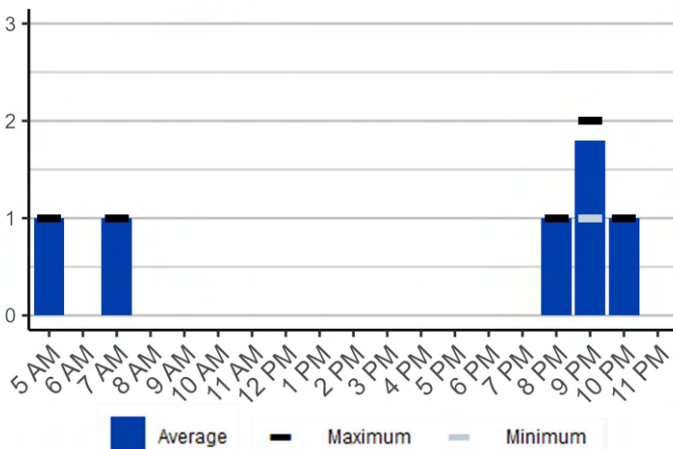
Note: Rankings are by service type

Sunday Graphs

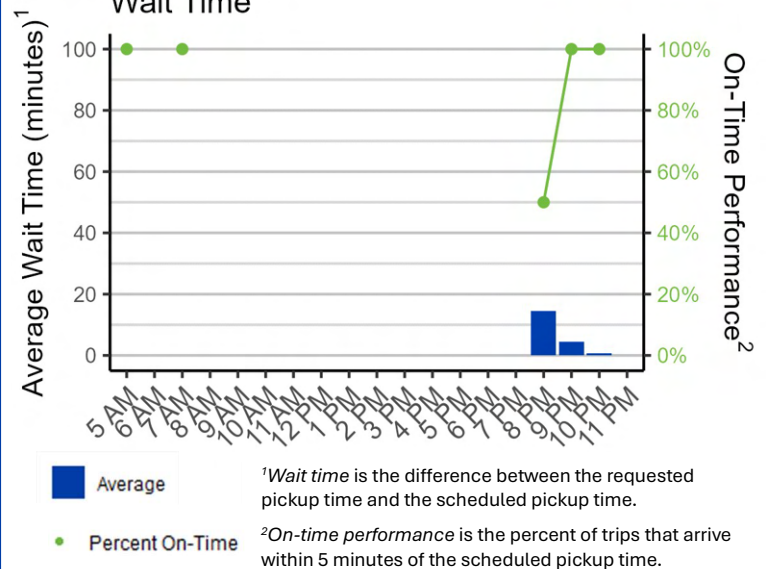
Average Daily Ridership



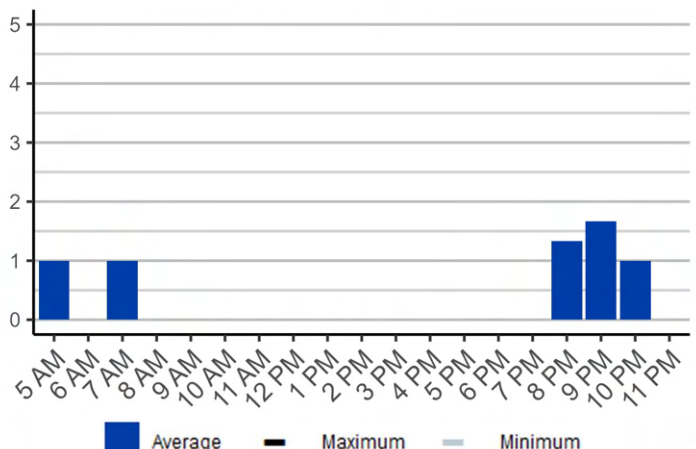
Vehicle Count



Wait Time



Average Ridership per Vehicle



CATA Rydz Late Night

Service Type: Microtransit

Operated by: Via

Zone Analysis

Strengths

- Provides late-night curb-to-curb connections between the Delta Township CATA Rydz zone and the Lansing Late-Night CATA Rydz zone.
- Operates daily.

Weaknesses

- Relatively low ridership, with average daily boardings never exceeding 8 passenger trips.

Opportunities

- Consider restoring service to parts of Delta Township recently eliminated from zone, and charging "market rate" fares, as these areas include substantial retail and multi-family housing (i.e. potentially strong ridership generators) that are no longer served by CATA fixed-route service.
- Consider extending both zones to serve the Lansing Mall area, as it is destination-rich and could serve as a transfer point between Rydz service to help reduce average trip lengths.

CATA Rydz Delta Township

Service Type: Microtransit
Operated by: Via

Description: App-based microtransit service operating in Delta Township

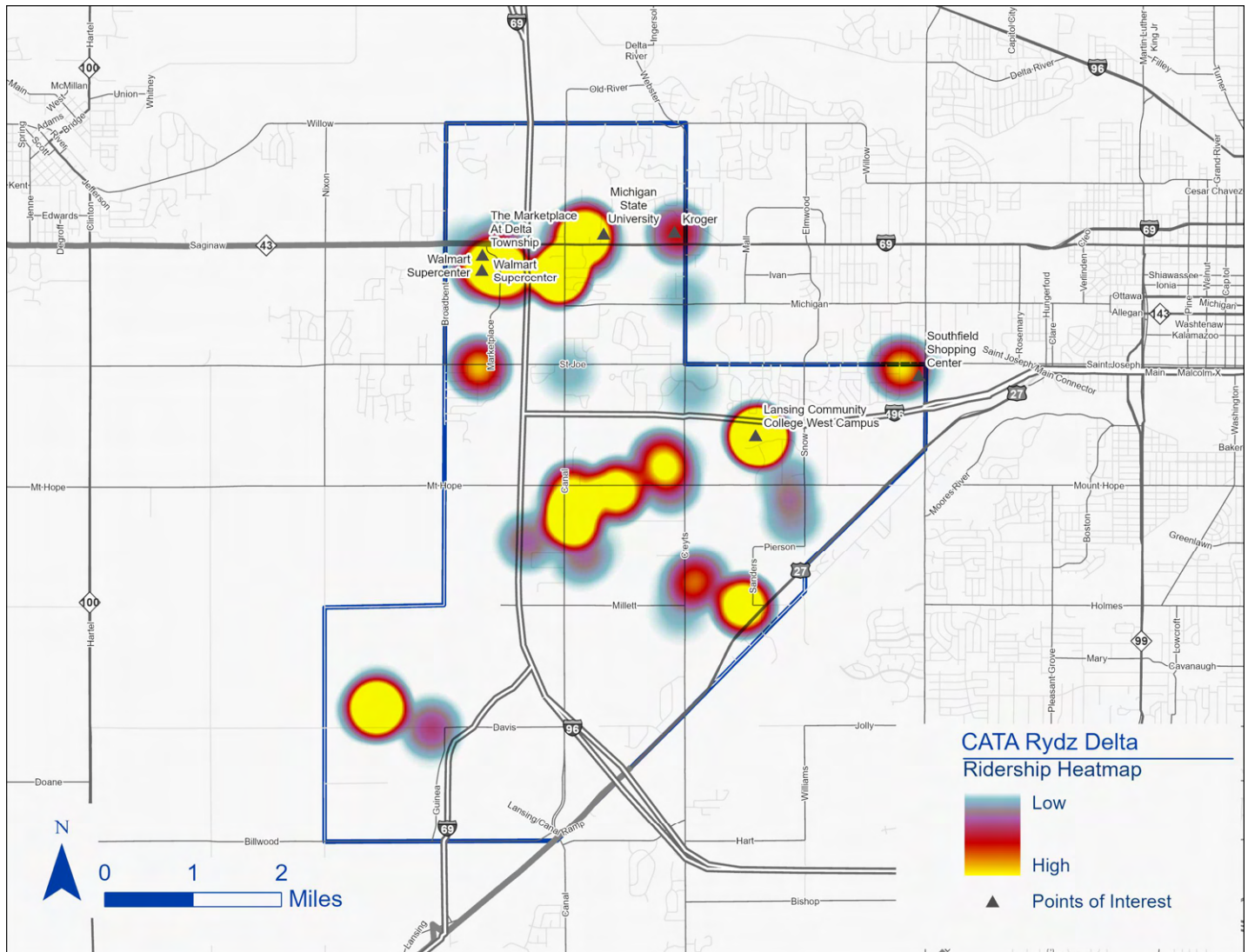
Key Points of Interest: Delta Township, Lansing Community College West Campus

Monthly Statistics

	June	Rank	October	Rank
Monthly Ridership	161	2/4	333	2/4
Monthly Average Wait Time	5.4	1/4	10.9	3/4

Note: Rankings are by service type

Existing Ridership Distribution



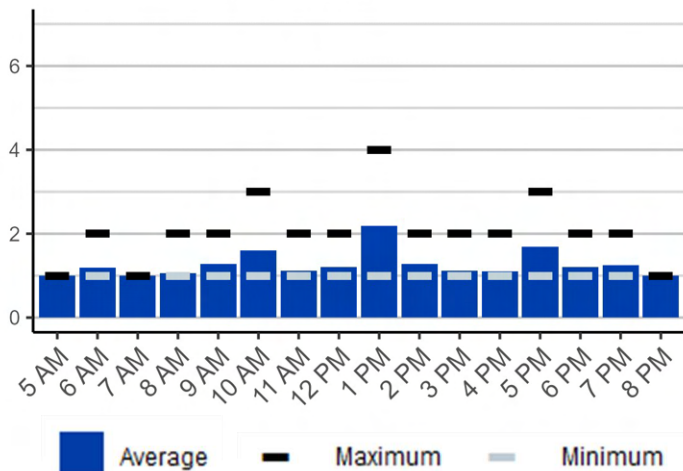
CATA Rydz Delta Township

Weekday Statistics

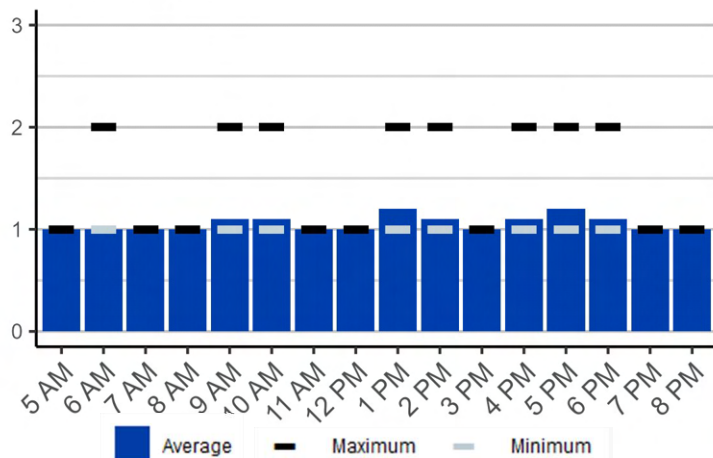
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
Span	June	Oct	Average Daily Boardings	June	Rank	Oct	Rank	Early	June	Oct	Population Within Zone	June	Rank	Oct	Rank
	5:30 AM - 8:00 PM	5:30 AM - 8:00 PM		5	2/4	12	2/4		65%	56%		12,826	3/4		
Number of Vehicles	5	5	Average Wait Time (min)	6.2	1/4	11.0	3/4	On-Time	35%	43%	Jobs Within Zone	18,029	3/4		
			Average Trip Duration (min)	9.1	2/4	9.6	2/4		Late	0%		0%	Passengers per Capita	0.04%	2/4
Note: Rankings are by service type			Average Trip Length (miles)	3.1	2/4	3.8	2/4								
			Passengers per Hour	1.2	1/4	1.5	1/4								

Weekday Graphs

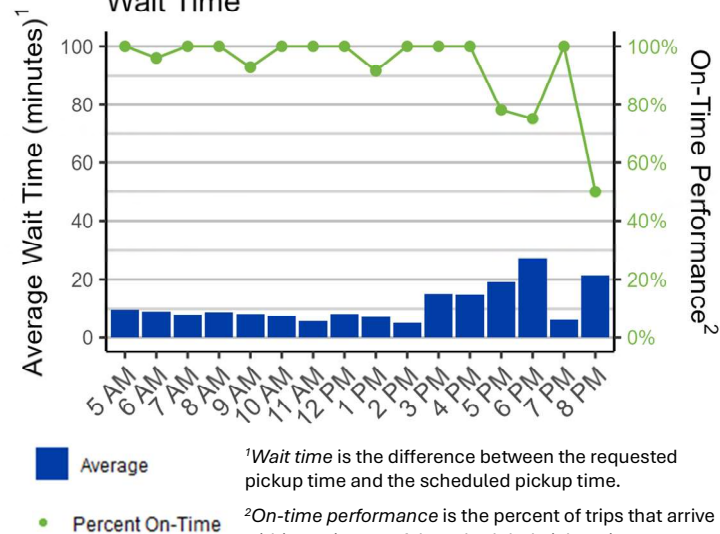
Average Daily Ridership



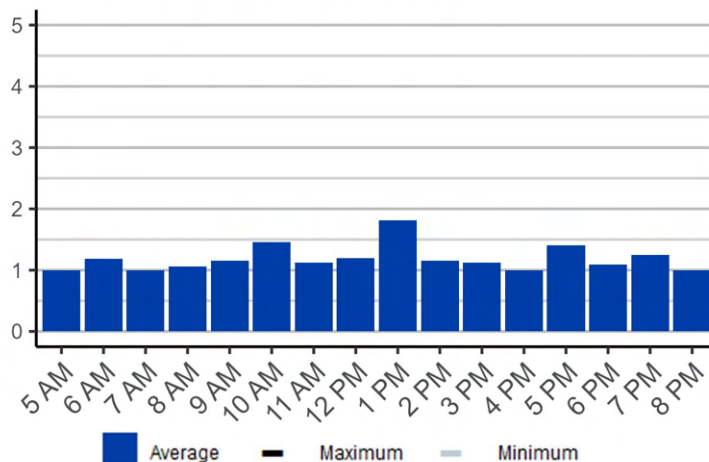
Vehicle Count



Wait Time



Average Ridership per Vehicle



CATA Rydz Delta Township

Saturday Statistics

Operating Characteristics

Daily Statistics

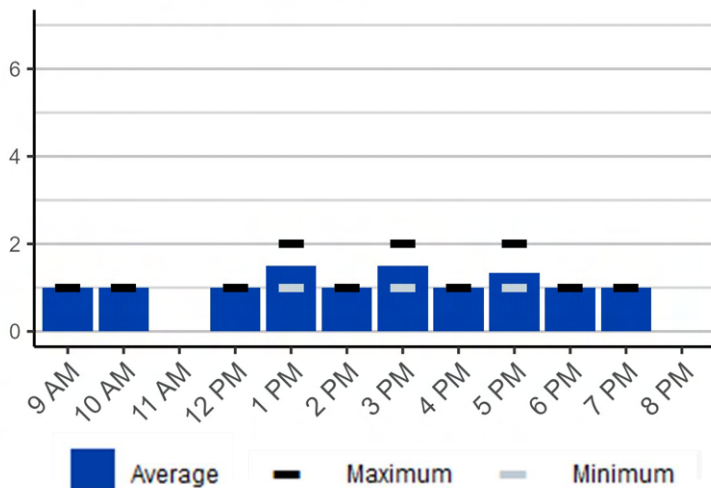
On-Time Performance

Market Penetration

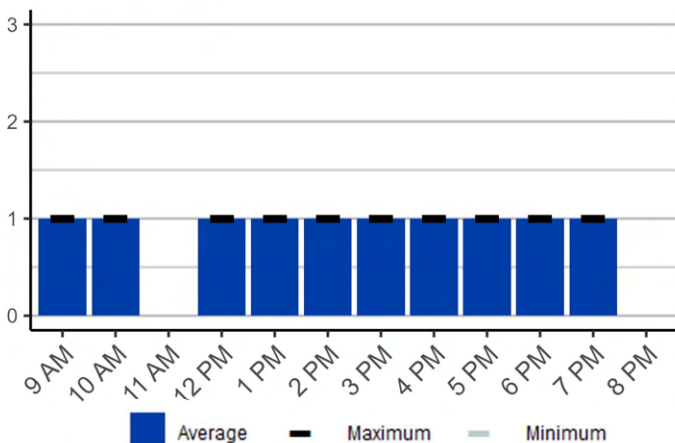
			June	Rank	Oct	Rank				June	Rank	Oct	Rank		
Span	9:00 AM - 8:00 PM	9:00 AM - 8:00 PM	Average Daily Boardings	13	2/4	7	2/4	Early	54%	56%	Population Within Zone	12,826	3/4		
Number of Vehicles	5	5	Average Wait Time (min)	3.8	1/4	10.8	2/4	On-Time	46%	44%	Jobs Within Zone	18,029	3/4		
Note: Rankings are by service type			Average Trip Duration (min)	9.2	2/4	10.6	2/4	Late	0%	0%	Passengers per Capita	0.10%	2/4	0.05%	2/4
			Average Trip Length (miles)	2.9	2/4	4.6	2/4								
			Passengers per Rev. Hour	4.8	1/4	1.4	1/4								

Saturday Graphs

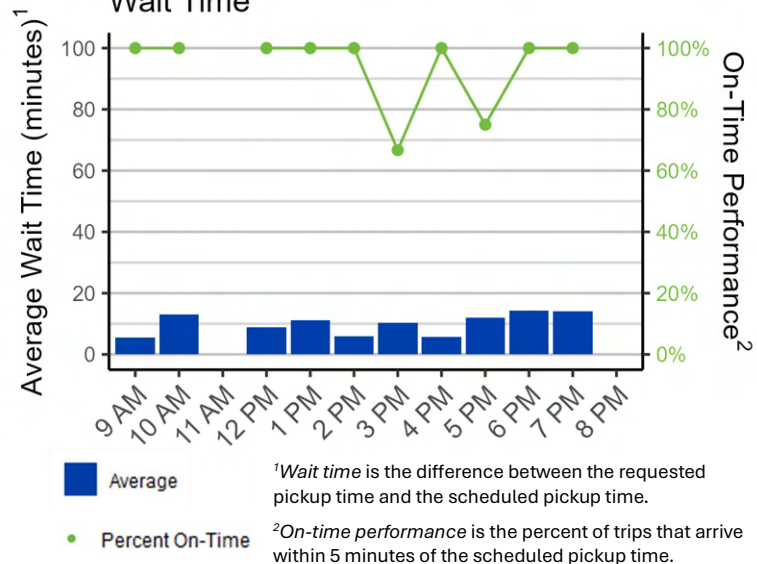
Average Daily Ridership



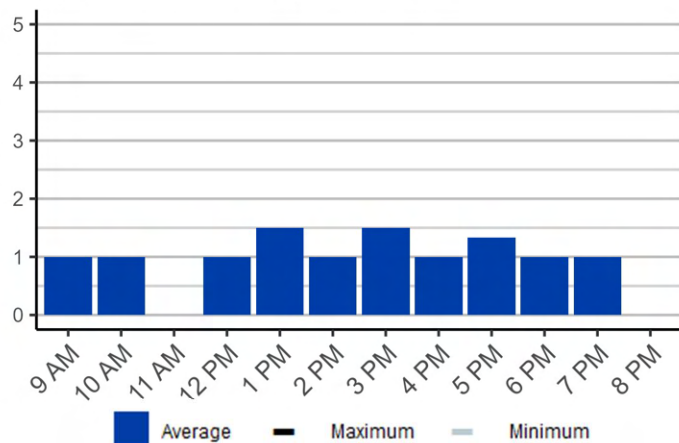
Vehicle Count



Wait Time



Average Ridership per Vehicle



CATA Rydz Delta Township

Sunday Statistics

Operating Characteristics

Daily Statistics

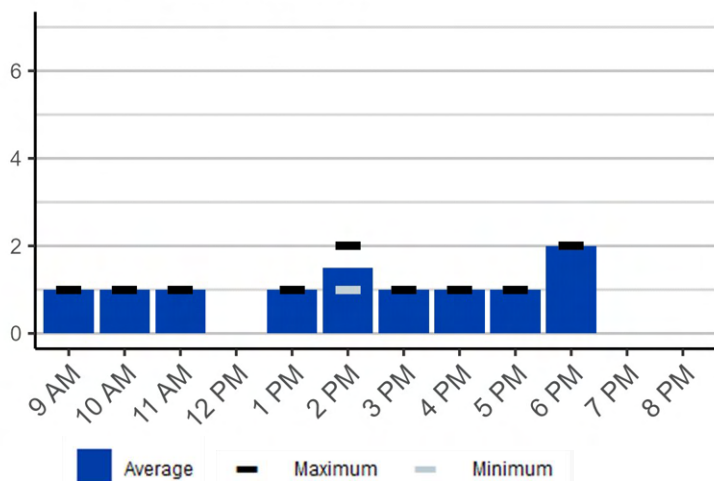
On-Time Performance

Market Penetration

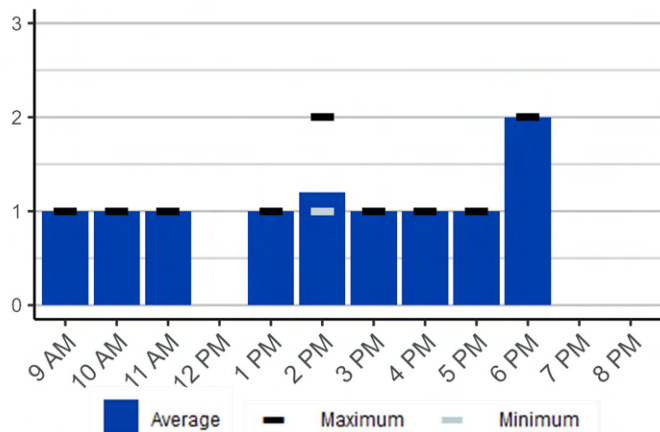
		June		Oct						June		Oct					
Span	9:00 AM - 8:00 PM		Average Daily Boardings	June	Rank	Oct	Rank	Early	June	Oct	Population Within Zone	June	Rank	Oct	Rank		
				2	2/4	6	2/4		88%	50%		12,826	3/4				
Number of Vehicles	5		Average Wait Time (min)	4.0	1/4	9.7	2/4	On-Time	13%	50% <th rowspan="2">Jobs Within Zone</th> <td colspan="2">18,029</td> <td colspan="2">3/4</td>	Jobs Within Zone	18,029		3/4			
Note: Rankings are by service type			Average Trip Duration (min)	9.2	2/4	9.4	2/4	Late	0%	0% <th rowspan="3">Passengers per Capita</th> <td>0.01%</td> <td>2/4</td> <td>0.05%</td> <td>2/4</td>	Passengers per Capita	0.01%	2/4	0.05%	2/4		
			Average Trip Length (miles)	3.0	2/4	4.0	2/4										
			Passengers per Rev. Hour	2.0	1/4	1.7	1/4										

Sunday Graphs

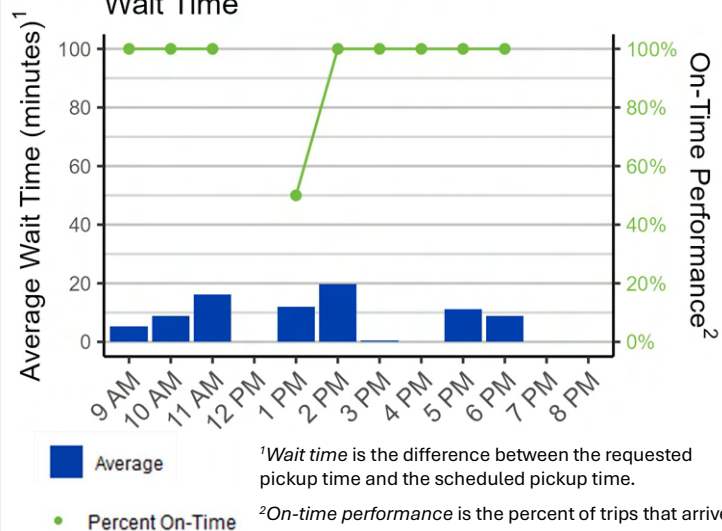
Average Daily Ridership



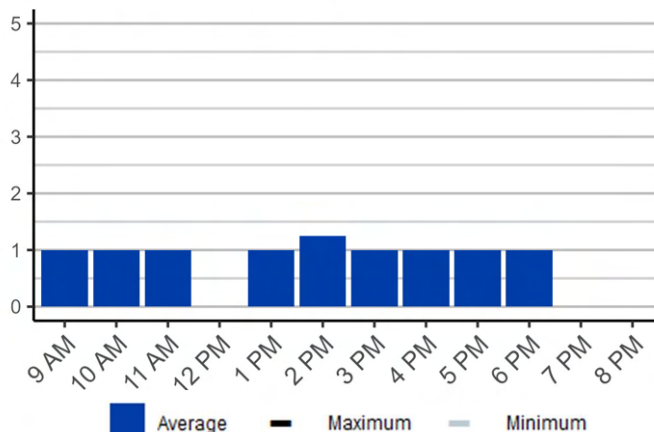
Vehicle Count



Wait Time



Average Ridership per Vehicle



Zone Analysis

Strengths

- Convenient curb-to-curb service.
- Operates daily.
- Extensive span of service.
- Average wait times under 15 minutes on all service days.
- Free transfers to/from fixed-routes.
- Extends effective coverage area of CATA service.
- Used for job access including to new LG Energy plant.
- Allows for out-of-zone service to Meijer on Saginaw Hwy to facilitate access to groceries and fixed-route transfers.

Weaknesses

- Generally low ridership and productivity for microtransit service.
- Lacks diversity of land uses and activity centers needed to generate ridership throughout the service day.
- Longest average trip lengths among CATA Rydz services.

Opportunities

- Consider restoring service to parts of Delta Township recently eliminated from zone, and charging "market rate" fares, as these areas include substantial retail and multi-family housing (i.e. potentially strong ridership generators) that are no longer served by CATA fixed-route service.
- Consider extending zone to Grand Ledge due to high concentration of potential ridership generators.

CATA Rydz Lansing

Service Type: Microtransit

Operated by: Via

Description: App-based microtransit service in Lansing

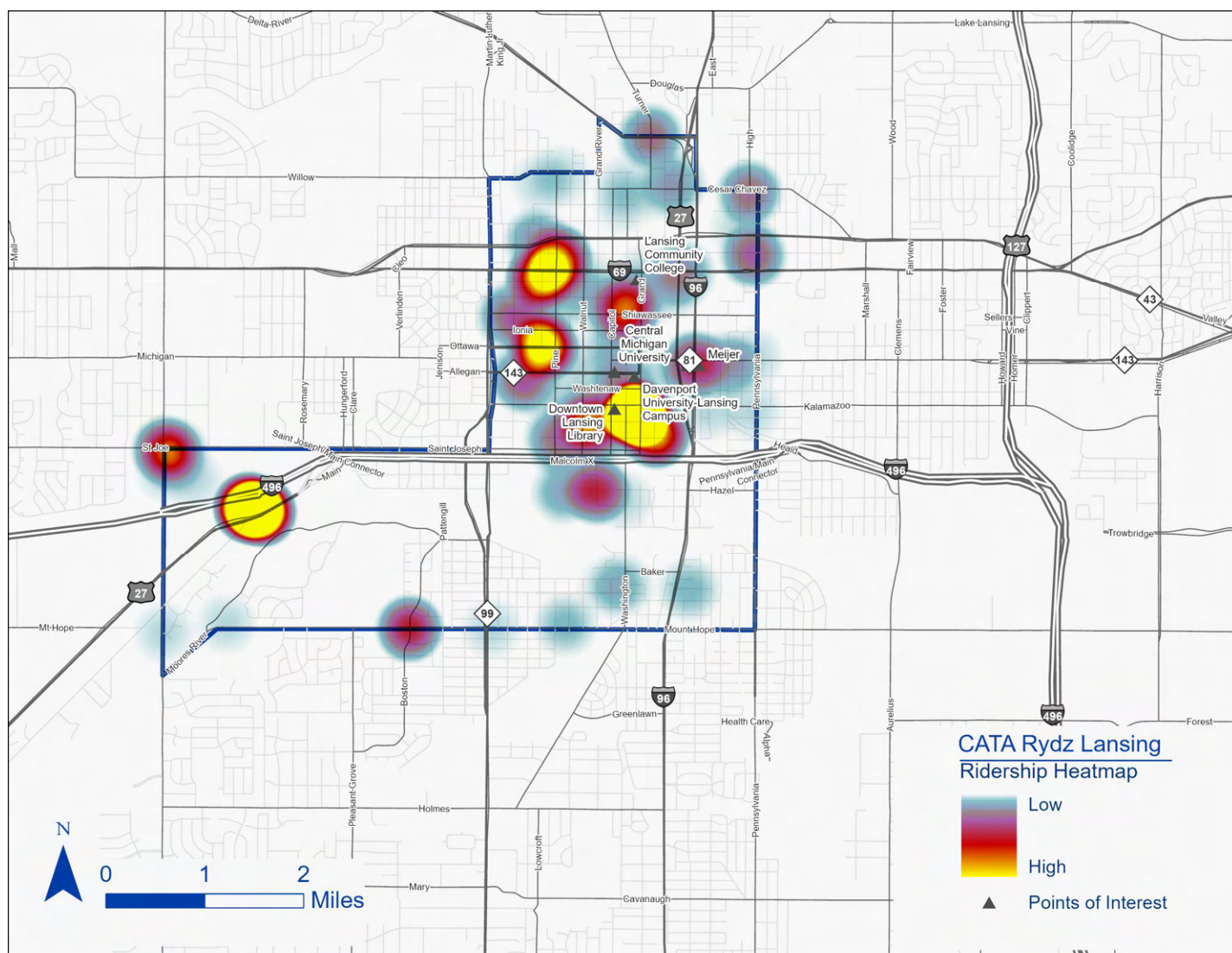
Key Points of Interest: Lansing Community College, Central Michigan University, Meijer, Downtown Lansing Library, Lansing Marketplace

Monthly Statistics

	June	Rank	October	Rank
Monthly Ridership	448	1/4	595	1/4
Monthly Average Wait Time	6.3	2/4	7.5	2/4

Note: Rankings are by service type

Existing Ridership Distribution



CATA Rydz Lansing

Service Type: Microtransit

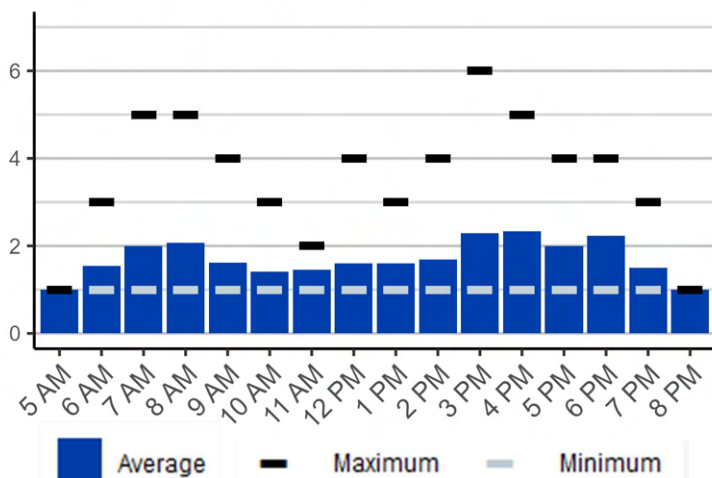
Operated by: Via

Weekday Statistics

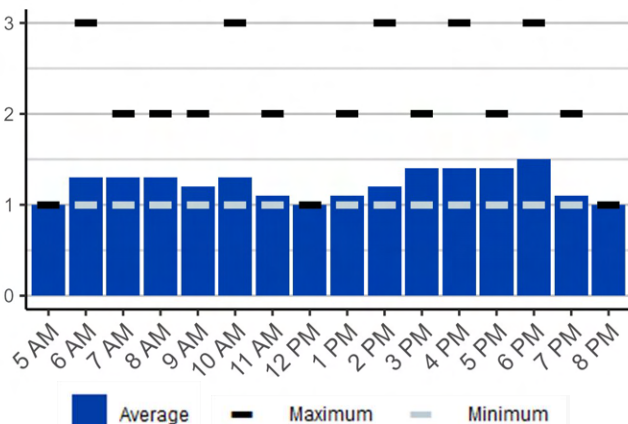
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank
Span	5:30 AM - 8:00 PM	5:30 AM - 8:00 PM	Average Daily Boardings	11	1/4	21	1/4	Early	47%	32%	Population Within Zone	17,848		2/4	
Number of Vehicles	5	6	Average Wait Time (min)	6.6	2/4	7.6	2/4	On-Time	53%	68%	Jobs Within Zone	52,542		2/4	
Note: Rankings are by service type			Average Trip Duration (min)	5.6	1/4	5.6	1/4	Late	0%	0%	Passengers per Capita	0.06%	1/4	0.12%	1/4
			Average Trip Length (miles)	2.0	1/4	2.0	1/4								
			Passengers per Hour	1.2	1/4	1.5	1/4								

Weekday Graphs

Average Daily Ridership



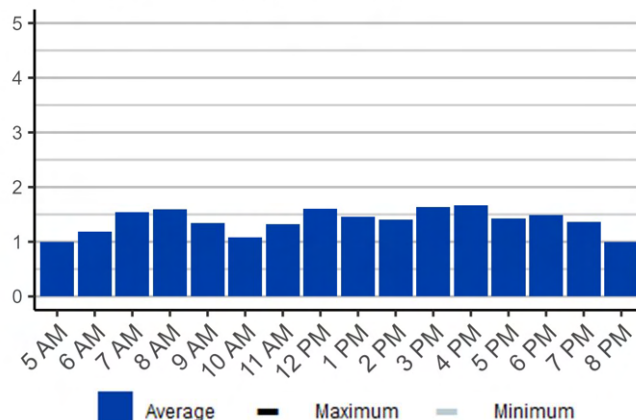
Vehicle Count



Wait Time



Average Ridership per Vehicle



CATA Rydz Lansing

Service Type: Microtransit

Operated by: Via

Saturday Statistics

Operating Characteristics

Daily Statistics

On-Time Performance

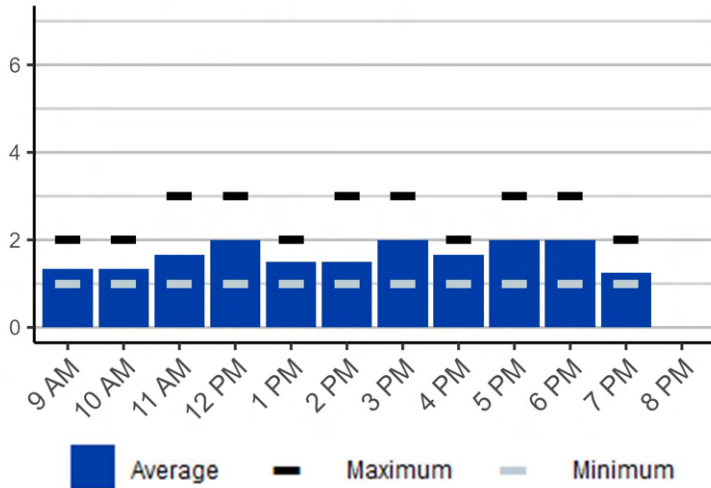
Market Penetration

			June	Rank	Oct	Rank				June	Rank	Oct	Rank
Span	9:00 AM - 8:00 PM	9:00 AM - 8:00 PM	Average Daily Boardings	44	1/4	17	1/4	Early	39%	34%	Population Within Zone	17,848	2/4
Number of Vehicles	5	6	Average Wait Time (min)	5.8	2/4	7.2	1/4	On-Time	61%	66%	Jobs Within Zone	52,542	2/4
Note: Rankings are by service type			Average Trip Duration (min)	4.9	1/4	5.4	1/4	Late	0%	0%	Passengers per Capita	0.25%	1/4
			Average Trip Length (miles)	1.8	1/4	2.0	1/4						
			Passengers per Rev. Hour	4.8	1/4	1.4	1/4						

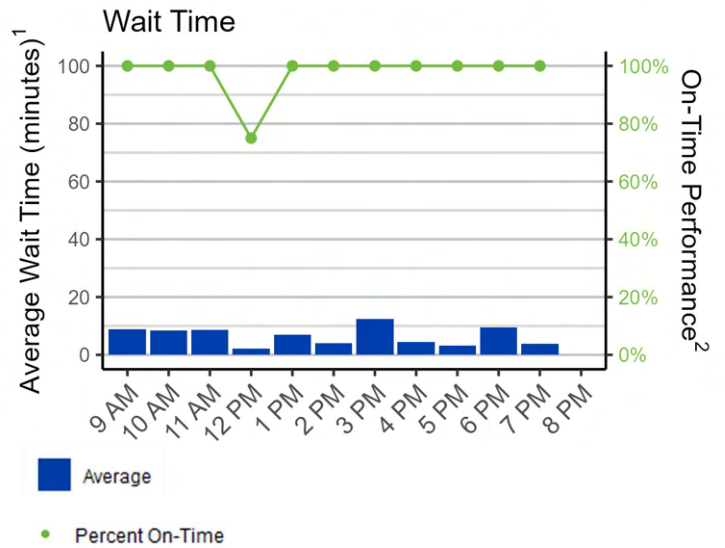
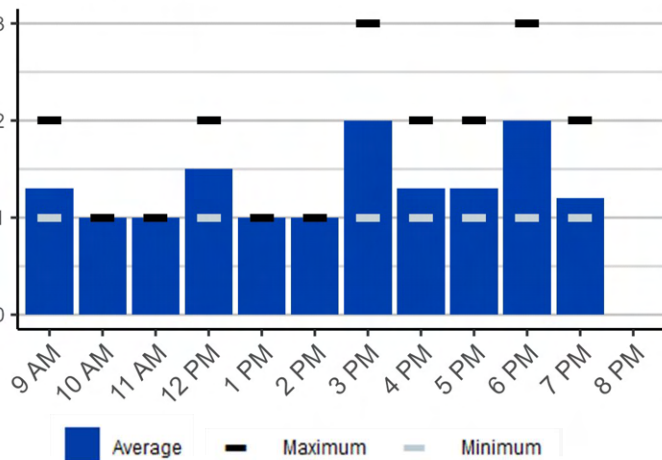
Note: Rankings are by service type

Saturday Graphs

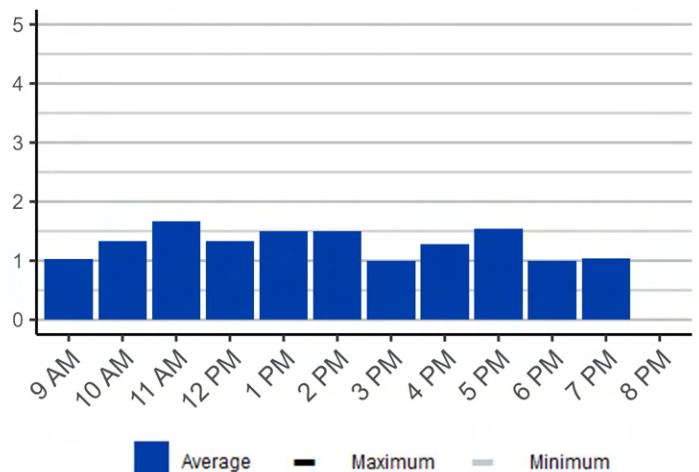
Average Daily Ridership



Vehicle Count



Average Ridership per Vehicle



Operated by: Via

Zone Analysis

Strengths

- Convenient curb-to-curb service.
- Operates daily.
- Extensive span of service.
- Average wait times under 15 minutes on all service days.
- Free transfers to/from fixed routes.
- Extends effective coverage area of CATA service.
- Used for job-access including to the Grand River GM plant.

Weaknesses

- Generally low ridership and productivity for microtransit service.
- Competes directly with CATA fixed-route service due to overlapping coverage area and service hours.

Opportunities

- Reinvest resources into expanding late-night microtransit service.
- Reinvest resources into microtransit service in areas that are difficult to serve effectively with fixed-route service, such as Mason or Holt.
- Consider adjusting fixed-routes to better serve the few unique destinations served by CATA Rydz such as the Grand River GM plant.

CATA Rydz MSU Lansing Airport

Service Type: Microtransit
Operated by: Via

Description: App-based microtransit service connecting MSU and the airport; requires prebooking at least 2 hours in advance

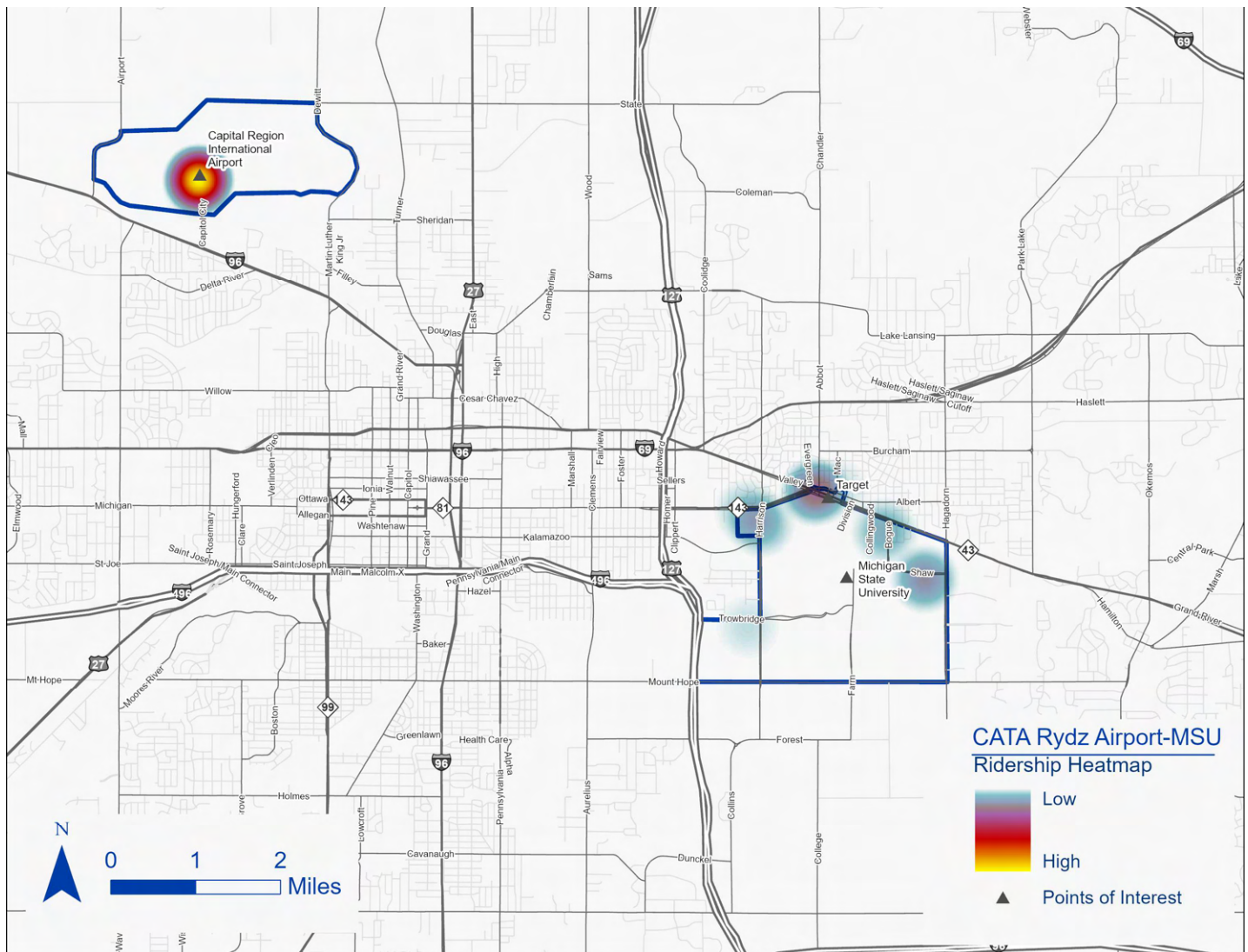
Key Points of Interest: Airport & MSU

Monthly Statistics

	June	Rank	October	Rank
Monthly Ridership	56	3/4	54	4/4
Monthly Average Wait Time	12.6	3/4	6.2	1/4

Note: Rankings are by service type

Existing Ridership Distribution



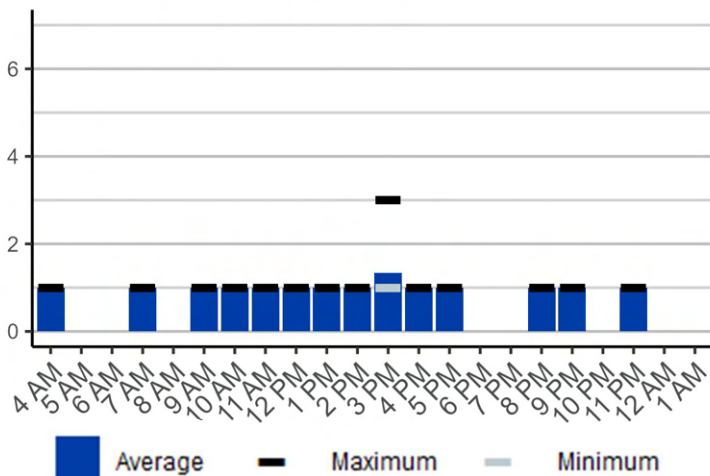
CATA Rydz MSU Lansing Airport

Weekday Statistics

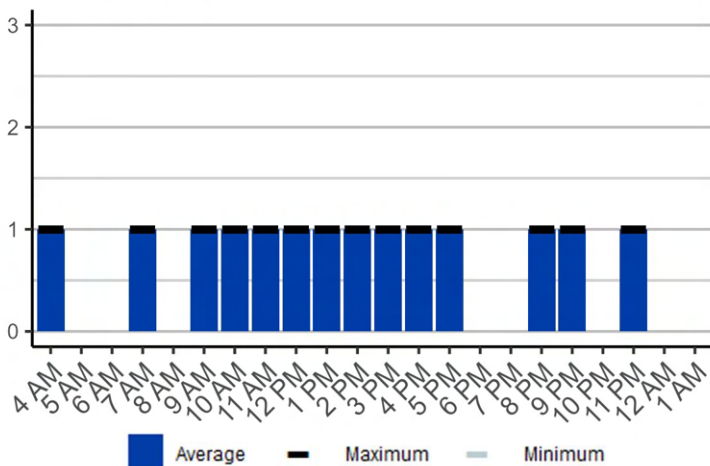
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
Span	June	Oct	Average Daily Boardings	June	Rank	Oct	Rank	Early	June	Oct	Population Within Zone	June	Rank	Oct	Rank
	4:00 AM - 1:00 AM	4:00 AM - 1:00 AM		1	3/4	2	4/4		31%	57%		n/a	-		
Number of Vehicles	5	7	Average Wait Time (min)	15.7	3/4	6.2	1/4 <th rowspan="2">On-Time</th> <th>69%</th> <th>43%</th> <th rowspan="2">Jobs Within Zone</th> <td colspan="2">-</td> <td>-</td>	On-Time	69%	43%	Jobs Within Zone	-		-	
			Average Trip Duration (min)	17.9	3/4	18.1	4/4 <th>Late</th> <td>0%</td> <td>0%<th>Passengers per Capita</th><td>n/a</td><td>-</td><td>n/a</td><td>-</td></td>		Late	0%		0% <th>Passengers per Capita</th> <td>n/a</td> <td>-</td> <td>n/a</td> <td>-</td>	Passengers per Capita	n/a	-
Note: Rankings are by service type			Average Trip Length (miles)	7.2	3/4	8.2	3/4								
			Passengers per Hour	1.2	1/4	1.5	1/4								

Weekday Graphs

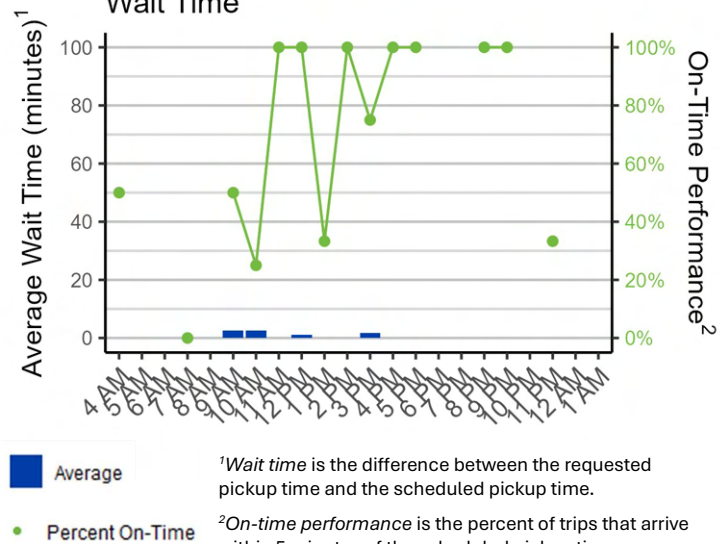
Average Daily Ridership



Vehicle Count



Wait Time



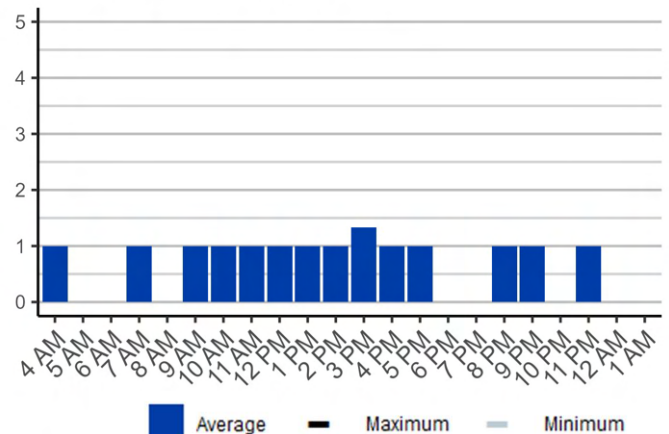
Average

Percent On-Time

¹Wait time is the difference between the requested pickup time and the scheduled pickup time.

²On-time performance is the percent of trips that arrive within 5 minutes of the scheduled pickup time.

Average Ridership per Vehicle



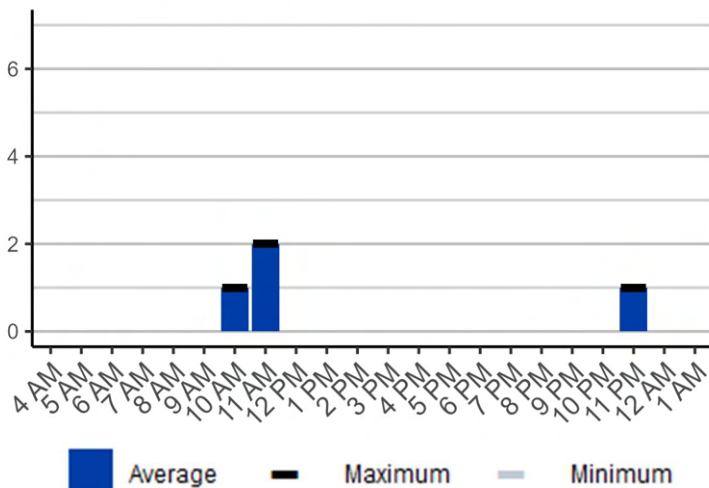
CATA Rydz MSU Lansing Airport

Saturday Statistics

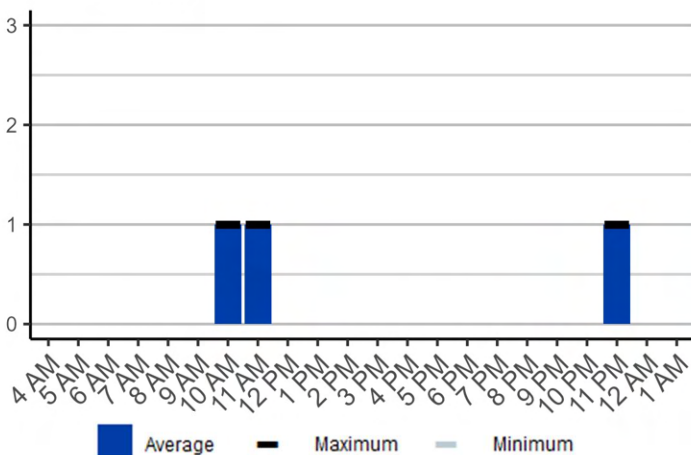
Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration					
Span	June	Oct	Average Daily Boardings	June	Rank	Oct	Rank	Early	June	Oct	Population Within Zone	June	Rank	Oct	Rank
	4:00 AM - 1:00 AM	4:00 AM - 1:00 AM		6	3/4	1	4/4		60%	75%		n/a	-		
Number of Vehicles	5	7	Average Wait Time (min)	9.5	3/4	n/a	1/4	On-Time	40%	25%	Jobs Within Zone	-	-		
			Average Trip Duration (min)	14.5	3/4	19.4	4/4		Late	0%		0%	Passengers per Capita	n/a	-
Note: Rankings are by service type			Average Trip Length (miles)	6.8	3/4	9.1	4/4								
			Passengers per Rev. Hour	4.8	1/4	1.4	1/4								

Saturday Graphs

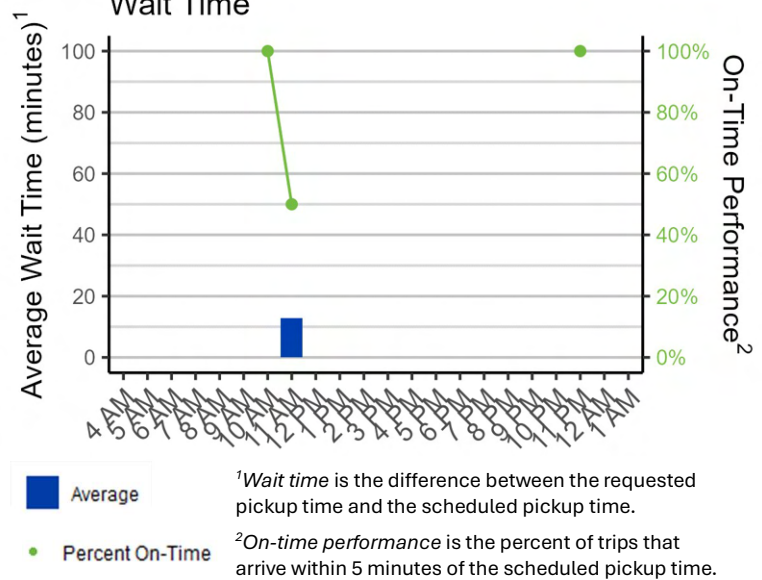
Average Daily Ridership



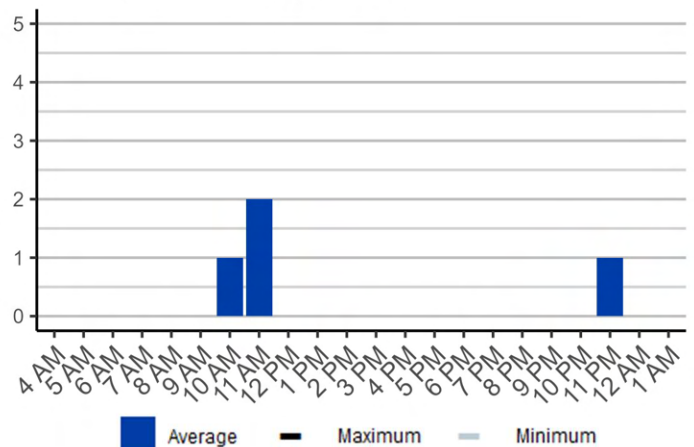
Vehicle Count



Wait Time



Average Ridership per Vehicle

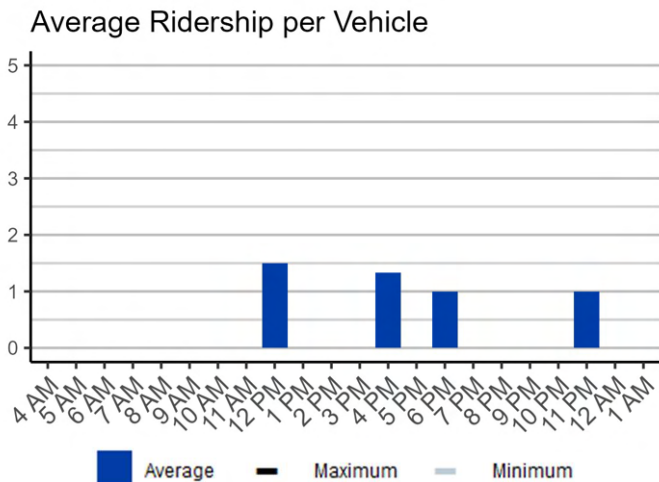
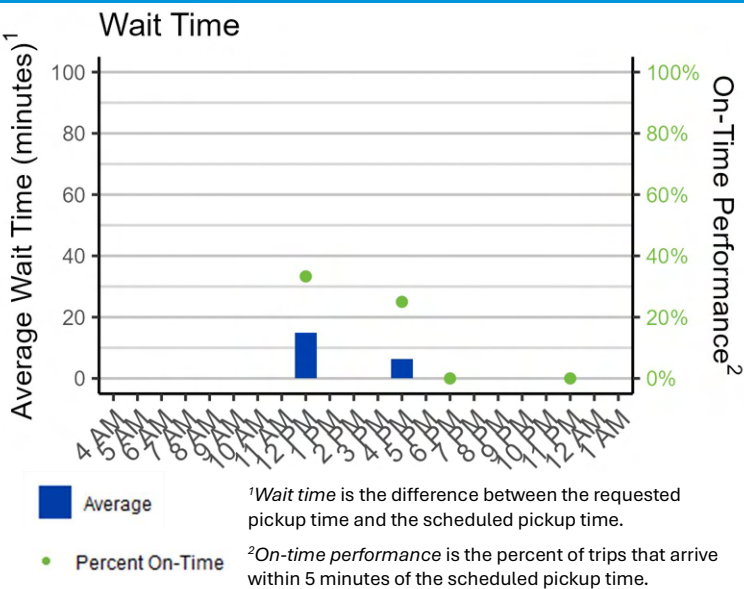
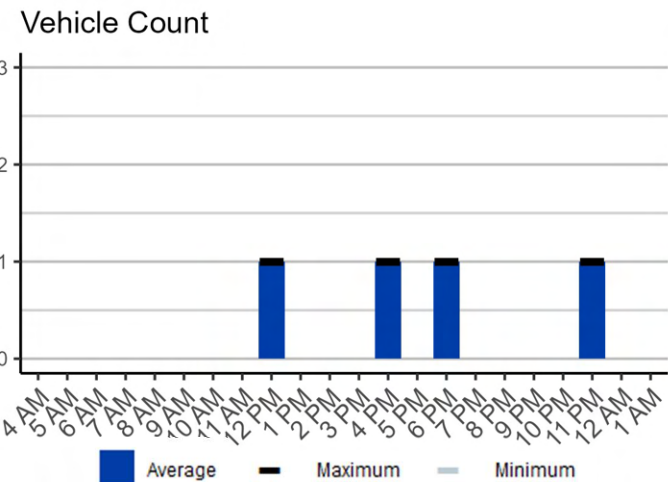
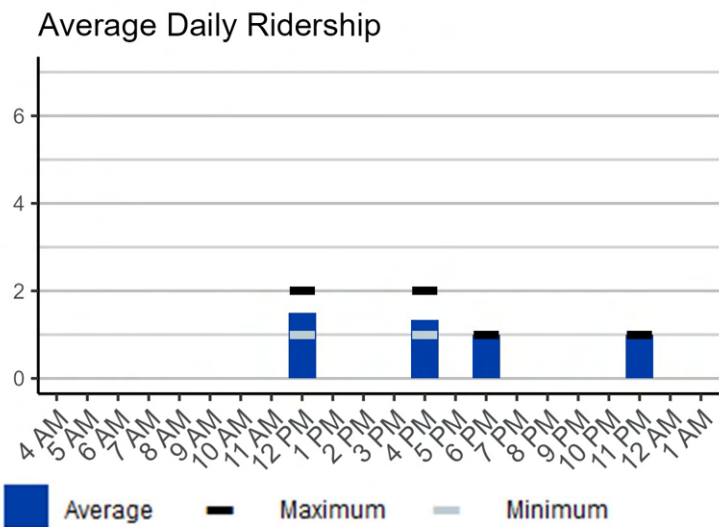


CATA Rydz MSU Lansing Airport

Sunday Statistics

Operating Characteristics			Daily Statistics				On-Time Performance			Market Penetration						
	June	Oct		June	Rank	Oct	Rank		June	Oct		June	Rank	Oct	Rank	
Span	4:00 AM - 1:00 AM	4:00 AM - 1:00 AM	Average Daily Boardings	2	2/4	2	4/4	Early	0%	88%	Population Within Zone	n/a		-		
Number of Vehicles	7	7	Average Wait Time (min)	13.3	3/4	n/a	-	On-Time	100%	13%	Jobs Within Zone	-		-		
Note: Rankings are by service type			Average Trip Duration (min)	17.4	3/4	17.5	4/4	Late	0%	0%	Passengers per Capita	n/a	-	n/a	-	
			Average Trip Length (miles)	7.6	3/4	7.5	3/4									
			Passengers per Rev. Hour	2.0	1/4	1.7	1/4									

Sunday Graphs



CATA Rydz MSU Lansing Airport

Zone Analysis

Strengths

- On-demand service between Capital Region International Airport and nine designated locations on the MSU campus.
- Daily service.
- Extensive span of service.
- Affordable fares compared to taxis and Uber/Lyft.

Weaknesses

- No service to downtown Lansing.
- Redundant with Night Owl service on weekdays.
- Low ridership, with average daily boardings never exceeding 6 passenger trips.

Opportunities

- Consider adding a downtown Lansing zone to facilitate more fixed-route transfer opportunities and attract more non-student riders - downtown and MSU area trips could be grouped with minimal travel time impact, but potentially positive impact on productivity.

Key Findings

The diagnostic profiles identify a wide range of strengths, weaknesses, and opportunities. However, certain themes recur fairly frequently and are worth noting.

Recurring Strengths

CATA's strongest services share common design features. Daily operations with extensive spans of service, clockface scheduling, and mostly direct alignments are common strengths of the system's best-performing fixed routes. These attributes correspond closely to the guiding principles of effective transit service: when routes are easy to use and easy to understand, they tend to attract and retain riders. For CATA's demand-response services, a primary recurring strength is short wait times—often less than 15 minutes.

Recurring Weaknesses

The single most common weakness identified across the fixed-routes is the presence of loops and one-way alignments that force out-of-direction travel for riders. In some cases, the inconsistencies between inbound and outbound alignments are driven by one-way street patterns, but in others they represent legacy routing decisions that no longer reflect current street networks, land-use patterns, or industry best practices.

One-way loops are inconsistent with the principles that fixed-route service should be direct and symmetrical. Another principle that warrants attention, relative to CATA's services, is that transit services should serve well-defined markets. Several CATA routes and services depart from this principle:

- CATA routes 22 and 23 currently follow nearly identical alignments but in opposite directions. This can create confusion for passengers, especially at stops served by both routes, as riders may assume that they should board the same route for their return trip as they did for their outbound trip.
- The CATA Rydz Lansing On-Demand zone overlaps with several fixed routes serving downtown Lansing, creating competition between two CATA services for the same riders.
- MSU Lot Link and Night Owl services provide similar functions but at different times of day, forcing riders to remember which service to call, when.
- Several CATA routes lack a direct connection to a full-service grocery store, which denies those routes a strong anchor and forces some riders to make inconvenient transfers with grocery bags.

Recurring Opportunities

Although the opportunities identified in the diagnostic profiles vary in their specifics, there are several recurring themes:

- **Streamline downtown service.** New bi-directional traffic patterns in downtown Lansing have created opportunities to operate transit service bi-directionally through downtown, replacing one-way loops that currently force out-of-direction travel for many riders.
- **Pursue interlining to expand one-seat ride opportunities.** Interlining is the practice of operating a single bus on more than one route in sequence, so that riders can stay on board as the bus transitions from one route to the next. Interlining two routes extends the reach of each without adding revenue hours, giving riders direct access to grocery stores, employment centers, and other destinations that currently require a transfer.
- **Anchor routes at stronger ridership generators.** Strong end-of-line anchors support route productivity and create opportunities for secondary hubs that allow riders to transfer between routes without traveling downtown. Locating secondary hubs at major activity centers such as Meijer, Walmart, and Lansing Mall would also allow riders to run errands or otherwise use their time productively while waiting for a connecting bus.
- **Match service type to market conditions.** Fixed-route service and microtransit each work best under different conditions, and the right balance between them depends on the densities, infrastructure, and ridership patterns of the area being served. Fixed-route service is most effective where population and employment densities are high enough to generate steady ridership along a defined corridor, and where pedestrian infrastructure supports safe and convenient access to stops. Microtransit is generally a better match in lower-density environments, in areas without continuous sidewalks or safe crossings, and during service periods when demand is low and dispersed across many origins and destinations. Calibrating where fixed-route service ends and microtransit begins, both geographically and temporally, allows each mode to operate in the conditions where it performs best.
- **Modernize demand-response services.** CATA Rydz is a modern microtransit service offering app-based self-booking, same-hour service, and real-time vehicle information. Other CATA demand-response services, including Redi-Ride, Lot Link, and Night Owl, still operate on an older dial-a-ride model that requires advance booking by phone and offers limited rider-facing information. Transitioning these services to a modern microtransit platform would help grow ridership by improving the rider experience, while still providing a call-in option for riders who prefer or need one¹.

¹ The microtransit opportunities identified in this document are focused on technology only, not on operating models such as in-house versus contracted operations.

Service Alternatives

The opportunities listed in each diagnostic profile present a range of possible options for improving the performance of each route and service. In some cases, the options are contradictory, because there is almost always more than one way to address a given weakness. A route with poor productivity, for example, could see its frequency reduced to bring service supply closer in line with demand, or it could be replaced with on-demand service that only operates in response to a rider request.

Using the opportunities from the profiles as a starting point, two preliminary service redesign concepts were developed. Both concepts draw on a subset of the service improvement ideas that emerged from the diagnostic profiles, and both are built on the premise that an effective transit network is composed of strong individual routes and services. To meet that standard, each CATA route and Rydz zone should:

- Be easy to access,
- Be intuitive to understand, and
- Serve a robust mix of the destinations that tend to generate high transit ridership, including multi-family housing, grocery and retail centers, medical facilities, and academic institutions.

The two concepts share some features and differ on many others. Neither is intended to satisfy everyone. Instead, the purpose of the preliminary concepts is to test different design ideas and elicit feedback from the public, bus operators, and other stakeholders, so that the most popular elements of each concept can be carried forward into a final recommended network.

Concept A is a more modest update of the existing network. Concept B introduces more substantial changes, including expanded cross-town service that bypasses downtown Lansing and a re-balancing of where fixed-route and microtransit services are deployed.

Concept A

Concept A includes simplifications and a modest restructuring of existing fixed routes and demand-response services. Route 30 would be unchanged, and Route 46, Route 48, and CATA Rydz Lansing would be eliminated. The Concept A system map and complete descriptions of services modifications are shown in **Figure 1** and **Table 1**.

Figure 1: Concept A Fixed-Route and Demand-Response Service Changes

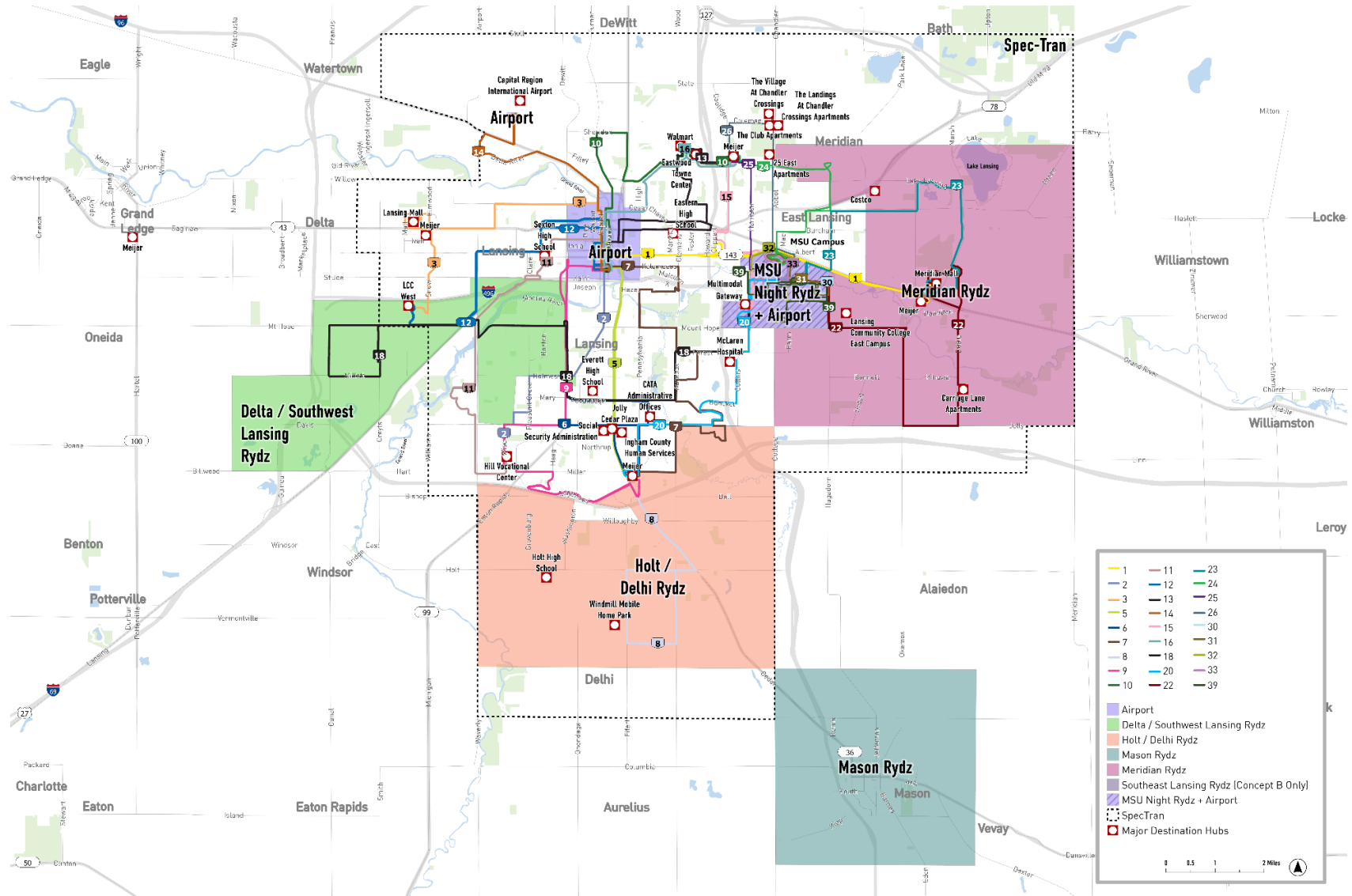


Table 1: Concept A Fixed-Route and Demand-Response Service Changes

Route/Service	Change
1	The alignment of Route 1 would remain largely unchanged, except in downtown Lansing, where the route would be restructured from operating as a large one-way loop, to providing bi-directional service linking Lansing Community College (LCC), the Capitol, and the CATA Transportation Center (CTC), via Walnut Street.
2	In downtown Lansing, Route 2 would be simplified by ending the route at the CTC. Frequent service to the Capitol and other downtown destinations would be available on connecting routes. At the outer end of Route 2, the end of the line would shift from neighborhoods west of Waverly Road to Lansing Technical High School, allowing for new connection opportunities. Coverage west of Waverly Road would be picked up by the proposed Route 11. See Route 11.
3	In downtown Lansing, Route 3 would be simplified by operating bi-directionally along Capitol Avenue. North of Shiawassee Street, service would shift from Pine and Walnut Street to Capitol and Grand River Avenue to take advantage of the traffic signal at Willow and Grand River. At the outer end of Route 3, the route would be extended from the Lansing Mall area to LCC West Campus via Snow Road, allowing for new connection opportunities.
5	The alignment of Route 5 would remain largely unchanged between downtown Lansing and Meijer on Miller Road. Deviations to Everett High School would be eliminated, with coverage to the high school picked up by proposed routes 6 and 18. On the outer end of Route 5, service along Edgewood Boulevard would be eliminated and picked up by proposed Route 9. See routes 6, 9, and 18.
6	Route 6 would be anchored at Meijer on Miller Road, allowing for new connection opportunities. The route would also be restructured so that buses can remain on public streets at all times and still have doors open towards key destinations including Ingham County Human Services, the CATA offices, Everett High School, Newcomer Center, and the Social Security Administration.
7	Route 7 would be restructured to focus service on corridors with the highest ridership potential and eliminate unproductive stops. East of downtown, service would shift from I-496 to Kalamazoo Street. North of Mt. Hope Avenue, service would shift from Aurelius Road to Pennsylvania Avenue. South of Jolly Road, service would shift from English Oak Drive to Belle Chase Boulevard.
8	Route 8 would be restructured to operate between Meijer on Miller Road and Holt only. Service along Pennsylvania Avenue is partially picked up by proposed routes 6 and 7. Service in Holt is simplified and shifted away from smaller residential streets and private drives onto public arterial roadways. See routes 6 and 7.

Route/Service	Change
9	In downtown Lansing, Route 9 would be simplified by ending the route at the CTC. Frequent service to the Capitol, LCC, and other downtown destinations would be available on connecting routes. South of Jolly Road, service would shift from Waverly Road to Wise Road to more directly serve Lansing Technical High School. Waverly Road coverage would be picked up by proposed Route 11. Service would also be shifted from Miller Road to Edgewood Boulevard where there is higher ridership potential. See Route 11.
10	In downtown Lansing, Route 10 would be simplified by operating bi-directionally along Grand Avenue. North of Shiawassee Street, service would shift to the west side of the Grand River until Cesar Chavez Avenue to provide more direct service to Turner Road and Sheridan Road. Coverage west of the river would still be provided by routes 13 and 16. From East Street, Route 10 would be extended east to service Walmart and Meijer via Lake Lansing Road to provide direct access to groceries and create new connection opportunities. See routes 13 and 16.
11	In downtown Lansing, Route 11 would be simplified by operating bi-directionally along Grand Avenue. From Waverly Road, the route would continue south of Holmes Road to serve Seaway Drive, Miller Road, and the Lansing Technical High School, allowing for new connection opportunities. Service along Mt. Hope Avenue would be picked up by Route 18. See Route 18.
12	In downtown Lansing, Route 12 service would shift from Grand and Capitol Avenue to providing bi-directional service along Walnut Street. From Waverly Road, the route would serve LCC West Campus via Mt. Hope Highway instead of St. Joseph and Snow Road to provide closer access to industrial employers along the Mt. Hope Highway corridor.
13	In downtown Lansing, Route 13 would be restructured from operating as a large one-way loop to providing bi-directional service along Grand Avenue between LCC and the CTC. Frequent service to the Capitol and other downtown destinations would be available on connecting routes. Near Frandor, the route would shift from Coolidge Road to Homer Street to create a similar alignment in the inbound and outbound direction. Near Lake Lansing Road, service would be extended to the Walmart and Eastwood Towne Center.
14	In downtown Lansing, Route 14 would be simplified by operating bi-directionally along Capitol Avenue. Service to Grand River Avenue would also be streamlined by using the Grand River Avenue bridge instead of Cesar Chavez and Turner Road. Turner Road coverage would be picked up by proposed Route 10. On the outer end of Route 14, the route would be restructured from operating as a large one-way loop to providing bi-directional service along Delta River Drive and Waverly Road to simplify travel between these corridors and the airport. See Route 10.

Route/Service	Change
15	South of Michigan Avenue, the end-of-the line for Route 15 would be shifted from downtown Lansing to the Capital Area Multimodal Gateway due to low ridership on Kalamazoo Street and to provide more access and connection opportunities to MSU.
16	The alignment of Route 16 would remain largely unchanged, except in downtown Lansing, where the route would be simplified by operating bi-directionally along Capitol Avenue.
18	Route 18 would continue to provide cross-town service but would be substantially restructured due to its poor performance. From Harrison Road, the route would terminate at the Capital Area Multimodal Gateway rather than circulating around MSU campus. MSU connections would be available via proposed routes 15 and 20. East of MLK Jr. Boulevard, service would shift from Mt. Hope Avenue to Cavanaugh Road to serve more destinations like Kroger and Everett High School. West of MLK Jr. Boulevard, Route 18 would extend further west to serve industrial employers including GM Delta Assembly, Amazon, and Meijer distribution centers. See routes 15 and 20.
20	On the north end, Route 20 service would be simplified to serve MSU via Shaw Lane and the MSU-CTC, where there are many connection opportunities. At the south end, the route would be extended from Jolly Road to Meijer on Miller Road, via Pennsylvania Avenue, to provide direct access to groceries and create new connection opportunities.
22	Instead of providing clockwise and counterclockwise service along the same loop, Route 22 and 23 would be restructured so that Route 22 provides bi-directional service along the southern half of the loop and Route 23 provides bi-directional service along the northern half of the loop. See Route 23.
23	Instead of providing clockwise and counterclockwise service along the same loop, Route 22 and 23 would be restructured so that Route 22 provides bi-directional service along the southern half of the loop and Route 23 provides bi-directional service along the northern half of the loop. Route 23 service would also be shifted from Lac Du Mont Drive to Okemos Road, and from Farm Lane to Bogue Street to streamline the route. See Route 22.
24	The alignment of Route 24 would remain largely unchanged, except in the vicinity of MSU, where the route would shift from M.A.C. Avenue to Abbot Road to avoid difficult turns. The route would also terminate with an end-of-line loop along Circle Drive instead of serving Ramp 5.
25	Route 25 would be streamlined by eliminating the deviation from Red Cedar Road to Farm Lane and by providing direct service to Meijer from Harrison Road rather than serving Chandler Crossings first. The proposed Route 26 would serve both Farm Lane and Chandler Crossings. Routes 25 and 26 could also be interlined to allow for one-seat rides to destinations on both routes without the need to transfer from one bus to another. See Route 26.

Route/Service	Change
26	Route 26 service would be extended to Meijer from Chandler Crossings to provide direct access to groceries and to facilitate an interline with Route 25. Service would also shift from M.A.C. Avenue to Abbot Road to avoid difficult turns and would be extended to Ramp 5 to create new connection opportunities. See Route 25.
30	Route 30 is unchanged.
31	Route 31 would be restructured to reduce one-way service segments, which contribute to overcrowding and reduce the utility of the route. North of the Red Cedar River, the route would operate bi-directionally except for an end-of-line loop around W. Circle Drive. South of the Red Cedar River, service would shift from Wilson Road to S. Shaw Lane to create bi-directional service except for an end-of-line loop around the East Neighborhood. Route 31 would contribute to a simplification of service at the MSU-CTC and throughout campus, as routes would serve more predictable patterns.
32	On its southern end, Route 32 would be simplified by eliminating the southbound deviation along Service Road. Service Road coverage would be picked up by proposed Route 39. The northern end of Route 32 would be extended to University Village via Grand River Avenue, Michigan Avenue, and Harrison Road to provide fast, frequent, and bi-directional connections between University Village and Brody Square, and the Farm Lane corridor.
33	Route 33 would be restructured to reduce one-way service segments, which contribute to overcrowding and reduce the utility of the route. North of the Red Cedar River, the route would operate bi-directionally except for an end-of-line loop around W. Circle Drive. South of the river, service would shift from Wilson Road to S. Shaw Lane, Red Cedar, and Chestnut Road to create bi-directional service except for an end-of-line loop around the South Neighborhood. Route 33 would contribute to a simplification of service at the MSU-CTC and throughout campus, as routes would serve more predictable patterns.
39	Route 39 would be restructured to operate as a cross-campus shuttle linking key destinations including Lot 89, the College of Nursing, East Neighborhood, MSU-CTC, South Neighborhood, and University Village.
46	Route 46 would be eliminated to focus resources on other routes. Mason would be served by the CATA Rydz Mason Zone.
48	Route 48 would be eliminated to focus resources on other routes. Okemos would be served by the CATA Rydz Meridian Zone. Williamston-Webberville would be served by CATA Rural Service.
CATA Rydz Lansing	CATA Rydz Lansing would be eliminated to focus resources on other services. Bi-directional fixed-route service in the downtown area would allow for more direct trips and reduce the need for Rydz service downtown.
CATA Rydz Delta	The Delta zone would expand to include parts of southwest Lansing that would lose fixed-route service coverage with the proposed streamlining of routes 2 and 11.

Route/Service	Change
CATA Rydz Airport	A downtown Lansing zone would be added to the airport Rydz service.
MSU Night Rydz	This would be a new CATA Rydz service covering the MSU campus and combining the function of the Night Owl and Lot Link services.
CATA Rydz Southwest Lansing	See CATA Rydz Delta.
CATA Rydz Southeast Lansing	Not included in Concept A.
CATA Rydz Meridian	This would be a conversion of the Meridian Redi-Ride service into a CATA Rydz microtransit service.
CATA Rydz Delhi	This would be a conversion of the Delhi Redi-Ride service into a CATA Rydz microtransit service.
CATA Rydz Mason	This would be a conversion of the Mason Redi-Ride service into a CATA Rydz microtransit service.

Concept B

Concept B includes larger changes to fixed routes and demand-response services. Modifications to routes 1, 10, 14, 30, 32, 46, 48, CATA Rydz Lansing, CATA Rydz Airport, MSU Night Rydz, CATA Rydz Meridian, CATA Rydz Delhi, and CATA Rydz Mason are the same as in Concept A. The Concept B system map and complete descriptions of services modifications are shown in **Figure 2** and **Table 2**.

Figure 2: Concept B Fixed-Route and Demand-Response Service Changes

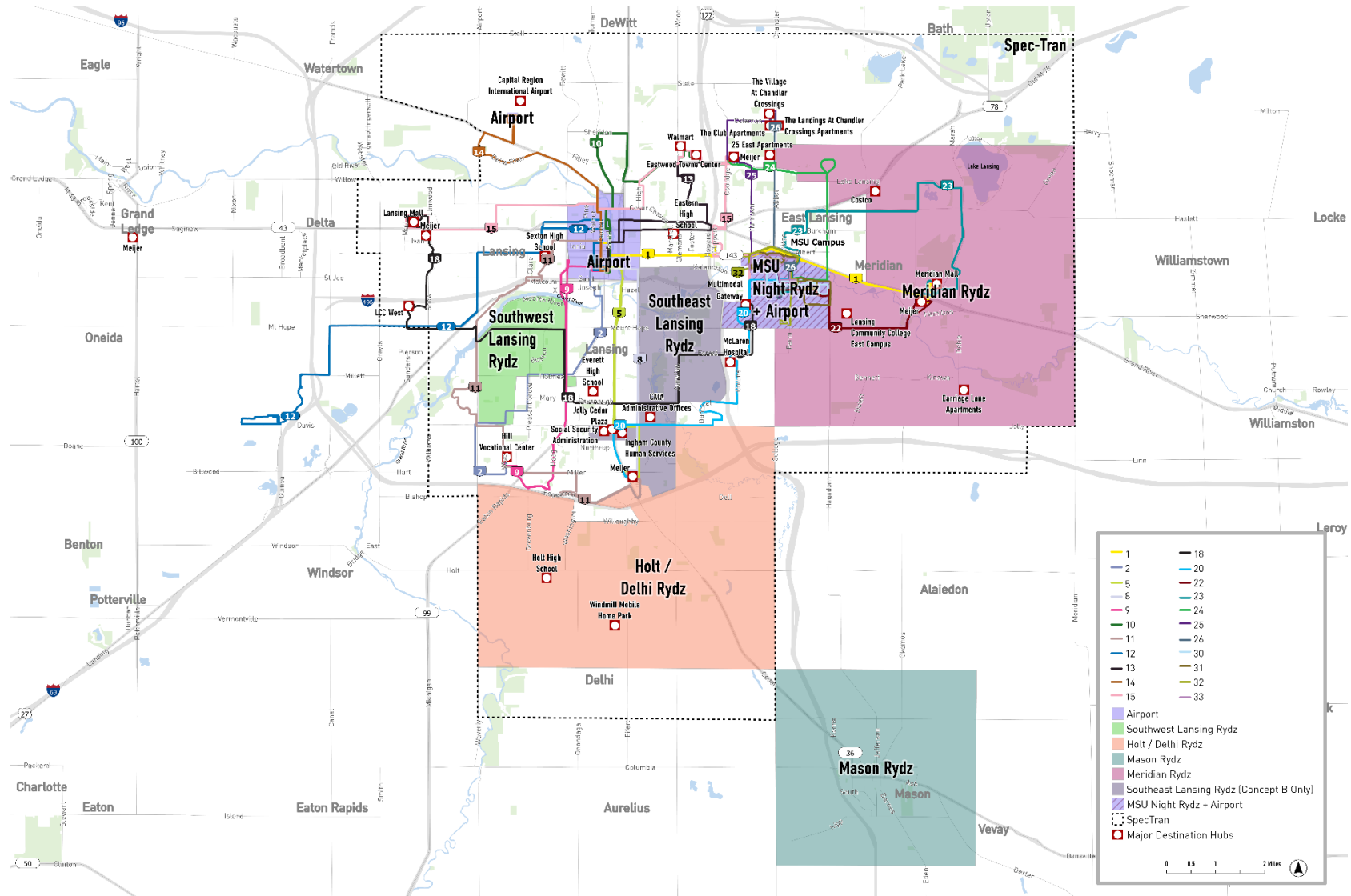


Table 2: Concept B Fixed-Route and Demand-Response Service Changes

Routes/Services	Change
1	The alignment of Route 1 would remain largely unchanged, except in downtown Lansing, where the route would be restructured from operating as a large one-way loop, to providing bi-directional service linking LCC, the Capitol, and the CTC, via Walnut Street.
2	In downtown Lansing, Route 2 would be simplified by ending the route at the CTC. Frequent service to the Capitol and other downtown destinations would be available on connecting routes. At the outer end of Route 2, the end of the line would shift from neighborhoods west of Waverly Road to Lansing Technical High School, via Jolly and Waverly Road, allowing for new connection opportunities. Coverage west of Waverly Road would be picked up by the proposed Route 11. See Route 11.
3	Route 3 would be merged into proposed Route 15, which would provide cross-town service linking the Capital Area Multimodal Gateway, MSU, Frandor Shopping Center, Meijer and Walmart near Lake Lansing Road, Cristo Ray Community Center, and the Lansing Mall area. See Route 15.
5	The alignment of Route 5 would remain largely unchanged between downtown Lansing and Jolly Road, where the route would shift east to Pennsylvania Avenue to pick up coverage to Ingham County Health and Human Services from Route 6. Deviations to Everett High School would be eliminated, with coverage to the high school picked up by proposed Route 18. On the outer end of Route 5, service along Edgewood Boulevard would be eliminated and picked up by proposed Route 11. See routes 6, 11, and 18.
6	Route 6 would be eliminated to focus resources on other routes. The route's coverage would be picked up by other routes including proposed routes 5 and 20, and the proposed Southeast Lansing Rydz zone. See routes 5 and 20.
7	Route 7 would be eliminated to focus resources on other routes. The route's coverage would be picked up by other routes including proposed routes 18 and 20 and the proposed Southeast Lansing Rydz zone. See routes 18 and 20.
8	Route 8 would be restructured to operate between downtown Lansing and Meijer on Miller Road only. Service to Holt would be picked up by the proposed Holt/Delhi Rydz zone. In downtown Lansing, Route 8 would be simplified by ending the route at the CTC. Frequent service to the Capitol and other downtown destinations would be available on connecting routes.

Routes/Services	Change
9	In downtown Lansing, Route 9 would be simplified by ending the route at the CTC. Frequent service to the Capitol, LCC, and other downtown destinations would be available on connecting routes. South of Jolly Road, service would shift from Waverly Road to Haag Road, Georgetown Boulevard, and Pleasant Grove Road to more directly serve Lansing Technical High School. Waverly Road coverage would be picked up by proposed Route 2. Service to Meijer along Miller Road would be picked up by proposed Route 11. See routes 2 and 11.
10	In downtown Lansing, Route 10 would be simplified by operating bi-directionally along Grand Avenue. North of Shiawassee Street, service would shift to the west side of the Grand River until Cesar Chavez Avenue to provide more direct service to Turner Road and Sheridan Road. Coverage west of the river would still be provided by routes 13 and 16. From East Street, Route 10 would be extended east to service Walmart and Meijer via Lake Lansing Road to provide direct access to groceries and create new connection opportunities. See routes 13 and 16.
11	In downtown Lansing, Route 11 would be simplified by operating bi-directionally along Grand Avenue. From Waverly Road, the route would continue south of Holmes Road to serve Seaway Drive, Miller Road, and the Lansing Technical High School, allowing for new connection opportunities. From Lansing Technical High School, the route would continue to Meijer on South Pennsylvania via Edgewood Boulevard. Service along Mt. Hope Avenue would be picked up by Route 18. See Route 18.
12	In downtown Lansing, Route 12 service would shift from Grand and Capitol Avenue to providing bi-directional service along Walnut Street. From Waverly Road, the route would continue to Mt. Hope Highway, Canal Road, Guinea Road, and Davis Highway to provide closer access to industrial employers including GM, Amazon, Meijer, and LG.
13	In downtown Lansing, Route 13 would be restructured from operating as a large one-way loop, to providing bi-directional service along Grand Avenue between LCC and the CTC. Frequent service to the Capitol and other downtown destinations would be available on connecting routes. Near Frandor Shopping Center, the route would shift from Coolidge Road to Homer Street to create a more similar alignment in the inbound and outbound direction.

Routes/Services	Change
14	In downtown Lansing, Route 14 would be simplified by operating bi-directionally along Capitol Avenue. Service to Grand River Avenue would also be streamlined by using the Grand River Avenue bridge instead of Cesar Chavez and Turner Road. Turner Road coverage would be picked up by proposed Route 10. On the outer end of Route 14, the route would be restructured from operating as a large one-way loop to providing bi-directional service along Delta River Drive and Waverly Road to simplify travel between these corridors and the airport. See Route 10.
15	Route 15 would combine parts of the current routes 3, 15, and 16 to provide cross-town service linking the Capital Area Multimodal Gateway, MSU, Frandor Shopping Center, Meijer and Walmart near Lake Lansing Road, Cristo Ray Community Center, and the Lansing Mall area. Connections to downtown Lansing could be made along Ceaser Chavez Avenue via proposed routes 10 and 14. See routes 10 and 14.
16	Route 16 would be merged into proposed Route 15, which would provide cross-town service linking the Capital Area Multimodal Gateway, MSU, Frandor Shopping Center, Meijer and Walmart near Lake Lansing Road, Cristo Ray Community Center, and the Lansing Mall area. Connections to downtown Lansing could be made along Ceaser Chavez Avenue via proposed routes 10 and 14. See routes 10 and 14.
18	Route 18 would continue to provide cross-town service but would be substantially restructured due to its poor performance. From Harrison Road, the route would terminate at the Capital Area Multimodal Gateway rather than circulating around MSU campus. MSU connections would be available via proposed routes 15 and 20. East of MLK Jr. Boulevard, service would shift from Mt. Hope Avenue to Cavanaugh Road to serve more destinations like Kroger and Everett High School. West of MLK Jr. Boulevard, Route 18 would extend further west to serve industrial employers, LCC West Campus, and the Lansing Mall Area. See routes 15 and 20.
20	On the north end, Route 20 service would be simplified to serve MSU via Shaw Lane and the MSU-CTC, where there are many connection opportunities. At the south end, the route would be extended from Jolly Road to Meijer on South Pennsylvania, via Cedar Street, to provide direct access to Ingham County Human Services, groceries, and new connection opportunities.
22	Instead of providing clockwise and counterclockwise service along the same loop, Route 22 and 23 would be restructured so that Route 22 provides bi-directional service between MSU's Ramp 5 and Meijer near Grand River Avenue, via Mt. Hope Road and Okemos Road. Coverage south of Mt Hope Road would be picked up by the proposed Meridian Rydz zone. Route 23 would provide bi-directional service along the northern half of the current Route 22 loop. See Route 23.

Routes/Services	Change
23	Instead of providing clockwise and counterclockwise service along the same loop, Route 22 and 23 would be restructured so that Route 23 provides bi-directional service along the northern half of the loop. Route 23 service would be shifted from Lac Du Mont Drive to Okemos Road, and from Hagadorn Road to Alton Road, Burcham Drive, and M.A.C Avenue to pick up coverage from proposed Route 24. Proposed Route 23 and the proposed Meridian Rydz zone would pick up the southern half of the current Route 23 loop. See routes 22 and 24.
24	South of Saginaw Highway, Route 24 would be streamlined to operate along Hagadorn Road and Shaw Lane to the MSU-CTC. Coverage along Alton Road, Burcham Drive, M.A.C Avenue, and Farm Lane would be picked up by proposed Route 23. See Route 23.
25	Route 25 would be streamlined by eliminating the deviation from Red Cedar Road to Farm Lane and by providing direct service to Meijer from Harrison Road before continuing to serve Chandler Crossings. Proposed Route 26 would serve Farm Lane. Routes 25 and 26 could also be interlined to allow for one-seat rides to destinations on both routes without the need to transfer from one bus to another. See Route 26.
26	Route 26 service would be extended to Ramp 5 to create an interline opportunity with proposed Route 25. Service would also shift from M.A.C. Avenue to Abbot Road to avoid difficult turns. See Route 25.
30	Route 30 is unchanged.
31	Route 31 would be restructured to maximize the utility of the route. North of the Red Cedar River, the route would serve Farm Lane and E. Circle Drive before completing an end-of-line figure-8 along W. Circle Drive, Beal Street, Kalamazoo Street, Harrison Road, Michigan Avenue, Beal Street, and W. Circle Drive. South of the river, the route would serve Farm Lane and Shaw Lane before completing an end-of-line loop along Hagadorn Road, Service Road, Bogue Street, Wilson Road, and Conrad Road. Route 31 would provide regular service to the College of Nursing and would contribute to a simplification of service at the MSU-CTC and throughout campus, as routes would serve more predictable patterns.
32	On its southern end, Route 32 would be simplified by eliminating the southbound deviation along Service Road. Service Road coverage would be picked up by proposed Route 31. The northern end of Route 32 would be extended to University Village via Grand River Avenue, Michigan Avenue, and Harrison Road to provide fast, frequent, and bi-directional connections between University Village and Brody Square, and the Farm Lane corridor.

Routes/Services	Change
33	Route 33 would be restructured to maximize the utility of the route. North of the Red Cedar River, the route would serve Farm Lane and E. Circle Drive before completing an end-of-line figure-8 along W. Circle Drive, Beal Street, Kalamazoo Street, Harrison Road, Michigan Avenue, Beal Street, and W. Circle Drive. South of the river, service would shift from Wilson Road to S. Shaw Lane, Red Cedar, and Chestnut Road to create bi-directional service except for an end-of-line loop around the South Neighborhood. Route 33 would contribute to a simplification of service at the MSU-CTC and throughout campus, as routes would serve more predictable patterns.
39	Route 39 would be eliminated to focus resources on other routes.
46	Route 46 would be eliminated to focus resources on other routes. Mason would be served by the CATA Rydz Mason Zone.
48	Route 48 would be eliminated to focus resources on other routes. Okemos would be served by the CATA Rydz Meridian Zone. Williamston-Webberville would be served by CATA Rural Service.
CATA Rydz Lansing	CATA Rydz Lansing would be eliminated to focus resources on other services. Bi-directional fixed-route service in the downtown area would allow for more direct trips and reduce the need for Rydz service downtown.
CATA Rydz Delta	CATA Rydz Delta would be eliminated, with coverage in the area picked up by proposed Route 12. See Route 12.
CATA Rydz Airport	A downtown Lansing zone would be added to the airport Rydz service.
MSU Night Rydz	This would be a new CATA Rydz service covering the MSU campus and combining the function of the Night Owl and Lot Link services.
CATA Rydz Southwest Lansing	This would be a new CATA Rydz service covering parts of southwest Lansing that would lose fixed-route service coverage with the proposed streamlining of routes 2 and 11.
CATA Rydz Southeast Lansing	This would be a new CATA Rydz service covering parts of southeast Lansing that would lose fixed-route service with the proposed elimination of routes 6 and 7.
CATA Rydz Meridian	This would be a conversion of the Meridian Redi-Ride service into a CATA Rydz microtransit service.
CATA Rydz Delhi	This would be a conversion of the Delhi Redi-Ride service into a CATA Rydz microtransit service.
CATA Rydz Mason	This would be a conversion of the Mason Redi-Ride service into a CATA Rydz microtransit service.