



FINAL REPORT

STATELINE AREA TRANSPORTATION STUDY
TRANSIT PLAN

May 2020

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INTRODUCTION

In early 2019, Stateline Area Transportation Study (SLATS) initiated a Transit Plan to evaluate existing transit systems in the region, develop strategies to improve operations and efficiency, and recommend both short- and long-term improvements to fixed route and on-demand service.

The SLATS Transit Plan provides an in-depth analysis of both the Beloit Transit System (BTS) and the Stateline Mass Transit District (SMTD), as well as additional context on other public and private providers operating in the region.

The first technical memorandum of the SLATS Transit Plan, *Technical Memorandum #1: Transit Needs and Opportunities*, included a review of previous planning efforts, a summary of local demographic characteristics, and a thorough description of the environment in which local transit systems operate; it also analyzed the current status and historical performance of BTS and SMTD, including existing fixed route and on-demand service operations, fleet and facilities, financial performance, and potential transit gaps. Information from Technical Memorandum #1 is presented in *Part 1: Transit Needs and Opportunities* section of this final report.

Technical Memorandum #2: Service Recommendations identified major themes from the Needs and Opportunities analysis, as well as public outreach and an evaluation of historical transit routes. Based on these inputs, this report presented two conceptual service designs drafted in consultation with the Steering Committee.

After evaluating the concepts from *Technical Memorandum #2*, SLATS and BTS staff developed a Preferred Alternative that represents the collective vision for the future of BTS. This Preferred Alternative improves frequency to 30-minute service on all routes, improves coverage of low-income and minority communities, and extends transit service to new parts of the Beloit region, including the Gateway Business Park and surrounding area.

The Preferred Alternative featured in this report is intended to be implemented by BTS following the completion of the study and action items listed in the Implementation Plan (page 100). Also included is a Future Considerations section, which describes possible steps for transit expansion, innovation, and coordination that BTS and SMTD could undertake after implementing the Preferred Alternative. These items may require further study, but offer opportunities for the future of transit in Beloit.

GOAL

The goal of the SLATS Transit Plan is to identify and recommend appropriate and cost-effective ways to provide efficient, effective public transit and other mobility solutions within the region.

PART 1: TRANSIT NEEDS AND OPPORTUNITIES

PREVIOUS PLANS AND PERFORMANCE REVIEWS

The SLATS Transit Plan is intended to build on previous planning and performance review efforts in the Stateline region, including the following:

- City of Beloit Comprehensive Plan (2008)
- Rock County Comprehensive Plan 2035 (2009)
- Beloit Transit Development Plan (2015)
- 2040 Long Range Transportation Plan (2016)
- Stateline Mass Transit District Transit Development Plan (2016)
- 2019-2022 Transportation Improvement Program (2019)

Below is a summary of findings from each relevant plan.

CITY OF БЕЛОIT COMPREHENSIVE PLAN (2008)

The City of Beloit's Comprehensive Plan, adopted in 2008, is supportive of transit with a stated goal to continue promoting the use of the bus system and "explore new bus routes to serve future development and existing developed areas which are underserved". The 2018 update to the Housing and Neighborhood Development chapter emphasizes placemaking and enhancing walkability. In a similar vein, the update to the Land Use chapter of the comprehensive plan calls for new mixed-use developments and reinvestment in existing neighborhoods, as well as limited development in environmental corridors and long-range agricultural areas, both of which are policies that promote transit-supportive land uses.

ROCK COUNTY COMPREHENSIVE PLAN 2035 (2009)

The Rock County Comprehensive Plan 2035 encourages creation of a reliable and affordable multimodal transportation network in the region to allow for use of various transportation modes, thus alleviating congestion and reducing vehicle emissions. The comprehensive plan emphasizes enhancing safety for all road users, raising awareness of paratransit services in the area, and improving bicycle and pedestrian facilities to encourage active transportation.

BELOIT TRANSIT DEVELOPMENT PLAN (2015)

The Beloit Transit Development Plan, completed in 2015, addressed the following key issues:

- Lack of bi-directional service and reliance on transfers.
- Early end time of weekday and Saturday service.
- Absence of service in some parts of Beloit.
- Operational inefficiencies.

The plan laid out the following recommendations to improve service given fiscal and other constraints:

- Increase hours of operation to improve job access and connections on the Beloit-Janesville Express
- Increase Saturday service frequency
- Add Sunday service

The plan also designed the four routes currently operated by Beloit Transit: the Red, Yellow, and Blue local fixed routes as well as the Beloit-Janesville Express.

SLATS 2040 LONG RANGE TRANSPORTATION PLAN (2016)

SLATS' 2040 Long Range Transportation Plan (LRTP), adopted in late 2016, established broad goals for long-term transit improvements as well as short- to mid-term changes within the SLATS Metropolitan Planning Area (MPA). The plan identifies the following overarching strategies:

- Maintain existing transit assets, such as buses, in a state of good repair, and upgrade the transit fleet to provide safe and reliable vehicles.
- Expand fixed route service coverage, particularly in areas of growth such as the I-39/I-90 corridor.
- Enhance regional service and improve access to urbanized areas in the region including Janesville and potentially Madison, Wisconsin and/or Rockford, Illinois.
- Legislation permitting, explore creation of a regional transit authority (RTA) that would provide a governance structure for coordinating, delivering, and administering regional transit services within and beyond the SLATS MPA. RTAs were not permitted in Wisconsin at the time the 2040 LRTP was adopted and are currently still not permitted.

STATELINE MASS TRANSIT DISTRICT TRANSIT DEVELOPMENT PLAN (2016)

The SMTD Transit Development Plan, adopted in 2016, examined SMTD services and its operating environment and proposed the following changes to improve service:

- Expanded service hours and fleet or expanded service area for demand-response service.
- Addition of flex route service between Beloit and Rockton/Roscoe and/or service between the Beloit Transfer Center and Machesney Park.
- Addition of fixed route service between Beloit and downtown Rockton, Beloit and the Roscoe Walmart, Beloit and Schnuck's in Roscoe, and/or Beloit and Machesney Park.
- Compliance with ADA Complimentary Paratransit requirements.
- If viable in the future, implementation of a Rockford-Beloit Express operating through the SMTD.
- Capital improvements for bus stops, vehicles, and technology.
- Exploration of partnerships with Beloit Transit and RMTD, as well as exploration of contracting service to a private operator or eventual direct operation of the service by SMTD.
- Marketing updates including improved branding, identity, and outreach, as well as undertaking market research efforts.

2019-2022 TRANSPORTATION IMPROVEMENT PROGRAM (2019)

The 2019-2022 Transportation Improvement Program (TIP) was completed in accordance with federal requirements established by 23 CFR 450. The purpose of the TIP is to coordinate and prioritize all major transportation improvements in the metropolitan planning area (MPA) over the next four years.

Beginning in 2016, BTS and SMTD opted in to their respective states' Transit Asset Management Plan, therefore automatically accepting state performance management targets for equipment, facilities, infrastructure, and rolling stock.

EXISTING TRANSIT AND TRANSPORTATION SERVICES

This section provides an overview of the two transit systems that primarily serve the Stateline region as well as complementary systems that provide transit and transportation services to other communities in the greater area.

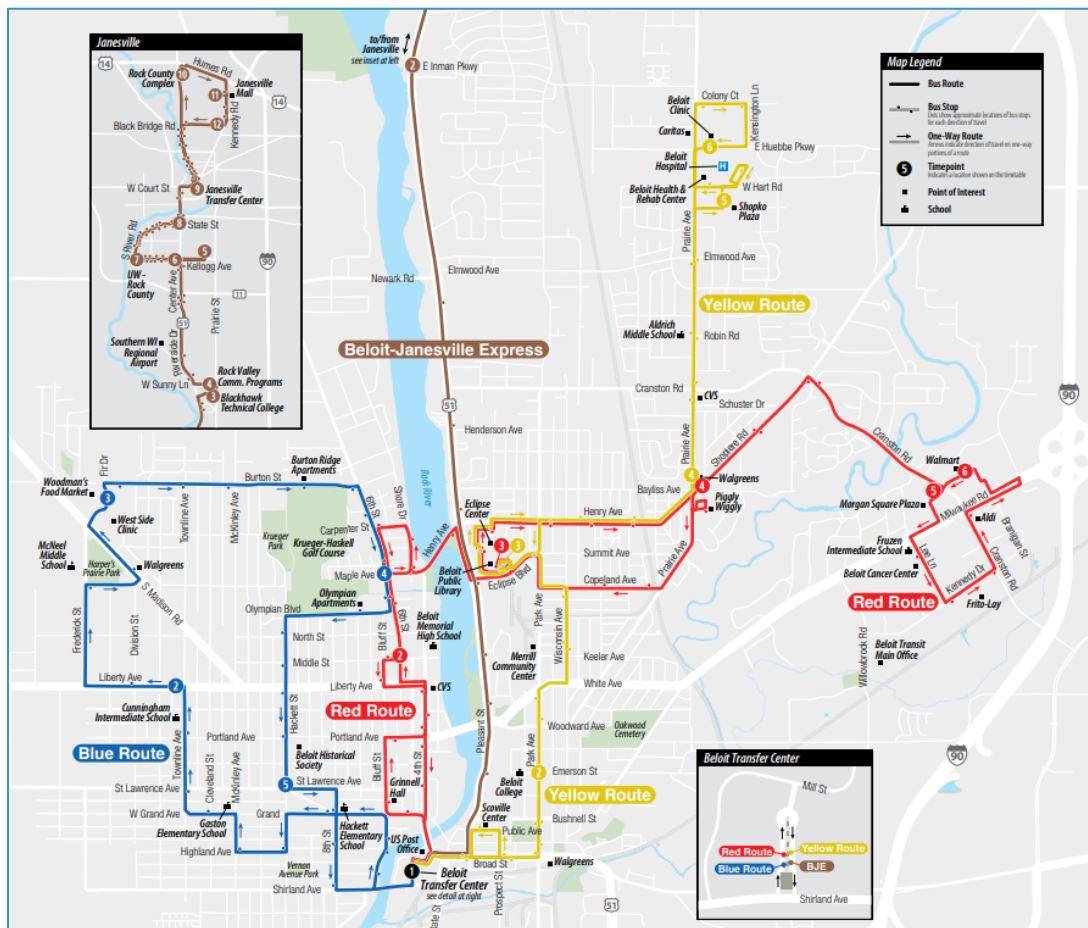
BELOIT TRANSIT SYSTEM

BTS is the municipal transit service of the City of Beloit, offering local fixed routes and complementary paratransit service within the city, as well as express service to Janesville in partnership with the Janesville Transit System (JTS).

LOCAL BUS ROUTES

BTS operates three local bus routes: the Red route, the Yellow route, and the Blue route. These routes each operate on 40-minute headways from 6:00 AM to 6:40 PM on weekdays and on 80-minute headways from 8:40 AM to 4:00 PM on Saturdays. Fixed-route fares are summarized in Table 1 below.

Figure 1: Beloit Transit System Map



Source: Beloit Transit System

Table 1: Beloit Transit Local Bus Fares

Fare type	Quantity/type	Price
Cash fare	Regular cash fare	\$1.50
	Senior/disability cash fare	\$0.75
BTS ten-ride punch pass (in town)	1	\$12.00
Student semester pass (in town)	1	\$85.00
Pack of tokens	10	\$12.00
	20	\$23.00
	50	\$55.00
Vending machine tokens	4	\$5.00
	8	\$10.00
	17	\$20.00

EXPRESS ROUTES

The Beloit-Janesville Express (BJE) is an express route serving both Beloit and Janesville. Jointly operated by BTS and JTS, the BJE is funded by a consortium of public, private, and non-profit organizations through annual service contracts. The BJE provides hourly service between Beloit and Janesville to destinations including the Rock County Job Center, University of Wisconsin-Rock County, and Blackhawk Technical College. The BJE operates on weekdays from 6:00 AM to 6:00 PM and does not operate on weekends. Due to its specialized service and funding arrangements, the BJE service has a separate fare structure, summarized in Table 2 below.

Table 2: Beloit Transit Express Route Fares

Fare type	Quantity/type	Price
Cash fare	Regular cash fare	\$3.50
	Senior/disability cash fare	\$1.75
Blackhawk Tech	Regular cash fare	\$2.25
	Senior/disability cash fare	\$1.10
Ten-ride pass: Beloit to Janesville	Regular cash fare	\$30.00
	Senior/disability cash fare	\$17.50
Ten-ride pass: Beloit to Blackhawk Tech		\$20.00

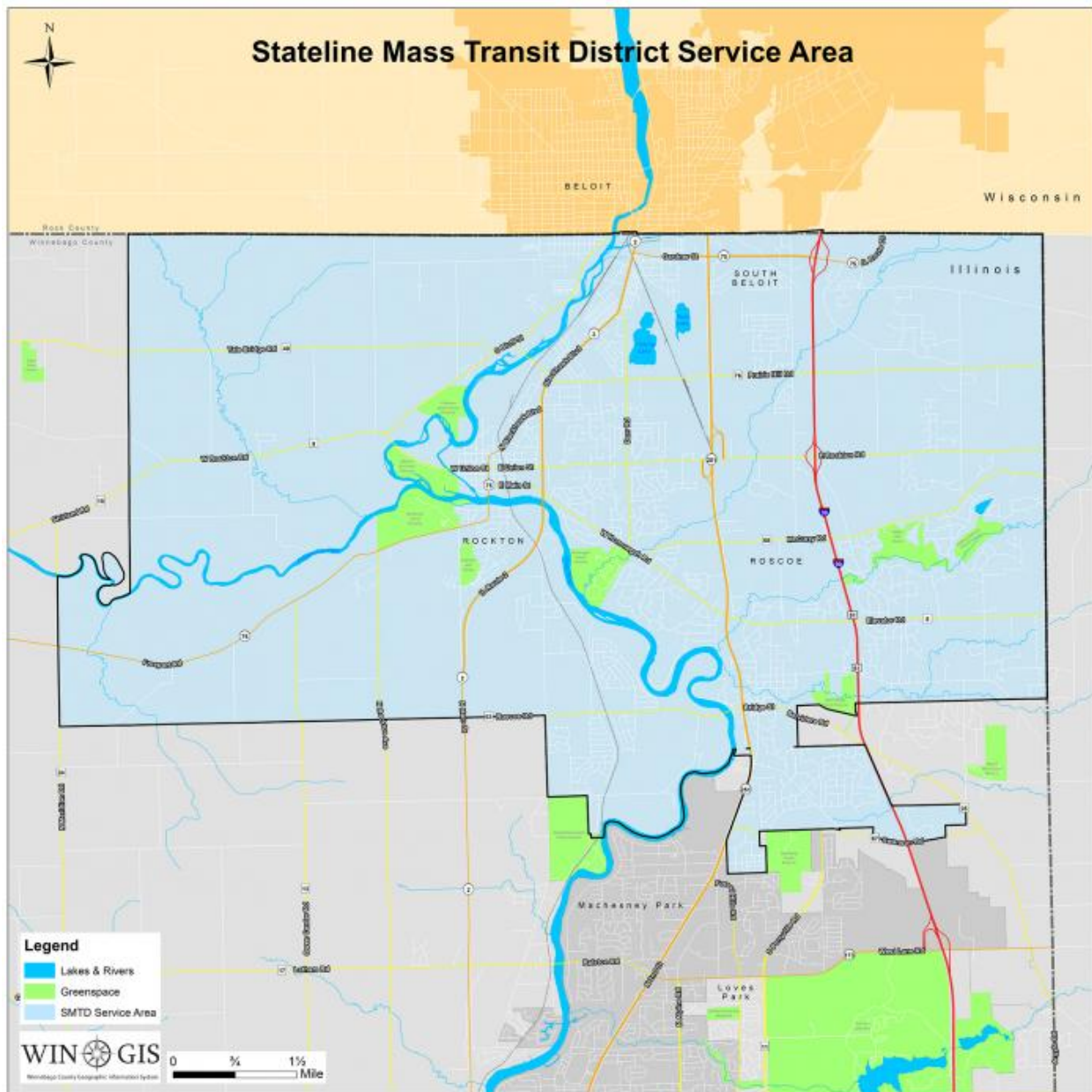
PARATRANSIT

Consistent with federal requirements under the Americans with Disabilities Act (ADA), BTS offers complementary paratransit service to eligible customers within $\frac{3}{4}$ of a mile of a bus route. Paratransit service is available from approximately 6:00 AM to 6:00 PM on weekdays and 9:00 AM to 4:00 PM on Saturdays, reflecting the days and hours of fixed-route service. Paratransit is not available on Sundays. Fares for paratransit are \$3.00 per ride within Beloit and \$7.00 per ride for service between Beloit and Janesville. The contracted service provider for paratransit service in both Beloit and Janesville is Rock County Transit.

STATELINE MASS TRANSIT DISTRICT

SMTD is a demand-response system that serves the Illinois portion of the Stateline region, including South Beloit, Rockton, and Roscoe, as well as Rockton Township and Roscoe Township. In order to facilitate regional travel, SMTD provides service to transfer points for BTS in Beloit and to the Rockford Mass Transit District (RMTD) in Machesney Park, as well as special service stops to businesses along the Highway 173 corridor. SMTD operates on weekdays from 6:00 AM to 10:00 PM, Saturdays from 8:00 AM to 6:00 PM, and Sundays from 8:30 AM to 4:30 PM SMTD fares are summarized in Table 3 below.

Figure 2: Stateline Mass Transit District Service Area



Source: Stateline Mass Transit District

Table 3: Stateline Mass Transit District Fares

Fare type	Quantity/type	Price
Cash fare	Regular fare	\$3.00
	Senior (over age 65) /disability/youth (age 7 to 16) fare	\$1.50
Waived fare	Child (under 7 years of age)	Free with paying customer
	Personal care attendant	Free when traveling with approved client

OTHER TRANSPORTATION SERVICES

ROCK COUNTY TRANSIT

The Rock County Council on Aging operates Rock County Transit, which provides demand-response transportation services anywhere within Rock County to individuals age 55 and older, regardless of health, and to any individual with a disability, regardless of age. Rock County Transit operates on weekdays from 7:00 AM to 5:00 PM and requires that reservations are made two days in advance. Rock County Transit serves qualifying individuals regardless of trip purpose, but with fares of \$5.00 for a one-way trip or \$10.00 for a round trip within a community, and \$6.00 for a one-way trip or \$12.00 for a round trip between communities, it is more costly than other local services.

Rock County Transit also operates complementary paratransit service under contracts with BTS and JTS.

ROCKFORD MASS TRANSIT DISTRICT

RMTD is a transit system that serves Rockford, Illinois and surrounding communities with predominantly fixed route service. Two RMTD routes provide a connection to the SMTD service area at the Machesney Park Target transfer point. RMTD operates on weekdays from approximately 6:00 AM to 7:00 PM and on Saturdays from about 10:00 AM to 6:00 PM

MEDICAL TRANSPORTATION MANAGEMENT

Medical Transportation Management (MTM) is the non-emergency medical transportation (NEMT) manager for the state of Wisconsin. As such, MTM arranges transportation for eligible Medicaid and BadgerCare Plus members throughout the state to qualifying medical appointments. People who are able to drive themselves to a qualifying appointment, or who are able to get a ride from a neighbor, friend, relative, or voluntary organization are not eligible for rides through MTM. MTM requires that trips be scheduled at least two business days in advance, with the exception of urgent trips, and can schedule recurring trips for standing appointments for three to six months at a time. Vehicles for these trips are assigned according to each patient’s level of need through a network of approved providers.

INTERCITY BUS PROVIDERS

Intercity bus providers in the greater Rockford – Beloit – Janesville region include Greyhound Bus Lines (Rockford only), Burlington Trailways (Rockford only), and Van Galder Bus Lines (Rockford, South Beloit, and Janesville). Each of these providers offers scheduled daily roundtrips from Rockford to Chicago, while Van Galder’s robust service offers multiple trips per day from South Beloit to Rockford, Janesville, Madison, and both Chicago airports.

Generally, intercity bus services offer longer-distance, higher-speed trips than local transit operators and have relatively higher fares that vary by distance traveled.

COMMUNITY CHARACTERISTICS

The SLATS service area population was analyzed using block group-level data from the 2013-2017 American Community Survey (ACS) 5-Year Estimates, as represented in the figures found throughout the following section. Because the boundary of the SLATS service area is not perfectly aligned with the census block groups, it is necessary to define an approach for block groups that are not fully encompassed within the area. For the totals used in this analysis, only the portions of each block group within the SLATS service area were selected, and the Census data for each block group was scaled down proportionally using the assumption that population characteristics are distributed evenly throughout each block group. For instance, if only 40 percent of the block group falls within the SLATS service area, then only 40 percent of the population within that block group is identified as being within that area.

Overall population characteristics, such as poverty rates and the proportion of the population over age 65, were determined using 2013-2017 ACS 5-Year Estimates for each individual city, town, township, and village. Data by municipality were used instead of aggregated block group data to prevent double counting of any persons living within overlapping jurisdictions, such as Roscoe Township and Roscoe Village. Because municipality data is reported for each municipality as a whole, while the SLATS area totals use data scaled using the methodology described above, SLATS area totals do not match the sum of all individual municipality values. Municipality-level data are shown in the tables in the following section.

POPULATION SIZE, DISTRIBUTION, AND DENSITY

The population of the SLATS service area is approximately 68,325 and is primarily concentrated around downtown Beloit, as shown in Figure 3. The City of Beloit comprises approximately half of the service area population (Table 4). Most of the higher-density areas in Beloit are served by Beloit Transit fixed-route buses, while those in South Beloit are served by SMTD on-demand buses.

Figure 3: Population Density by Census Block Group

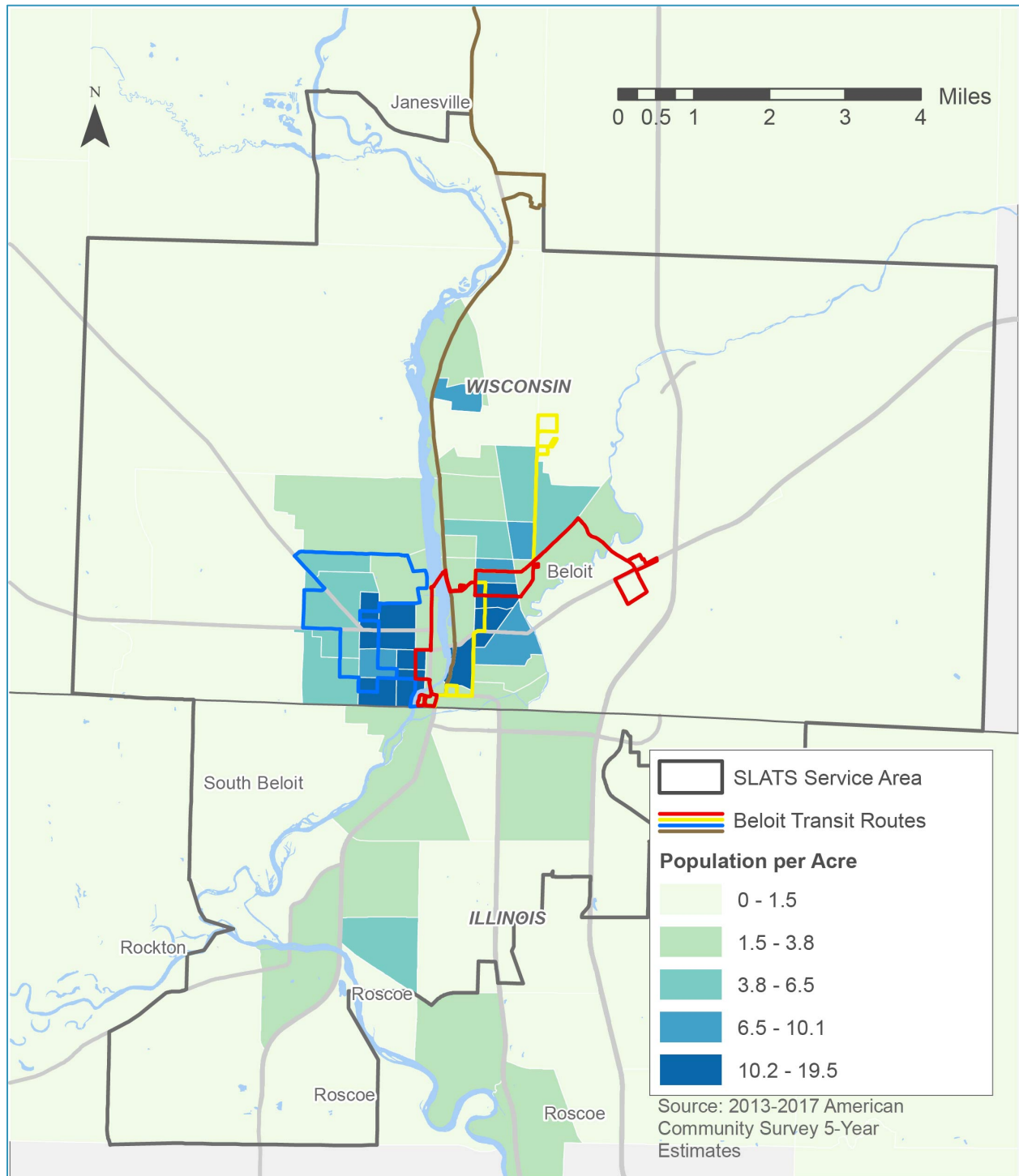


Table 4: Population by Municipality

Municipality	Population
City of Beloit	36,733
Town of Beloit	7,653
Rockton Township ¹	16,095
Village of Rockton	7,474
Roscoe Township ¹	19,300
Village of Roscoe	10,571
City of South Beloit	7,999
Town of Turtle	2,575
Service Area Total²	68,325

Source: 2013-2017 American Community Survey 5-Year Estimates.

1 Population and household totals for Illinois townships (Rockton and Roscoe) include residents of overlapping jurisdictions, including the Village of Rockton and the Village of Roscoe.

2 The majority of the Village of Roscoe is outside the SLATS Metropolitan Planning Area, and portions of other municipalities may also lie beyond SLATS jurisdictional boundaries. Population and household data from these areas is excluded from SLATS service area totals.

RACIAL DIVERSITY

The population of the Stateline region is most diverse in central Beloit, where residents of color comprise 47 percent of the population or more, as shown in Figure 4. Beloit is also the most diverse of all municipalities in the Stateline region (Table 5).

Figure 4: Percent People of Color by Census Block Group

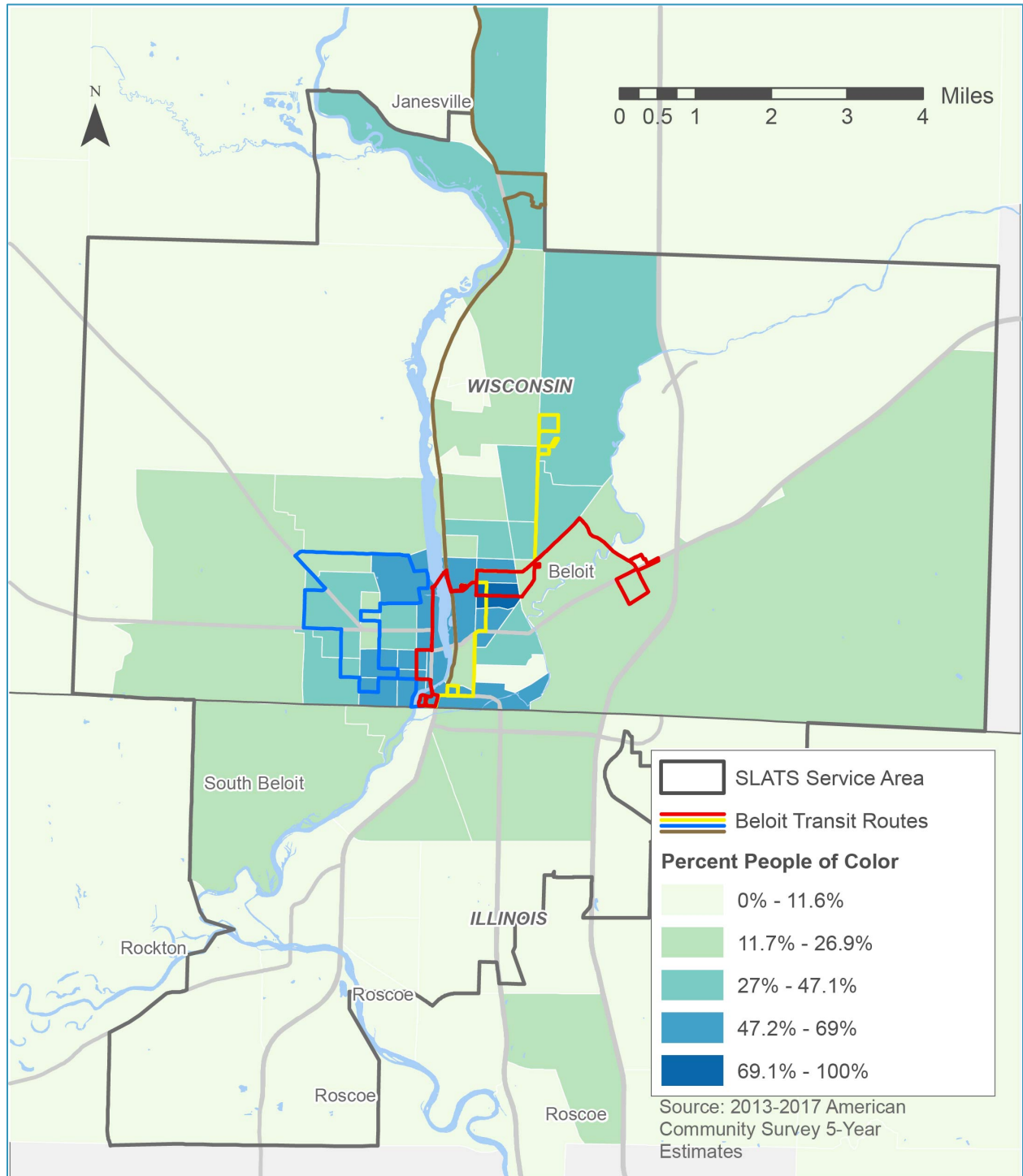


Table 5: Race and Ethnicity by Municipality

Municipality	Population	White	Black	Asian	Hispanic/ Latino (All Races)	Other
City of Beloit	36,733	22,528 61.3%	4,825 13.1%	452 1.2%	7,250 19.7%	1,669 4.5%
Town of Beloit	7,653	6,374 83.3%	463 6.0%	213 2.8%	339 4.4%	274 3.6%
Rockton Township¹	16,095	14,043 87.3%	287 1.8%	143 0.1%	1,311 8.1%	311 1.9%
Village of Rockton	7,474	6,884 92.1%	95 1.3%	96 1.3%	248 3.3%	151 2.0%
Roscoe Township¹	19,300	18,059 93.6%	139 0.7%	382 2.0%	332 1.7%	388 2.0%
Village of Roscoe	10,571	9,595 90.8%	248 2.3%	335 3.2%	226 2.1%	167 1.6
City of South Beloit	7,999	6,703 83.8%	98 1.2%	40 0.5%	797 1.0%	361 4.5%
Town of Turtle	2,575	2,134 82.9%	46 1.8%	33 1.3%	267 10.4%	95 3.7%
Service Area Total²	68,325	49,516 72.5%	5,606 8.2%	875 1.3%	9,676 14.2%	2,651 3.8%

Source: 2013-2017 American Community Survey 5-Year Estimates.

1 Population and household totals for Illinois townships (Rockton and Roscoe) include residents of overlapping jurisdictions, including the Village of Rockton and the Village of Roscoe.

2 The majority of the Village of Roscoe is outside the SLATS Metropolitan Planning Area, and portions of other municipalities may also lie beyond SLATS jurisdictional boundaries. Population and household data from these areas is excluded from SLATS service area totals.

HOUSEHOLD INCOME AND POVERTY

People with a limited income often comprise a significant proportion of transit ridership in a given area. Individuals with low incomes are less likely to be able to afford car ownership and therefore are more likely to depend on transit as a primary mode of transportation. Areas with the highest proportion of households with incomes below the federal poverty line are located in Beloit, as shown in Figure 5 and Table 6.

Figure 5: Households Experiencing Poverty by Census Block Group

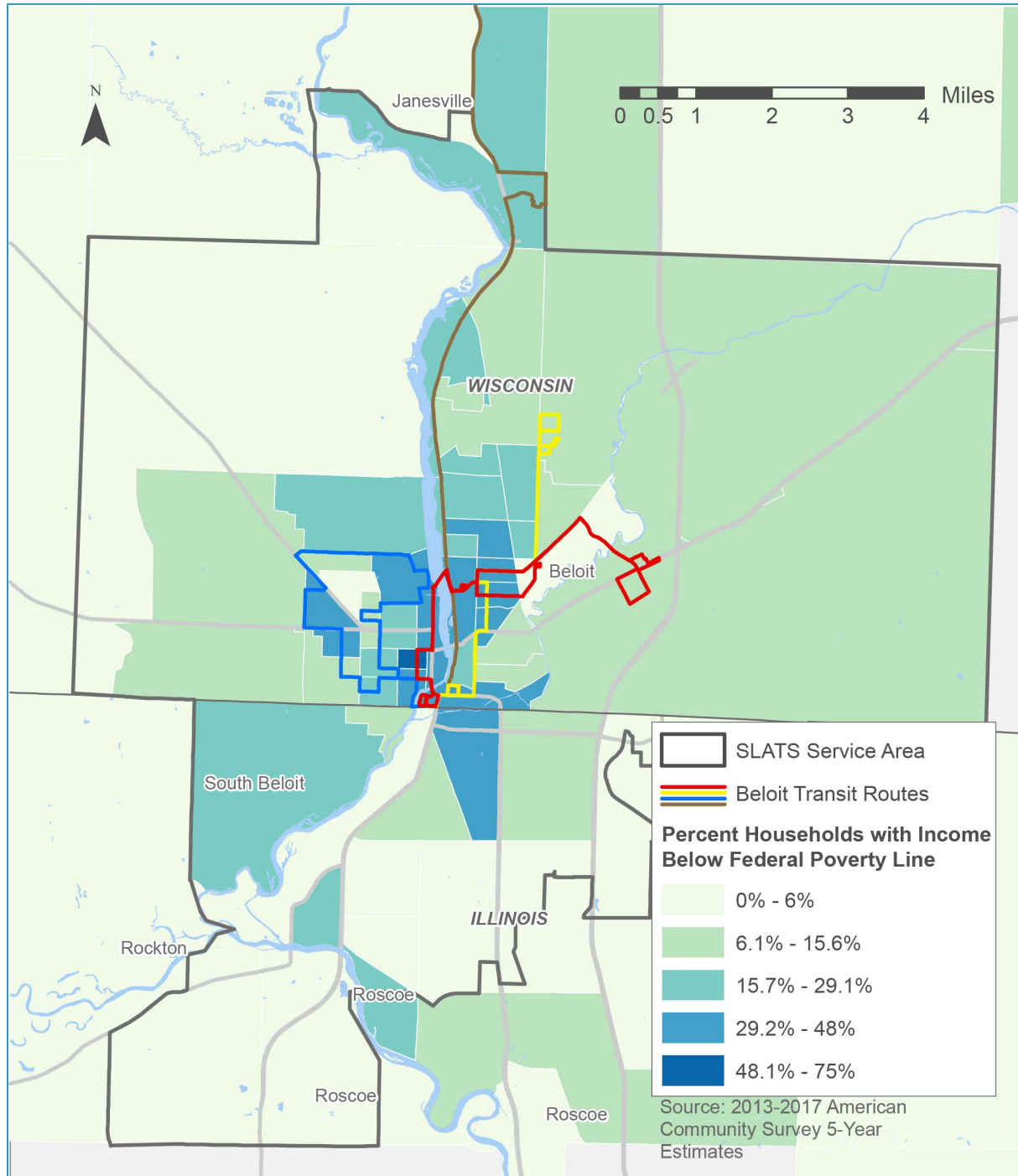


Table 6: Households with Income Below the Federal Poverty Level by Municipality

Municipality	Households	Households with Income Below Poverty Level	Percent Households Below Poverty Level
City of Beloit	13,934	2,896	20.8%
Town of Beloit	3,196	464	14.5%
Rockton Township ¹	6,208	408	6.6%
Village of Rockton	2,916	141	4.8%
Roscoe Township ¹	7,048	490	7.0%
Village of Roscoe	3,784	207	5.5%
City of South Beloit	2,797	332	11.9%
Town of Turtle	988	70	7.1%
Service Area Total²	26,127	4,233	16.2%

Source: 2013-2017 American Community Survey 5-Year Estimates.

1 Population and household totals for Illinois townships (Rockton and Roscoe) include residents of overlapping jurisdictions, including the Village of Rockton and the Village of Roscoe.

2 The majority of the Village of Roscoe is outside the SLATS Metropolitan Planning Area, and portions of other municipalities may also lie beyond SLATS jurisdictional boundaries. Population and household data from these areas is excluded from SLATS service area totals.

HOUSEHOLDS WITHOUT A CAR

Households without reliable access to a private automobile rely on transit, walking, ridesharing, or bicycling to commute, grocery shop, access goods and services, and meet mobility needs. Households without a vehicle are concentrated in the southern portion of Beloit, as shown in Figure 6. Beloit also has the greatest proportion of households without a vehicle of all municipalities in the SLATS service area, as shown in Table 7.

Figure 6: Percent Households without a Vehicle

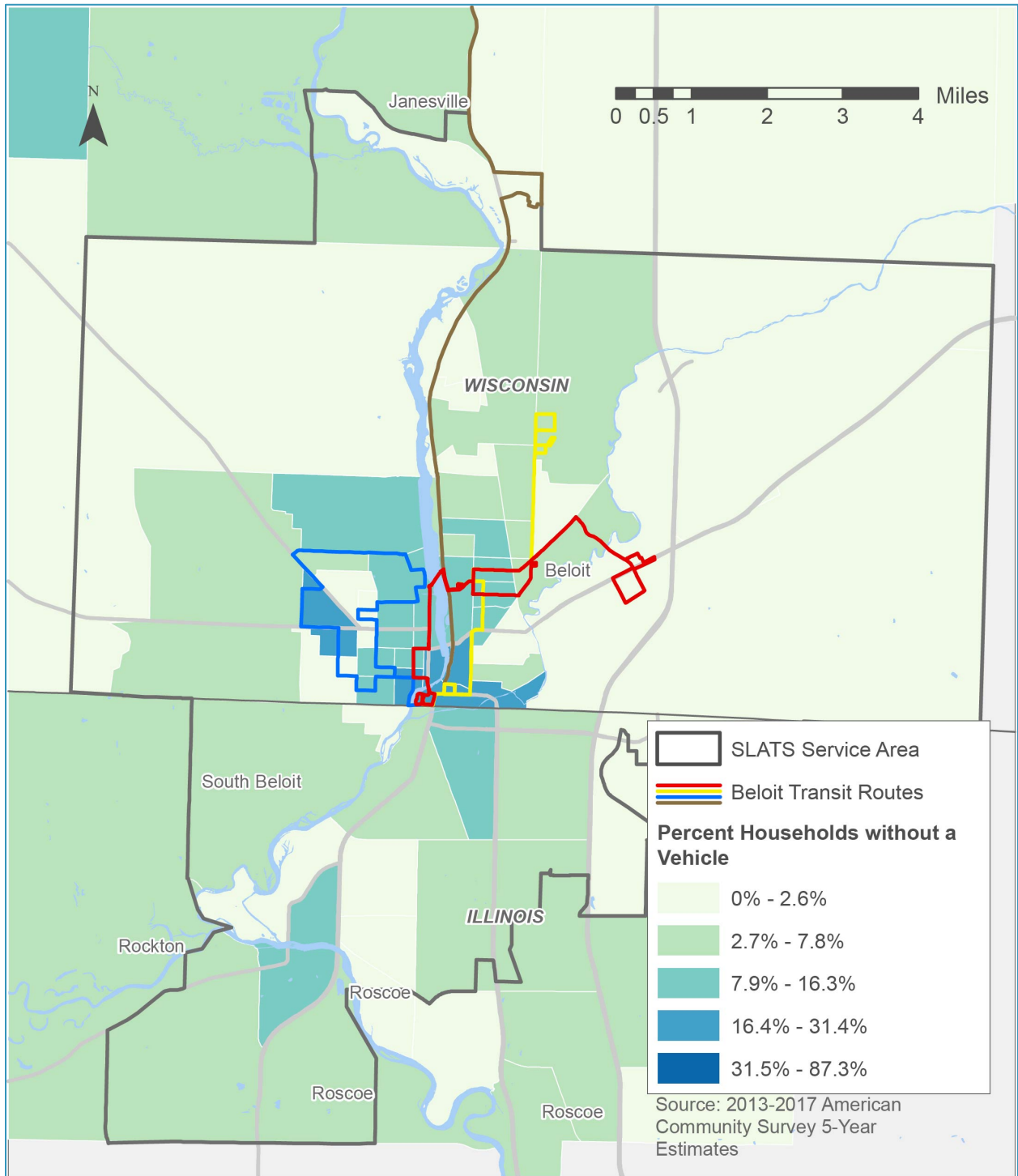


Table 7: Households without Vehicles by Municipality

Municipality	Number of Households	Number of Households without a Vehicle	Percent Households without a Vehicle
City of Beloit	13,934	1,147	8.2%
Town of Beloit	3,196	152	4.8%
Rockton Township ¹	6,208	236	3.8%
Village of Rockton	2,916	174	6.0%
Roscoe Township ¹	7,048	198	2.8%
Village of Roscoe	3,784	104	2.7%
City of South Beloit	2,797	76	2.7%
Town of Turtle	988	15	1.5%
Service Area Total²	26,127	1,598	6.1%

Source: 2013-2017 American Community Survey 5-Year Estimates.

1 Population and household totals for Illinois townships (Rockton and Roscoe) include residents of overlapping jurisdictions, including the Village of Rockton and the Village of Roscoe.

2 The majority of the Village of Roscoe is outside the SLATS Metropolitan Planning Area, and portions of other municipalities may also lie beyond SLATS jurisdictional boundaries. Population and household data from these areas is excluded from SLATS service area totals.

POPULATION BY AGE

People over age 65 comprise a significant portion of transit ridership as they are more likely to be unable to drive or may not be able to afford car ownership. The senior population in the Stateline region is distributed around the periphery of the SLATS area, as shown in Figure 7. The Town of Beloit, Town of Turtle, and Rockton Township have the highest proportions of population over age 65 (Table 8).

Figure 7: Percent of Population Over Age 65

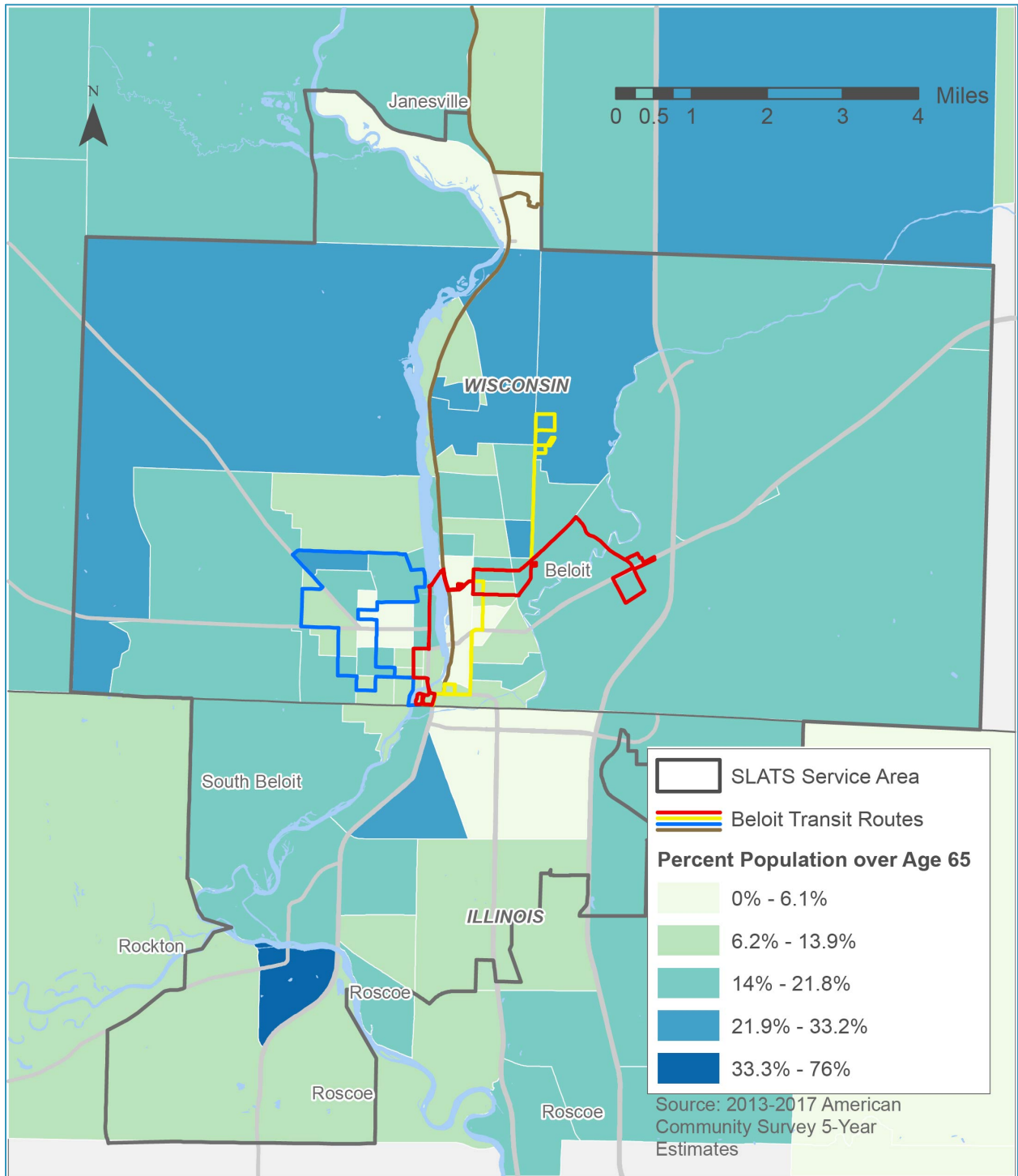


Table 8: Population Age 65 and Older by Municipality

Municipality	Population	Population Age 65 and Older	Percent Age 65 and Older
City of Beloit	36,733	4,770	13.0%
Town of Beloit	7,653	1,525	19.9%
Rockton Township ¹	16,095	2,657	16.5%
Village of Rockton	7,474	1,289	17.2%
Roscoe Township ¹	19,300	2,253	11.7%
Village of Roscoe	10,571	1,143	10.8%
City of South Beloit	7,999	928	11.6%
Town of Turtle	2,575	435	16.9%
Service Area Total²	68,325	9,808	14.4%

Source: 2013-2017 American Community Survey 5-Year Estimates.

1 Population and household totals for Illinois townships (Rockton and Roscoe) include residents of overlapping jurisdictions, including the Village of Rockton and the Village of Roscoe.

2 The majority of the Village of Roscoe is outside the SLATS Metropolitan Planning Area, and portions of other municipalities may also lie beyond SLATS jurisdictional boundaries. Population and household data from these areas is excluded from SLATS service area totals.

POPULATION WITH A DISABILITY

People with disabilities often use transit to meet their mobility needs. Households that have at least one member with a disability are shown in Figure 8.¹ Data regarding disabilities are available for individual members of the population at the municipality level and are presented in Table 9. The City of Beloit and Town of Beloit have the highest concentrations of population with a disability (Table 9).

¹ Household data are used for this analysis because data regarding disabilities are not available for individual members of the population at the block group level.

Figure 8: Households with at Least One Individual with a Disability by Census Block Group

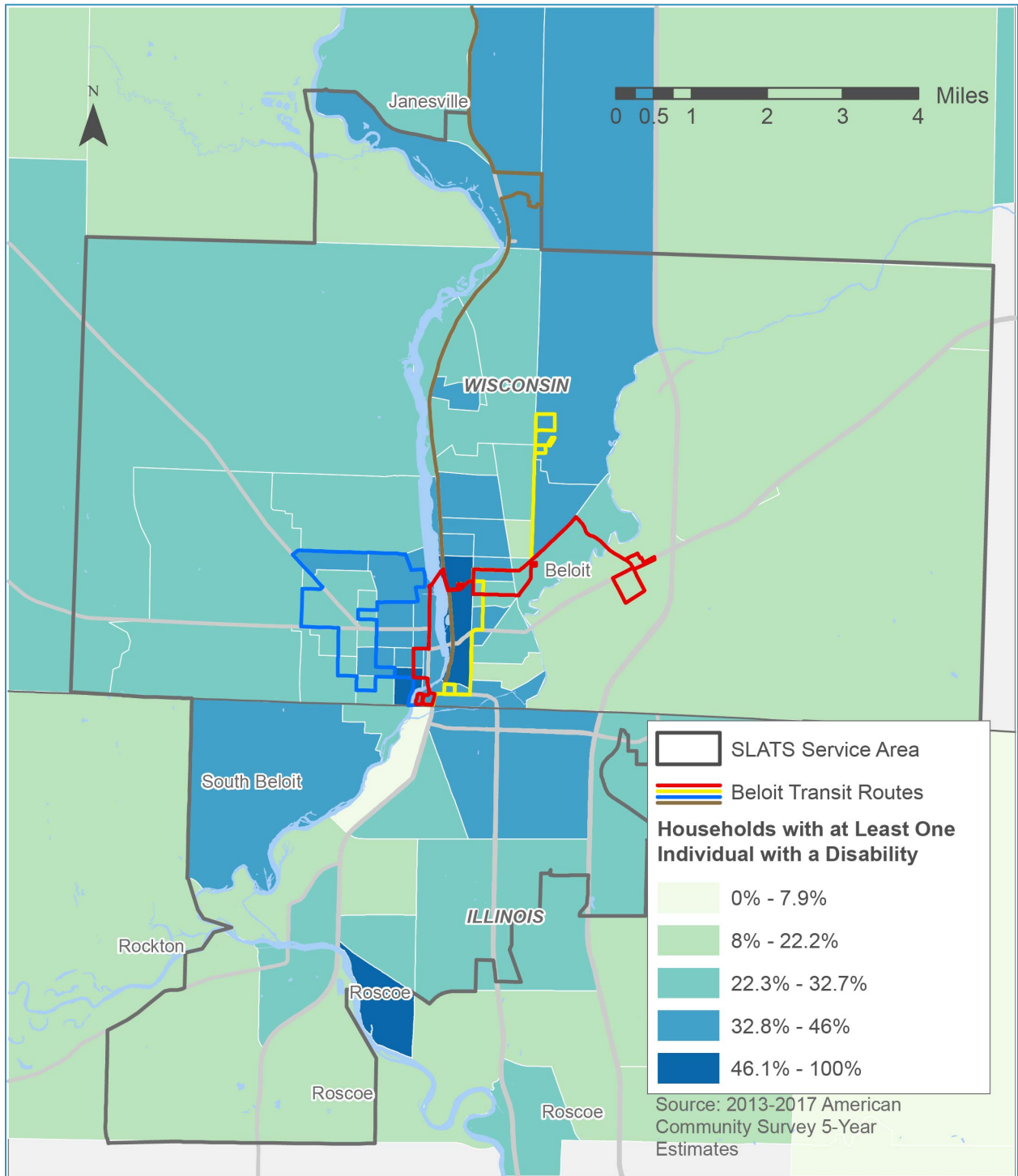


Table 9: Population with a Disability by Municipality

Municipality	Population	Population with a Disability	Percent Population with a Disability
City of Beloit	36,733	5,601	15.2%
Town of Beloit	7,653	1,530	20.0%
Rockton Township ¹	16,095	1,881	11.7%
Village of Rockton	7,474	875	11.7%
Roscoe Township ¹	19,300	1,890	9.8%
Village of Roscoe	10,571	905	8.6%
City of South Beloit	7,999	807	10.1%
Town of Turtle	2,575	347	13.5%
Service Area Total ²	--	--	--

Source: 2013-2017 American Community Survey 5-Year Estimates.

1 Population and household totals for Illinois townships (Rockton and Roscoe) include residents of overlapping jurisdictions, including the Village of Rockton and the Village of Roscoe.

2 Population with a disability is not reported at the Census block group level, so service area totals are unavailable.

EMPLOYMENT AND EARNINGS

HOUSEHOLD INCOME

Earnings in Beloit are lower than in the SLATS MPA as a whole. Median earnings among Beloit workers are \$38,930, which is 58 percent of the average median household income for all SLATS area communities of \$60,524, as shown in Table 10. The average median household income was calculated using the number of households and median household income in each area community. Median household incomes and individual worker earnings are shown in Table 10 below.

Table 10: Annual Earnings: Beloit and SLATS MPA

Measure	Beloit	SLATS MPA	Beloit as a Percent of SLATS MPA
Median Household Income	\$38,930	\$60,524	57.7%
Full-time, Year-round Workers with Earnings	--	--	--
Less than 15,000	16.4%	10.2%	161%
\$15,000-\$35,000	29.5%	20.1%	147%
\$35,000-\$50,000	15.2%	13.1%	116%
\$50,000 - \$75,000	18.6%	18.8%	99%
Greater than \$75,000	20.2%	37.7%	54%

Source: U.S. Census Bureau, 2013-2017 American Community Survey Five-Year Estimates.

MAJOR INDUSTRIES

Per 2015 U.S. Census Bureau employment data, Manufacturing is the leading employment sector in the SLATS MPA, comprising 25 percent of jobs (Table 11). Educational Services is second with nearly 14 percent of jobs in the area, and Health Care and Social Assistance ranks third with 10 percent of jobs.

Table 11: SLATS MPA Employment by NAICS Sector, 2015

NAICS Code	Industry	Employment	Percent of SLATS Employment
31-33	Manufacturing	6,247	25.3%
61	Educational Services	3,405	13.8%
62	Health Care and Social Assistance	2,537	10.3%
44-45	Retail Trade	2,387	9.7%
72	Accommodation and Food Services	2,009	8.1%
55	Management of Companies and Enterprises	1,428	5.8%
56	Administration & Support, Waste Management and Remediation	1,276	5.2%
42	Wholesale Trade	871	3.5%
23	Construction	853	3.5%
92	Public Administration	724	2.9%
--	Other (various industries)	2,969	12.0%
--	Total	24,706	100.0%

Source: U.S. Census Bureau, 2015 LEHD Origin-Destination Employment Statistics

OPERATING ENVIRONMENT

INSTITUTIONS, HUMAN SERVICE PROVIDERS, AND MAJOR EMPLOYERS

The Stateline region is home to a variety of educational and community institutions, including colleges, hospitals, and social service organizations. Selected institutions are described below.

EDUCATION

- **School District of Beloit (SDB):** The School District of Beloit serves most of the City of Beloit and some adjacent areas. SDB operates six elementary schools, four intermediate schools, and one high school in the Beloit area. During the 2017-2018 school year, SDB served approximately 7,100 students and employed nearly 940 staff.
- **School District of Beloit Turner (SDBT):** The School District of Beloit Turner serves portions of Beloit and much of the surrounding area. SDBT operates two elementary schools as well as a middle and high school that share a campus north of Beloit. During the 2017-2018 school year, SDBT served approximately 1,500 students and employed more than 200 staff.
- **Blackhawk Technical College:** Blackhawk Technical College is a technical school located between Beloit and Janesville. The college serves approximately 14,000 students each year and employed nearly 600 faculty and staff in 2018.
- **Beloit College:** Beloit College is a private liberal arts college located just east of downtown Beloit. The college has an annual enrollment of approximately 1,300 students and employed more than 380 faculty and staff in 2018.

HEALTHCARE

- **Beloit Health System:** Beloit Health System is the largest healthcare provider in the Beloit area, with more than 1,550 employees operating 15 clinics in the Stateline region. Beloit Health System's primary locations in the service area are Beloit Hospital, Beloit Clinic, NorthPointe Health and Wellness, and South Beloit Clinic.
- **Beloit Area Community Health Center:** Beloit Area Community Health Center is a 501(c)(3) federally qualified health center that focuses on medically underserved populations and offers a sliding fee scale to make care more affordable.

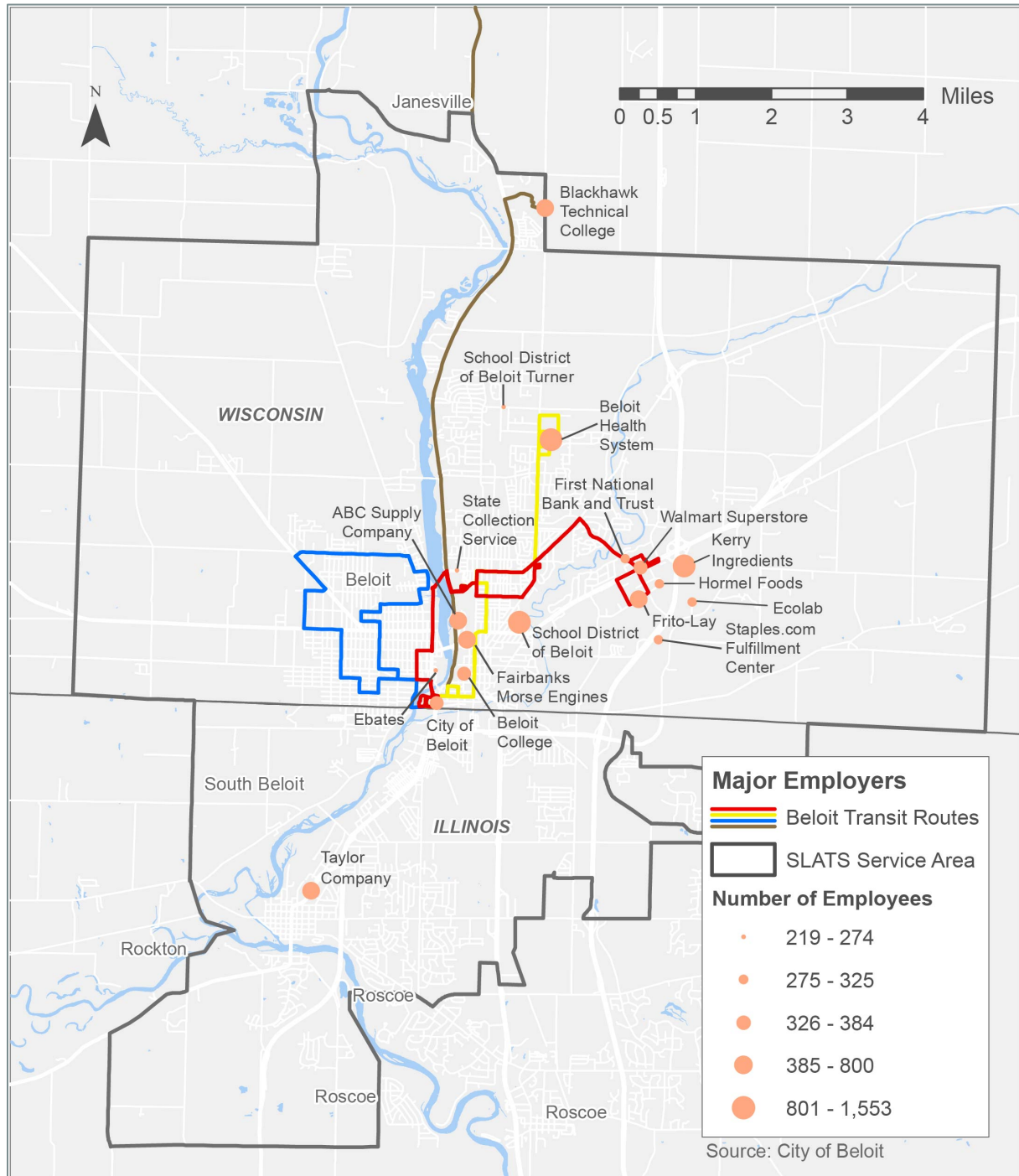
SOCIAL SERVICES AND NONPROFIT ORGANIZATIONS

- **Rock County Human Services:** Rock County operates a variety of social services in Janesville, as well as at the Eclipse Center in Beloit. Locations in both cities are served by the BJE.
- **Winnebago County Human Services (IL):** Winnebago County's facilities are located in downtown Rockford and are served by RMTD local bus routes.
- **Other social services:** The Stateline region is home to many other social service providers, including Community Action of Rock and Walworth Counties, Latino Service Providers Coalition, Stateline Literacy Council, Family Services, Family Promise, the Salvation Army, RSVP of Rock County, Stateline Boys and Girls Club, Stateline Family YMCA, and many others.

MAJOR EMPLOYERS

Major employers in the Stateline region include many of the institutions listed above, as well as Kerry Ingredients & Flavours, Frito-Lay, and Fairbanks Morse Engines. These and other employers with more than 200 employees are shown in Figure 9 below. Due to data limitations, all employees of employers with multiple locations (namely those of the school districts and Beloit Health System) are assigned to each employer's headquarters.

Figure 9: Major Beloit Area Employers and Beloit Transit Routes



ACTIVITY CENTERS

Additional destinations that contribute to transit ridership in the Stateline region include the following:

- **Retail corridors:** Though ridership by stop is not available for BTS, retail destinations typically generate a significant amount of demand for transit. Key retail destinations in the Stateline region include Walmart, Woodman's, Walgreens, and Piggly Wiggly. Additional regionally significant retail corridors are located along Illinois 173 in Machesney Park, as well as in Rockford and Janesville. Stakeholder outreach has indicated that due to recent retail store closures in the Stateline region, more residents are traveling to Janesville, Machesney Park, and Rockford to meet their shopping needs.
- **K-12 schools:** Students at local schools are eligible to buy semester passes that offer unlimited rides within Beloit on school days. BTS provides a guide with information about which buses serve the high school campus and when.

STREETS AND SIDEWALKS

Consistent with Smart Growth planning principles, communities in the Stateline region have developed comprehensive plans that include recommended improvements to streets, sidewalks, and bicycle and pedestrian infrastructure. Core downtown areas in Beloit and Rockton already have well-developed pedestrian networks that facilitate easy access to transit. Outlying areas, including highway-oriented commercial developments, are less likely to have adequate infrastructure in place to support transit use.

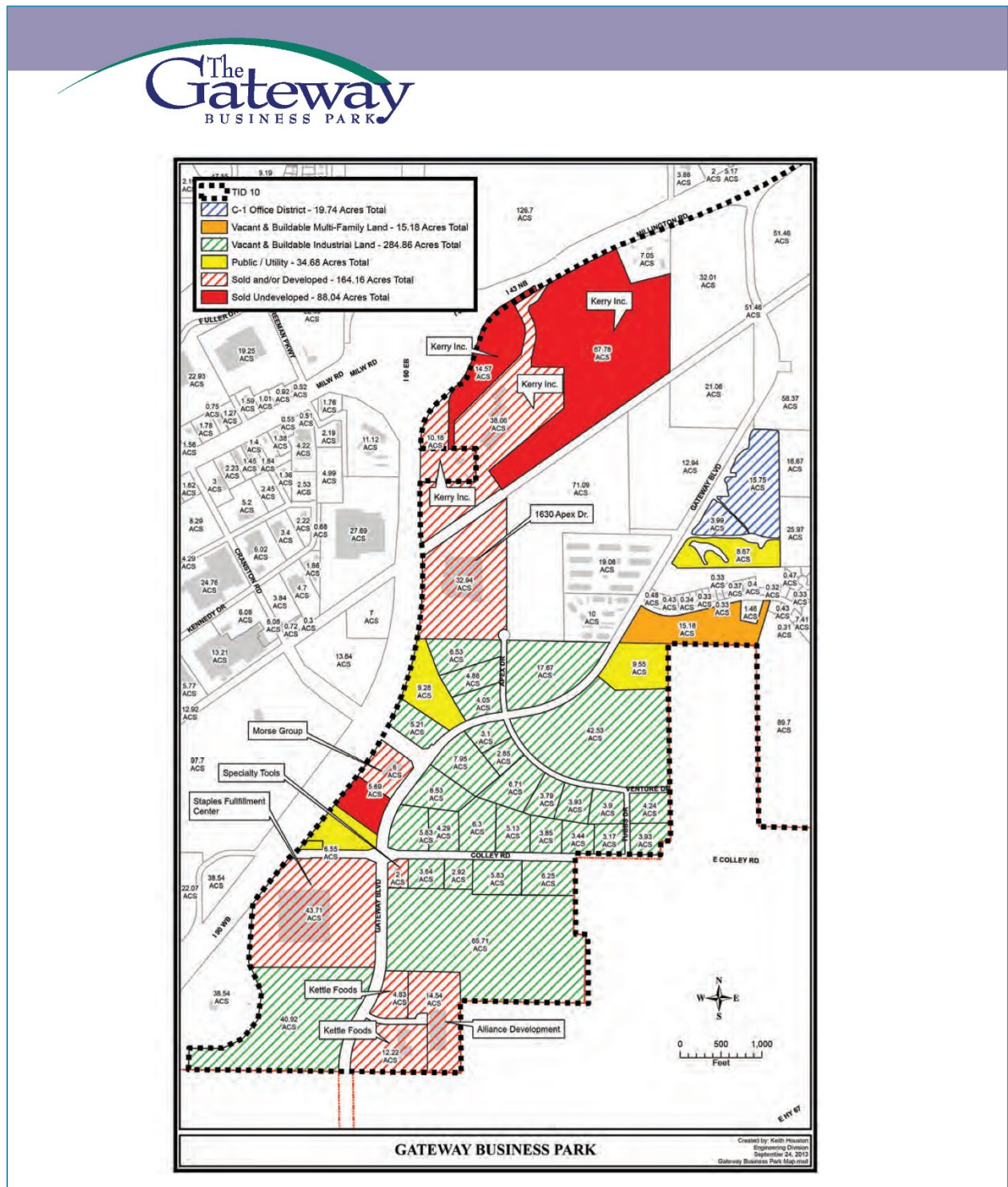
ECONOMIC DEVELOPMENT

In recent years, the Stateline region has seen increasing growth and economic development in downtown areas, with high-wage office and technology occupations concentrated in downtown Beloit. However, perhaps the most significant developments are occurring east of Beloit along the I-39/I-90 corridor.

Significant retail and industrial development has already occurred along Milwaukee Road and Cranston Road just west of the I-39/I-90 corridor, including multiple hotels, a Walmart, and several large industrial businesses along Kennedy Drive.

Just east of I-39/I-90, the Gateway Business Park incorporates several current industrial businesses, including a Staples fulfillment center, Kettle Foods, Pratt Industries, Chicago Fittings, NorthStar Medical Radioisotopes, Kerry Ingredients & Flavours, the Morse Group, Specialty Tools and soon, an Amazon distribution facility (anticipated winter 2020). The Gateway Business Park – a joint venture between the City of Beloit and the Greater Beloit Economic Development Corporation – is expected to see additional industrial, commercial, and multi-family housing development across its 450-acre campus, as shown in Figure 10.

Figure 10: Gateway Business Park Map



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Source: City of Beloit

Just west of the Gateway Business Park, the Ho-Chunk Nation is planning a \$405 million casino and retail complex that is expected to generate extensive employment growth and economic benefits in Beloit and nearby counties, including approximately 4,000 jobs related to construction and 3,400 permanent jobs once the facility is in operation.² If built, the casino will be a significant center of employment and activity, and could prove to be an important ridership generator for BTS and SMTD.

Figure 11: Proposed Ho-Chunk Casino – Site Layout



Source: Final Environmental Impact Statement (May 2019)

Figure 12: Proposed Ho-Chunk Casino – Architectural Rendering



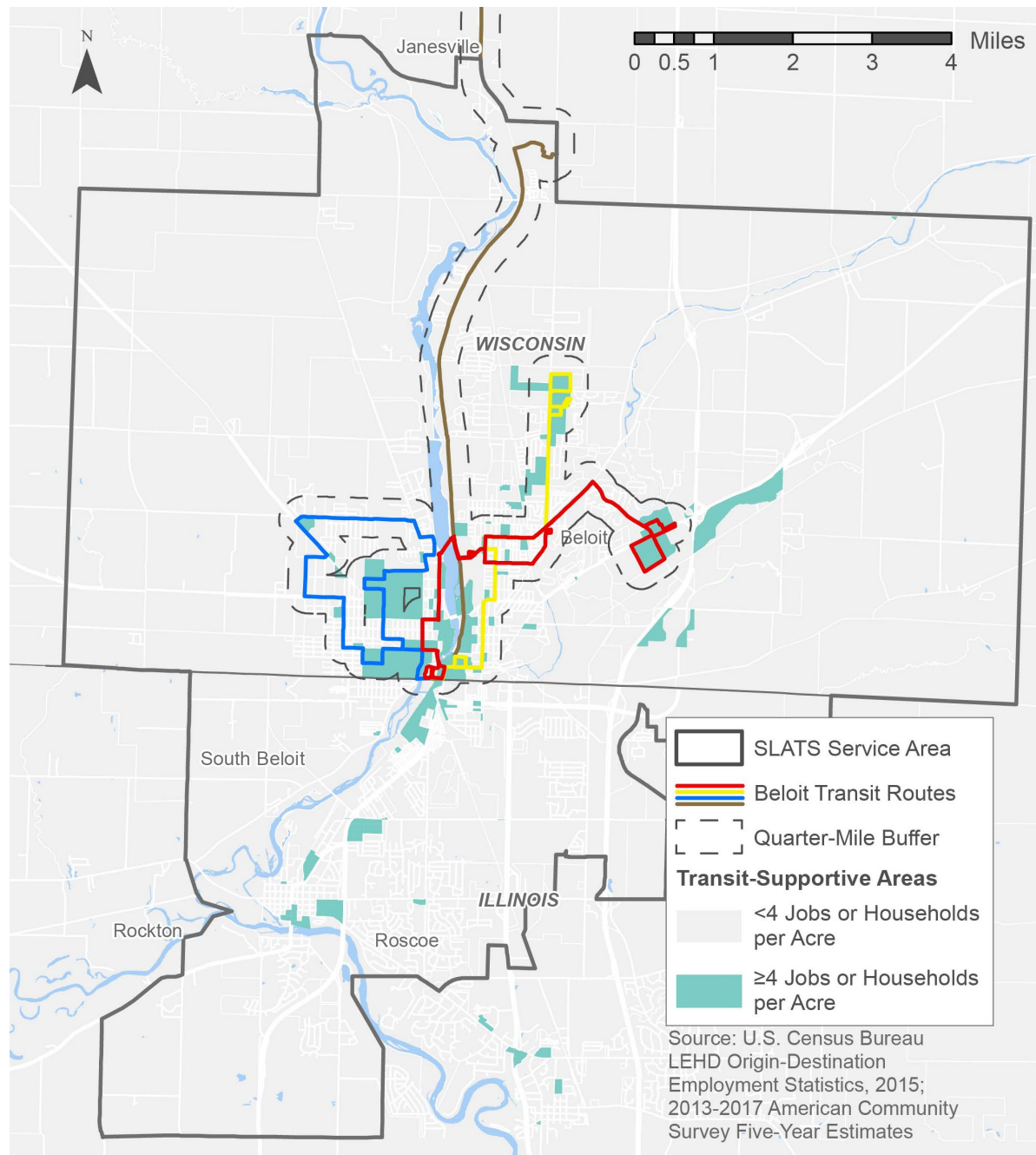
Source: Final Environmental Impact Statement (May 2019)

² Draft Environmental Impact Statement, Appendix O (November 2018). <https://www.ho-chunkbeloitais.com/wp-content/uploads/2018/11/Volume-2-Appendix-O-Executive-Summary-Table.pdf>.

TRANSIT SUPPORTIVE AREAS

One tool used in determining the adequacy of transit service coverage is to examine the areas in a community with employment and population density sufficient to support basic levels of fixed route transit. Areas with more than four households per acre or four jobs per acre in the most recent block group-level ACS data (2017) and Longitudinal Employer-Household Dynamics (LEHD) data (2015), respectively, are defined in this analysis as transit-supportive areas (TSAs). Figure 13 displays the TSAs in the SLATS region in relation to the weekday fixed route network and service area. Currently, 70 percent of all TSAs in the SLATS planning area are within ¼ mile of existing fixed-route transit.

Figure 13: Transit-Supportive Areas in the SLATS Service Area

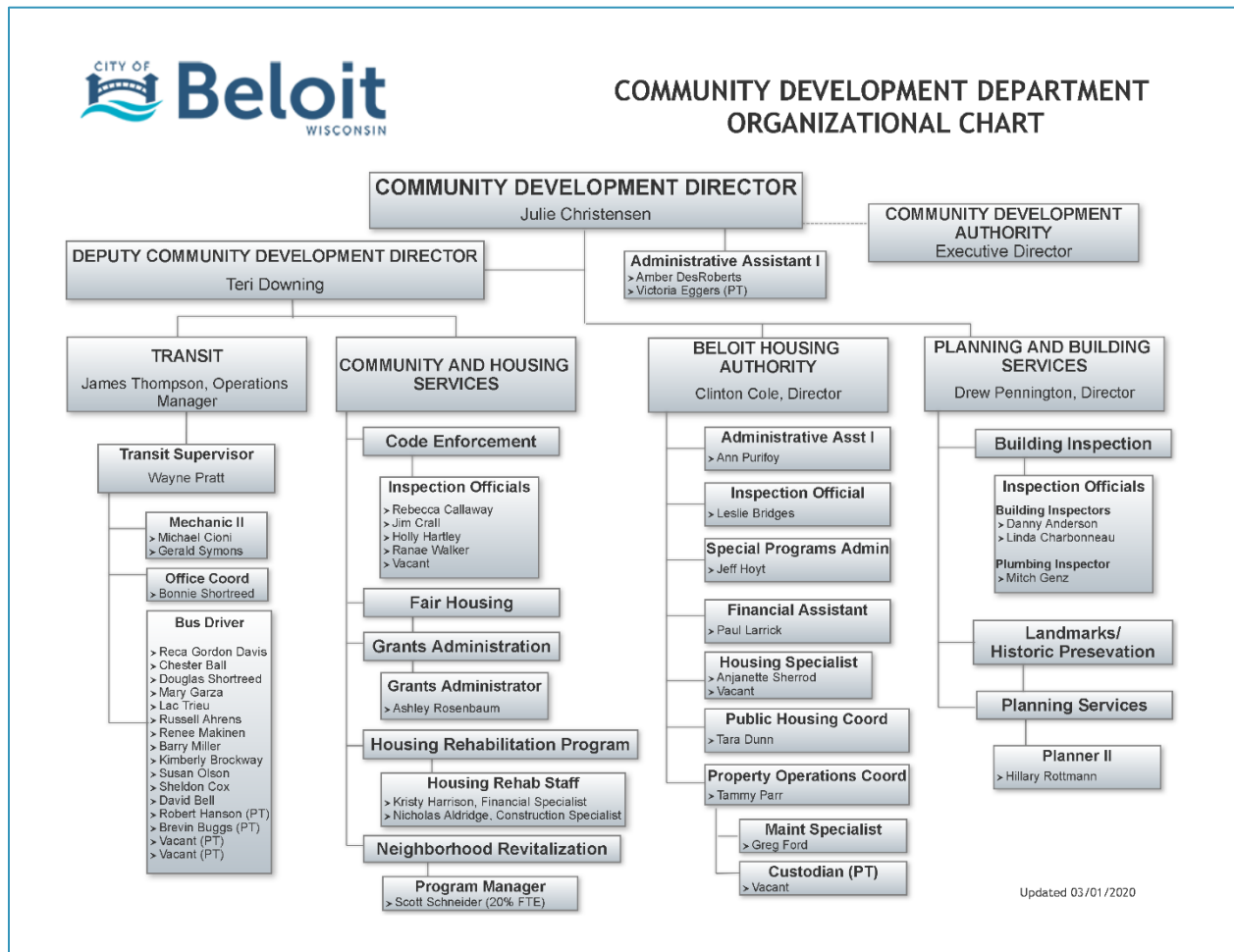


BTS STRUCTURE AND SERVICE DESIGN

GOVERNANCE

BTS is operated as a division of the City of Beloit. Housed within the city’s Community Development Department, BTS is overseen by the Deputy Community Development Director. Transit staff include an Operations Manager, Transit Supervisor, and Office Coordinator, as well as 12 full-time and 4 part-time bus drivers (2 vacant), as shown in Figure 14.

Figure 14: Beloit Transit System Organizational Chart



Updated 03/01/2020

Source: SLATS.

OPERATING BUDGET

In 2017, BTS incurred total operating expenses of \$1,994,216 (Table 12). Approximately 35 percent of the agency’s funding came from local funds, with an additional 29.9 percent from federal assistance, 21.1 percent from the State of Wisconsin, and 7.8 percent from fare revenues, according to data from the National Transit Database. Operating funds by source are shown in Table 12.

Table 12: Beloit Transit System 2017 Operating Expenses

Funding Source	Operating Funds Expended	Percent of Total
Fare Revenues	\$154,646	7.8%
Local Funds	\$697,359	35.0%
State Funds	\$421,535	21.1%
Federal Assistance	\$595,95	29.9%
Other Funds	\$124,725	6.3%
Total Operating Funds Expended	\$1,994,216	100.0%

Source: National Transit Database, 2017 Annual Agency Profile

FLEET AND FACILITIES

FIXED-ROUTE BUS FLEET

BTS’s revenue fleet consists of 11 heavy-duty buses for fixed-route service³ including a contingency fleet of three buses. The contingency fleet is used to supplement buses in the active fleet when necessary to accommodate, e.g., special events, emergencies, or training needs. BTS’s active fleet is comprised of eight buses. Six of the eight buses are operated in peak service – a spare ratio of 33 percent.

Per Federal Transit Administration (FTA) rolling stock useful life policy guidelines, large, heavy-duty buses have a minimum useful life of at least 12 years or 500,000 miles.⁴ Five of BTS’s buses exceed FTA’s minimum useful life age threshold; none exceed the mileage threshold. Another three buses will exceed FTA’s minimum useful life age threshold within the year, as shown in Table 13.

³ Rock County owns the paratransit vehicles it uses to operate BTS’s ADA complementary paratransit.

⁴ Federal Transit Administration. Circular 5010.1E: Award Management Requirements. 2017. Page IV-25. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/Grant%20Management%20Requirements%20Circular_5010-1E_1.pdf.

Table 13: BTS Fixed-Route Fleet Summary

Service	Year	Vehicle Type	Make/Model	Quantity	Age	Average Mileage*	Over Age	Over Mileage
Fixed	2002	Large, Heavy Duty	Gillig 35' Low Floor	3	16	399,224	3	--
Fixed	2006	Large, Heavy Duty	Gillig 35' Low Floor	2	12	464,487	2	--
Fixed	2007	Large, Heavy Duty	Gillig 35' Low Floor	3	11	406,186	--	--
Fixed	2011	Large, Heavy Duty	Gillig 35' Low Floor	1	7	294,808	--	--
Fixed	2014	Large, Heavy Duty	Gillig 35' Low Floor	2	4	187,331	--	--
Total/Average				11	10.9	364,970	5	--

*As of September 2018

FACILITIES

BTS has two primary facilities: the Beloit Transfer Center, located on the southern edge of downtown Beloit, and the Administration Building three miles to its northwest, which houses administrative staff, and bus storage and maintenance facilities. All BTS routes serve the Beloit Transfer Center.

Commissioned in 2009, the Transfer Center houses ten bus bays, public restrooms, an indoor waiting area, a driver break room, and a customer service room. In addition to the Beloit Transfer Center, BTS also maintains other posted bus stop signs and shelters throughout the system.

The BTS Administration Building was constructed in 1995 and is located on Willowbrook Road within a modern industrial park. This facility houses the operations, administrative, maintenance, and bus storage functions of the system, as well as all in-person customer service.

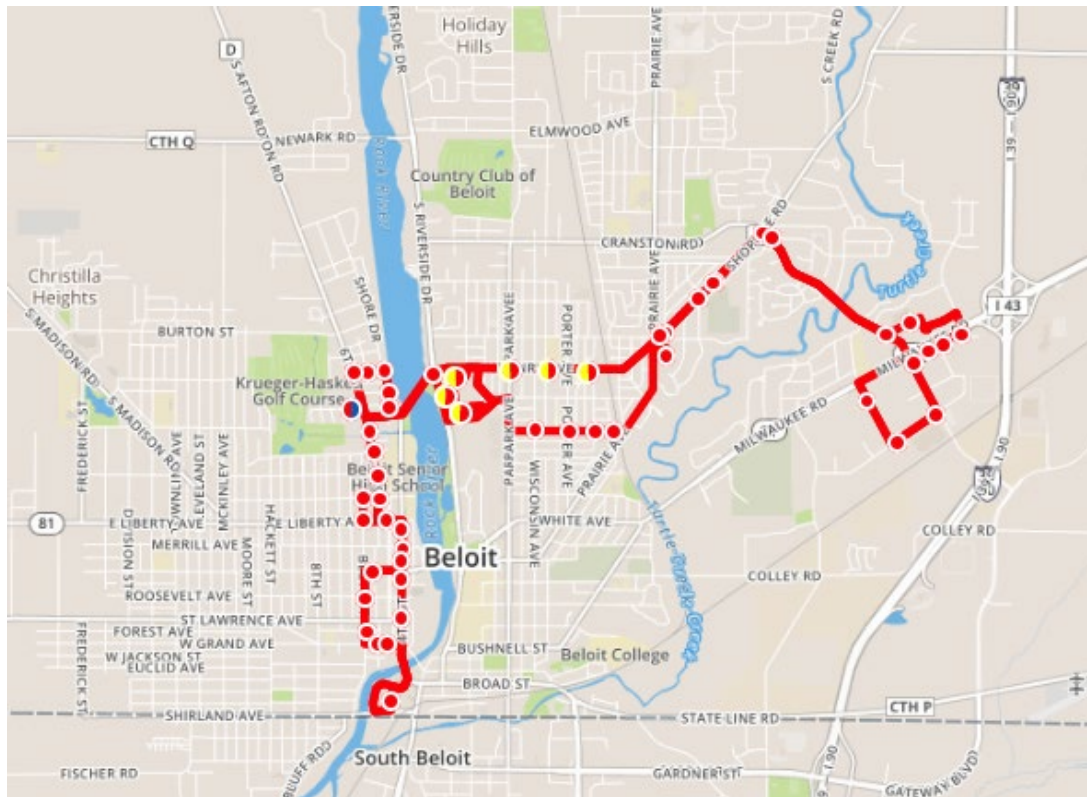
EXISTING FIXED-ROUTE SERVICE

BTS operates four existing routes: the Red Route, Yellow Route, Blue Route, and the BJE. The current route structure was implemented based on recommendations from the agency's 2015 Transit Development Plan. The following section provides a description of each route, as well as relevant operating statistics.

RED ROUTE

The Red Route (East Side – Cranston) operates using two buses on an 80-minute loop from the BTS Transfer Center to the east side of Beloit via 4th and 6th Streets, Henry and Copeland Avenues, Shopiere Road, and Cranston Road. Along Henry Avenue, the Red Route shares an alignment with the Yellow Route, allowing passengers to transfer. At its eastern terminus, the Red Route operates a loop to serve many of the recent industrial and commercial developments on Milwaukee Road, Cranston Road, and Kennedy Drive before returning to downtown Beloit, as shown in Figure 15 below.

Figure 15: BTS Red Route (East Side - Cranston)



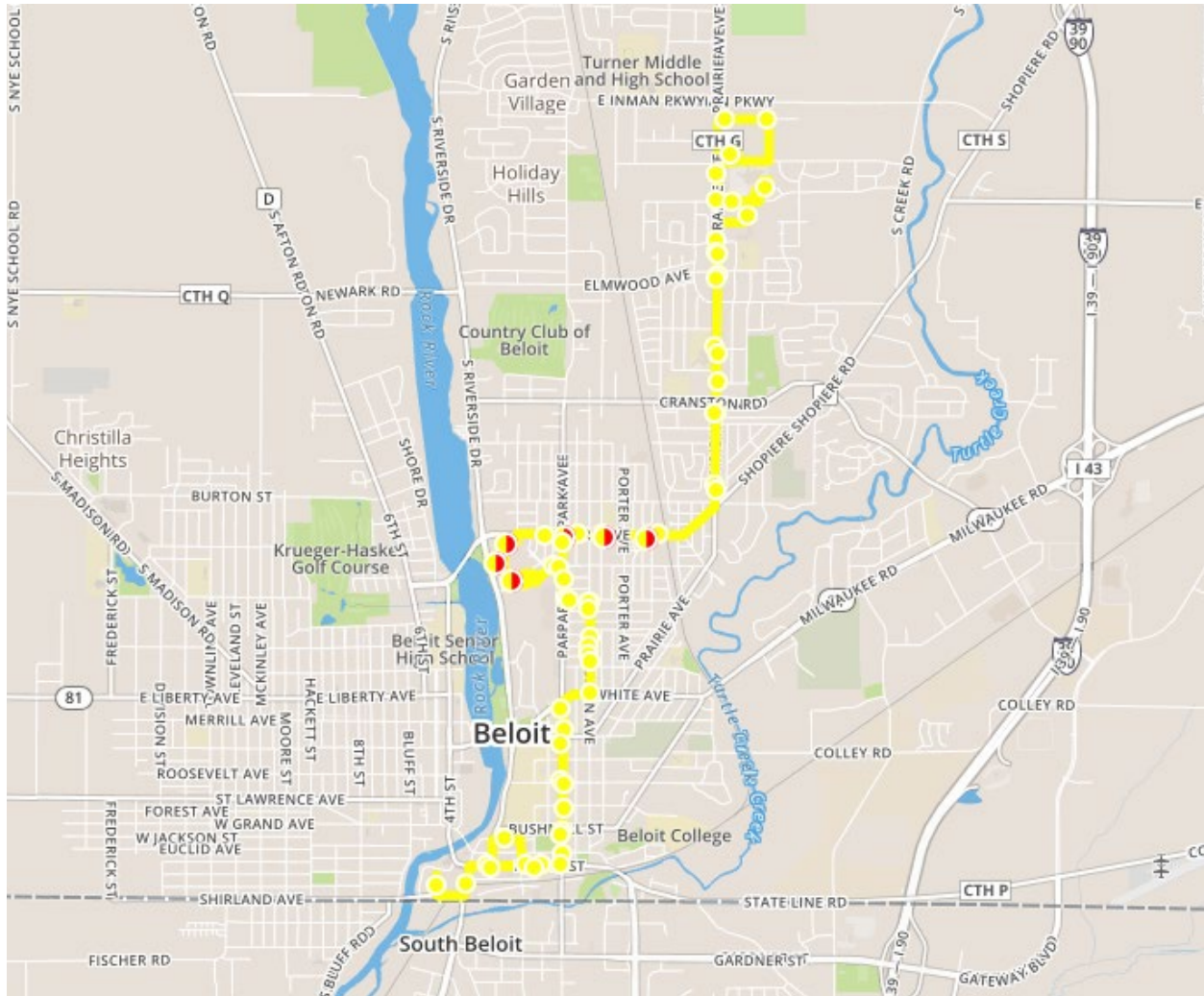
Source: Beloit Transit System

The Red Route's current design provides geographic coverage to Beloit's west riverfront neighborhoods, but by doing so, it requires a long trip for passengers wishing to reach the east side of the city. Additionally, drivers have reported that current schedules seem excessively long, requiring buses to "drag" or travel artificially slowly to maintain on-time performance and avoid arriving early to bus stops. Staff have also mentioned that while the shared alignment with the Yellow Route allows passengers to make transfers, it can seem like an unnecessary duplication of service.

YELLOW ROUTE

Like the Red Route, the Yellow Route (North End – Prairie) operates on an 80-minute loop using two fixed-route buses. Starting at the BTS Transfer Center, the Yellow Route travels north and east to serve downtown Beloit, then travels north along Park and Wisconsin Avenues to the Eclipse Center. The route then turns east on Henry Avenue (shared with the Red Route) and north on Prairie Avenue to serve Aldrich Intermediate School and Beloit Memorial Hospital (Figure 16).

Figure 16: BTS Yellow Route (North End - Prairie)



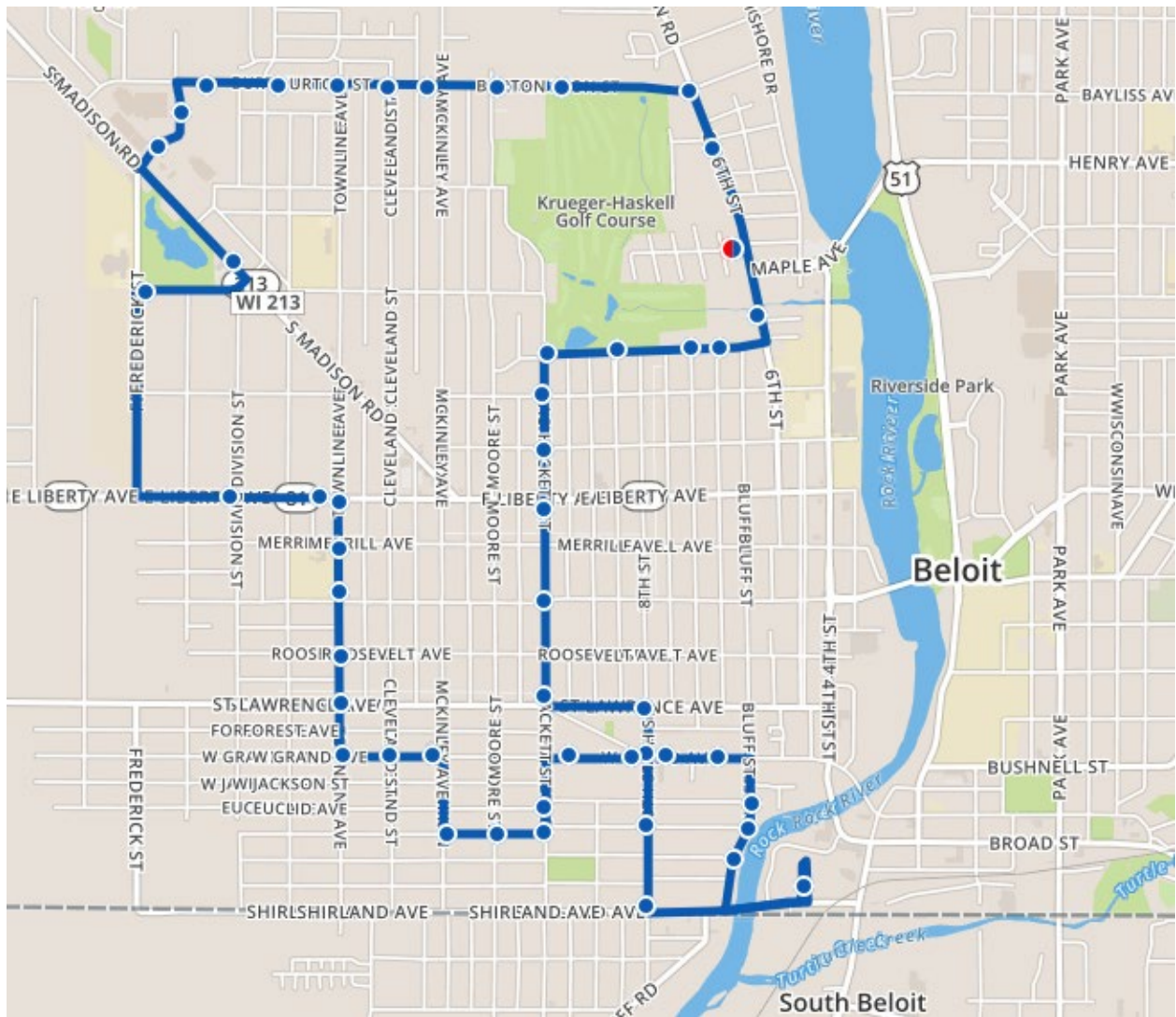
Source: Beloit Transit System

Compared to the Red Route, the Yellow Route operates direct service, with bi-directional operation along the majority of the alignment. This enables the Yellow Route to travel further from downtown within the same 80-minute schedule. That said, an 80-minute loop still delivers long travel times for some trips.

BLUE ROUTE

The Blue Route (West Side) travels in a 40-minute one-way loop to serve the west and northwest sides of Beloit, including Cunningham Intermediate School, McNeel Intermediate School, and the Woodman's grocery store at Burton Street and Madison Road. From Woodman's, the route travels east along Burton Street toward the river, then south along 6th Street toward Beloit Senior High School. At Olympian Boulevard, the route turns west, then returns to downtown via Hackett Street, St. Lawrence Avenue, and 8th Street, as shown in Figure 17 below.

Figure 17: BTS Blue Route (West Side)



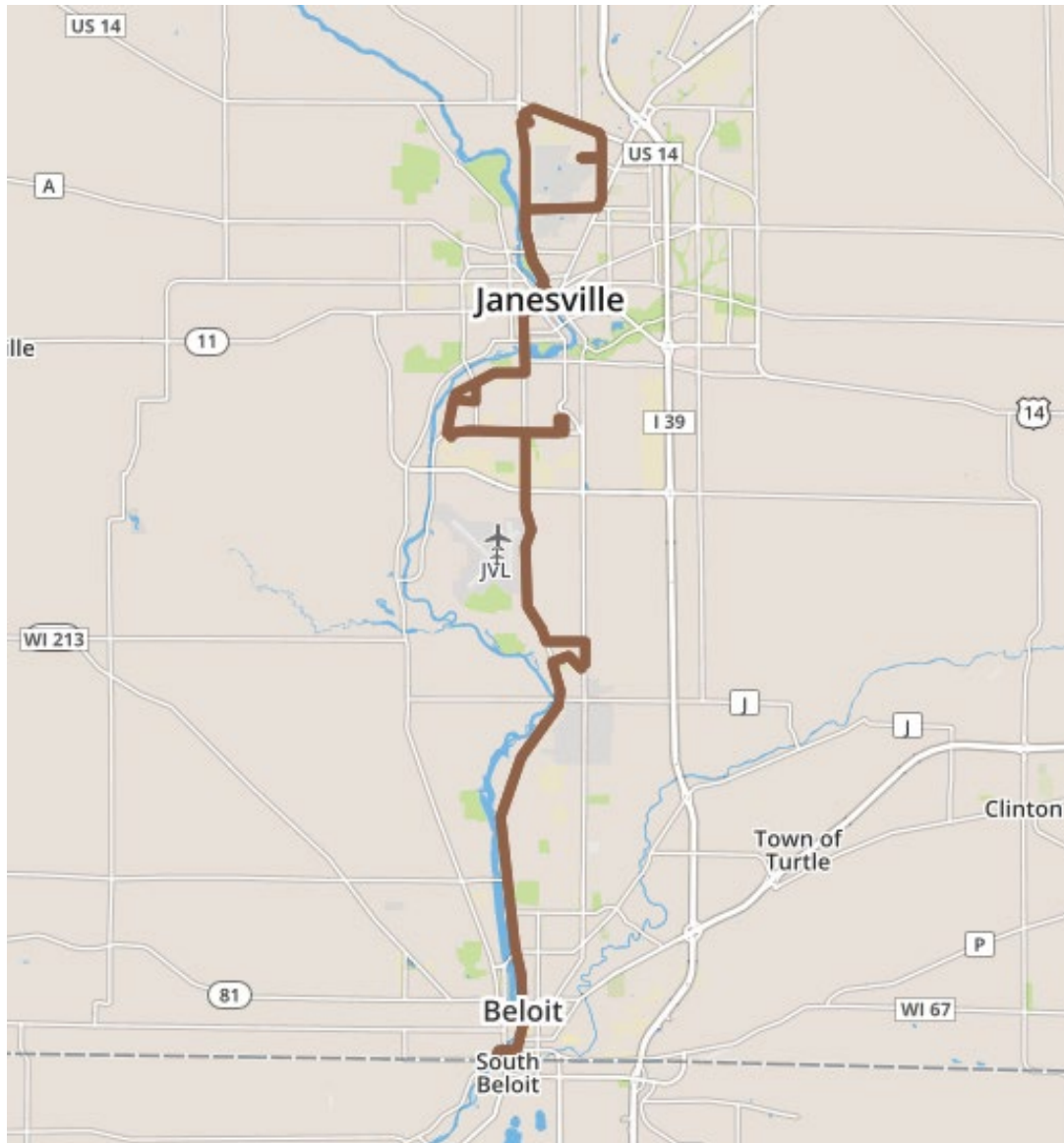
Source: Beloit Transit System

The Blue Route is designed to provide geographic coverage, but offers relatively slow, circuitous service to neighborhoods on Beloit's west side. In operating a one-way loop, it offers convenient service to some destinations, but may require a much longer return trip. Conversely, passengers who live near the beginning of the route experience long rides to downtown. Ultimately, in prioritizing geographic coverage, the one-way loop offers relatively indirect transit service to the customers it serves.

BELOIT-JANESVILLE EXPRESS

The BJE provides hourly bi-directional service from the BTS Transfer Center to downtown Janesville and the Rock County government complex via Pleasant Street/Riverside Drive. Important destinations along this route include Blackhawk Technical College, Southern Wisconsin Regional Airport, KANDU Industries, and the University of Wisconsin – Rock County. The BJE makes local stops in both Beloit and Janesville and includes discounted fare zones for local trips within each city. This route is operated jointly by BTS and JTS with funding support from Rock County and other partners.

Figure 18: BTS Brown Route (Beloit/Janesville Express)



Source: Beloit Transit System

ROUTE-LEVEL OPERATING STATISTICS

In order to better analyze current operational conditions on each transit route, BTS staff conducted a ridership sample from May 13th to May 31st, 2019. This sample included weekday and Saturday ridership by trip and fare type for the three local routes (Red, Yellow, and Blue). Results from this survey are reported and used for analysis in Table 14 through Table 18.

Of the three local transit routes, the Yellow Route has the highest total ridership, with approximately 170 passengers per weekday. The Red Route carries an average of 133 passengers per weekday, while the Blue Route serves approximately 113 (Table 14). On Saturdays, the Red Route carries slightly more passengers than the Yellow Route (41 passengers) or Blue Route (26 passengers), though Saturday ridership across the system is low – less than 30 percent of the weekday total.

Table 14: BTS Average Daily Ridership by Route, May 2019

Average Daily Ridership	BJE	Red	Yellow	Blue	Total
Weekday	N/A	133	170	113	416
Saturday	--	44	41	26	110

Source: Beloit Transit System

When analyzing performance, it is useful to compare total ridership to the level of resources (vehicle revenue hours) currently being invested in a route. Table 15 shows the total daily revenue hours for each route based on BTS's public schedules. Currently, the Red and Yellow routes are each allocated 24.67 revenue hours per weekday, while the Blue route operates 12.6 hours of service. On Saturdays, all three routes operate 7.33 hours per day.

Table 15: BTS Daily Revenue Hours by Route

Daily Revenue Hours	BJE	Red	Yellow	Blue	Total
Weekday	N/A	24.67	24.67	12.60	61.94
Saturday	--	7.33	7.33	7.33	22.00

Source: Beloit Transit System public timetables

Table 16 shows the average daily productivity (passengers per revenue hour) of the three BTS local routes included in the May ridership sample. While the Red and Yellow routes have the most weekday service, the Blue Route has the highest productivity, with 9.0 passengers per hour. On Saturdays, the situation is reversed – the Red Route is most productive, serving 6.0 passengers per revenue hour.

Table 16: BTS Average Daily Productivity by Route, May 2019

Average Daily Productivity	BJE	Red	Yellow	Blue	Systemwide Average
Weekday	N/A	5.4	6.9	9.0	6.7
Saturday	--	6.0	5.5	3.5	5.0

Source: Beloit Transit System

In order to identify service needs throughout the day, it is useful to analyze ridership for each trip. The May 2019 ridership sample includes trip-by-trip ridership for each of the three local routes; average ridership for each trip is listed by route and trip start time in Table 17 below.

Based on this sample, the highest-ridership trips on local routes occur in the morning, between 7:20 and 8:40 AM. On these three trips (7:20, 8:00, and 8:40 AM), the local routes carry a combined 36 to 40 passengers per trip. The Yellow Route sees the highest individual trip loads, with 20 passengers on the 7:20 AM trip and 18 passengers on the 8:40 AM trip.

By comparison, the afternoon peak ridership is more dispersed, with moderate peak of 31 total passengers on the 4:40 PM trip. As in the morning, highest-ridership individual PM trip occurs on the Yellow Route, with a peak of 14 passengers on the 4:40 PM trip.

Overall, these per-trip ridership levels are relatively low. In high-ridership periods, transit agencies use per-trip ridership to identify times of day when extra trips are needed. Based on this sample, however, each BTS route is operating with loads well under the seated capacity of its 35-foot fixed-route buses (32 passengers).

Table 17: BTS Weekday Ridership by Trip, May 2019

Trip Start Time	BJE	Red	Yellow	Blue	Total
6:00 AM	N/A	0	0	0	0
6:40	N/A	0	0	3	3
7:20	N/A	10	20	9	39
8:00	N/A	13	9	13	36
8:40	N/A	11	18	11	40
9:20	N/A	4	6	7	16
10:00	N/A	9	9	5	23
10:40	N/A	9	10	6	24
11:20	N/A	9	7	3	19
12:00 PM	N/A	7	7	4	17
12:40	N/A	6	10	3	19
1:20	N/A	9	9	6	24
2:00	N/A	8	11	9	28
2:40	N/A	6	6	6	19
3:20	N/A	8	11	6	24
4:00	N/A	9	8	5	22
4:40	N/A	8	14	10	31
5:20	N/A	5	10	3	18
6:00	N/A	4	4	4	13
Weekday Per-Trip Average	N/A	7	9	6	22

Source: Beloit Transit System

Beloit’s May 2019 ridership sample also includes ridership by fare type, shown below in Table 18. Transit agencies frequently examine ridership by fare type to forecast fare revenue, but it is also useful in the context of service planning and route design.

For example, based on the data listed below, 35 percent of total ridership on the Red, Yellow, and Blue routes consists of transfers. This is significant for two reasons: first, because BTS does not receive any additional revenue from free transfers; and second, because passengers who must transfer to reach their destination frequently experience longer total travel times and may seek other travel alternatives.

After transfers, the most commonly used fare types are BTS tokens (20 percent of trips) and cash fares (15 percent). Various BTS passes see ridership of between 2 and 10 percent of the system total, while passengers eligible for reduced fare (seniors and customers with disabilities) accounted for 5 percent.

Table 18: BTS Total Ridership by Fare Type, May 2019

Ridership by Fare Type	BJE	Red	Yellow	Blue	System Total
Cash	N/A	16%	14%	17%	15%
Senior Disabled	N/A	4%	4%	5%	5%
BTS Pass	N/A	12%	10%	7%	10%
SR/DIS Pass	N/A	6%	8%	8%	7%
BJE Pass	N/A	0.4%	3%	1%	2%
Non-Revenue	N/A	2%	2%	1%	2%
SEM Pass	N/A	9%	3%	4%	5%
Transfer	N/A	30%	40%	32%	35%
Token	N/A	20%	16%	26%	20%
Route Total	N/A	100%	100%	100%	100%

Source: Beloit Transit System

TRANSIT NETWORK DESIGN

NETWORK DESIGN PRINCIPLES

BTS's current route network is primarily radial, with a system of one-way looped routes connecting riders to the downtown Transfer Center. There, customers can make timed transfers between routes to travel to other parts of the city. This type of network is efficient to operate, as it requires relatively few buses and achieves adequate geographic coverage. However, this design also offers infrequent service and requires transfers for many trips, leading to less attractive travel times compared to car, bicycle, or other travel options.

Nationwide, many transit agencies are seeking to transition away from radial networks and toward a gridded network of high-frequency routes. In some cases, a gridded network may offer much faster travel times for certain trips without requiring a transfer downtown. This type of network may also create opportunities for more convenient transfer locations outside the downtown Transfer Center.

Conversely, agencies experiencing extreme ridership losses on fixed-route bus service may also consider transitioning to demand-response service. Depending on the operating context, modern demand-response service can provide effective geographic coverage and offer more convenient, curb-to-curb trips, at a moderate cost to the transit agency.

TRANSFER LOCATIONS

The Beloit Transfer Center serves as the primary transfer facility for BTS routes. Timed transfers between the Red, Yellow, and Blue routes are available every 40 minutes, while transfers to the BJE are available hourly. The facility offers an attractively landscaped bus platform area, as well as an indoor waiting room with restrooms, vending machines, and ticket sales.

Transfers between specific routes are also available at the following locations:

- **6th Street & Ridgeland Avenue:** Blue/Red Routes
- **Eclipse Center:** Red/Yellow Routes
- **Henry Avenue:** Red/Yellow Routes

On the BTS system, transfers make up a very high proportion of total ridership, so it is important that transfers be as convenient and reliable as possible.

CYCLE TIME, RUNNING TIME, AND RECOVERY TIME

Total cycle time – one round trip for BTS regular fixed routes – is measured from the Beloit Transfer Center, out, and back to the Transfer Center. Cycle time includes running time (revenue service time) and recovery time, also known as layover time. Cycle time, running time, recovery time, and recovery time as a percent of cycle time are shown in Table 19 by route.

Adequate recovery time following a round trip is necessary to allow drivers to start the subsequent trip on time. Recovery time allows drivers to maintain their schedule if they have been delayed by an unexpected event or time-consuming passenger boarding or alighting. When there are no delay events,

recovery time allows time for a driver break. It is typical in the industry for local bus service recovery time to comprise 10 to 15 percent of cycle time. For a 30-minute cycle time, 4 to 5 minutes of recovery time is typical; for a 60-minute cycle time, 6 to 8 minutes is typical. This varies based on each transit system’s driver contract and the characteristics of each route (e.g. circulator, regular route, commuter route, etc.).

Current BTS route schedules vary in running time and recovery time. The Red Route and Yellow Route are scheduled as 80-minute one-way loops, with no scheduled recovery time at the downtown Transfer Center. The Blue Route, however, is scheduled as a shorter 40-minute loop, with 4 minutes of scheduled recovery time per trip. The BJE is scheduled as a longer, 75-minute trip, with 30 minutes of scheduled recovery time. Trips on the BJE are jointly operated with JTS.

Table 19: Schedule Cycle Time, Running Time, and Recovery Time by Route

Schedule Component	Red Route	Yellow Route	Blue Route	Beloit-Janesville Express
Cycle Time	80 minutes	80 minutes	40 minutes	105 minutes
Running Time	80 minutes	80 minutes	36 minutes	75 minutes
Recovery Time	-	-	4 minutes	30 minutes
% Recovery Time	0%	0%	10%	26%

PUBLIC INFORMATION

BTS provides paper copies of its rider guide in both English and Spanish at locations including the BTS Transfer Center and in PDF form on its website. The rider guide includes:

- Route and schedule information for the three local routes and the BJE.
- Route map including popular community destinations.
- Fare structure.
- Locations where BTS tokens and passes can be purchased.
- Holiday schedule information.

The BTS website offers interactive route maps and a trip planner created in partnership with Google Maps. The website also provides:

- Information about paratransit services
- A student guide for riding transit and student transit passes.
- Frequently asked questions.
- A history of Beloit’s transit system.
- Advertising information.

Additionally, the BTS website outlines the BTS Fare Policy and Public Involvement Plan and provides a form for riders to offer feedback or file a complaint.

BTS PERFORMANCE AND PEER ANALYSIS

The following sections of the report examine, quantitatively, BTS performance over the last several years. Because there are no recognized industry standards for most measures of transit system performance, the performance of a system is typically compared to the average values of a peer group of systems.

The following peer analysis compares BTS fixed-route bus performance to a Wisconsin peer group and a national peer group in five categories using eight specific measures, summarized in Table 20.

Table 20: Performance Objectives and Performance Measures

Performance Objective	Performance Measure
Cost Effectiveness	Operating Expenses Per Passenger Trip
Cost Efficiency	Operating Expenses Per Revenue Hour
Service Effectiveness	Passenger Trips Per Revenue Hour
Market Penetration	Passenger Trips Per Capita
	Revenue Hours Per Capita
Passenger Revenue Effectiveness	Average Fare Per Passenger Trip
	Operating Ratio (Passenger Revenues Per Operating Expenses)
	Subsidy Per Passenger Trip

This peer performance analysis excludes BTS paratransit data; analyzing BTS fixed-route bus data alone allows for a more direct comparison with peer transit systems in Wisconsin and around the Midwest.

Each measure in Table 20 is used to assess BTS fixed-route performance in two ways:

- Single Year: Comparison to peer average for the most current year.** Year 2017 National Transit Database (NTD) data are used. This is the most recent year for which NTD data were available for all peer systems at the time of analysis. Performance is considered “satisfactory” within one standard deviation of the peer average. The system’s performance is considered “outside the satisfactory range” (unsatisfactory) if it falls more than one standard deviation from the peer average.
- Multi-Year Trend Analysis: Comparison to peer average for annual rate of change.** NTD data from 2013 to 2017 are used. The annual rate of change from 2013 to 2017 is calculated as follows:

$$\text{Annual rate of change} = [(2017 \text{ value}/2013 \text{ value})^{1/4}] - 1$$

For the trend analysis, the system’s annual rate of change is compared to that of the average of the peer group. Again, the system’s trend performance is considered “satisfactory” within one standard deviation of the peer group average. Beyond one standard deviation from the peer group average, the system’s trend performance is considered “outside the satisfactory range.”

FIVE-YEAR PERFORMANCE SUMMARY

This section summarizes BTS service over the five-year period and results of the single-year (2017) and multi-year (2013-2017) analyses for each of the eight performance measures reviewed in this report. BTS is compared to its Wisconsin and national peer groups for each of the eight performance measures.

Table 21 and Table 22 show BTS operating statistics and performance measures, respectively, for 2013 through 2017. The average annual rate of change for the five-year period is calculated for each statistic and measure.

Table 21: BTS Operating Statistics, 2013-2017

	2013	2014	2015	2016	2017	Annual rate of change
Revenue hours	20,526	20,466	20,403	19,425	20,222	-0.4%
Passenger trips	251,880	240,252	198,719	180,680	146,198	-12.7%
Operating expenses	\$1,872,263	\$1,935,507	\$1,975,854	\$1,879,917	\$1,952,110	1.1%
Passenger revenue	\$204,153	\$193,684	\$176,760	\$153,860	\$136,295	-9.6%
Service area population	35,871	35,871	35,871	35,871	35,871	0.0%

Source: National Transit Database, 2013-2017

Table 22: BTS Performance Measures, 2013-2017

	2013	2014	2015	2016	2017	Annual rate of change
Operating cost per passenger trip	\$7.43	\$8.06	\$9.94	\$10.40	\$13.37	15.8%
Operating cost per revenue hour	\$91.21	\$94.57	\$96.84	\$96.78	\$96.63	1.5%
Passenger trips per revenue hour	12.3	11.7	9.7	9.3	7.2	-12.4%
Passenger trips per capita	7.0	6.7	5.5	5.0	4.1	-12.7%
Revenue hours per capita	0.57	0.57	0.57	0.54	0.56	-0.4%
Fare revenue per passenger trip	\$0.81	\$0.81	\$0.89	\$0.85	\$0.93	3.6%
Fare recovery	10.9%	10.0%	8.9%	8.2%	7.0%	-10.6%
Subsidy per passenger trip	\$6.62	\$7.25	\$9.05	\$9.55	\$12.43	17.1%

Source: National Transit Database, 2013-2017

PEER ANALYSIS

The selection of peer groups for BTS was based on a review of small urban bus systems in the NTD, an FTA database. NTD data were used because they are readily available and consistently reported by all transit systems. Two peer groups were selected for comparison: a Wisconsin peer group and a national peer group. Fixed route bus data for each system were used in the selection of peers and subsequent analyses. Paratransit data were not included in this analysis.

This review recognizes the limitations of using other medium Wisconsin bus systems for peer comparison. Each system operates in a different environment, serves different markets, and has a unique organizational structure. However, Wisconsin peer systems also provide context for operating conditions within the state. For this reason, BTS is compared to other medium bus systems in Wisconsin.

Table 23 contains 2017 operating statistics for BTS and the selected Wisconsin peer system. These operating statistics are the basis for the performance measures included in this analysis.

Table 23: 2017 Operating Statistics - Wisconsin Peer Group

System Name	City	Revenue Hours	Passenger Trips	Operating Expenses	Passenger Revenues	Service Area Population
GO Transit	Oshkosh	37,514	901,710	\$3,438,057	\$476,005	66,083
Eau Claire Transit	Eau Claire	48,127	865,260	\$4,261,637	\$803,452	75,828
Wausau Area Transit System	Wausau	27,324	498,902	\$2,680,463	\$391,313	39,302
Shoreline Metro	Sheboygan	37,679	529,726	\$3,163,112	\$463,324	59,490
Janesville Transit System	Janesville	28,899	488,726	\$3,367,524	\$485,956	64,159
Fond du Lac Area Transit	Fond du Lac	13,047	157,952	\$1,148,987	\$128,047	49,167
Beloit Transit System	Beloit	20,222	146,198	\$1,954,110	\$136,295	35,871
Average		30,402	512,639	\$2,859,127	\$412,056	55,700
BTS as a Percent of Average		66.5%	28.5%	68.3%	33.1%	64.4%

Source: National Transit Database, 2017

In the development of the national peer group, an attempt was made to select peer systems in cold-weather states in the Midwest that have relatively similar service area populations and density as well as similar transit service. The Urban Integrated National Transit Database (Urban iNTD) was used to develop an initial list of national peers.⁵ This initial list was filtered to include only the most applicable peers.

The national peer group includes systems in Colorado, Indiana, Iowa, Michigan, and Ohio. Table 24 contains 2017 operating statistics for BTS and the selected national peer systems. These operating statistics are the basis for the performance measures included in this analysis.

⁵ Urban iNTD is a tool developed by the Florida Department of Transportation (FDOT), based on Transit Cooperative Research Program (TCRP) research. http://www.ftis.org/urban_iNTD.aspx.

Table 24: 2017 Operating Statistics - National Peer Group

System Name	City, State	Revenue Hours	Passenger Trips	Operating Expenses	Passenger Revenues	Service Area Population
Michigan City Transit	Michigan City, IN	13,329	159,484	\$1,166,303	\$87,483	31,479
The Jule	Dubuque, IA	34,814	455,959	\$2,194,916	\$224,941	60,140
Battle Creek Transit	Battle Creek, MI	27,662	448,495	\$3,152,495	\$309,144	87,735
Lima Allen County Regional Transit Authority	Lima, OH	41,612	349,648	\$2,331,703	\$182,591	106,094
City of Greeley Transit Services	Greeley, CO	42,073	751,532	\$3,034,523	\$362,140	124,476
Muskegon Area Transit System	Muskegon Heights, MI	45,245	528,635	\$3,584,845	\$328,255	172,188
Beloit Transit System	Beloit, WI	20,222	146,198	\$1,954,110	\$136,295	35,871
Average		32,137	405,707	\$2,488,414	\$232,978	88,283
BTS as a Percent of Average		62.9%	36.0%	78.5%	58.5%	40.6%

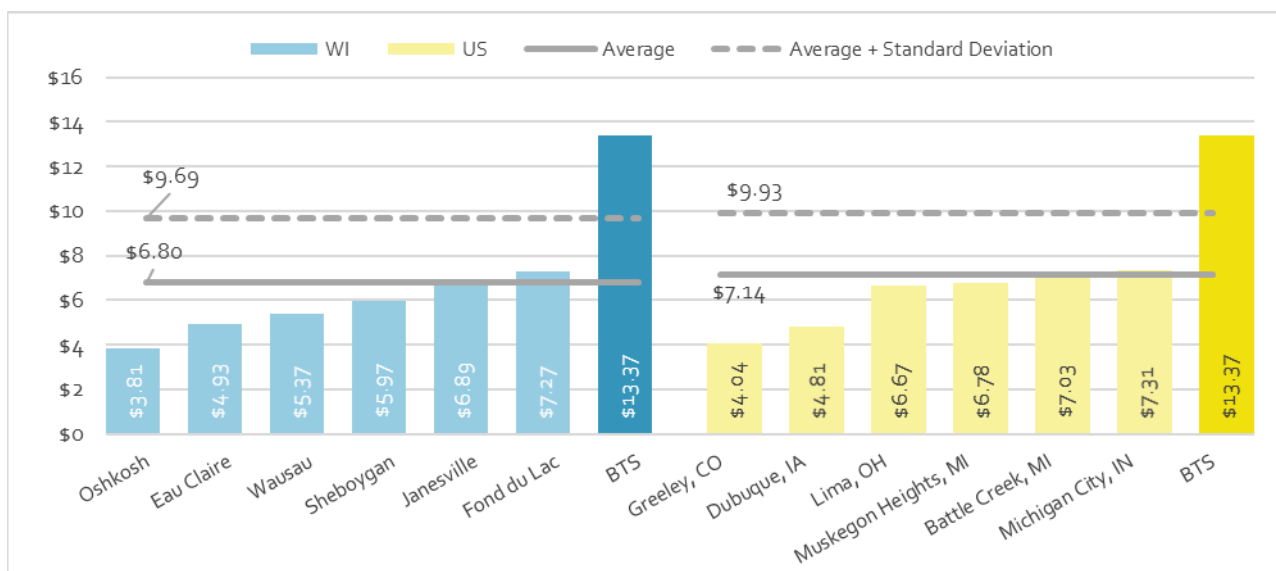
Source: National Transit Database, 2017

COST EFFECTIVENESS

Cost effectiveness addresses transit use in relation to the level of resources expended. The primary measure for comparison under this area is **operating expenses per passenger trip**. The lower the cost per passenger trip, the more cost effective the service.

In 2017, BTS’s operating expense per passenger trip, \$13.37, was more than twice the Wisconsin peer average of \$6.80 and the US peer average of \$7.14 (Figure 19).

Figure 19: Operating Expenses Per Passenger Trip, 2017 Peers



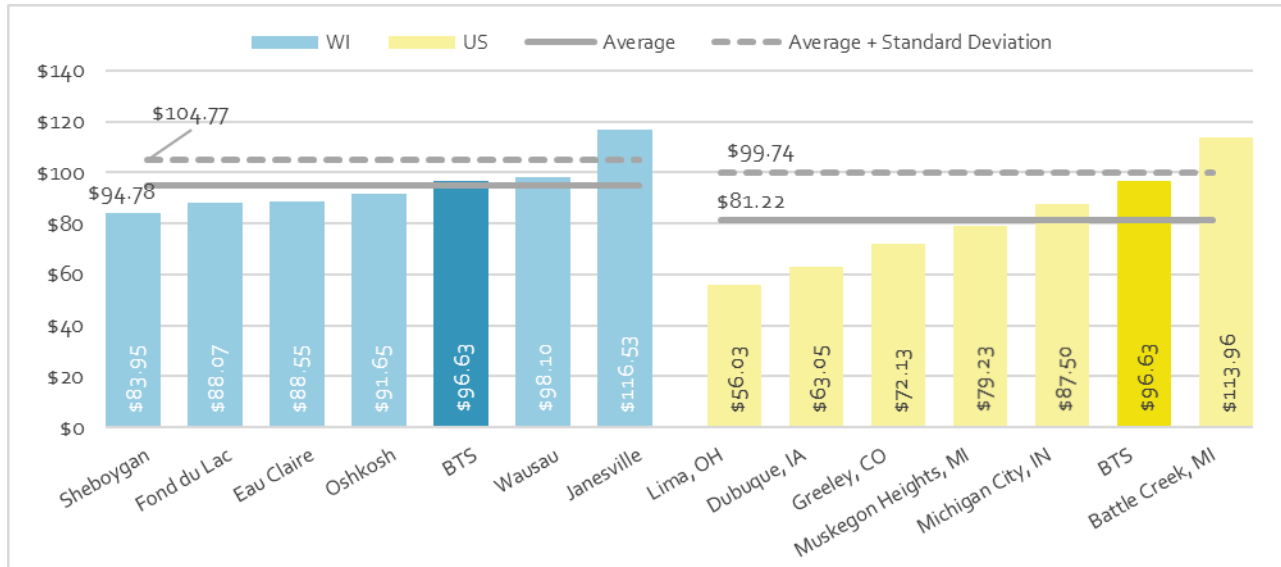
Source: National Transit Database, 2017

SERVICE EFFICIENCY

Cost efficiency examines the amount of service produced in relation to the amount of resources expended. **Operating expenses per revenue hour** is the measure used to assess service efficiency.

In 2017, BTS performed worse than average but within the satisfactory range among both Wisconsin and US peers. Its rate of \$96.63 is marginally worse than the Wisconsin peer average of \$94.78 and the US peer average of \$81.22, but within one standard deviation of the mean in each group (Figure 20).

Figure 20: Operating Expenses Per Revenue Hour, 2017 Peers



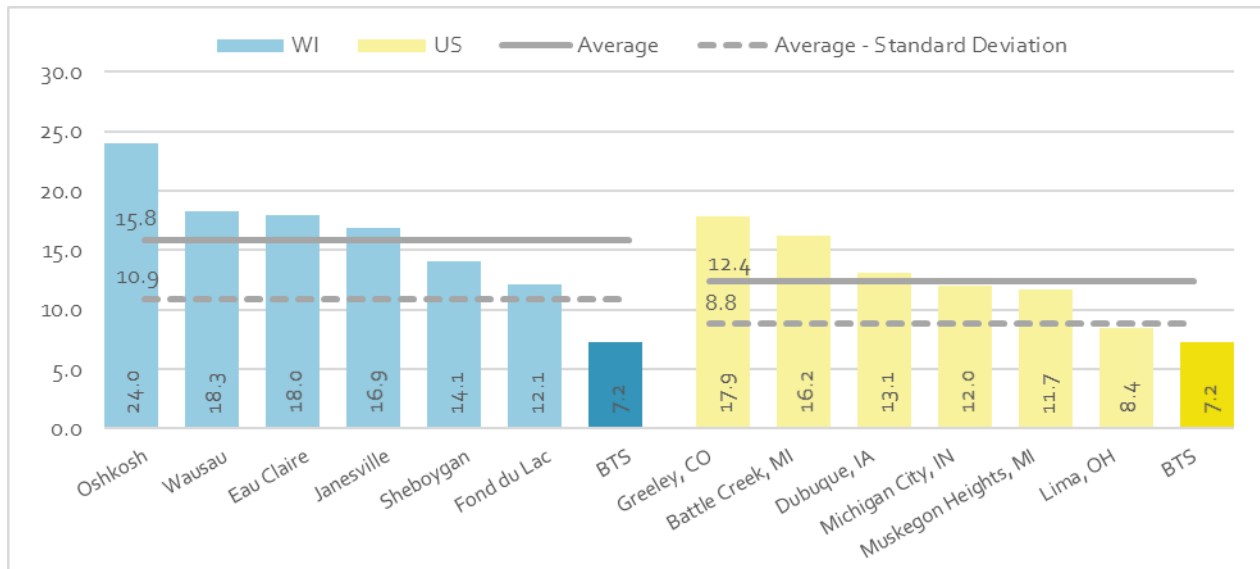
Source: National Transit Database, 2017

SERVICE EFFECTIVENESS

Service effectiveness is a measure of the consumption of public transportation service in relation to the amount of service available. **Passenger trips per revenue hour** is the measure used to assess service effectiveness.

In 2017, BTS performed worse than its Wisconsin and US peers. Its 7.2 passenger trips per revenue hour were worse than the Wisconsin peer average of 15.8 and the US average of 12.4, and more than one standard deviation away from each mean (Figure 21).

Figure 21: Passenger Trips Per Revenue Hour, 2017 Peers



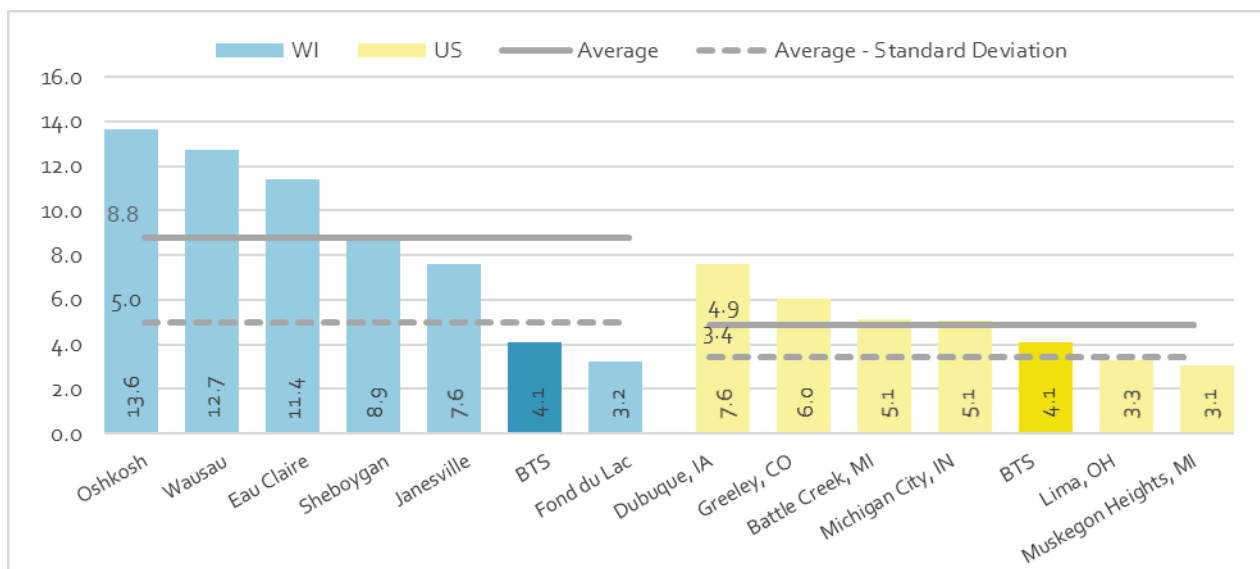
Source: National Transit Database, 2017

MARKET PENETRATION

Passenger trips per capita is an indicator of overall usage of the transit system in the service area. This measure can be interpreted as the average number of times each service area resident uses the transit service each year.

BTS performed worse than average but within the satisfactory range among its US peers, and outside the satisfactory range among its Wisconsin peers. The BTS average of 4.1 trips per capita is lower than the Wisconsin peer average of 8.8 and the US peer average of 4.9 (Figure 22).

Figure 22: Passenger Trips Per Capita, 2017 Peers

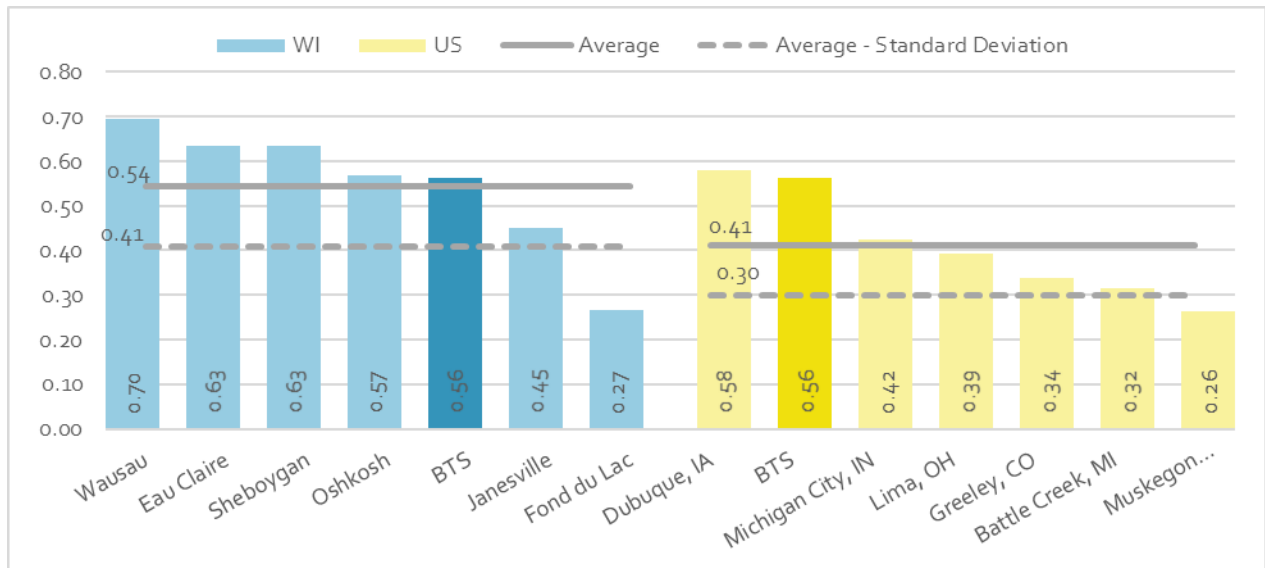


Source: National Transit Database, 2017

Revenue hours per capita is the performance measure used to assess service availability, and the second of three measures of market penetration.

BTS outperformed both its Wisconsin and its US peers in providing revenue hours per capita with an average of 0.56, greater than the Wisconsin peer average of 0.54 and the US peer average of 0.41, as shown in Figure 23.

Figure 23: Revenue Hours Per Capita, 2017 Peers



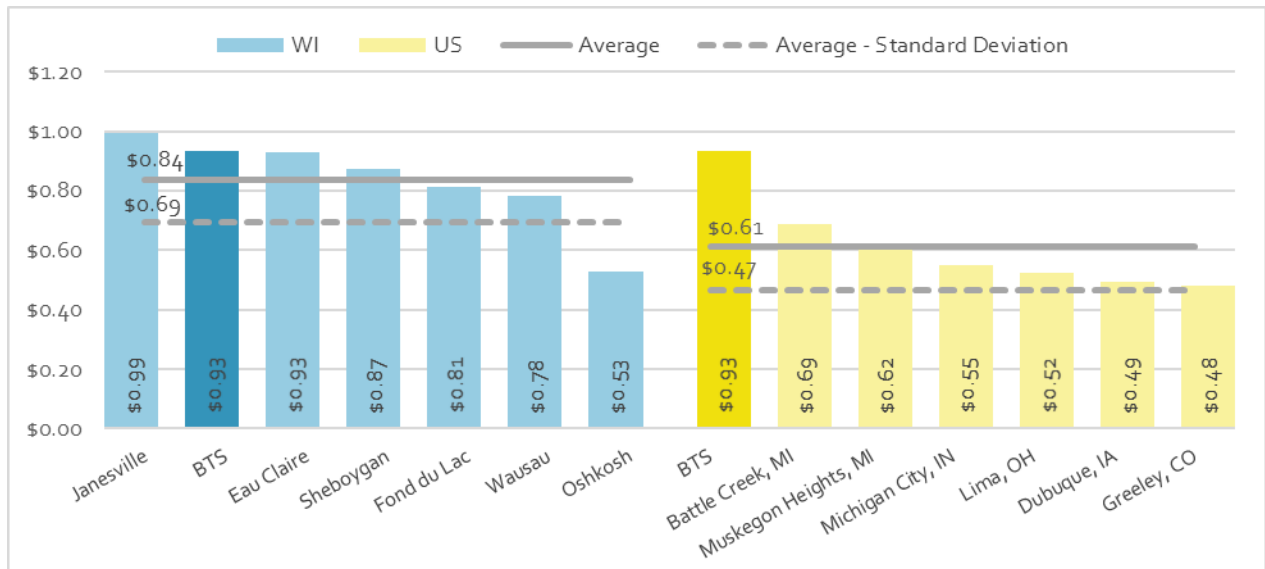
Source: National Transit Database, 2017

PASSENGER REVENUE EFFECTIVENESS

Passenger revenue per passenger trip, or **average fare per passenger trip**, measures the amount each passenger is paying to use the service. The higher the average fare, the more cost is being borne by the passenger. Generally, a higher average fare – within certain limitations – is a positive finding for a public transit system.

On average, each passenger trip provided by BTS in 2017 resulted in \$0.93 in fare revenue (Figure 24). This is greater than the Wisconsin peer average of \$0.84 and the US peer average of \$0.61.

Figure 24: Average Fare Per Passenger Trip, 2017 Peers

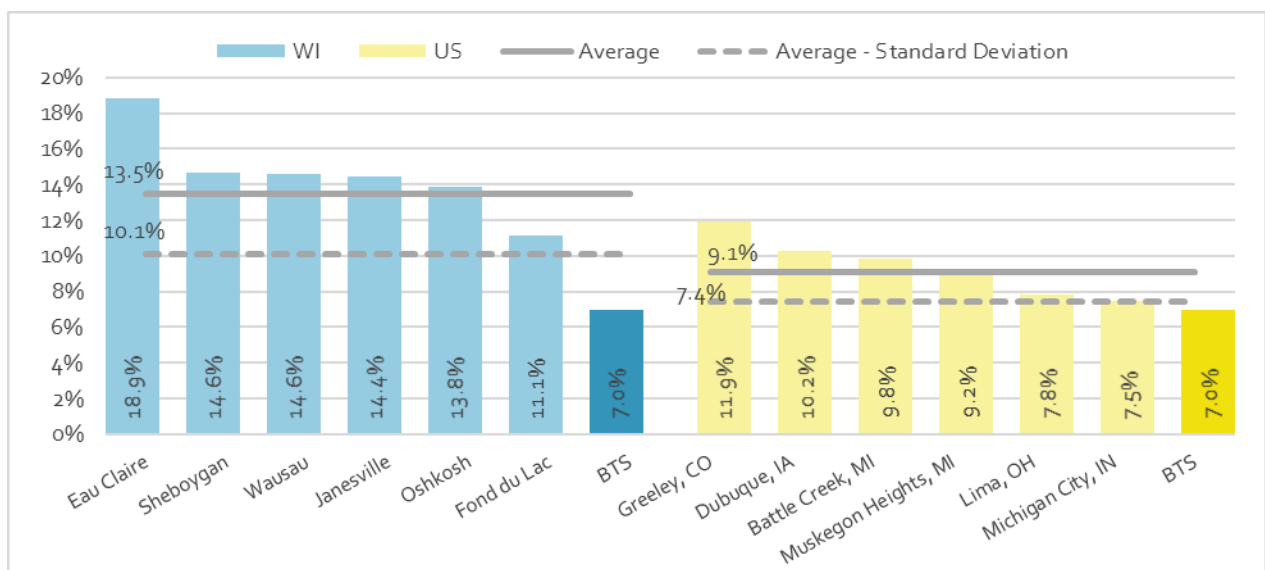


Source: National Transit Database, 2017

The **operating ratio of revenues to operating expenses** measures the level of operating expenses that are recovered through passenger fare payment. This measure is also simply referred to as the **operating ratio or farebox recovery**.

In 2017, BTS performed worse than average and outside the satisfactory range among both its Wisconsin and US peers. The BTS operating ratio of 7.0% is more than one standard deviation less than the 13.5% Wisconsin peer average and the 9.1% US peer average (Figure 25).

Figure 25: Operating Ratio, 2017 Peers

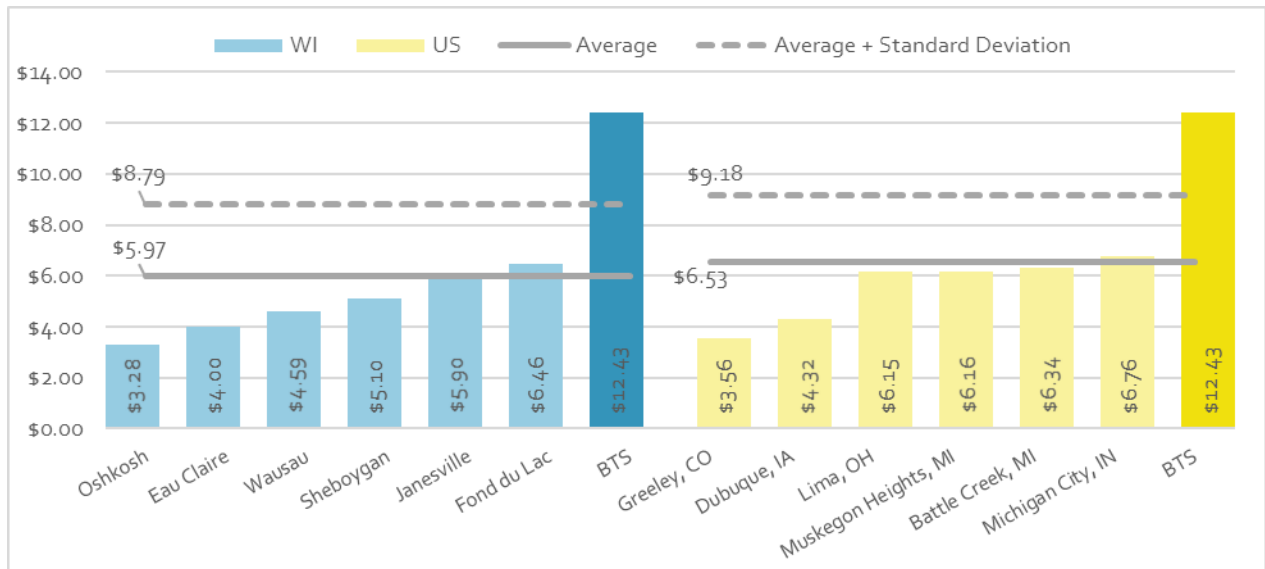


Source: National Transit Database, 2017

Net expense (subsidy) per passenger trip is used to measure the cost of each passenger trip that is paid for by public operating subsidy. Subsidy per passenger trip is calculated by subtracting passenger revenues from total operating expenses and dividing by total trips. The higher the operating subsidy, the more local, state, and federal resources are required to cover expenses.

BTS provided a greater subsidy than its Wisconsin and US peers in 2017, performing worse than average and outside the satisfactory range. The \$12.43 BTS subsidy per trip is more than one standard deviation greater than the Wisconsin peer average of \$5.97 and the US peer average of \$6.53.

Figure 26: Subsidy Per Passenger Trip



Source: National Transit Database, 2017

PEER PERFORMANCE SUMMARY

The symbols in Table 25 indicate the measures for which BTS was better than average, worse than average but satisfactory, or outside satisfactory range.

Table 25: Peer Analysis Summary

Performance Objective	Performance Measure	Single Year: 2017		Trend Analysis 2013-2017	
		WI Peer Comparison	US Peer Comparison	WI Peer Comparison	US Peer Comparison
Cost Effectiveness	Operating Expenses Per Passenger Trip	▼	▼	▼	●
Cost Efficiency	Operating Expenses Per Revenue Hour	●	●	▲	▲
Service Effectiveness	Passenger Trips Per Revenue Hour	▼	▼	▼	▼
Market Penetration	Passenger Trips Per Capita	▼	●	▼	▼
	Revenue Hours Per Capita	▲	▲	▲	●
Passenger Revenue Effectiveness	Average Fare Per Passenger Trip	▲	▲	▲	▲
	Operating Ratio	▼	▼	▼	●
	Subsidy Per Passenger Trip	▼	▼	▼	●
Key to Symbols	▲	Better than peer average			
	●	Worse than peer average, but within satisfactory range (+/- one standard deviation)			
	▼	Outside satisfactory range			

In 2017, BTS performed outside the satisfactory range relative to the Wisconsin peer group in five out of eight performance measures and performed outside the satisfactory range relative to the US peer group in four of the eight measures, as shown in Table 25. The five-year trend analysis shows that, over time, BTS is performing worse than both the Wisconsin and national peer groups in several of these performance measures.

Between 2013 and 2017, the number of annual passenger trips taken on BTS's fixed-route service decreased an average of 12.7 percent annually (Table 21), with ridership down 42 percent (106,000 trips) from 2013 to 2017. Low ridership is the most important factor in the four performance measures where BTS struggles most: operating expenses per passenger trip, passenger trips per revenue hour, passenger trips per capita, and subsidy per passenger trip.

SMTD STRUCTURE AND SERVICE DESIGN

GOVERNANCE

Stateline Mass Transit District provides demand-response transit service in South Beloit, Rockton, Rockton Township, Roscoe, and Roscoe Township in northern Illinois. The service area encompasses 51 square miles and is located between Rockford, Illinois and Beloit, Wisconsin; the service area population is 42,803⁶. SMTD contracts with RMTD to provide all operations, administrative support, and grant management assistance. An employee of Rockton Township acts as a part-time Executive Director of SMTD.

OPERATING BUDGET

Table 26 and Table 27 show SMTD's annual revenues and expenses for the agency's 2017 and 2018 fiscal years (July 1 through June 30). Operating revenues include passenger fares and operating subsidies (federal, state, and local), as well as interest income and incidental contributions from Rockton Township. In both 2017 and 2018, operating revenues exceeded total expenses, yielding a budget surplus of \$56,391 (2017) to \$105,826 (2018).

Table 26: SMTD Revenues by Fiscal Year, 2017-2018

SMTD Revenues by Fiscal Year	2017 Budget	2017 Actual	2018 Budget	2018 Actual
Passenger Fares	\$31,416	\$27,770	\$33,660	\$30,417
Operating Subsidies:				
Federal	\$366,769	\$238,657	\$344,460	\$276,280
State	\$487,300	\$487,300	\$536,030	\$527,605
Local	\$75,000	\$80,250	\$75,000	\$80,750
Rockton Township Funds	\$2,250	--	\$5,250	--
Interest Income	\$3,600	\$1,078	\$3,600	\$3,532
Total Revenues	\$966,335	\$835,055	\$998,000	\$918,584

Source: SMTD. Fiscal Year: July 1 – June 30.

SMTD's operating expenses include contracted bus services, advertising and promotions, an RMTD administrative fee, staff salaries, and other administrative expenses. In 2017 and 2018, contracted bus services accounted for \$636,404 (2017) to \$673,419 (2018), or over 80 percent of the agency's annual expenses (Table 27).

⁶ National Transit Database, 2017.

Table 27: SMTD Expenses by Fiscal Year, 2017-2018

SMTD Expenses by Fiscal Year	2017 Budget	2017 Actual	2018 Budget	2018 Actual
Contracted Bus Services	\$858,220	\$636,404	\$895,400	\$673,419
Advertising/Promotion	\$49,500	\$27,276	\$44,000	\$28,442
RMTD Administrative Fee	\$42,911	\$31,934	\$44,770	\$33,810
Executive Director	\$31,680	\$28,800	\$31,680	\$28,800
Marketing	\$16,500	\$19,712	\$22,000	\$12,575
Other Administrative Expenses	\$64,158	\$34,538	\$59,950	\$35,712
Capital Outlay	--	\$23,995	--	--
Total Expenditures	\$1,062,969	\$778,664	\$1,097,800	\$812,758
Operating Surplus/(Deficit)	(\$96,634)	\$56,391	(\$99,800)	\$105,826

Source: SMTD. Fiscal Year: July 1 – June 30.

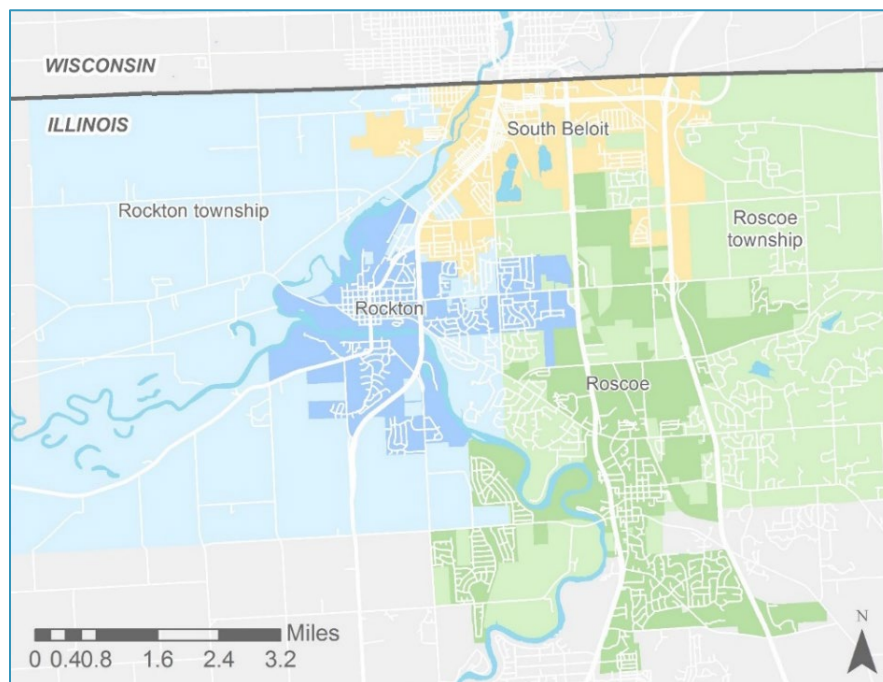
FLEET AND FACILITIES

SMTD owns its fleet and contracts all operations and maintenance through RMTD. The agency’s Executive Director works from Rockton Township’s main facility at 1315 N. Blackhawk Boulevard.

EXISTING DEMAND-RESPONSE SERVICE

SMTD provides demand-response transit service in South Beloit, Rockton, Rockton Township, Roscoe, and Roscoe Township in northern Illinois, as shown in Figure 27.

Figure 27: SMTD Service Area Municipalities



Source: SMTD.

In 2018, approximately 50 percent of SMTD’s total rides occurred in South Beloit, with an additional 24 percent in Rockton and 16 percent in Roscoe. Together, these core urban areas accounted for 90 percent of total ridership, as shown in Table 28 below.

From 2017 to 2018, SMTD’s total ridership increased by 14 percent (Table 28). Ridership in South Beloit, Roscoe, and Roscoe Township increased modestly (by 9 to 20 percent), while ridership in Rockton declined by 8 percent. Ridership in Rockton Township more than quadrupled, to 669 total rides.

Table 28: SMTD Ridership by Municipality, 2017-2018

Municipality	FY2017 Ridership	Percent of Total	FY2018 Ridership	Percent of Total	Percent Change 2017-2018
South Beloit	7,065	48%	8,471	50.3%	20%
Rockton	4,365	30%	4,026	24%	-8%
Rockton Township	142	1%	669	4%	371%
Roscoe	2,532	17%	2,748	16%	9%
Roscoe Township	631	4%	704	4%	12%
No-Shows	--	--	228	1%	--
Total	14,735	100%	16,846	100%	14%

Source: SMTD.

SMTD reports ridership for each fare type, including full fare trips, half fare, free rides, and other specialized services. In 2018, approximately 78 percent of riders were eligible for half-fare trips (Table 29). These passengers include seniors age 65 and older, people with disabilities, and children under age 18. From 2017 to 2018, total half-fare rides increased by 20 percent, while total full-fare rides decreased by 8 percent.

Table 29: SMTD Ridership by Fare Type, 2017-2018

Fare Type	FY2017	Percent of Total	FY2018	Percent of Total	Percent Change, 2017-2018
Full Fare	3,778	26%	3,465	21%	-8%
Half Fare	10,957	74%	13,153	78%	20%
Free Rides	--	--	--	--	--
No-Shows	--	--	228	--	--
Total	14,735	100%	16,846	100%	14%

Source: SMTD.

TRANSIT NETWORK DESIGN

Though it is designed as a demand-response service, SMTD provides connections to BTS fixed-route buses at the Beloit Transfer Center, as well as to RMTD buses along Illinois 173 in Machesney Park. These transfer points allow SMTD customers to access shopping, employment, and other opportunities in the larger urban areas of Beloit and Rockford.

PUBLIC INFORMATION

SMTD maintains a rider guide in both English and Spanish in PDF form on its website, as well as at select area locations. The rider guide includes:

- Instructions for registering as an SMTD rider online or via mail.
- A step-by-step guide for scheduling a ride and making or canceling a trip.
- Fare structure and cancellation policy.
- Schedule information and service area map.

The SMTD website offers the above information, as well as an online passenger registration tool. The website also provides:

- News and announcements.
- Online purchases of full or half-fare tickets (5 or 10 packs).
- Title VI and ADA information.
- Frequency asked questions.
- Advertising information.

SMTD PERFORMANCE & PEER ANALYSIS

FIVE-YEAR PERFORMANCE SUMMARY

SMTD provided a two-year sample of budget and operational information for fiscal years 2017 and 2018. Between 2017 and 2018, SMTD's ridership grew to nearly 17,000 annual trips, an increase of 14.3 percent (Table 30). Meanwhile, passenger revenue grew by 9.5 percent, and operating expenses grew by only 4.4 percent. These positive trends resulted in a decrease in the operating cost and subsidy per trip, as well as an increase in passenger trips per capita, indicating that the agency's service is becoming more efficient and well-utilized as the system grows.

Compared to fixed-route bus systems, demand-response services generally carry fewer passengers per vehicle revenue hour, resulting in a higher cost and subsidy per trip. In 2017, SMTD's average operating cost per trip was \$52.84, compared to \$13.37 for BTS fixed routes (Table 31, Table 22). Despite the difference in cost, demand-response services can be appropriate for low-density areas, where the primary goal is often accessibility rather than ridership.

Select operational statistics and performance measures for SMTD are shown in Table 30 and Table 31.

Table 30: SMTD Operating Statistics, 2017-2018

	2017	2018	Percent change
Revenue hours	NR	NR	NR
Passenger trips	14,735	16,846	14.3%
Operating expenses	\$778,664	\$812,758	4.4%
Passenger revenue	\$27,770	\$30,417	9.5%
Service area population	42,803	42,803	0.0%

Source: SMTD. Fiscal Year: July 1 – June 30. NR = Not Reported.

Table 31: SMTD Performance Measures, 2017-2018

	2017	2018	Percent change
Operating cost per passenger trip	\$52.84	\$48.25	-8.7%
Operating cost per revenue hour	NR	NR	NR
Passenger trips per revenue hour	NR	NR	NR
Passenger trips per capita	0.34	0.39	14.3%
Revenue hours per capita	NR	NR	NR
Fare revenue per passenger trip	\$1.88	\$1.81	-4.2%
Farebox recovery ratio	3.6%	3.7%	4.9%
Subsidy per passenger trip	\$50.96	\$46.44	-8.9%

Source: SMTD. Fiscal Year: July 1 – June 30. NR = Not Reported.

PEER ANALYSIS

Due to the limited data available for SMTD, a full peer performance analysis has not been conducted. Recommendations will draw from available data and stakeholder feedback as applicable.

PUBLIC ENGAGEMENT PHASE 1: ON-SITE MEETINGS

In addition to quantitative and qualitative information about transit in the Stateline region, community input was sought to identify strengths and challenges of each transit system. Public engagement efforts related to the Existing Conditions phase are summarized below.

COMMUNITY POP-UP MEETINGS

During the development of *Technical Memorandum #1: Transit Needs and Opportunities*, project staff held seven pop-up meetings throughout Beloit and Rockton at the following locations:

- Beloit Boys and Girls Club
- Beloit Public Library
- Beloit Transfer Center
- Rockton River Market
- Stateline YMCA
- Talcott Library
- Woodman's

At these events, staff spoke with approximately 40 people about Beloit Transit, SMTD, and Rock County Transit. People were nearly unanimous that Beloit Transit and SMTD are safe, clean, well-maintained services that get them where they need or want to go. People also generally felt that Beloit Transit, SMTD, and Rock County Transit are typically punctual and provide good customer service.

Most people who do not currently ride transit are not users because they drive their own car, but some indicated that they would consider transit if the schedule or routing worked for them. Other reasons for not using available transit options were a requirement for flexible transportation at work and very long travel times given the available transit options.

The primary negative feedback about Beloit Transit was that it does not operate during times that work with the schedules of present and potential users. Several people said that they would use Beloit Transit but that they start work before buses run, get off work after daily service ends, or want to go places after service ends at 6:00 PM. These would-be users said that they instead carpool to work, take a taxi, walk, or skip making the trip that they wanted to make because of lack of available service. Many people also indicated that they would like to have increased service on Saturdays and Sundays.

When asked what service improvements they would prioritize, riders overwhelmingly expressed that they wanted expanded service hours. Moreover, an increase in coverage, including service to additional destinations, as well as increased frequency were identified as priorities. Other feedback indicated a desire for more easily accessible information, convenient fare payment options, enhanced amenities, more bus shelters, and faster travel times.

STAKEHOLDER ENGAGEMENT

Project staff also met one-on-one with seven stakeholders representing a variety of organizations:

- Beloit College
- Beloit Transit System
- Beloit City Manager
- Downtown Beloit Association
- Latino Service Providers Coalition
- Rockton Village Planning and Development
- Stateline Mass Transit District

These stakeholders identified the aspects of Beloit Transit that serve their constituencies well and the areas where they feel improvement is needed. Representatives from Beloit College said that the primary issue is a lack of awareness among their students regarding transit options, but that there is also a significant need for transportation from the college to local grocery stores and other destinations that is currently unserved by public transit options. To improve awareness of transit services, they are willing to include information in their new student orientation. To provide better service for students, Beloit College is willing to explore the possibility of being a funding partner and potentially receiving student passes in return.

Frequency and convenience of service also present an issue; according to stakeholders, some crosstown trips can take up to five hours, which prevents would-be users from making a needed trip because of the time cost. The lack of weekend service also presents an issue for people who would like to promote transit use; representatives from the Downtown Beloit Association are interested in encouraging people to use transit to visit the weekend farmers' market and spend time downtown, but recognize the challenges associated with infrequent service that ends relatively early in the day.

The project team also had an opportunity to meet with transit agency staff from both BTS and SMTD, as well as representatives from local government. In Beloit, the key issues are with the frequency of service and the lack of coverage within some of the community's most critical areas. The Transit Plan builds on work completed in the NRSA plan that focuses on equitable access to services throughout the City of Beloit, focusing on connecting resources to underserved neighborhoods. Additionally, collaboration with staff and the ability to make data-driven decisions is important to ensure a successful outcome.

SMTD has experienced continued year-to-year growth in ridership with particular gains among the youth market. Additionally, online sales are making up a larger share of ticket purchases (27 percent of sales and growing). Anecdotally there are also more people "reverse commuting" from the Rockford region and transferring to SMTD buses in Machesney Park. Opportunities for further growth include increases in service hours and looking into serving rural areas with trips to urban centers. Lee-Ogle Transit was cited as an example of this model. While taking a regional perspective is helpful, there have been some concerns about the ability of transit systems to operate across state borders. The project team will plan to research other "cross-border" systems in Illinois for guidance.

PUBLIC ENGAGEMENT PHASE 2: SURVEYS

Two surveys were conducted as part of the SLATS Transit Plan: a Community Survey and Beloit Transit Rider Survey.

SLATS COMMUNITY SURVEY

In late July and early August 2019, Stateline Area Transportation Study (SLATS) staff conducted a community survey to determine transportation behaviors of residents in the Stateline region and how residents perceive and use local public transit services. Staff distributed the survey to the following organizations and locations with the request that staff take the survey and have physical copies on hand for visitors:

- Beloit Farmers' Market Info Booth
- Beloit Public Library
- City of Beloit
- Play Monster
- Rock Bay Harbor Apartments
- Rockton Village Hall
- Talcott Free Library
- Turner School District

The survey was available for approximately three weeks and asked about typical transportation for all trips and for commuting specifically, reasons for using or not using public transit, perceptions of public transit, and demographic information. This document summarizes the 88 responses gathered through this survey.

TRAVEL BEHAVIOR

The majority of respondents indicated that they use personal automobiles as a primary form of transportation, as shown in Figure 28. Some respondents indicated that they walk, use public transit, or bicycle as a primary mode of transportation. Only 21 percent of respondents indicated that they or someone in their household uses Beloit Transit while 78 percent indicated that no one in their household uses public transit.

Of those who indicated the frequency with which they use transit, more than three quarters of respondents stated that they never or rarely use it, while less than 20 percent stated that they use public transit monthly, weekly, or daily (Figure 29). Respondents overwhelmingly indicated that if their household had at least one car, it served as the primary mode of transportation regardless of the number of cars available in the household, as shown in Figure 30.

Figure 28: Primary Form of Transportation

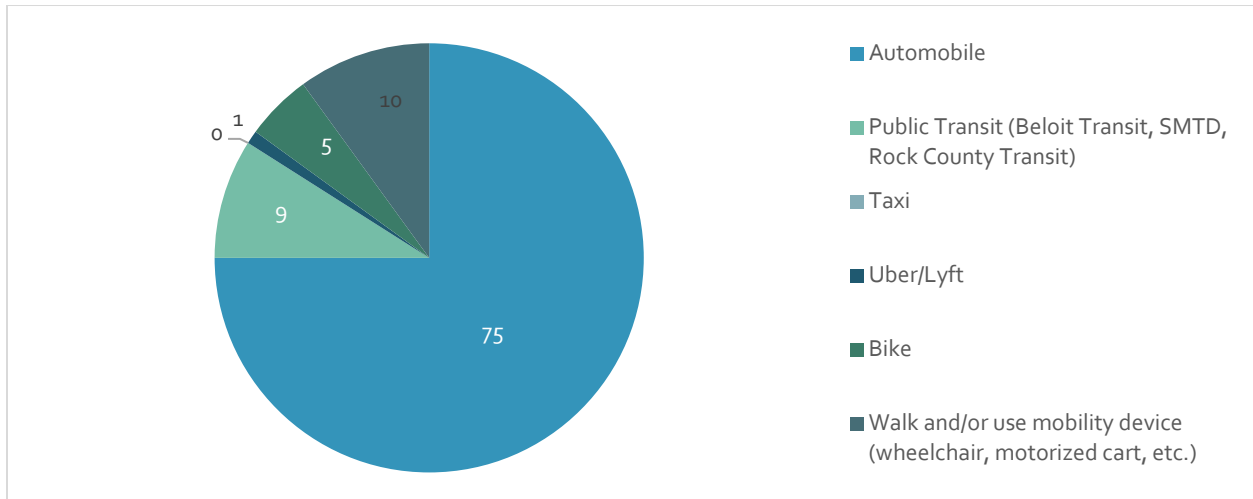


Figure 29: Frequency of Public Transit Use

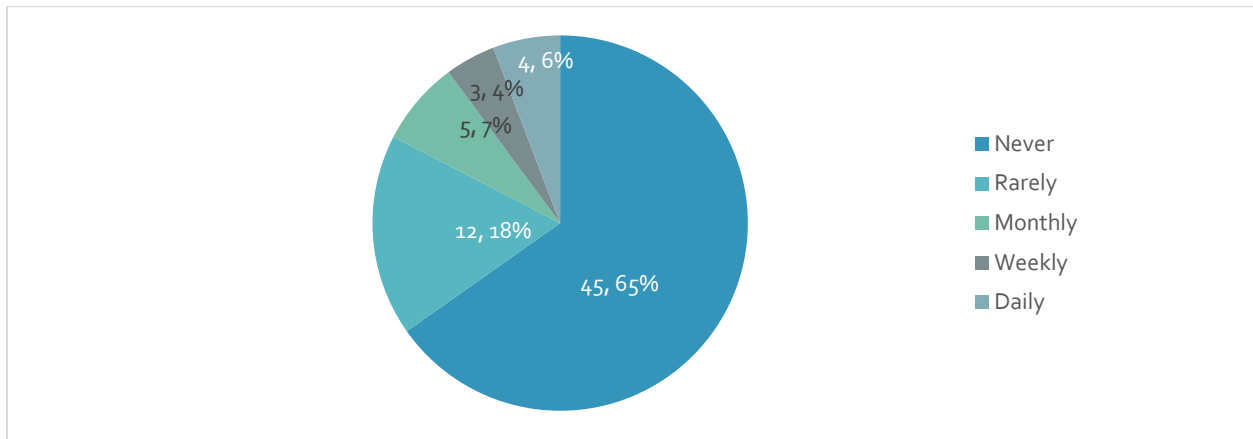
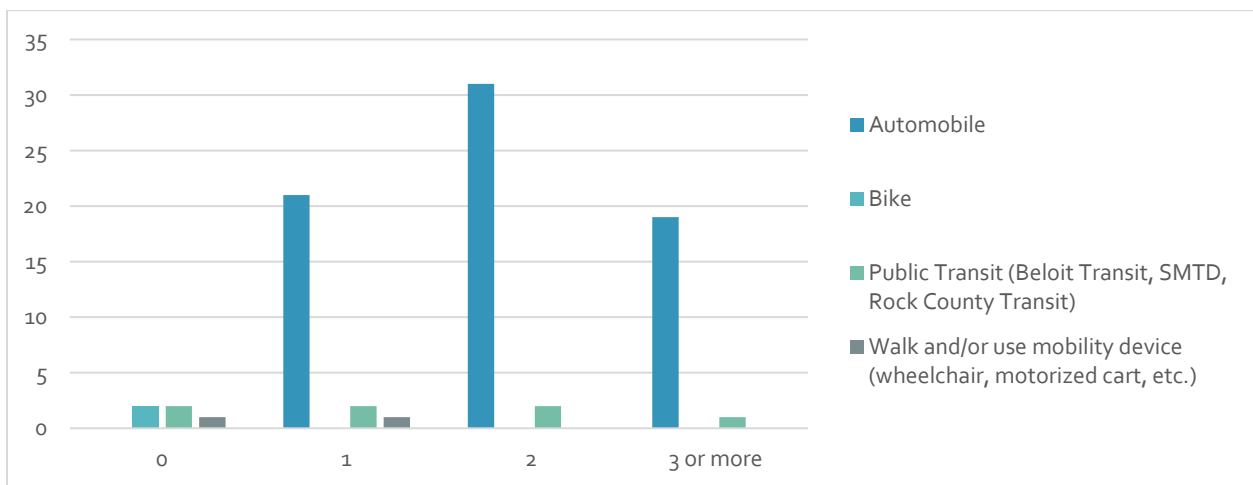


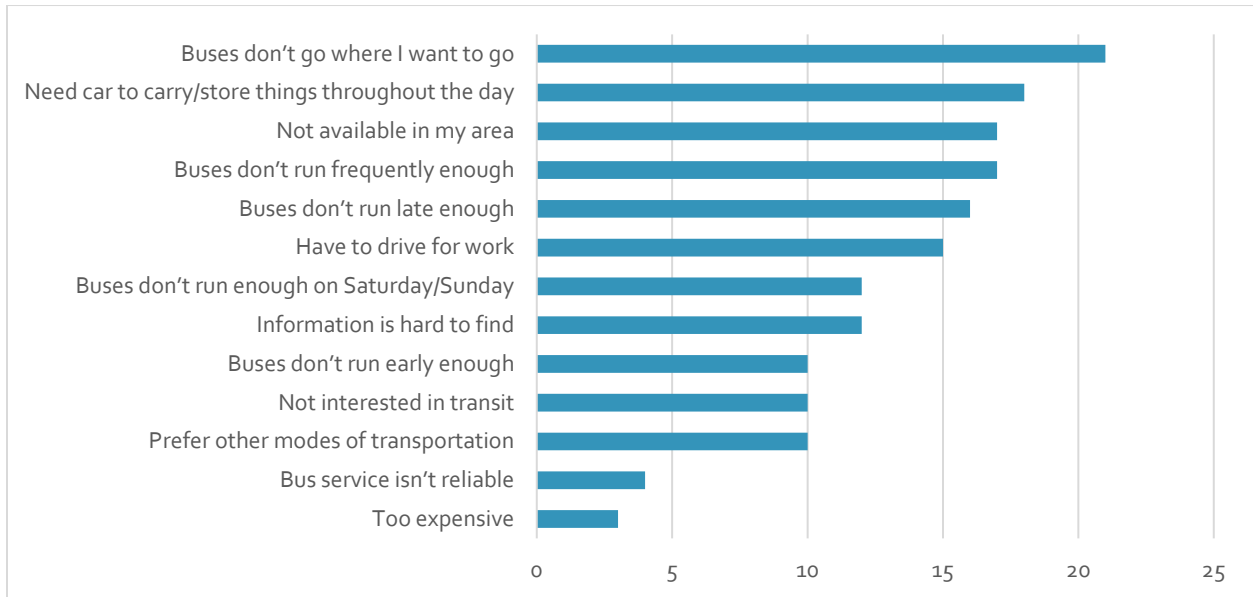
Figure 30: Mode of Transportation by Number of Household Cars



Respondents indicated that the primary reason they don't use public transit is that service isn't available to places they want to go. Other top reasons for not using transit included need for a car to

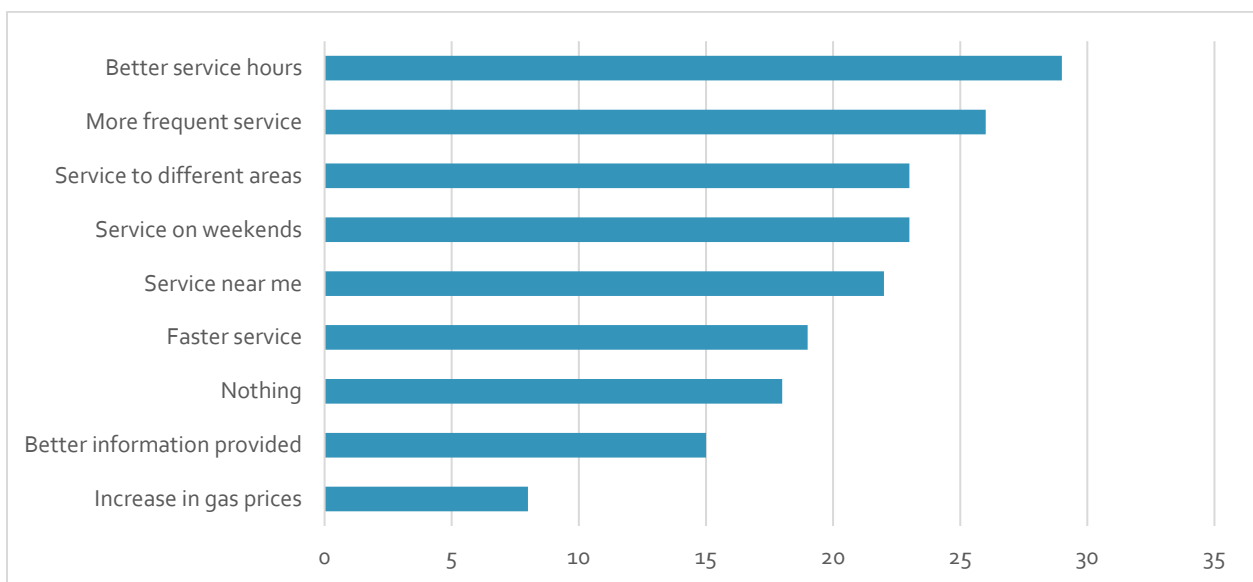
carry or store things throughout the day, lack of transit availability near where they live, lack of service after 6:00 PM, and insufficient service frequency, as shown in Figure 31.

Figure 31: Reasons for Not Using Public Transit



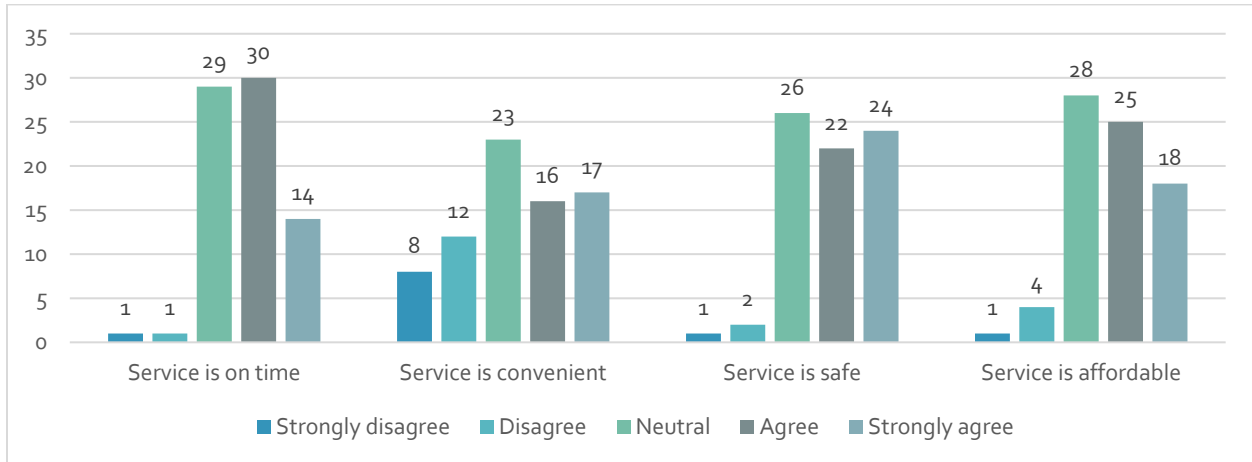
Respondents indicated that the top changes that would make them more willing to ride transit are better service hours, more frequent service, and service on the weekends (Figure 32). Respondents expressed a desire to see increased transit service to the Gateway Business Park and Beloit's west side, as well as Beloit's Big Hill Park; Rockton, Illinois; and the Van Galder pickup in South Beloit, Illinois. Additionally, some respondents stated that they would like to have service between Beloit and Janesville on the weekends and a more conveniently located transfer facility.

Figure 32: Changes That Would Promote Transit Use



Overall, respondents generally agreed with statements that public transit services in the Stateline region are on time, affordable, and safe. There is less consensus about the convenience of public transit in the region, with the statement “Service is convenient” receiving the greatest number of responses indicating disagreement, as shown in Figure 33.

Figure 33: Perceptions of Service Reliability and Accessibility

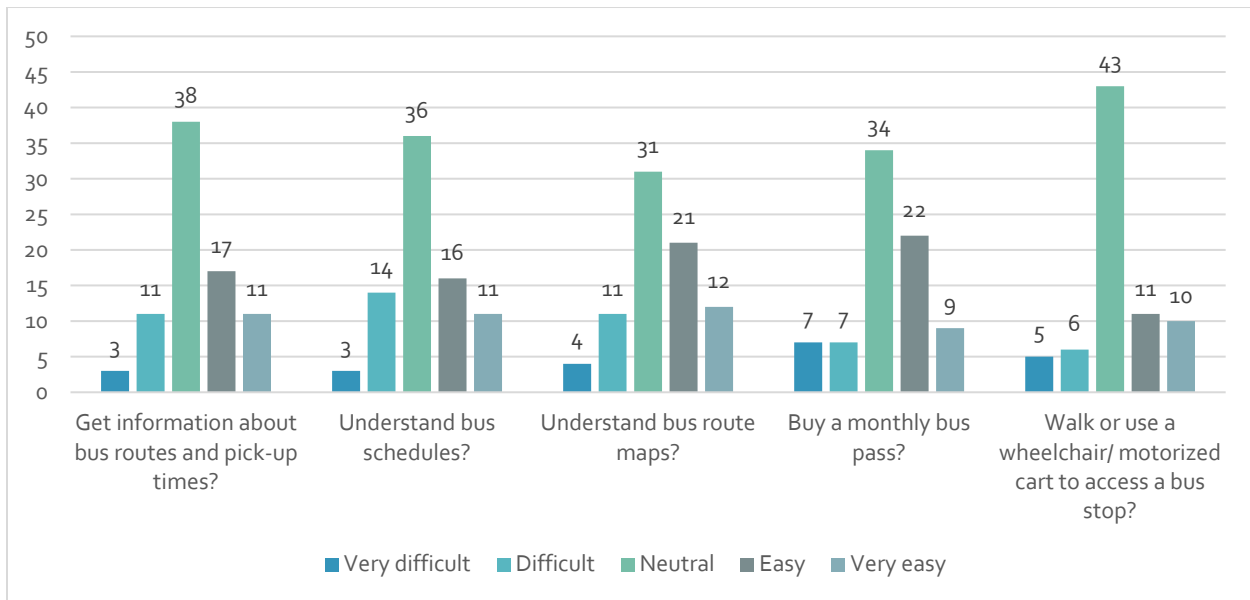


Respondents were asked how easy they felt it is to do the following:

- Get information about bus routes and pick-up times.
- Understand bus schedules.
- Understand bus route maps.
- Buy a monthly bus pass.
- Walk or use a wheelchair/motorized car to access a bus stop.

The majority of respondents did not express strong negative or positive perceptions of the public transit operating environment, with approximately half of respondents selecting “neutral” in response to each question, as shown in Figure 34.

Figure 34: Perceptions of Public Transit Service Operating Environment

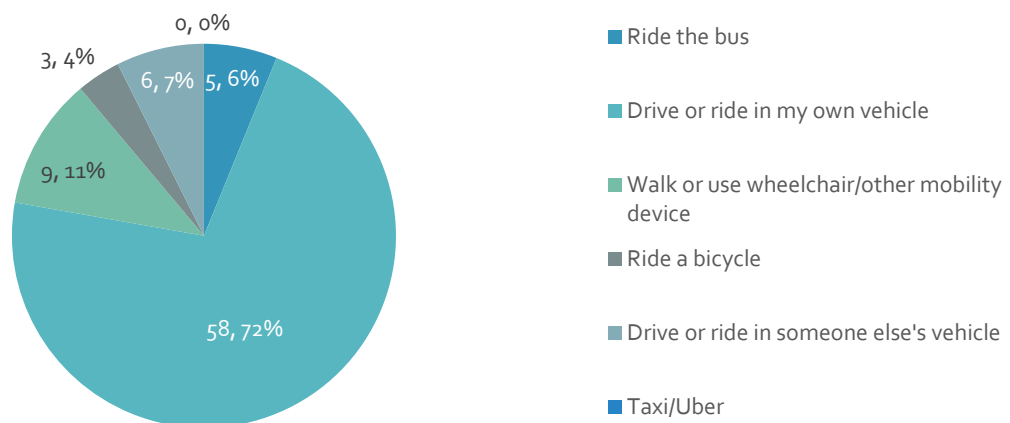


Most respondents (85 percent) indicated that it is very important to them that the community provide public transit service, while only 10 percent considered it “somewhat important” and 5 percent “not at all important”.

TRANSPORTATION AND EMPLOYMENT

Like with general travel patterns, most respondents said that they typically commute using a private automobile (Figure 35).

Figure 35: Commute Modes



Most respondents indicated that their commute is half an hour or less, though approximately 18 percent indicated commutes longer than 30 minutes and 5 percent indicated that they travel for more than 60 minutes to get to work, as shown in Figure 36. All respondents who reported commute lengths

of greater than an hour indicated that they drive to work; those who use transit or walk typically had commutes of 30 minutes or less (Figure 37).

Figure 36: Commute Length

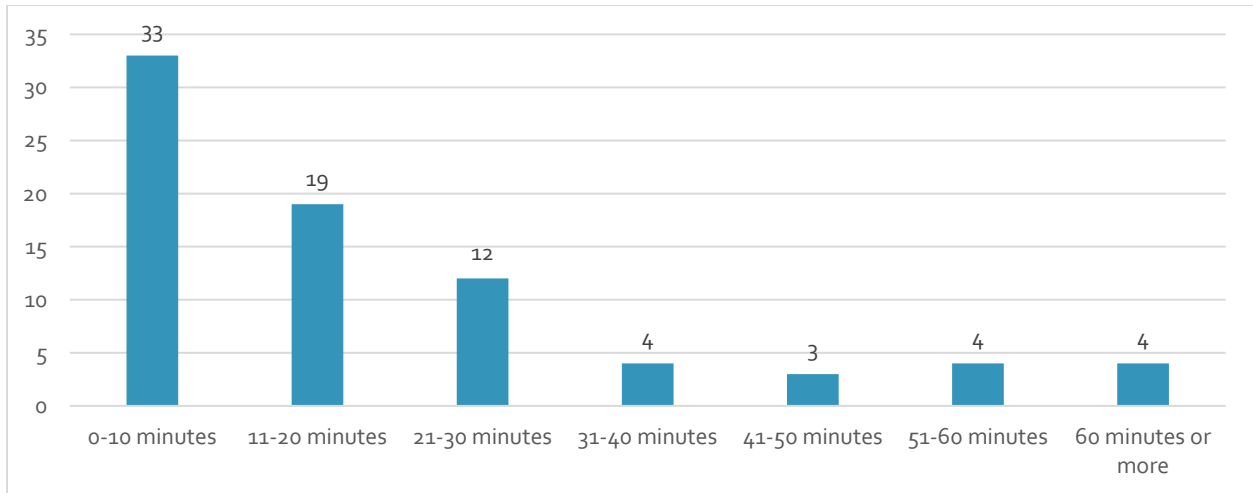
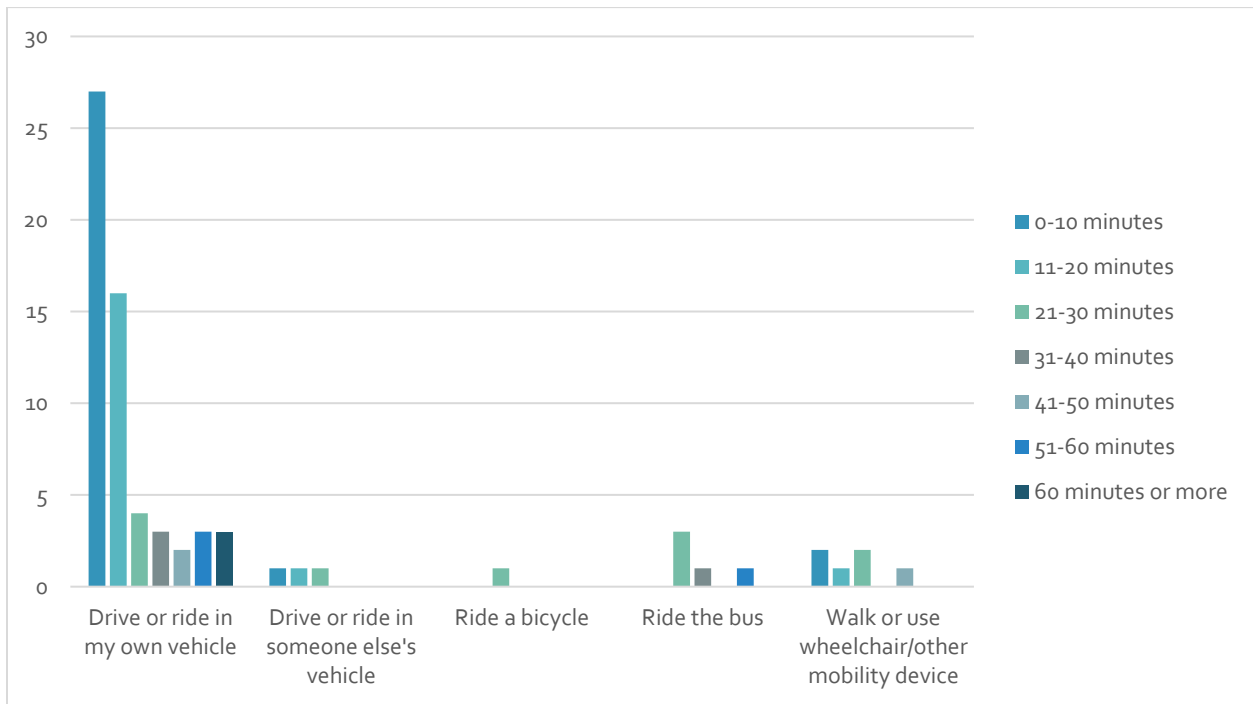


Figure 37: Commute Length by Mode



The employers most frequently listed by respondents were Beloit College (13 responses) and the City of Beloit (4). Other destinations for workers included:

- Advia Credit Union
- Beloit Memorial High School
- Beloit Occupational Health
- Beloit Public Library
- Brother Dutton School
- Chemtool
- Culvers
- Downtown Beloit
- Ironworks
- Jefferson, Wisconsin
- Kolak Education Center
- Kwik Trip
- Pilot Service Center
- Pinnon Meats
- Quality Inn
- Retired and Senior Volunteer Program of Rock County
- Town of Beloit Police Department
- Village of Rockton
- Walmart

When asked whether transportation had ever acted as a barrier to employment, 22 of 28 responses (79 percent) indicated that it had not been. The other six respondents stated that they had run into challenges in obtaining employment for the following reasons:

- Bus service didn't run late enough in the evening
- Could not get to and from Janesville on the weekends as needed
- Lack of service on weekends
- Need to obtain a job within walking distance resulting from lack of reliable transportation
- Limited service hours incompatible with work hours
- Turned down for jobs because bus service limits working hours availability

RESPONDENT DEMOGRAPHICS

Community survey respondents were primarily white residents of the city and town of Beloit with household incomes greater than \$50,000 per year, as shown in Figures Figure 38, Figure 39, Figure 40, Figure 41, and Figure 42. The gender balance of respondents was approximately even, as shown in Figure 43.

Figure 38: Residence of Respondents

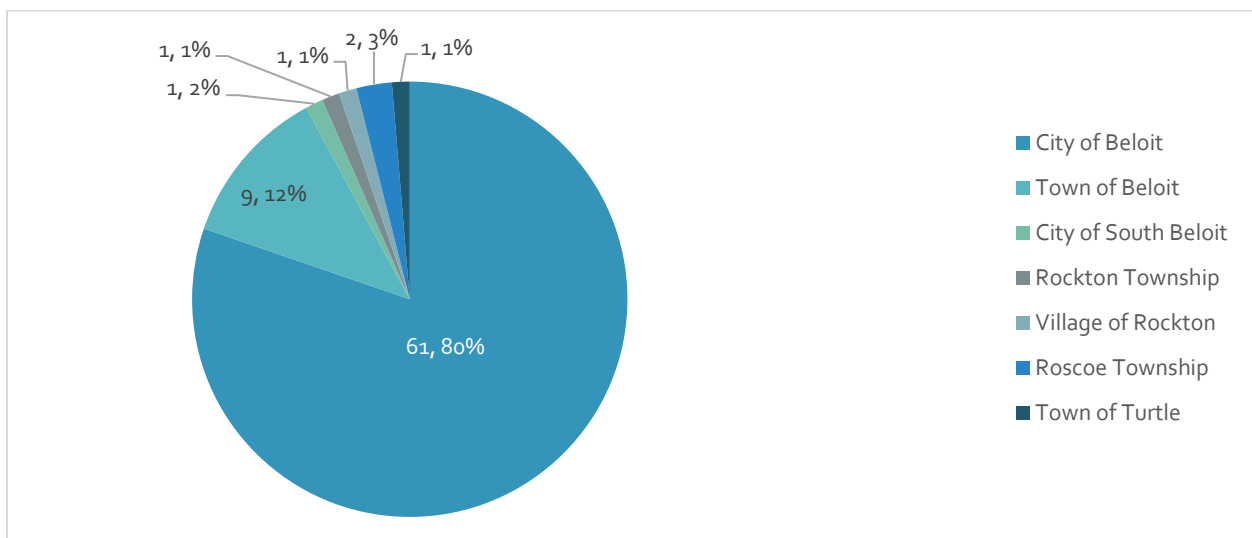


Figure 39: Age Distribution of Respondents

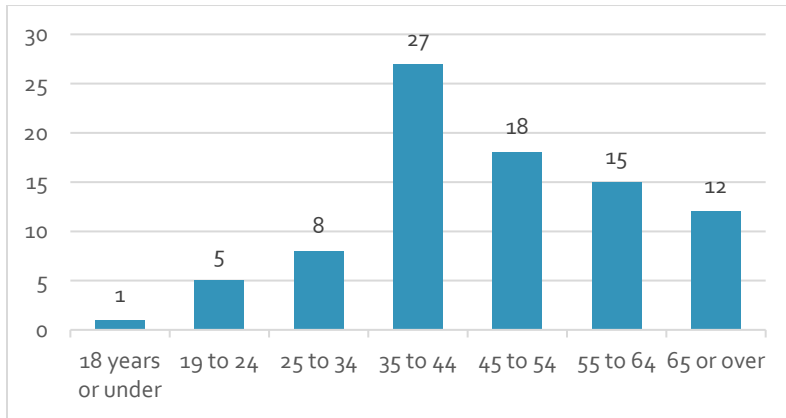


Figure 40: Race of Respondents

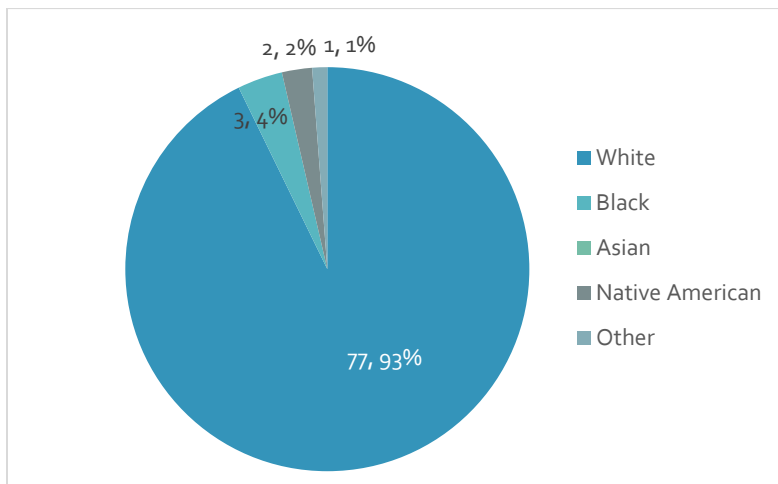


Figure 41: Ethnicity of Respondents

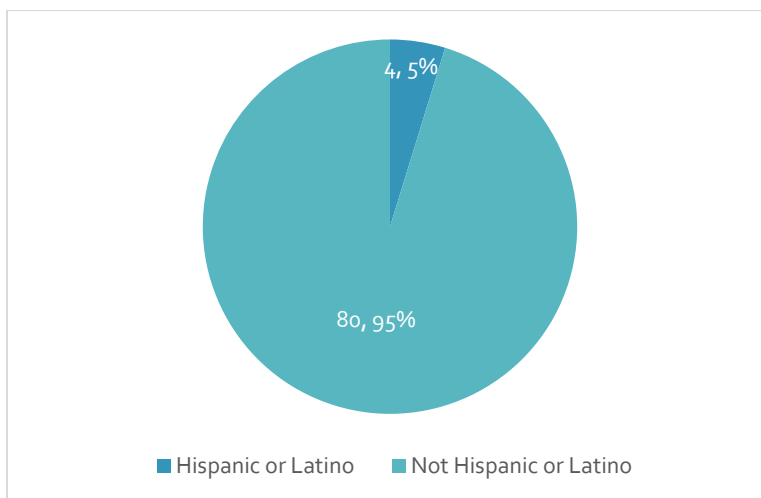


Figure 42: Household Income of Respondents

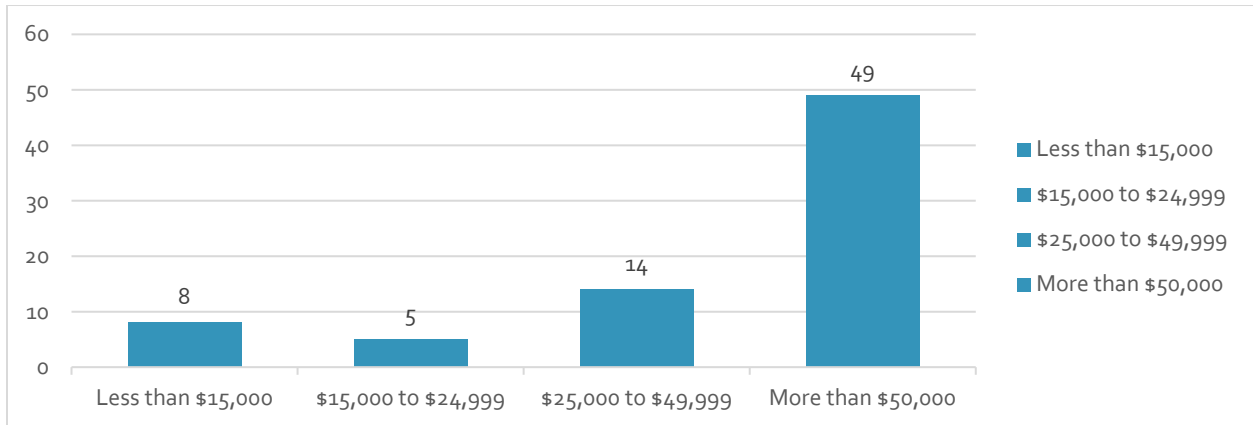
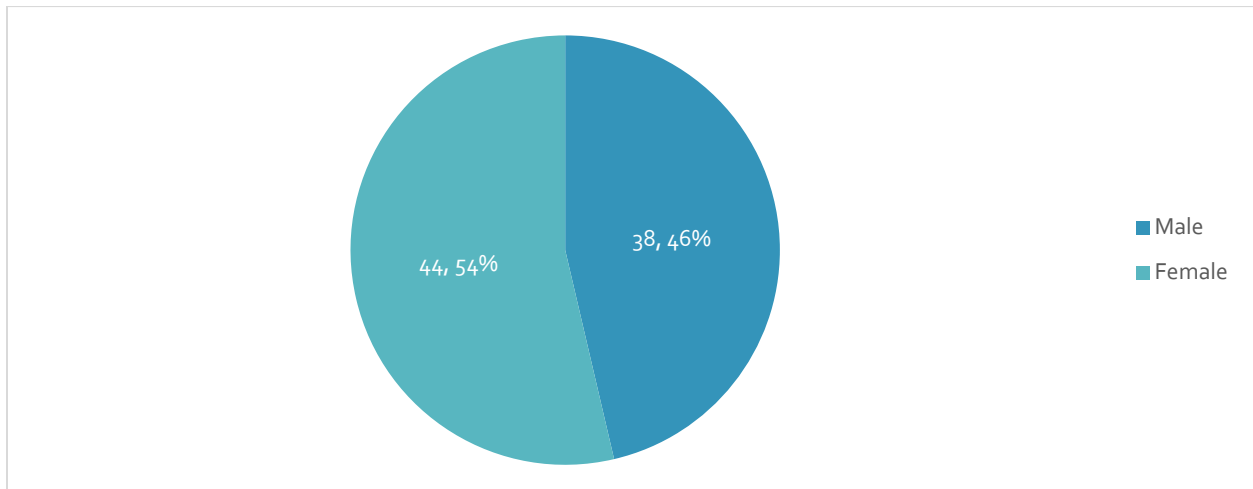


Figure 43: Gender Balance of Respondents



Most respondents indicated that they have at least one car in their household, as shown in Figure 44. Except for in one-person households, the most common number of cars per household is two (Figure 45).

Figure 44: Number of Reliable Cars per Household

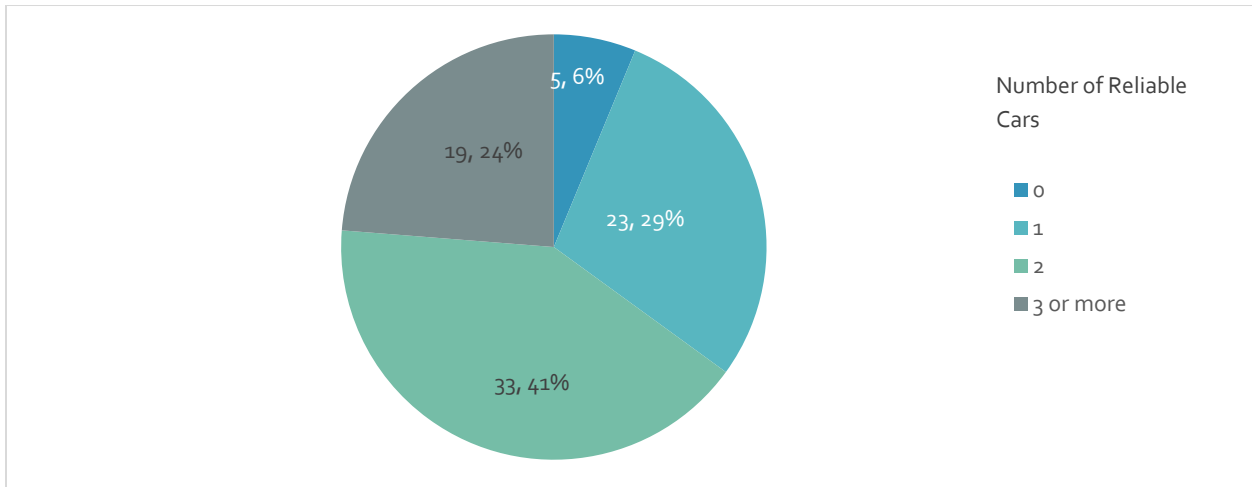
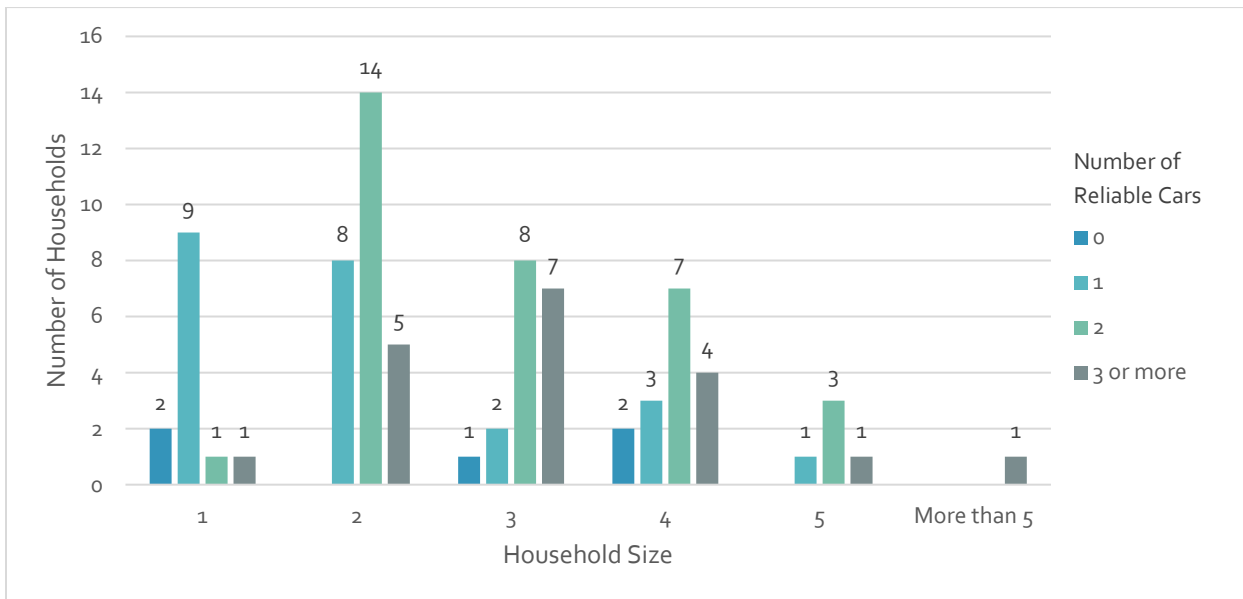


Figure 45: Number of Reliable Cars by Household Size



BELOIT TRANSIT RIDER SURVEY

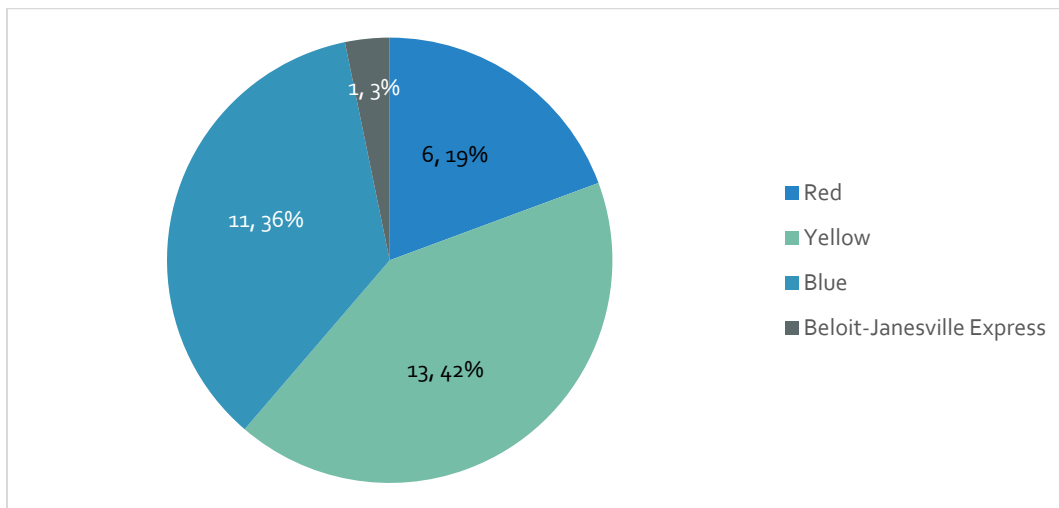
In late July and early August 2019, Stateline Area Transportation Study (SLATS) staff conducted an on-board survey for Beloit Transit and SMTD riders to identify transit users' travel behaviors and needs. In late July, staff rode Beloit Transit's Red, Yellow, and Blue routes with digital tablets to administer the survey to riders. Riders could take the survey in person. Staff provided handouts with a link for riders to complete the survey online at a later date if they did not want to take the survey in the moment. The survey was available for approximately two weeks.

The survey sought information about origins and destinations, route ridden, trip purpose, trip length, frequency of using public transit, and reasons for using public transit. It asked for feedback on places where walking or bicycling is challenging. Input was also requested on the reliability and usability of transit service, as well as top priorities in improving transit service. The survey garnered 36 responses; results are described below.

TRAVEL BEHAVIOR

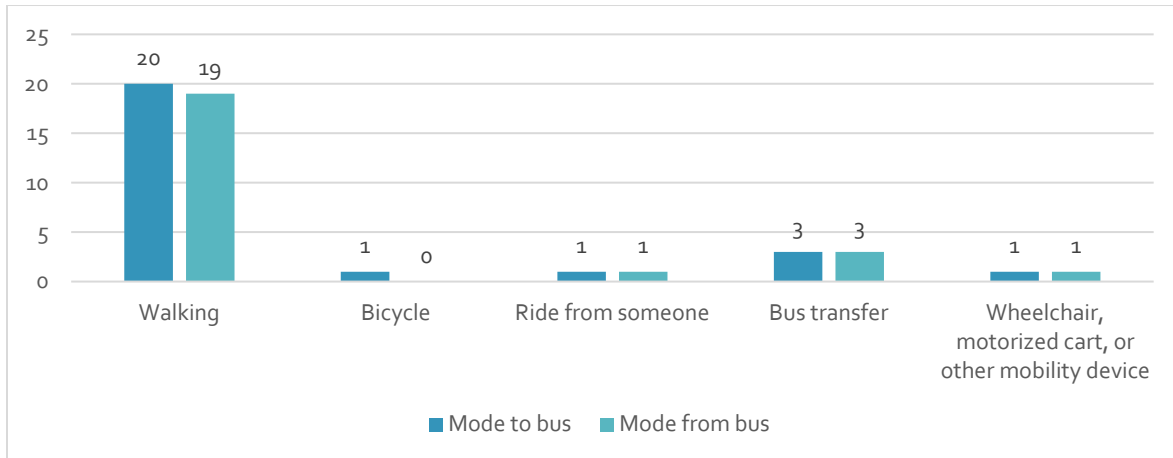
The majority of respondents were using Beloit Transit at the time they took the survey. Most were riding the Yellow or Blue route, with only about 20 percent using the Red route and just one respondent using the Beloit-Janesville Express (Figure 46).

Figure 46: Beloit Transit Route Used



Most respondents indicated that their current trip was from home to work or medical trips. Popular destinations included Walmart and the Beloit Clinic. Almost all riders walk to and from stops, as shown in Figure 47. Riders identified Walmart and nearby stores, Autumn Lake Healthcare, and Leeson Park as difficult places to access on foot.

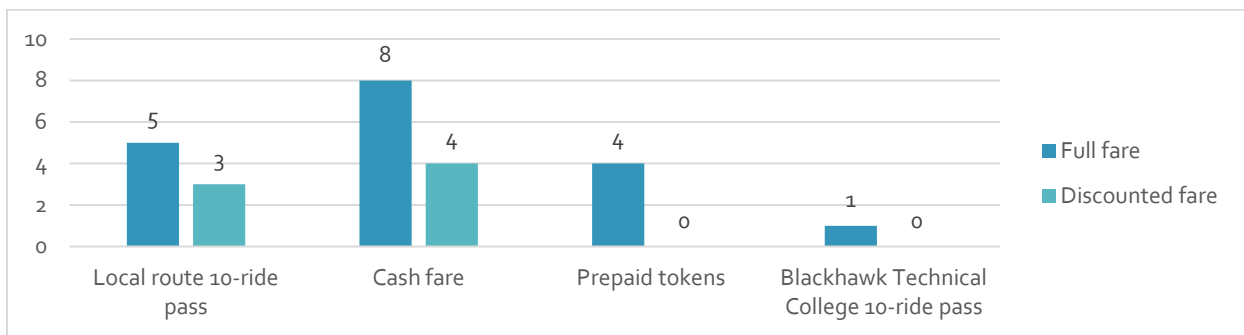
Figure 47: Mode Used to Get to and From Beloit Transit Bus Stops



One respondent also noted that Walmart is difficult to access via bicycle, and over three-quarters of respondents felt it is not convenient to carry bicycles on Beloit Transit buses.

Approximately half of respondents indicated that they use public transit on a daily basis and half indicated that they use it weekly. These riders typically use cash fare or a local route 10-ride pass, though some use prepaid tokens or a Blackhawk Technical College 10-ride pass; approximately one-quarter of respondents receive reduced fares based on their age or disability status (Figure 48). These riders primarily use public transit because they lack reliable access to a car or are unable to drive.

Figure 48: Fare Used



TRANSPORTATION AND EMPLOYMENT

Most respondents indicated that they use Beloit Transit for their commute, as shown in Figure 49. Those who don't commute using transit generally cited incompatibility between the bus schedule and their work schedule as the reason while some indicated that lack of coverage and/or convenience prevented commuting via transit (Figure 50). Additionally, though respondents expressed these concerns about Beloit Transit service, 20 out of 24 (84.3 percent) still indicated that overall, Beloit Transit meets their commuting needs.

Figure 49: Commute Mode

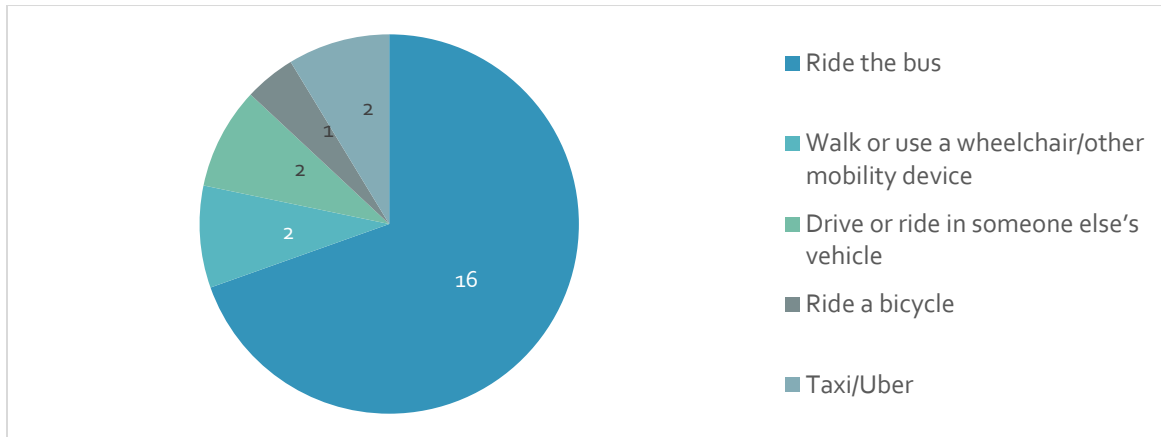
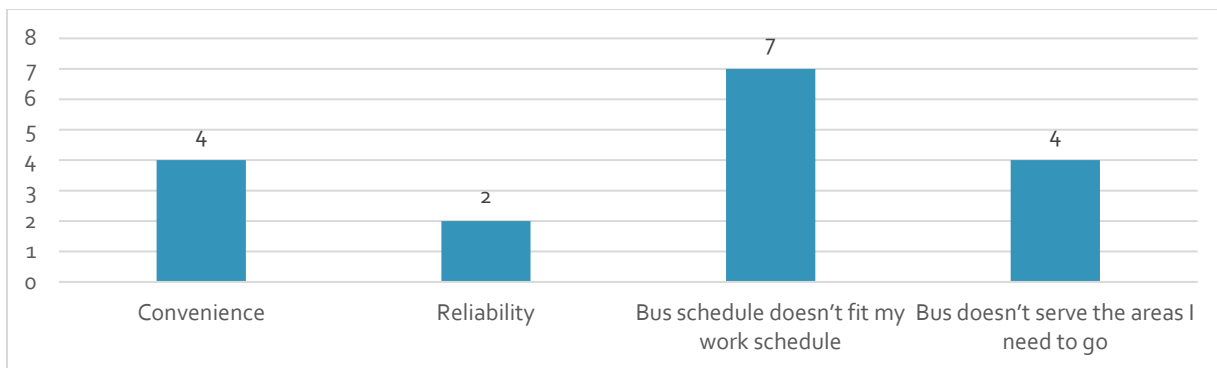


Figure 50: Reasons for Not Commuting via Transit



Respondents identified the following employers and employment locations:

- Beloit Clinic Rehabilitation Center
- Beloit Learning Academy
- Beloit Public Library
- Cunningham Intermediate School
- Downtown Janesville
- Gateway shopping area
- Grand Avenue Pub
- Rock Valley Community Programs
- Rockford Target
- South Beloit
- Scoville Hall
- Walmart (2)

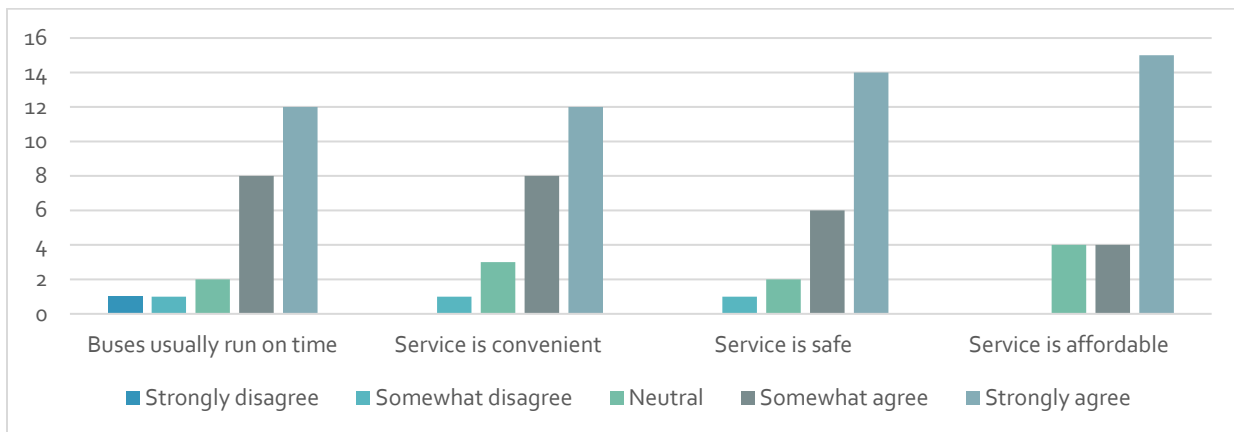
When asked whether transportation had ever acted as a barrier to employment, 13 out of 23 respondents (57 percent) indicated that it had not while the remaining 10 stated that it had, citing the following reasons:

- Lack of service to potential jobs
- Unable to get to or from work at desired times because of limited service hours (6 respondents)
- Lack of service on weekends
- Lack of service to second- and third-shift jobs in Janesville
- Travel time within Beloit is too long
- Travel time on buses to Madison is too long

RIDER FEEDBACK

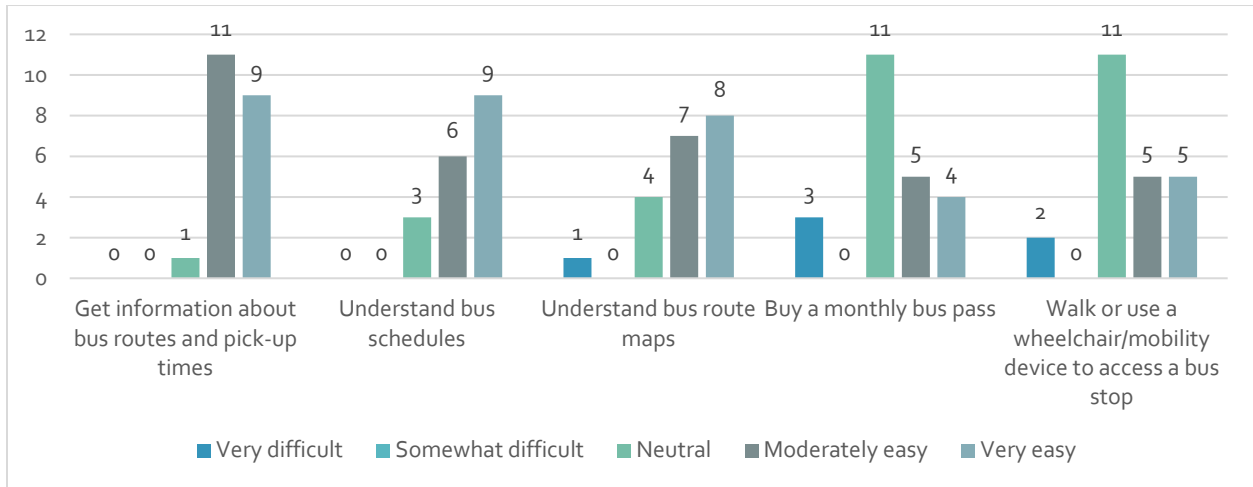
To identify attitudes regarding Beloit Transit service, riders were asked whether they thought Beloit Transit service is typically on time, convenient, safe, and affordable. Riders generally had positive perceptions regarding each of these aspects of Beloit Transit, as shown in Figure 51.

Figure 51: Rider Perceptions of Beloit Transit Service



Riders were also asked about the accessibility of Beloit Transit, both in terms of availability of information and the quality of the physical environment. Respondents generally expressed that they felt it is moderately to very easy to find and understand information about bus routes, schedules, and maps. Respondents were less positive about the ease of buying a monthly bus pass or walking/using a mobility device to access a bus stop, as shown in Figure 52.

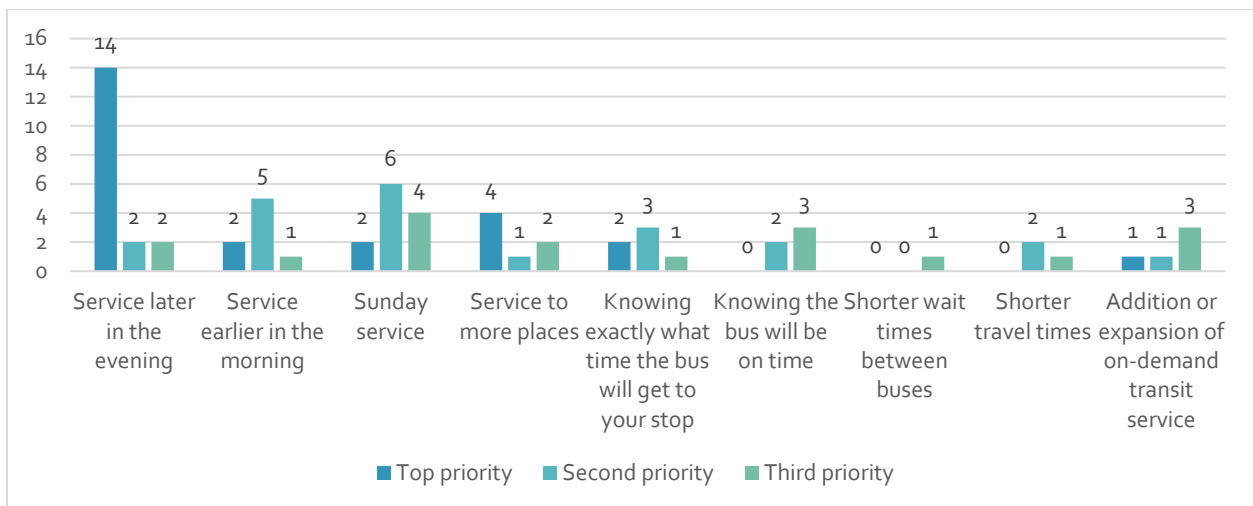
Figure 52: Rider Perceptions of Beloit Transit Accessibility



DESIRED IMPROVEMENTS

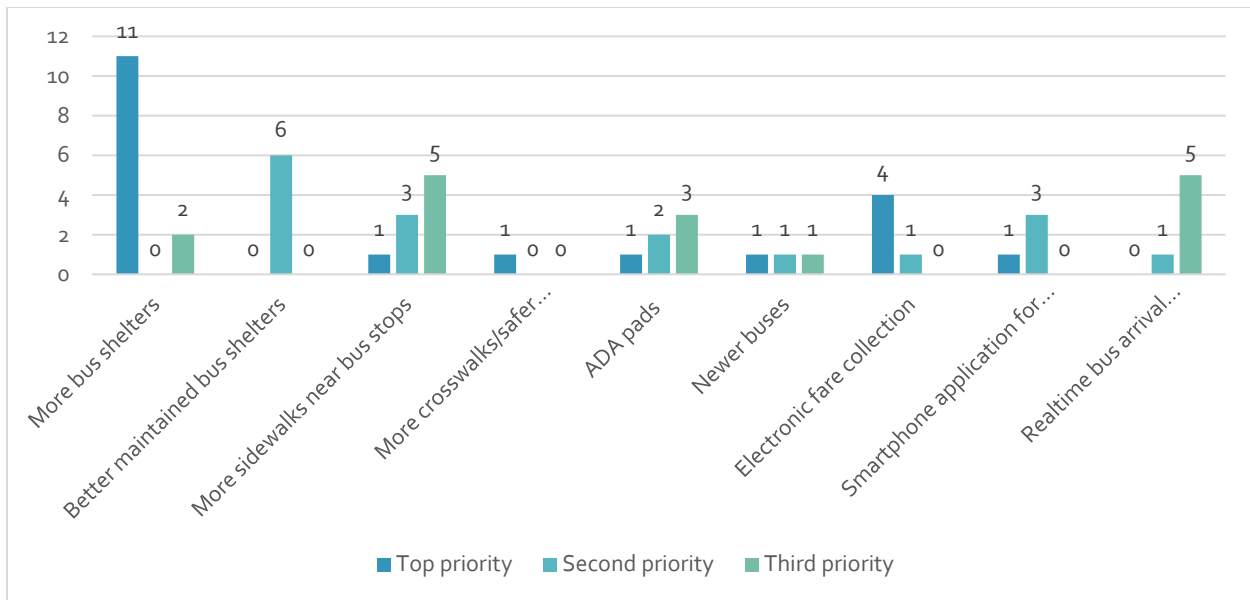
The overwhelming top priority for respondents is running bus service later in the evening, as shown in Figure 53. Other popular priorities are service earlier in the morning and on Sundays. Respondents placed little importance on other changes that may cause them to ride the bus more, such as shorter wait times between buses and shorter travel times.

Figure 53: Priority Service Changes for Increasing Ridership



Respondents identified that their highest-priority improvement to transit service would be the addition of new bus shelters and enhanced maintenance of existing ones, as seen in Figure 54. Improved pedestrian infrastructure, electronic fare collection, and real-time bus arrival information were also popular potential improvements.

Figure 54: Priority Transit Improvements



In a similar vein, 10 of 23 respondents indicated that transportation has been a barrier to employment. These respondents typically cited limited service coverage or incompatibility between operating hours and their work schedule, particularly on weekends and after 6:00 PM on weekdays.

Respondents also noted the following desired changes:

- Moving the 6th Street and Olympian Boulevard stop back because Olympian is challenging to walk up in the winter.
- Shifting the stop near Vince’s Pizza to facilitate smoother traffic operations.
- Enforcing parking restrictions near bus stops to enhance bus stop accessibility and improve bus operations.
- Increasing coverage on Cranston Road and Bayliss Avenue.
- Improving bus cleaning and maintenance.
- Adding a route that serves Cottonwood Street and Cranston Road.
- Faster service.
- More punctual service.
- Service on Sundays.
- Route to South Beloit.
- Better-placed bus stops.

SUMMARY OF TRANSIT NEEDS AND OPPORTUNITIES

TRANSIT GAPS

Based on data analysis and stakeholder engagement, three major types of transit gaps have been identified in the SLATS metropolitan planning area: geographic, temporal, and quality-of-service gaps.

GEOGRAPHIC GAPS

Geographic gaps are areas where transit service is insufficient to meet demand. For example, a neighborhood has a high proportion of households with zero or one vehicles but little or no transit access may suffer from a geographic gap in service. Similarly, if transit does not serve major destinations, such as a regional shopping mall or a major employment center, this may constitute a geographic gap in service.

In Beloit, there is a geographic gap in transit service around the Gateway Business Park along the I-39/I-90 corridor beyond the span of the Red route, as seen in Figure 9 on page 28. Additionally, there is a geographic gap where the Blue route fails to serve the entirety of the transit-supportive area on Beloit's west side, as shown in Figure 13 on page 32. Fixed-route transit service is also lacking in TSAs in South Beloit and Rockton, Illinois (Figure 13).

TEMPORAL GAPS

Temporal gaps in transit service consist of lack of availability of service during specific hours when customers need to travel. Employees often need to arrive at work by the time Beloit Transit begins operating at 6:00 AM. Lack of service later in the evening on weekdays may prevent people from taking transit to work because of a lack of transportation at the end of the workday. It also may prevent would-be riders from using transit to run errands, go shopping, or travel elsewhere in the evenings. Limited service on Saturdays and absence of service on Sundays also constitutes a temporal gap in service.

QUALITY-OF-SERVICE GAPS

Quality-of-service gaps include a lack of frequency, long travel times and inefficient trips, challenging transfers, and other characteristics that make the service less useful for customers. The 80-minute loops on the Red and Yellow routes and 40-minute loop on the Blue Route are more challenging for riders to remember than 30- or 60-minute headways. This challenge is worsened by the use of loop routes, which can add travel time and reduce service legibility. Furthermore, this route scheduling may create challenges in transferring from one route to another, which are compounded when service is not provided at frequent intervals. If one-way loop routes continue to be a component of the BTS system, they should be implemented in a manner that minimizes each route's cycle time and offers meaningful connections to other bus routes and key destinations. Additionally, Beloit Transit System's reduced service on Saturdays contribute to long travel times, especially on the Yellow and Red routes.

OPPORTUNITIES FOR SERVICE IMPROVEMENT

To address geographic gaps in transit service, recommendations will offer options for improving service coverage in Beloit's west side neighborhoods and the Gateway Business Park. Service recommendations explore the possibility of extending fixed route service to TSAs in South Beloit and Rockton, which would require inter-state coordination for funding and service provision.

The primary temporal gap in service is the lack of transit options after 5:30 PM on weekdays and on the weekends generally. The project team considered strategies to expand hours of operation within the transit agencies' budget and capital constraints.

In order to improve quality of service, the project team explored approaches to enhancing the speed and legibility of the Red, Yellow, and Blue routes. In addition to these potential changes, the project team sought strategies to reduce travel time on the Red and Yellow routes and to provide more convenient crosstown service.

In addition to these identified gaps, the project team recognizes that a primary focus of transit users and local stakeholders is enabling access to current employment centers that are currently unreachable by transit. Addressing employment-specific transit gaps may involve revisions to regular transit routes, exploring public-private partnerships, or implementing new modes of transit that are not currently available. Additional outreach will be conducted to identify the most pressing travel needs of area employers and the workforce.

Overall, the approach of this Transit Plan aims to improve public transportation in the Stateline region by better matching transit options to the area's current demographic and employment patterns, as well as local transit agency staff preferences and identified travel needs.

PART 2: SERVICE RECOMMENDATIONS

LESSONS FROM HISTORICAL TRANSIT ROUTES

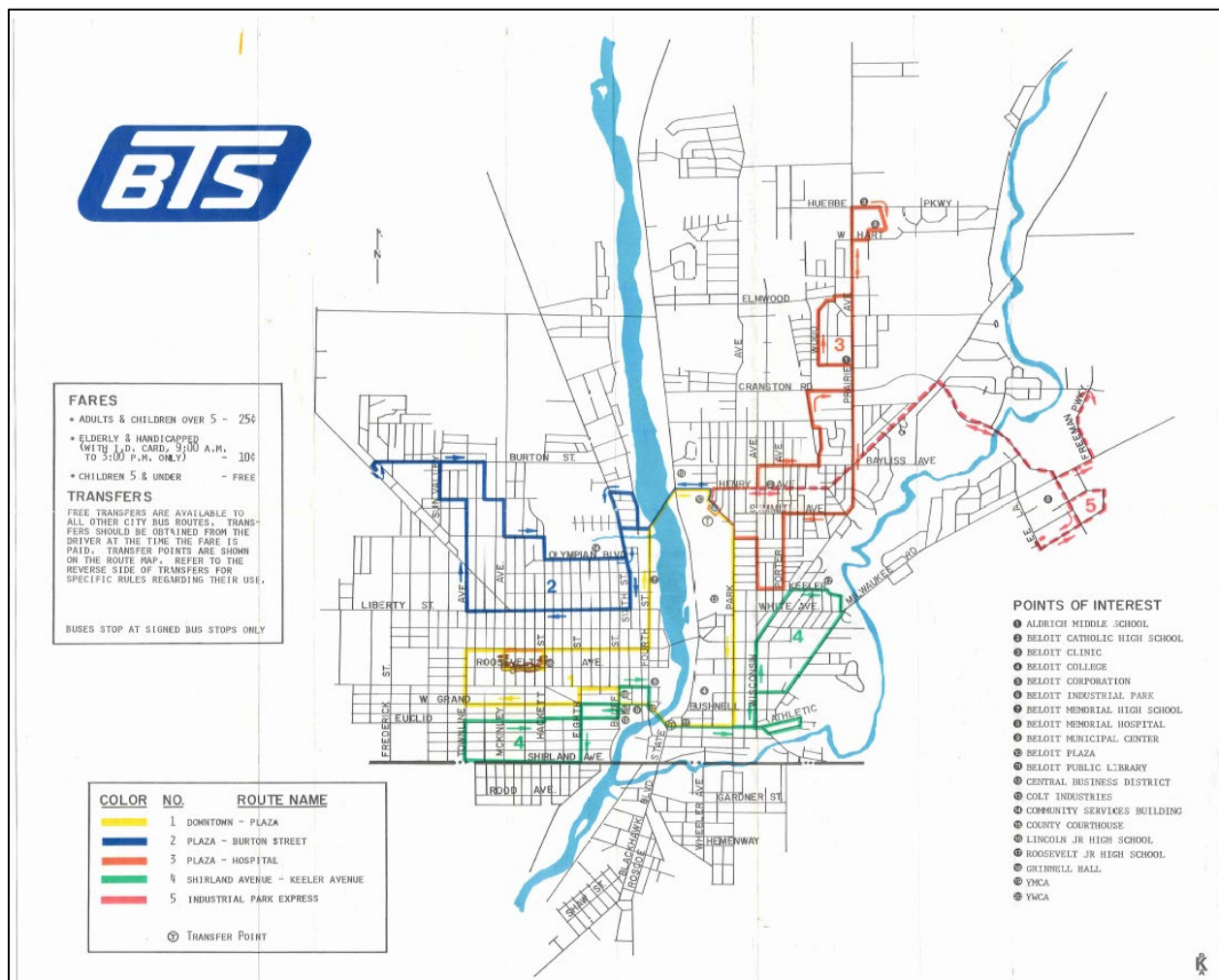
During the stakeholder engagement process conducted for this project, customers and BTS staff occasionally compared the current transit system to previous bus routes that operated prior to 2015. BTS staff have retained copies of route schedules and maps dating back approximately 25 years; these maps illuminate several significant changes that led to the current system. The following section examines two examples of previous BTS route networks: the pre-1994 network and the 2008 network. Existing routes are also described for comparison.

PRE-1994 BUS NETWORK

Figure 55 shows the bus routes that were operated prior to 1994. Long before the construction of the current downtown Transfer Center, this map shows that majority of routes were designed to transfer at Beloit Plaza (now the Eclipse Center). Three routes served the dense residential neighborhoods of Beloit’s west side, and a dedicated Industrial Park Express tripper route connected the mall transfer point to the newly developed manufacturing sites near the intersection of Milwaukee and Cranston Roads (now served by the Red Route). Additionally, Route 4 operated as a southern crosstown route, a travel pattern that today requires a transfer.

Compared to current system, the pre-1994 BTS routes offered shorter, more direct trips on a 30-minute schedule. Like the current routes, the pre-1994 system operated using two transfer points (downtown and Beloit Plaza), but it also included a dedicated circulator Route 1 (Downtown-Plaza) to connect them. The current system has lengthened the Yellow and Red routes significantly to replace the circulator service.

Figure 55: BTS System Map (Pre-1994)



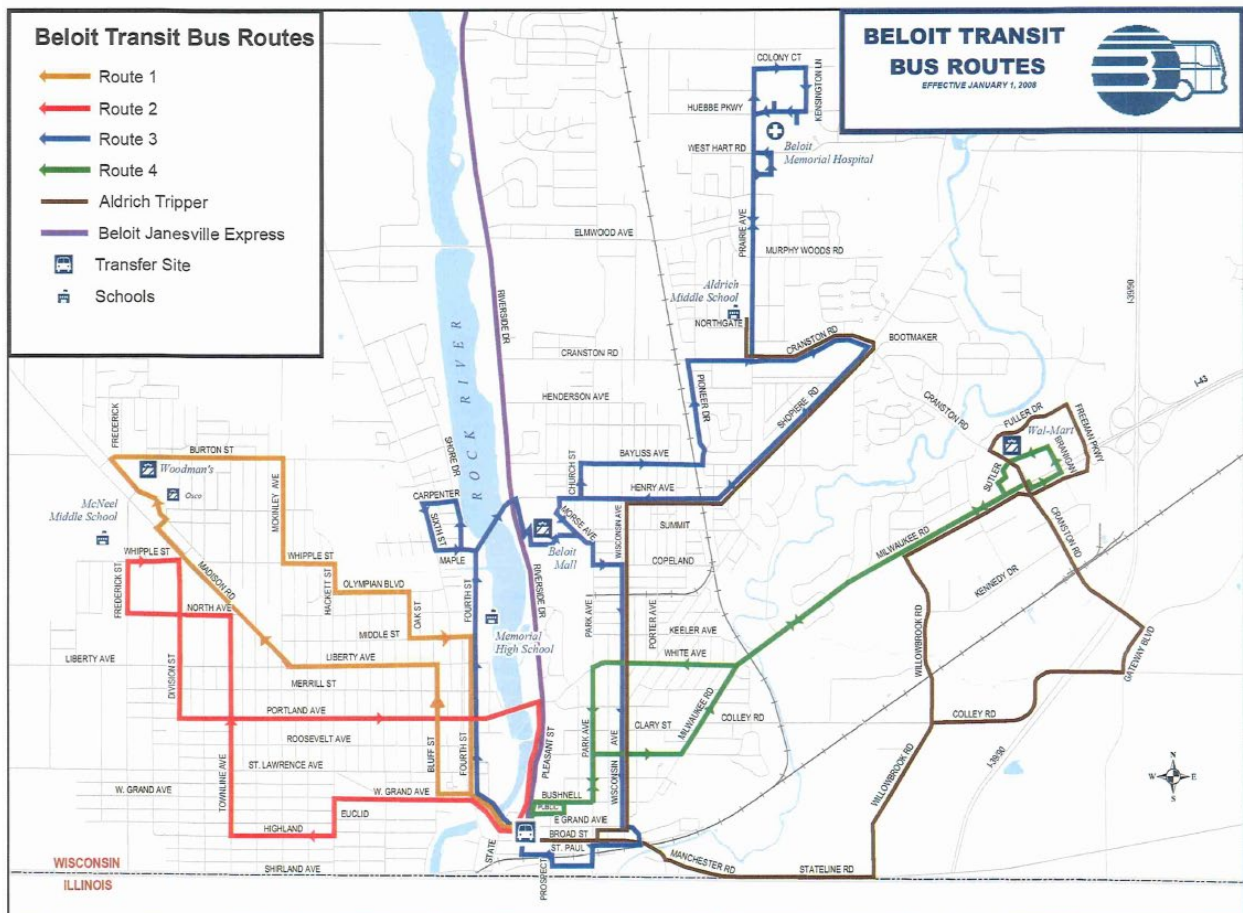
Source: Beloit Transit System.

2008 BUS NETWORK

Figure 56 shows the BTS bus network operated in 2008. By then, retail uses at Beloit Plaza/Beloit Mall had declined, and BTS bus routes were restructured to focus on downtown Beloit. The current Transfer Center had not yet been constructed, so buses transferred near the intersection of Broad and Pleasant Streets. Route 4 service was discontinued west of downtown Beloit, allowing an extension east to the Milwaukee/Cranston corridor. The circulator route was largely combined with the previous Plaza-Hospital route, creating 60-minute route serving both downtown and Beloit Memorial Hospital.

The 2008 bus network shows a transition toward today's system, in which most crosstown trips require a transfer downtown. However, Beloit's west side was still served by two 30-minute routes that provided more direct, more frequent service than is available today. The 2008 network also demonstrates the growing need for regional travel, served by the BJE.

Figure 56: BTS System Map (2008)



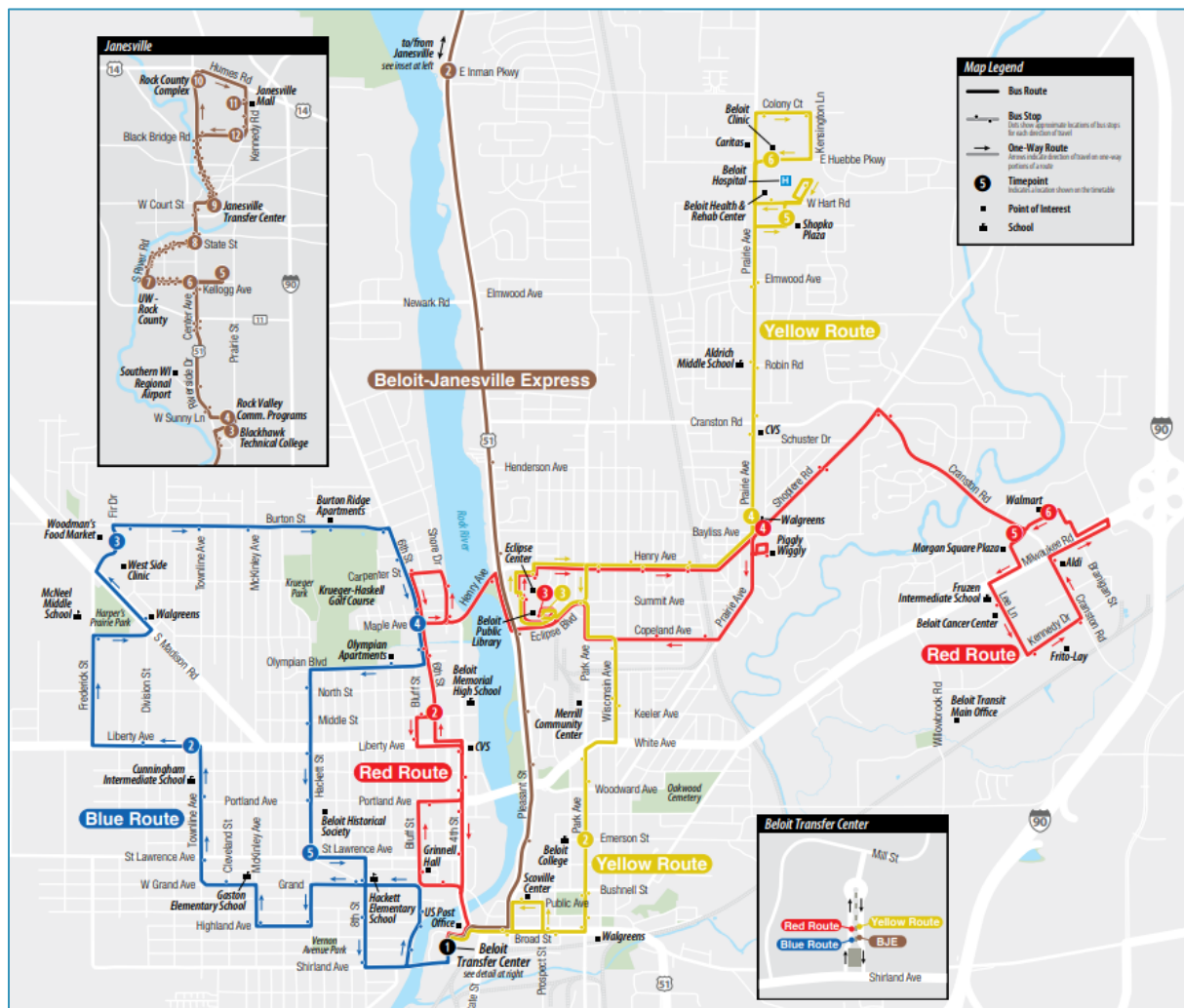
Source: Beloit Transit System.

CURRENT BUS NETWORK

As described in Part 1, the current BTS system consists of three local routes (Red, Yellow, and Blue), as well as the BJE. The Red and Yellow routes operate on 80-minute loop, with each route using two buses to achieve 40-minute headways. The Blue Route operates on a 40-minute loop that winds through residential neighborhoods on the west side of Beloit, serving areas previously covered by multiple 30-minute routes in both the pre-1994 and 2008 bus networks. All routes transfer at the BTS downtown Transfer Center, located at 225 Shirland Avenue.

While the current system has extended the geographic reach of the transit network (particularly on the Red and Yellow routes), the result is circuitous route alignments and longer travel times for customers. In particular, travel times from the downtown Transfer Center to the Milwaukee/Cranston area (near I-39/I-90) have increased from 11 minutes (via Route 4, circa 2008) to 40 minutes (via today's Red Route).

Figure 57: BTS System Map (2019)



Source: Beloit Transit System.

PREFERRED ALTERNATIVE

The Preferred Alternative focuses on fixed-route recommendations for BTS as the central component of the system. The Preferred Alternative would improve service connectivity and frequency to low-income and minority areas in central Beloit, while adding service connectivity to the Gateway area, the Town of Beloit, and other parts of the region that are currently unserved.

APPROACH

COORDINATE SERVICE TO NEIGHBORING COMMUNITIES

Consistent with SLATS' goal to begin coordinating transit service across municipal boundaries, the Preferred Alternative works to establish service to other communities, including the Town of Beloit and portions of South Beloit. These extensions could benefit Beloit residents by providing access to jobs, regional transportation, and schools outside the Beloit city limits. For non-Beloit residents, the proposed route structure will increase opportunities to access these same amenities in Beloit. The Preferred Alternative addresses these goals as follows:

- Provide service to the Town of Beloit via an all-day fixed route serving major destinations throughout the City of Beloit.
- Provide service to the Gateway area, including connections to the Van Galder bus stop in South Beloit.
- Explore ways to expand fixed-route service further into Illinois portion of the MPA, and coordinate with SMTD on expanding demand-response service across the Wisconsin state line, as well as long-term opportunities to integrate the region's transit services into a cohesive Stateline-area transit system.

ACCOMMODATE EMPLOYMENT CENTERS

The Preferred Alternative addresses the desire and need to accommodate employment centers that are currently unserved by fixed-route transit, including the Gateway area, the Town of Beloit Business Park, and industry along Gardner Street in South Beloit. By connecting with Van Galder at particular times, this route structure would provide an option for commuters from Chicago, Rockford, Janesville, and Madison to get to work in Beloit (e.g. Kerry, Amazon, etc.). Employment needs would be served by:

- Providing all-day fixed-route service to the Gateway area and Town of Beloit Business Park.
- Establishing a limited-service route to meet the growing transit needs in the Gateway area, including by serving major employers at or near primary shift times. As the area develops, this route could evolve into a more robust all-day service.

ADDRESS WEAKNESSES OF THE CURRENT SYSTEM

In response to declining ridership and productivity of the current routes, the Preferred Alternative will seek to deliver the following improvements:

- Increase frequency on all-day routes to 30 minutes (excluding the BJE).
- Maintain or enhance service connectivity, particularly in low- and moderate-income areas where more people rely on public transit and other alternatives rather than personal cars.
- Provide transit routes that are simple to understand. The Preferred Alternative includes two inner loops to serve core neighborhoods (one each for west and east) and one outer loop. They connect at important destinations such as grocery stores, the Transfer Center, and (for Blue and Green) the Eclipse Center.
- Reduce the need for transfers. By providing loop routes that serve larger portions of the service area, the Preferred Alternative would enable customers to reach more destinations in a one-seat transit ride.
- Expand the footprint of transit service without increasing overall operating costs. The primary fixed-route network in the Preferred Alternative would use five buses, the same as the current system, while serving a larger geographic area.

PROPOSED ROUTES – PREFERRED ALTERNATIVE

The Preferred Alternative consists of five BTS routes:

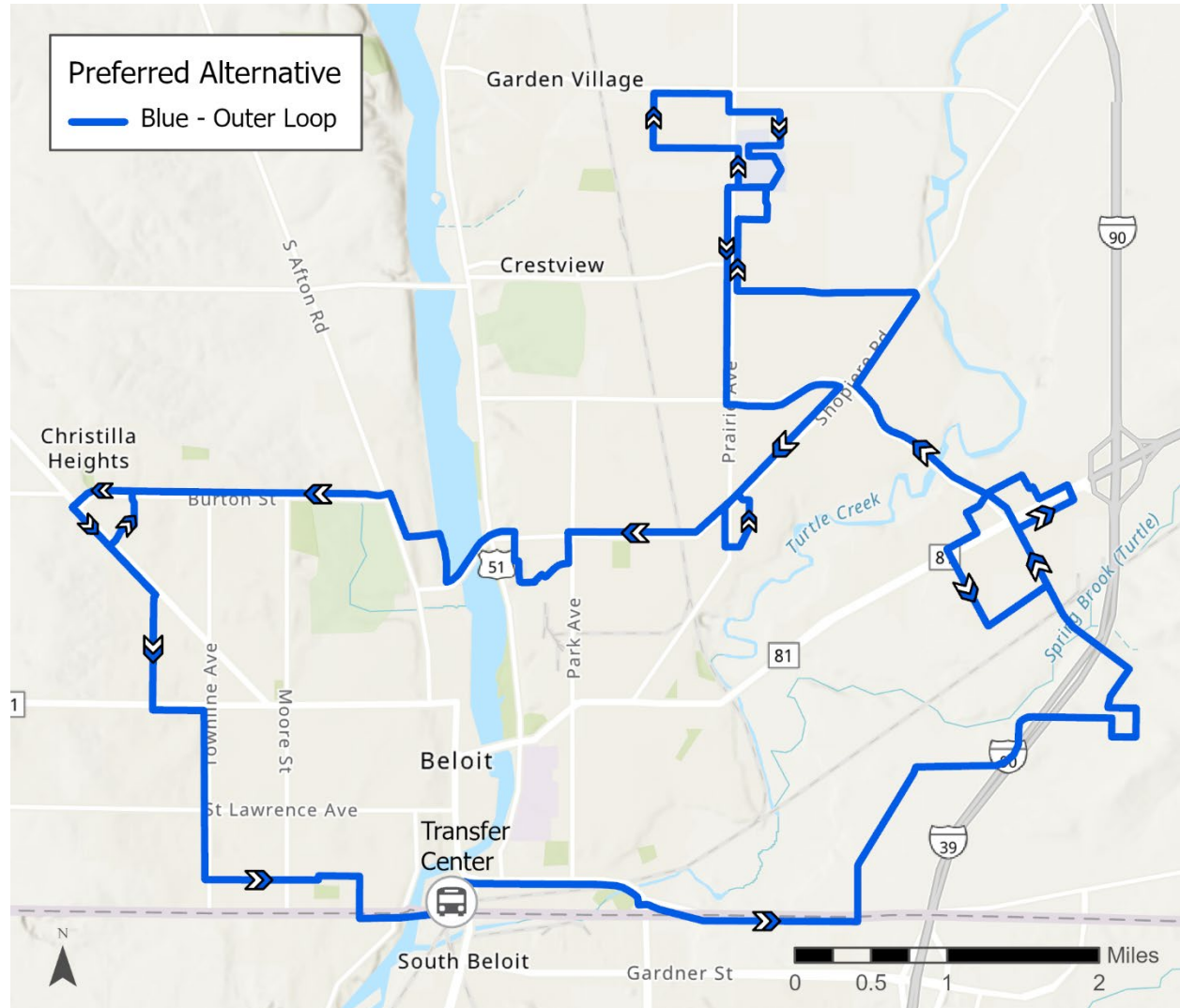
- **Red Route – West Side** (1 bus)
- **Green Route – East Side** (1 bus)
- **Blue Route – Outer Loop** (3 buses)
- **Beloit-Janesville Express** (Unchanged)
- **Gateway Extra** (Limited service only)

Proposed alignments and schedules for each route are described in the following section.

BLUE ROUTE – OUTER LOOP

The proposed Blue Route would connect the Beloit area’s major destinations, including downtown Beloit, the Gateway area, Beloit Memorial Hospital, the Eclipse Center, the Town of Beloit Business Park, and the Beloit’s west side neighborhoods. In order to offer frequent service across the service area, this route would use three buses to provide 30-minute headways. The proposed alignment is shown below in Figure 74.

Figure 60: Blue Route – Outer Loop (Preferred Alternative)



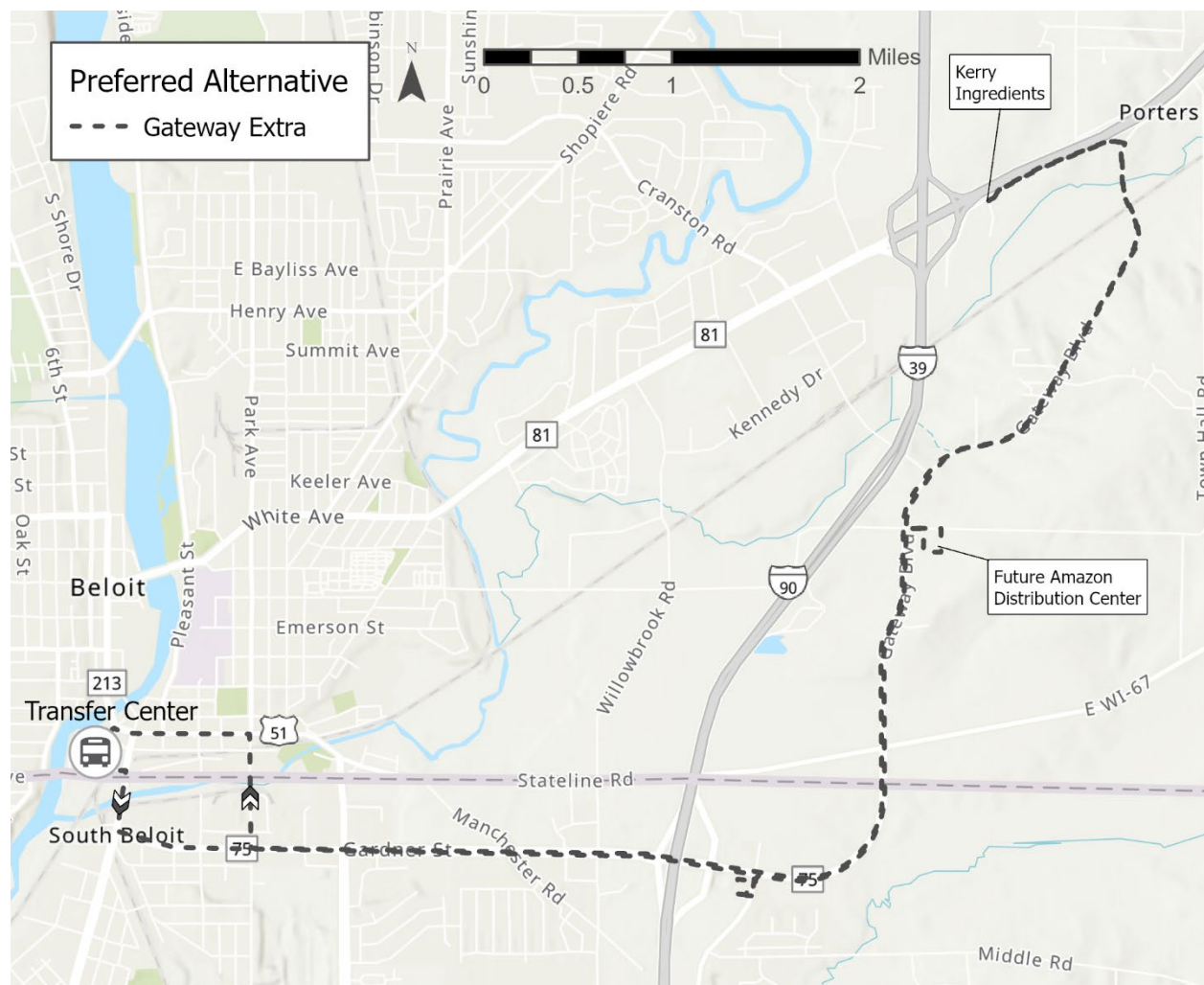
BELOIT-JANESVILLE EXPRESS

The Preferred Alternative would retain the existing configuration of the BJE, including the alignment, frequency, and shared operations with JTS.

GATEWAY EXTRA

To provide transit service to the growing Gateway Business Park and nearby residential and commercial developments, the Preferred Alternative includes a limited-service route that would operate four trips per weekday between the Transfer Center and Gateway area to serve shift times at major employers. In time, this route is expected to evolve to serve further growth in the Gateway area and may eventually transition into an all-day transit service. The conceptual alignment for the Gateway Extra is shown below in Figure 75.

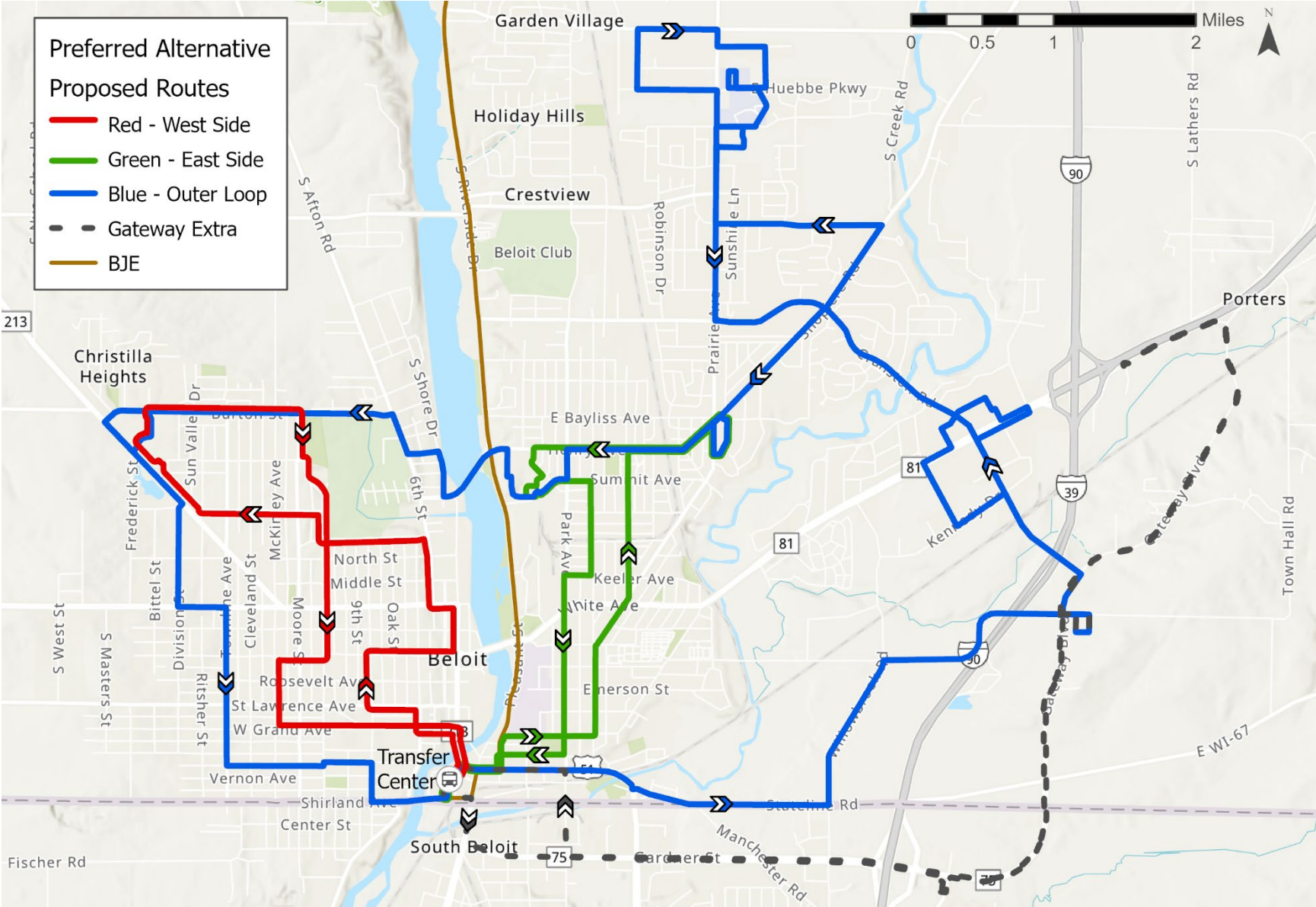
Figure 61: Gateway Extra (Preferred Alternative)



SUMMARY OF PROPOSED ROUTES

The proposed route alignments for the Preferred Alternative are shown together in Figure 76.

Figure 62: Proposed Future System (Preferred Alternative)



OPERATING COSTS

Table 32 summarizes the weekday operating characteristics of each route and service proposed in the Preferred Alternative. For the purpose of this analysis, the span of service on the Red, Green, and Blue Routes would increase compared to existing service, operating from 6:00 AM to 10:00 PM on weekdays; currently, these routes end at 6:40 PM on weekdays.

Table 32: Proposed Weekday Service (Preferred Alternative)

Route	Proposed Name	Roundtrip Cycle Time	Proposed Frequency	Proposed Span	Daily Revenue Hours	Daily Revenue Miles
Red Route	West Side	30 minutes	30 minutes	6:00 AM – 10:00 PM	16.0	275.2
Green Route	East Side	30 minutes	30 minutes	6:00 AM – 10:00 PM	16.0	246.4
Blue Route	Outer Loop	90 minutes	30 minutes	6:00 AM – 10:00 PM	48.0	806.4
BJE	Beloit-Janesville Express (Unchanged)	110 minutes	60 minutes	6:00 AM – 5:50 PM	11.83	362.4
Gateway Extra	Gateway Extra (Limited Service)	60 minutes	4 trips daily	Shift times only	4.0	62.0

Table 33 summarizes the Saturday operating characteristics of the proposed future routes. To minimize operating costs, the Blue Route would operate every 90 minutes using only one bus, while the Red Route and Green Route would operate their normal weekday schedules. The BJE and Gateway Extra would not operate. Similar to the Preferred Alternative weekday service, the span of service on the Red, Green, and Blue Routes on Saturday would increase compared to existing service, operating from 8:00 AM to 8:00 PM on weekdays; currently, these routes operate from 8:40 AM to 4:00 PM on Saturdays.

Table 33: Proposed Saturday Service (Preferred Alternative)

Route	Proposed Name	Roundtrip Cycle Time	Proposed Frequency	Proposed Span	Daily Revenue Hours	Daily Revenue Miles
Red Route	West Side	30 minutes	30 minutes	8:00 AM – 8:00 PM	12.0	206.4
Green Route	East Side	30 minutes	30 minutes	8:00 AM – 8:00 PM	12.0	184.8
Blue Route	Outer Loop	90 minutes	30 minutes	8:00 AM – 8:00 PM	12.0	201.6
BJE	Beloit-Janesville Express (Unchanged)	--	--	--	0.0	0.0
Gateway Extra	Gateway Extra (Limited Service)	--	--	--	0.0	0.0

* The BJE and Gateway Extra would not operate on Saturdays.

Table 34 summarizes the estimated annual operating costs of each route. Based on an estimated future cost per hour of \$100, the proposed routes would cost approximately \$2,630,865 per year to operate.⁷

Table 34: Annual Operating Costs – Preferred Alternative

Route	Proposed Name	Total Annual Revenue Miles	Total Annual Revenue Hours	Annual Operating Cost (Est.)*
Red Route	West Side	80,909	4,704	\$470,400
Green Route	East Side	72,442	4,704	\$470,400
Blue Route	Outer Loop	216,115	12,864	\$1,286,400
BJE	Beloit-Janesville Express (Unchanged)	92,412	3,017	\$301,665
Gateway Extra	Gateway Extra (Limited Service)	15,810	1,020	\$102,000
Total	All Routes	477,688	26,309	\$2,630,865

* Assumes a fully allocated cost per hour of \$100 (2017 NTD fully allocated rate was \$96.63).

Compared to existing service, the Preferred Alternative represents an increase of 22.06 revenue hours per weekday and 14.0 revenue hours per Saturday. In terms of annual cost, the Preferred Alternative would add approximately 6,353 annual revenue hours, or an estimated \$635,330 in total operating costs. Table 35 shows the estimated annual costs for existing service and the Preferred Alternative. Routes could be operated using the existing BTS transit fleet, assuming one spare vehicle could be used part-time for the Gateway Extra service.

Table 35: Summary of Operating Costs (Existing and Preferred Alternative)

	Revenue Hours per Weekday	Revenue Hours per Saturday	Total Annual Revenue Hours	Total Annual Revenue Miles	Annual Operating Cost (Est.)*
Existing Service	73.77	22.0	19,955	293,267	\$1,995,535
Preferred Alternative (Gross Cost)	95.83	36.0	26,309	477,688	\$2,630,865
Change (Net Cost)	22.06	14.0	6,353	170,309	\$635,330

* Assumes a fully allocated cost per hour of \$100 (2017 NTD fully allocated rate was \$96.63).

It should be noted that the majority of the increase in operating cost associated with the Preferred Alternative is due to the extended span of service compared to current routes. If desired, BTS could implement the proposed route structure using its current span of service of approximately 6:00 AM to 6:30 PM on weekdays and 8:30 AM to 4:00 PM on Saturdays for a minimal change in operating costs on

⁷ Assumes a fully allocated cost per hour of \$100 (2017 NTD fully allocated rate was \$96.63).

the main routes. The addition of \$102,000 for the Gateway Extra service would be the primary increase in net cost.

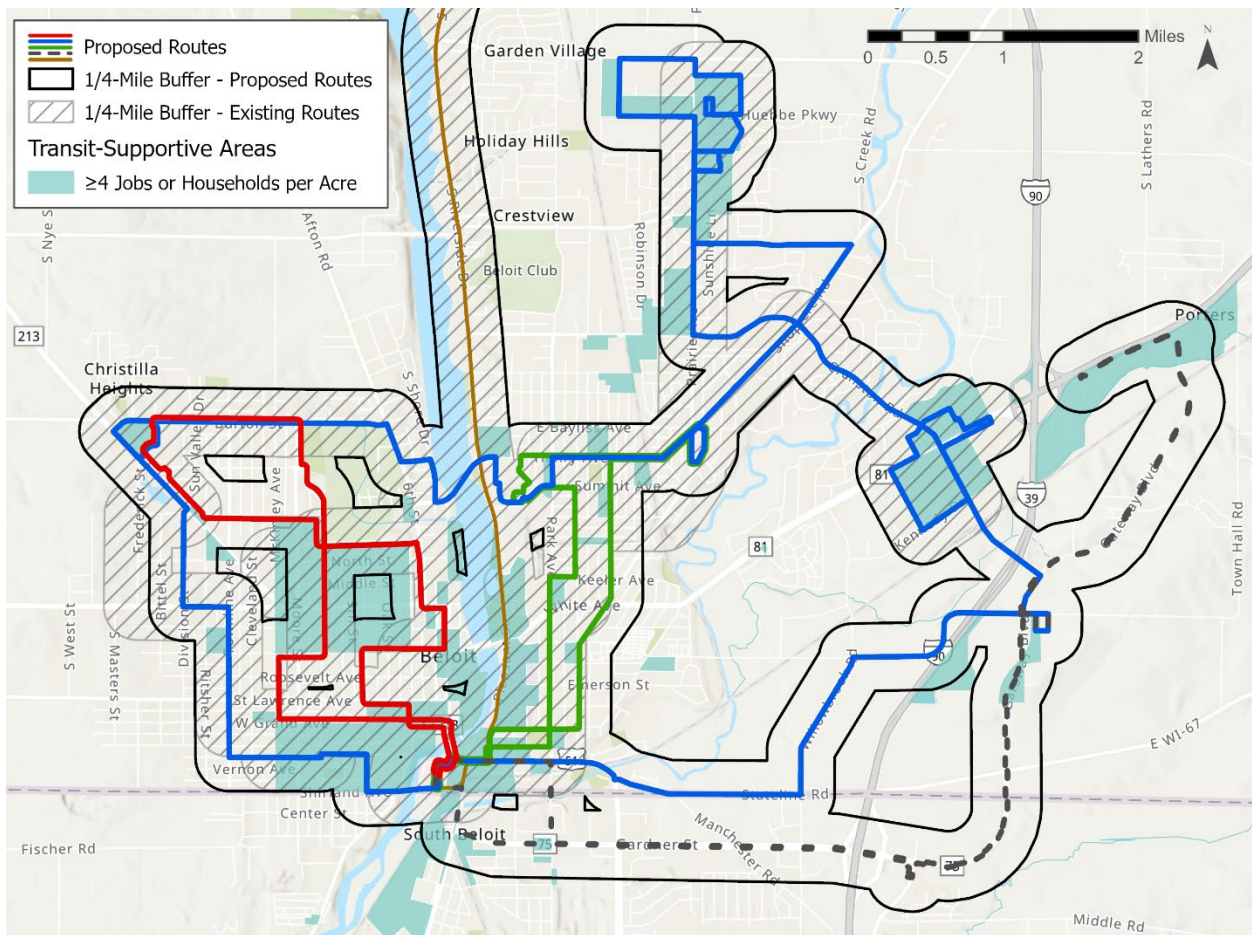
COVERAGE AND EQUITY ANALYSIS – PREFERRED ALTERNATIVE

The following maps document the changes in transit service coverage (defined as within ¼ mile of a transit route) that would result from the proposed changes in the Preferred Alternative. This evaluation was conducted to assess the impact of the Preferred Alternative on service coverage, including coverage in areas where low-income and minority populations are most prevalent.

SERVICE TO TRANSIT-SUPPORTIVE AREAS

Figure 62 shows the change in transit coverage of TSAs, which are defined as areas with at least 4 jobs or households per acre. Most TSAs in the City of Beloit are covered by both the existing system and the routes proposed in the Preferred Alternative. However, some areas would receive additional transit coverage, including the Gateway area and other emerging employment and residential centers east of I-39/I-90; as well as the Town of Beloit Business Park near Prairie Avenue and Huebbe Parkway.

Figure 63: Change in Coverage - Transit-Supportive Areas (Preferred Alternative)



Currently, approximately 70 percent of all TSA acres in the SLATS planning area are within ¼ mile of existing fixed-route transit (Table 36). The Preferred Alternative would result in 86 percent of all TSA acres in the SLATS planning area covered by fixed route service – an increase of over 500 acres.

Table 36: Change in Coverage – SLATS Transit-Supportive Areas

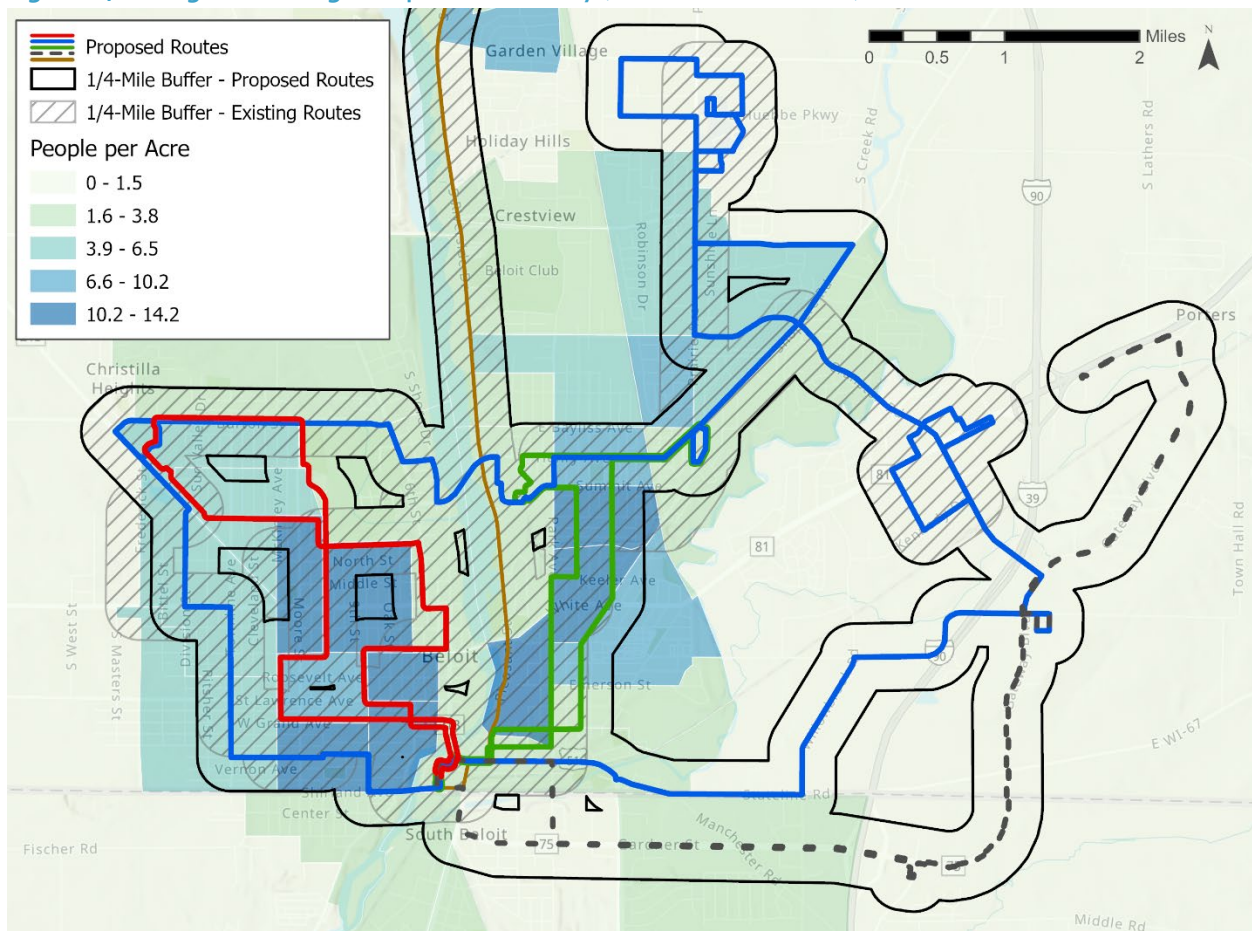
	Within SLATS Planning Area	Percent Covered by Existing Routes	Percent Covered by Preferred Alternative	Change in Number of Acres	Percent Change in Number of Acres
Transit-Supportive Areas (Acres)	3,569	70%	86%	533	22%

Source: U.S. Census Bureau, 2015 LEHD Origin-Destination Employment Statistics; 2013-2017 American Community Survey Five-Year Estimates.

SERVICE TO DENSELY POPULATED AREAS

Figure 63 shows the change in transit coverage in combination with data on population density. Most of the high-density areas are located near downtown Beloit, Beloit College, and the city’s west side. Most of these areas would receive improved transit service coverage and frequency, with frequency improving from every 40 minutes to every 30 minutes on the Red, Green, and Blue Routes in the Preferred Alternative.

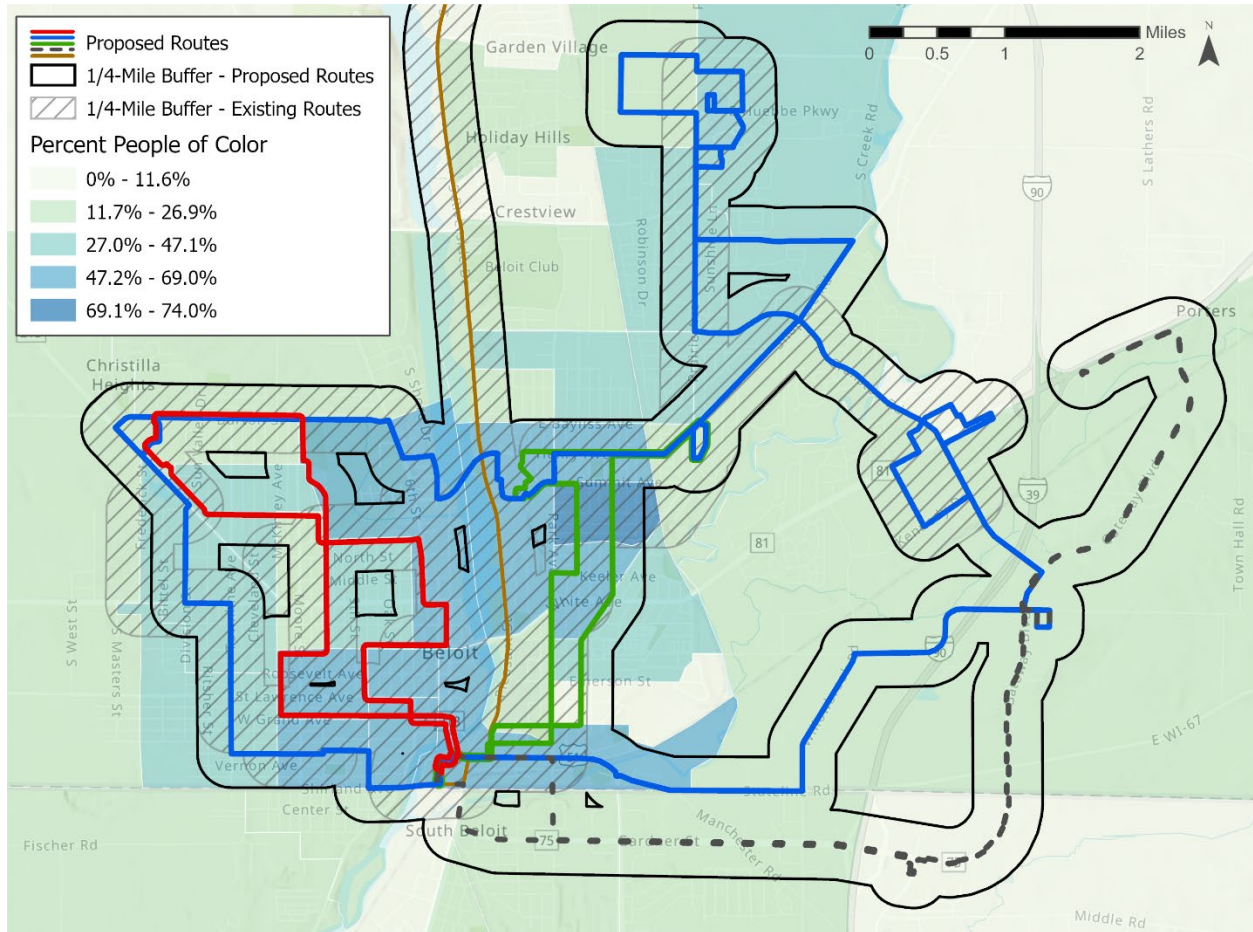
Figure 64: Change in Coverage - Population Density (Preferred Alternative)



SERVICE FOR COMMUNITIES OF COLOR

Figure 64 shows the change in service coverage in relation to communities of color. Areas with the highest proportion of people of color are primarily located in the central neighborhoods of Beloit. Many of these areas will receive improved transit frequency (from every 40 minutes to every 30 minutes on the Red, Green, and Blue Routes) and slightly better service coverage in the Preferred Alternative, most notably the Broad Street corridor on Beloit's southeast side.

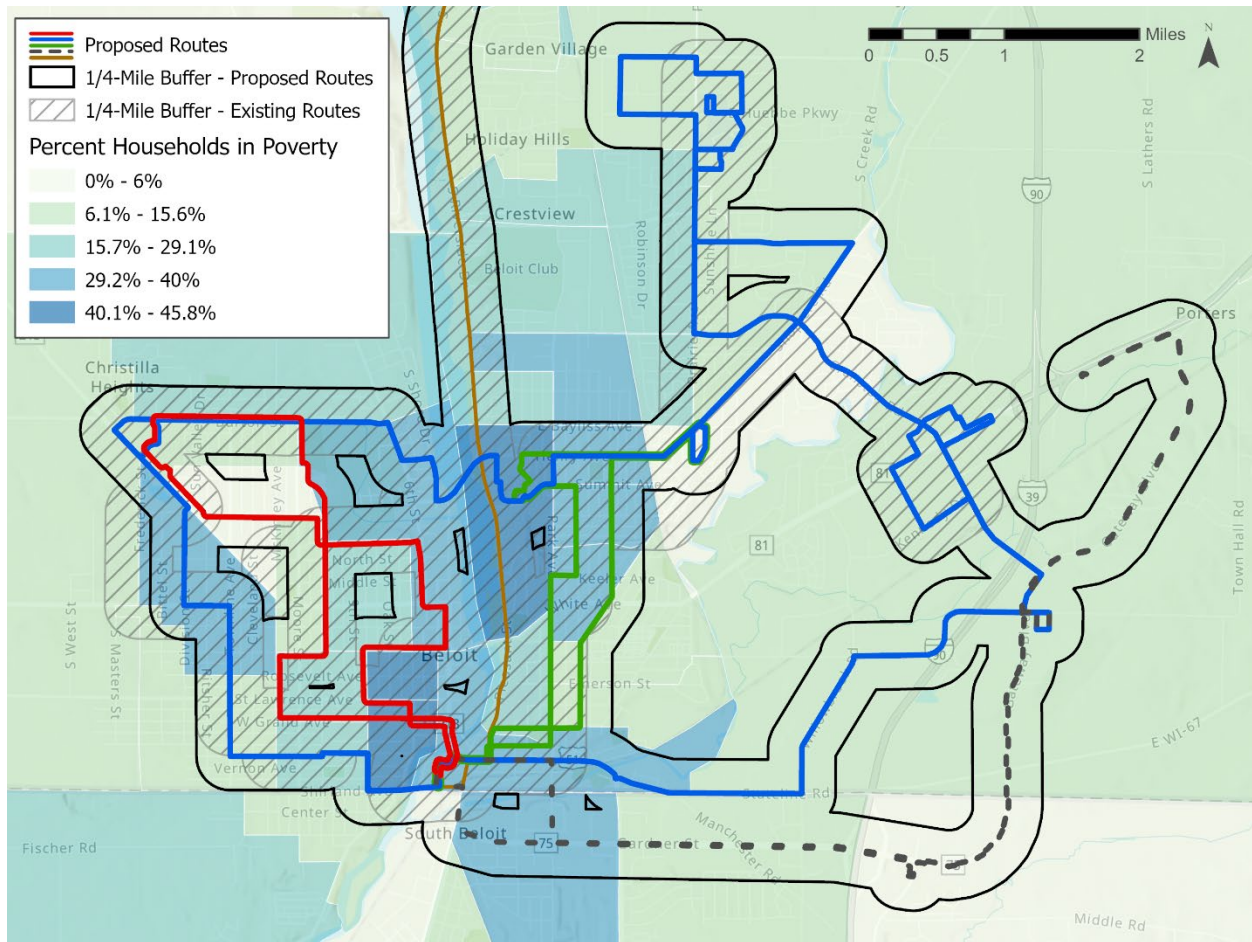
Figure 65: Change in Coverage - People of Color (Preferred Alternative)



SERVICE FOR HOUSEHOLDS EXPERIENCING POVERTY

Figure 65 shows the change in service coverage in relation to populations experiencing poverty. Areas with the highest proportion of households with incomes below the federal poverty level are primarily located in the center of Beloit, as well as on the city's west side. Many of these areas would receive improved transit frequency in the Preferred Alternative, including parts of Beloit's west side; the Broad Street corridor on Beloit's southeast side; and along Gardner Street in South Beloit.

Figure 66: Change in Coverage – Households Experiencing Poverty (Preferred Alternative)



ACCESS TO EMPLOYMENT OPPORTUNITIES

Under the Preferred Alternative, the number of jobs accessible by fixed route service would increase by 3,100 jobs (24 percent) to 66 percent of all jobs in the SLATS planning area (Table 37). Much of this increase is attributable to the introduction of the Gateway Extra and increased access to the Staples fulfillment center, Kettle Foods, and Kerry Ingredients & Flavours. Changes to the Blue Route’s coverage also increase the number of jobs served by transit.

Table 37: Change in Coverage – SLATS Planning Area Employment

Industry	Jobs Within SLATS Planning Area	Percent Covered by Existing Routes	Percent Covered by Preferred Alternative	Change in Number of Jobs	Percent Change in Number of Jobs
Total	24,706	53%	66%	3,104	24%

Source: U.S. Census Bureau, 2015 LEHD Origin-Destination Employment Statistics

SUMMARY OF CHANGES

Overall, the Preferred Alternative would result in improved frequency and better service connectivity in the most areas currently served by BTS fixed routes. Additionally, service would be expanded to new parts of the region, including:

- Parts of Beloit's north side, along Shopiere and Murphy Woods Roads north of Cranston Road;
- The Town of Beloit Business Park along Huebbe Parkway west of Prairie Avenue;
- The Gateway area and emerging employment and residential centers east of I-39/I-90;
- Beloit's southeast side along the Broad Street corridor and Stateline Road;
- and the Gardner Street corridor in South Beloit.

Service frequency and connectivity would be improved for nearly all of Beloit's TSAs and the city's central neighborhoods, which have higher concentrations of low-income and minority populations.

RIDERSHIP IMPACTS AND TARGETS

There are two key factors that will affect transit ridership related to implementing the Preferred Alternative: improved service frequency and improved access to destinations.

IMPACTS OF INCREASED FREQUENCY

Investments in transit frequency typically yield returns of increased ridership. Research suggests that with every 1 percent decrease in headway (i.e., time between scheduled trips), ridership can increase by factors of 0.37 to 0.46 depending on the operating environment, time of day, and local context.⁸ The Preferred Alternative decreases weekday headways from 40 minutes to 30 minutes (25 percent decrease) on the Red, Blue, and Green Routes; Saturday headways in the Preferred Alternative would decrease 50 percent, from once every 120 minutes to once every 60 minutes (50 percent decrease).⁹ Thus, assuming that the Preferred Alternative fixed routes are replacements of the existing service, the changes to frequency should result in a ridership increase of approximately 9 to 12 percent on weekdays, and 19 to 23 percent on Saturdays.

Applying these factors to the Preferred Alternative core fixed route services (i.e., Red, Blue, and Green Routes) would result in an annual projected increase of 10,600 to 14,100 unlinked passenger trips. This would potentially yield an additional \$11,400 to \$15,100 in annual passenger revenue.¹⁰

Additionally, BJE passengers will benefit from the frequency investments in the Red, Blue, and Green Routes. BJE passengers will have more frequent connectivity to local, frequent service, particularly in the core of Beloit and South Beloit, where travel times are the most expedient. During initial

⁸ Transportation Research Board. Transit Cooperative Research Program (TCRP) Report 95: Traveler Response to Transportation System Changes Handbook, Third Edition: Chapter 9, Transit Scheduling and Frequency. 2004. Page 9-26. <http://www.trb.org/Publications/Blurbs/154748.aspx>.

⁹ For example: $0.25 * 0.37 = 0.093$ or 9 percent, and $0.25 * 0.46 = 0.115$ or 12 percent.

¹⁰ Based on an average fare per passenger trip of \$1.07. Applying the five-year annual average increase of 3.6% observed for BTS fixed-route service between 2013 and 2017 (Table 22), a reasonable expectation for average fare per passenger trip in the year 2021 would be approximately \$1.07.

stakeholder engagement on the project, many BJE passengers used the service to commute to Janesville and other locations in Rock County from Beloit. It stands to reason that better frequency of service will extend the reach of the BJE service area and there will be a resulting increase in ridership. This ridership change is on the “low end” of the range for returns on investment in frequency since the improvements are being made on the connecting routes. The improved connection between the BJE and other BTS service may increase annual BTS ridership on the BJE by approximately 3,000 unlinked passenger trips (10 percent). This ridership figure is derived from the most recent available City of Beloit NTD report.

IMPACTS OF IMPROVED COVERAGE

The Gateway Extra is a limited service that would operate approximately 4 round trips per day. In experience reviewing peer systems in other regions, commuter express service typically operates at a minimum performance threshold of 10-20 passengers per workplace-bound revenue trip. Therefore, estimated annual ridership for this service is 10,200 to 20,400 unlinked passenger trips. Additional development east of I-39/I-90 and in the municipalities’ business parks may be a factor influencing continued ridership growth. Employer sponsorship of this service may increase revenue the BTS system, while also growing ridership due to increased awareness and promotion.

SMTD GROWTH

SMTD service is continuing to grow at a steady rate (Table 30). Ultimately its capacity will be constrained by its nature as a demand-response provider, though this is not an immediate concern for this study’s time frame. Future considerations identified later in this document and in the 2015 SMTD Transit Development Plan offer options for enhancing transit service by deploying fixed routes or more scheduled stops within the SMTD service area. As SMTD management continues to monitor its service and performance (i.e., in-vehicle travel time, passengers per hour, etc.) the agency can explore the timing and viability of these improvements.

MARKET PENETRATION TARGETS

For newly deployed transit service in urbanized areas, a reasonable ridership target is approximately 5 passenger trips per capita with continued growth. For BTS this is an annual ridership goal of approximately 214,000 unlinked passenger trips.

Effective marketing and promotion, customer service, and daily supervision of service will be critical to achieving the ridership targets outlined above. For SMTD, which serves a more rural and expansive area with demand-response service, a more reasonable ridership target is 1 passenger trip per capita or about 43,000 annual unlinked passenger trips.

IMPLEMENTATION PLAN

IMPLEMENTATION OF THE PREFERRED ALTERNATIVE

The revised transit system outlined in the Preferred Alternative will be implemented by BTS when resources and staff time permit. As a best practice, BTS should aim to conduct public outreach to inform transit riders and other stakeholder groups of the proposed changes and allow for community feedback prior to implementation. With effective public information, marketing, and advance planning, BTS can minimize the disruption associated with the change in route structure and help customers transition to the new and improved services that are available.

IMMEDIATE ACTION ITEMS

The following action items should be completed prior to official approval of the Preferred Alternative:

- Conduct route timings to identify proposed timepoints for each route, then develop detailed route schedules showing all trips throughout the day.
- Provide a public notice of the proposed service changes in the *Beloit Daily News*, as well as on the BTS website, at City Hall and the Beloit Public Library, and at downtown bus shelters.
 - Notice should be posted at least 30 days in advance of any public hearing and should include a description of the proposed changes, as well as information regarding the public hearing and any other opportunities to comment, as noted in the BTS Fare Policy and Public Participation Procedures.¹¹
- Additional outreach should be conducted to notify transit stakeholders of the proposed changes, the public hearing, and any other means of sharing feedback with BTS staff regarding the Preferred Alternative.
 - Stakeholders could include neighborhood groups, area colleges and schools, social service organizations, advocacy groups, businesses, senior centers, and other organizations whose constituents, employees, or customers may be impacted by the changes.
- Existing bus riders should be notified of the proposed changes and public hearing via flyers and onboard advertising, and ideally should be surveyed to provide feedback prior to implementation.
- Feedback from existing transit riders and other stakeholders should be documented, summarized, and presented to the Beloit City Council (or other public body charged with approval [e.g., SLATS Policy Board]) at the public hearing, along with the staff recommendation.

¹¹ BTS Fare Policy and Public Participation Procedures. October 23, 2014. https://www.beloittransit.com/wp-content/uploads/2016/11/BTS_Fare_Policy_and_Public_Participation_Procedures_SIGNED_and_SCANNED-1.pdf.

After official approval, BTS staff should complete the following additional tasks to ensure a smooth implementation of the Preferred Alternative:

- Once approved, BTS will need to conduct additional public outreach to notify existing riders and community members of the planned implementation date. The agency should also produce and distribute an updated rider guide that includes the redesigned transit map and schedule.
- Prior to implementation, BTS should identify the locations for all new bus stops along the revised transit routes and install new bus stop signs where needed. These signs should be covered until the first day of service, at which time any extraneous signs can be removed.
- Prior to implementation, BTS should update all electronic data on its transit services, including the agency's website and online maps, as well as data made available in the General Transit Feed Specification (GTFS) format for use by Google Maps and other third-party applications.
- On the date of implementation and for a few days thereafter, BTS should plan to have additional staff present at the downtown Transfer Center and other important destinations to help instruct passengers in using the revised transit schedules and ensure drivers are operating the new routes consistently and correctly.
- Following implementation, BTS staff should continue to monitor the performance of the revised routes, as well as customer and driver feedback. As necessary, BTS should implement minor changes to adjust route schedules or alignments based on field observations and conduct additional passenger outreach as needed.

In order to complete the tasks listed above, it is advised that BTS set up an Implementation Committee to organize staff from BTS, SLATS, and other City departments that will be involved in documenting the changes, producing public information materials, administering the public hearing, conducting stakeholder outreach, installing new signage, and evaluating results. This committee should meet regularly and share updates as individual tasks are completed, including to share feedback after implementation.

FIVE-YEAR OPERATING BUDGET

As noted in the discussion of operating costs on page 93, the Preferred Alternative includes an extended span of service on weekdays and Saturdays that would increase overall operating costs. If desired, BTS could choose to implement the Red, Green, and Blue Routes using the existing span of service of approximately 6:00 AM to 6:30 PM on weekdays and 8:30 AM to 4:00 PM on Saturdays. This would be a cost-neutral option, allowing BTS to achieve the benefits of the revised route network with minimal increase in operating costs. If desired, BTS could implement the Gateway Extra in concert with the cost-neutral option by running 4 trips per day in a spare vehicle, for an approximate operating cost of \$102,000 annually. One-year and five-year budgets for each of these options are shown in Table 38 and Table 39.

Table 38: Annual Operating Budget*
(Existing, Preferred Alternative, Cost-Neutral Option, and Gateway Extra)

	Revenue Hours per Weekday	Revenue Hours per Saturday	Total Annual Revenue Hours	Total Annual Revenue Miles	Annual Operating Cost (Est.)
Existing Service	73.77	22.0	19,955	293,267	\$1,995,535
Preferred Alternative	95.83	36.0	26,309	477,688	\$2,630,865
Cost-Neutral Option	74.33	22.50	20,124	421,348	\$2,012,415
Gateway Extra	4.00	0.0	1,020	15,810	\$102,000

* Assumes a fully allocated cost per hour of \$100 (2017 NTD fully allocated rate was \$96.63).

Table 39: Five-Year Operating Budget*
(Existing, Preferred Alternative, Cost-Neutral Option, and Gateway Extra)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Existing Service	\$1,995,535	\$2,055,401	\$2,117,063	\$2,180,575	\$2,245,992	\$10,594,566
Preferred Alternative	\$2,630,865	\$2,709,791	\$2,791,085	\$2,874,817	\$2,961,062	\$13,967,620
Cost-Neutral Option	\$2,012,415	\$2,072,787	\$2,134,971	\$2,199,020	\$2,264,991	\$10,684,185
Gateway Extra	\$102,000	\$105,060	\$108,212	\$111,458	\$114,802	\$541,532

* Assumes a fully allocated cost per hour of \$100.00 in Year 1, increasing by 3% per year thereafter.

COORDINATION AND COST-SHARING

As BTS expands fixed-route transit service to new destinations, it is recommended that the agency continue to coordinate with partners in surrounding communities, including JTS, SMTD, and RMTD. One way to establish ongoing communication with adjacent transit agencies and communities served is through the creation of a regional transit coordinating committee. If desired, this could be organized or led by SLATS, which represents the broader Stateline area and is responsible for transit and transportation funding for communities in both Wisconsin and Illinois.

In addition to coordination, the extension of service to new communities could offer an opportunity for equitable funding of transit. The Preferred Alternative includes service to communities that were previously unserved by fixed routes, including the Town of Beloit and the City of South Beloit. In the absence of state enabling legislation for the creation of regional transit authorities (RTAs), many peer transit agencies in Wisconsin utilize cost-sharing agreements to fund service that crosses municipal boundaries. Allocating operating costs based on the proportion of total revenue hours or revenue miles operated in each municipality is an equitable way to fund multijurisdictional transit service; this method is used by Valley Transit in the Appleton/Fox Cities region, as well as Green Bay Metro, among several others. Some agencies also require participating municipalities to contribute a proportion of the local

share capital funding required to purchase vehicles for expansion; this is also a method that could be useful as BTS's transit needs continue to expand beyond city of Beloit boundaries.

As described in the Future Considerations section on the following pages, numerous other opportunities exist for transit coordination and expansion, including the implementation of new transit modes, workforce-specific transit programs, and regional governance structures. Many of these strategies can build on the recommendations and coordination efforts undertaken as part of this Transit Plan while addressing topics beyond traditional fixed-route transportation. Coordination and cost allocation will be important components of any service expansion, and laying the groundwork with fixed-route service could assist in future efforts.

FUTURE CONSIDERATIONS

FURTHER TRANSIT EXPANSION

Transit expansion beyond the Preferred Alternative will depend on the SLATS region's funding priorities, available resources, and community feedback. BTS and SMTD management will ultimately determine the timeline and sequence of service improvements, which could include the implementation of additional fixed-route service, demand-response or workforce-oriented transportation, school tripper service, and/or the creation of a regional transit system. Brief recommendations for each of these concepts are outlined below.

REGIONAL FIXED-ROUTE SERVICE

Alternatives were identified for providing fixed-route service south of the Wisconsin-Illinois border, with two conceptual alignment options identified as featured in SMTD's 2015 Transit Development Plan. These recommendations could be implemented at any time, either by SMTD directly or by BTS with an interagency contract or cost-sharing agreement. It is recommended that both agencies continue to coordinate to ensure effective transit connections throughout the SLATS planning area.

In addition, BTS and SMTD should continue to coordinate with transit and transportation providers in neighboring cities, including Janesville, Rockford, and Madison. To the extent feasible, each agency should work to support regional efforts to improve commuter and intercity bus service. Opportunities to improve regional connections include connecting with the Van Galder stop in South Beloit (part of the Preferred Alternative) as well as connecting with future passenger rail service in Rockford (announced and funded as part of the Rebuild Illinois capital bill in 2019).

DEMAND-RESPONSE SERVICE

As in many other regions, there is potential in the SLATS planning area for demand-response transit service to play a role in meeting regional transportation needs. Depending on local priorities and resources, some transit agencies implement demand-response service to serve specific low-ridership areas, rural travel needs, or the general public. Example demand-response services are described in Table 39.

Table 40: Example Demand-Response Services

Transit Agency	Service Name	Provider(s)	Description
Valley Transit (Appleton, WI)	The Connector	Paratransit Contractor	The Connector is a demand-response service provided by Valley Transit to extend the span and reach of the fixed-route network. Origin-to-destination service is provided for trips fully within the Connector service area and for hours when fixed routes are not operating. When fixed routes are available, Connector trips are offered to or from the nearest of six transfer points on the fixed route system, with fixed routes used for the remainder of the trip. The Connector service is available Monday through Saturday from 4:00 AM to 12:00 AM
Go Transit (Oshkosh, WI)	Access to Jobs (ATJ)	Local Taxi Providers	Access to Jobs (ATJ) is a demand-response taxi program provided by GO Transit for low-income residents and workers in Oshkosh. ATJ allows eligible low-income individuals to access their employment site when fixed-route buses are not in service or do not provide reasonable access (i.e., walking distance from bus stop is not reasonable). Individuals must both live and work in the City of Oshkosh and must work at least 30 hours per week. Fares of \$4.00 apply to all eligible trips, regardless of distance.
SouthWest Transit (Eden Prairie, MN)	SW Prime	Operations: In-House Software: Spare Labs	Started as a pilot in 2015, SW Prime provides shared-ride on-demand service within the communities of Eden Prairie, Chaska, Chanhassen, Carver, and Victoria, located in the Twin Cities Metropolitan Area. SouthWest Transit uses SW Prime to provide service for local community-based trips, as well as to connect with its extensive network of express buses serving downtown Minneapolis, the University of Minnesota, and other regional destinations. Local trips are offered at a premium fare of \$5.25 (\$5.00 using cash), with discounts available for seniors, children, group rides, and participants in the Twin Cities region's Transit Assistance Program (TAP). For customers transferring to or from a SouthWest Transit express bus, SW Prime fares are free.
Denver RTD (Denver, CO)	FlexRide	Operations: Paratransit Contractor Software: DemandTrans Solutions	Originally started as RTD's Call-n-Ride service in the mid-2000s, FlexRide is the Denver region's general-public demand-response service. RTD operates 24 FlexRide zones across the Denver region, with each zone served by 1-4 vehicles depending on demand. Customers can reserve a trip in advance through a website or mobile device, or book a trip on demand (10 minutes in advance). Fares are set at \$3.00 (equal to the regional local transit fare), with discounts available for seniors, passengers with disabilities, and youth. Most FlexRide zones serve both first- and last-mile trips to RTD rail or bus hubs, as well as local trips within the service area.
Sacramento Regional Transit District (Sacramento, CA)	SmaRT Ride	Operations: In-House Software: Via Transportation, Inc.	Introduced in 2018, SacRT's SmaRT Ride service has expanded from a small pilot project to become one of the nation's largest on-demand microtransit services. Starting in January 2020, SacRT contracted with Via to provide the on-demand routing software and customer-facing mobile app, expanding to 9 zones with 42 transit vehicles. The service includes 3 "curb-to-curb" zones and 6 "corner-to-corner" zones; in the latter case, customers may be asked to walk to an intersection to facilitate more efficient trips. Fares are \$2.50, or \$1.25 for reduced-fare riders.

WORKFORCE TRANSPORTATION

As part of the Preferred Alternative, BTS will implement the Gateway Extra service to connect Beloit residents with the growing employment market near I-39/I-90, portions of which will also connect with the new Outer Loop route. Aside from regular fixed-route service, some transit agencies have implemented alternative transportation options for workforce-specific needs, including the following:

- **Demand-Response Services:** Some agencies (including GO Transit in Oshkosh) have implemented demand-response programs specifically for work trips. Similar programs have been implemented in other regions, including by partnering with paratransit providers, taxi services, or transportation network companies (TNCs) such as Uber or Lyft. Depending on the operating context, these programs can provide targeted trips at a lower cost than serving individual work trips using fixed routes.
- **Employer-Sponsored Routes:** In order to serve growth in industrial, warehouse, and office development on the fringes of metropolitan areas, some transit agencies have implemented employer-sponsored transit routes that enable workers to access these job sites without a car. There are numerous examples of this across Wisconsin, as well as in the Chicago region, where Pace Suburban Bus operates shuttle routes serving Amazon distribution centers in Monee and Joliet, multiple UPS and FedEx locations, and major office developments in Lake County. In each case, the employers served by shuttle routes pay for a portion of the total operating costs through an annual or multi-year contract, with some employers paying 100 percent. Though funded in whole or part by private participants, employer-sponsored routes are open to the general public. During project outreach, representatives from Kerry Ingredients & Flavours expressed an interest in supporting a local or demand-response service that connects their office location with nearby employee residences.
- **Vanpools:** Many transit agencies offer vanpool services to facilitate commutes that are not easily served by fixed-route buses. In a typical vanpool program, the transit provider facilitates a subsidized lease agreement, in which costs are shared between travelers who commute together to nearby work destinations (in many cases, the same employer). In the SLATS region, vanpools could be an efficient option for small groups of employees who commute longer distances, such as from Beloit to Madison or Rockford.
- **Marketing Partnerships:** Partnership strategies could also include exchanges in advertising, targeted marketing programs, special fares, and in-person “Transit 101” presentations. Additionally, employers can work with agencies outside of BTS or SMTD (workforce development organizations, mobility managers, etc.) to leverage vanpool or volunteer driver programs to link people in these niche markets.

Overall, it is recommended that the region’s transit agencies assess service requests on a case-by-case basis and consider expanding fixed-route or demand-response service or establishing vanpools if needed.

Transit systems have resources in technology, fleet, and training that can be offered as purchased transportation or as a resource for commuter services for employers willing to start their own transit

programs. Employers in the Stateline Region are using private transportation resources to connect workers to jobs, and public transit can be added as a component of that overall portfolio.

SCHOOL SERVICE

Prior to the introduction of yellow school bus service by the Beloit School District, BTS operated a system of specialized school tripper routes that were designed to meet the needs of students, faculty, and staff. School tripper service is an important source of ridership for many transit agencies and can be an efficient way to utilize spare buses.

In the future, BTS should continue to monitor the transportation plans of the Beloit School District and prepare to introduce additional school trippers if needed. Particular attention should be paid to Beloit High School and the district's four intermediate schools: McNeel, Aldrich, Cunningham, and Fran Fruzen.

CREATING A REGIONAL TRANSIT SYSTEM

In the long term, BTS and SMTD could work to create a single, bi-state entity to fund and manage an integrated transportation system. This arrangement is common among metropolitan areas that straddle state boundaries. A number of service models are available, including joint operations between cities (Fargo, ND-Moorhead, MN), bi-state agencies created by state enabling legislation (St. Louis, MO-IL), or contractual agreements for service provided (La Crosse, WI-La Crescent, MN).

As outlined in this study, coordinating existing transit services across geographic boundaries can be a useful step toward regional service expansion. Going forward, SLATS, BTS, and SMTD should continue to coordinate service offerings, work to offer efficient connections, and advance shared plans that benefit residents throughout the Stateline region.