Beloit Transit Development Plan

Draft Existing Conditions Report

December 2014

NELSON
NYGAARD

Table of Contents

Table of Figures

1 INTRODUCTION

Purpose

The Existing Conditions Report is the first element of the Transit Development Plan (TDP). The purpose of this report is to summarize the background conditions in which Beloit Transit System (BTS) operates and provide a comprehensive evaluation of existing service characteristics and system performance. This report is intended to serve as the foundation for the development of initial service alternatives.

Report Organization

This Existing Conditions Report assesses demographic and community trends, transit system characteristics and performance, as well as feedback from key stakeholders, existing riders and the greater community. It also provides a summary of previous planning and policy documents pertinent to transit in Beloit. The key findings from this report will form the foundation for the service planning phase of the TDP, which will be the next phase of the project.

The Existing Conditions Report consists of six additional chapters, which are summarized below.

Chapter 2: Demographic and Economic Analysis

To better understand how the geographic areas in Beloit differ in terms of demographic and economic characteristics, a review was conducted of population and employment densities, youth and senior population density, low income density, density of households without access to a vehicle, and populations in poverty. While population and employment density are the two greatest indicators of where transit demand will be the highest, the other demographic groups tend to use transit more frequently than the general public.

Chapter 3: Document and Policy Review

To help better understand the planning context in Beloit, a review of several pertinent planning and policy documents was conducted.

Chapter 4: Community Engagement

This chapter provides an overview of several community engagement activities that have been undertaken, including a rider survey, stakeholder interviews, and operator interviews. Further engagement activities are planned for the remainder of the project.

Chapter 5: Fixed-Route System Overview

This chapter provides an overview of the BTS fixed-routes, including recent operational data (ridership, revenue hours, operating costs) and performance metrics.

Chapter 6: Route Summaries

Based on data collected for the TDP, a performance summary is provided for each Beloit Transit route. This includes a description of the routing and service characteristics, analysis of ridership patterns, and an evaluation of on-time performance.

Chapter 7: School Tripper Analysis

A separate chapter provides an overview of school tripper routes operated by BTS and their performance.

2 DEMOGRAPHIC AND ECONOMIC ANALYSIS

This section focuses on demographic and economic characteristics that affect transit usage in Beloit. The evaluation includes:

- Population and employment densities
- Senior population (age 65 and over)
- Youth population (ages 10 to 17)
- Low income population
- Population in poverty
- Households without access to a vehicle

Population and Employment Density

Population Density

The distribution and density of population is among the most important factors influencing the viability of transit service because nearly all transit trips require walking to/from the bus on at least one end of the trip. Higher density communities have more people within walking distance of common corridors that might support transit. Together with employment density, population density will determine the success of transit more than any other factor.

The ample population in densely developed areas produces demand for frequent service that increases the attractiveness of transit for riders. However, in less densely developed areas, the overall demand is lower and, consequently, service levels tend to be lower.

Data from the 2010 U.S. Census has been mapped at the block level to illustrate the distribution of population throughout the Beloit area (see Figure 1).

- The most significant population clusters in the BTS service area are on the Beloit College Campus and to the west across the Rock River, with many of the blocks having 16+ people per acre. These areas are well served by several BTS routes.
- There is also significant population density to the north of downtown Beloit and south of Cranston Rd, particularly along Wisconsin Ave. This population cluster is primarily served by Route 3.
- The edge of Beloit, especially to the east, north, and west, has low population densities. Where there are moderate population densities on the peripheries, BTS service is currently provided by at least one route respectively.

Employment Density

Employment is especially important in travel markets because traveling to and from work often accounts for the singular most frequent type of trip. Therefore, understanding the distribution and density of employment is critical to transit service design. Transit that serves areas of high employment density provides key connections to job opportunities.

Data from the 2010 U.S. Census LEHD Origin-Destination Employment Statistics was mapped to display employment density at the block level as shown in Figure 2. Several findings are apparent:

- The most significant employment density is found near Downtown Beloit, which is well served by BTS.
- Outside of downtown Beloit, much of the employment density is on the edge of town. Major employers include the Beloit Memorial Hospital to the north, Woodman's Food Market to the west, and newer commercial developments along Milwaukee Rd to the east, including the Walmart Supercenter.
- In general, the moderate to high employment clusters are served by BTS routes either directly, or within a short walking distance. There are some significant employers on the east side of Beloit, including Staples Distribution Center and Kettle Foods manufacturing facility, which are not served. These do not appear as high employment density areas on the map because the areas surrounding these facilities have no employment, which reduces the overall density.

As a supplement to the employment density data, major employers of greater Beloit are included in Figure 3. Beloit Health system is the largest employer, followed by Beloit Public School and Taylor Company.

Figure 1 Population Density (2010)

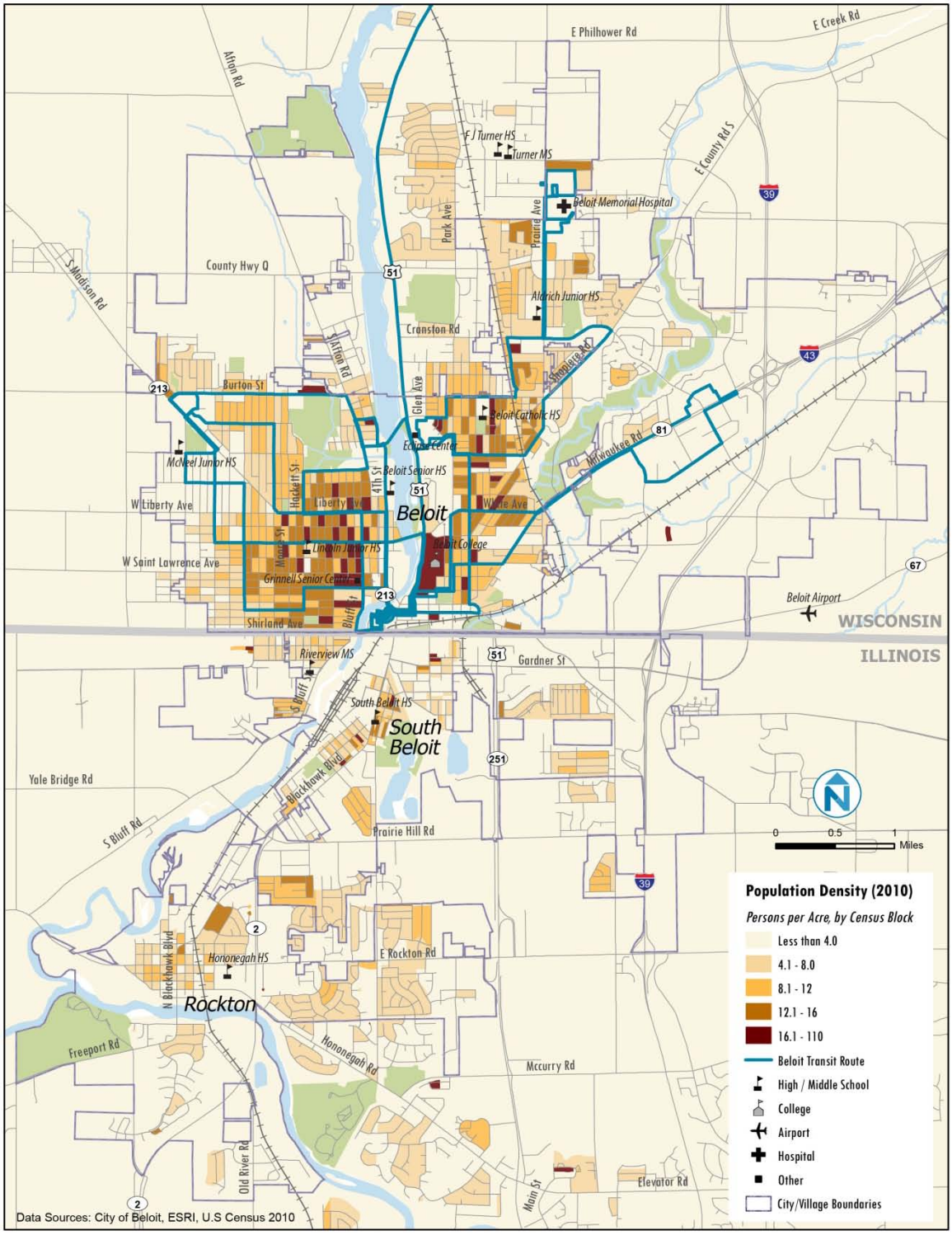


Figure 2 Employment Density (2010)

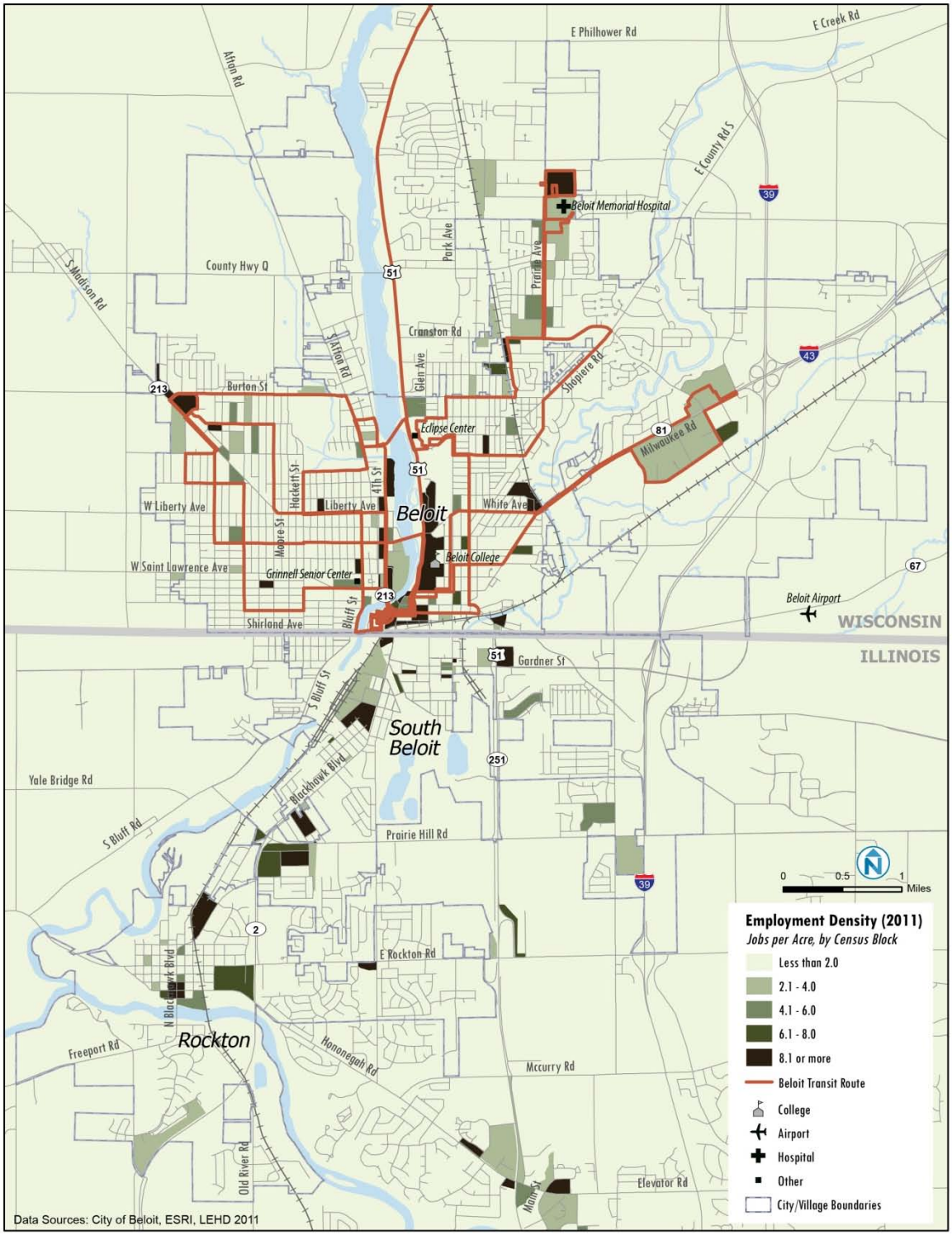


Figure 3 Major Employers in Greater Beloit

Employer	Product or Service	Number of Employees
Beloit Health System	Medical Services	1,550
School District of Beloit	Public Education Grades K-12	1,006
Taylor Company	Food Service Industry	750
Birds Eye	Frozen Food Specialty Manufacturer	726
Kerry Americas	Dehydrated Food Products	690
Frito-Lay	Snack Foods	685
City of Beloit	Municipal Services	475
Beloit College	4-year Liberal Arts College	413
ABC Supply Co.	Roofing, Siding and Building Products	406
Fairbanks Morse Engines	Diesel Engines & Accessories	373
Walmart Super Store	Retail Department Store	300
Hormel Foods	Canned Meat Products	300
Ecolab, Inc.	Disinfectants and Germicides Manufacturer	280
School District of Beloit Turner	Public Education Grades K-12	225
Staples Distribution	Office Supply Distributor	220
Serta Mattress Co.	Mattresses	210
Scot Forge	Iron/Steel Forgings Manufacturer	201
Axium Foods	Food Products-Machinery Manufacturers	174
First National Bank & Trust Co.	Financial Institution	166
Beloit Health & Rehabilitation	Skilled Nursing Care & Short-term Rehabilitation	164
Woodman's Food Market	Supermarket	160
Durst-Mastergear	Motor and Generator Manufacturer	150
Diamond Foods Inc.	Potato Chip Manufacturer	146
Morse Group/Amp Electric	Electrical Contracting Firm	140
Alliant Energy	Utility service provider	137
Valmet	Paper Mill Supplies Manufacturer	120
Paperchine	Paper Mill Machinery Manufacturer	110
Regal	Cutting tools/Power trans equipment	100
Cotta Transmission	Transmission and gearbox Designer and Manufacturer	85
Dupont	Develops and markets enzymes	80
Community Health Systems	Medical Services	72
Avid Pallet Services, LLC	Manufacturer and Distributor of pallets and lumber products	72
Beloit Daily News	Media Newspaper	47
Wisconsin Knife Works	Cutting Tools	39

Demographic Characteristics

Senior Population Density

Older adults (those 65 years and older) are more likely to use transit than the general population because they are more likely to have chosen to stop driving or can no longer drive. Throughout the country, this is a key market for transit, in part because it is increasing so dramatically. In 2000, 35 million Americans were age 65 and over, or 12.4% of the total population. By 2010, that number had grown to 40 million, or 13.0% of the total population. This trend is expected to continue and accelerate as the Census Bureau projects this group will jump to 70 million people by 2030 and represent 20% of the total population. Understanding the distribution of older adults is therefore important in identifying areas of more transit-dependent riders.

Data from the U.S. 2010 Census was used to map individuals aged 65+ by census block. Figure 4 shows the geographic distribution of these older adults throughout the Beloit area. A number of findings are apparent:

- The senior population in Beloit is fairly evenly distributed throughout the city. That said, there are high concentrations on the west, north, and northwest sides of Beloit.
- The senior population is generally served by current BTS service, with most of the living in blocks that are directly served by at least one route.
- Moderately high populations of seniors live north of Beloit, to the east of Riverside Dr, but are adjacently served by the Beloit-Janesville Express.

Youth Population Density

Data from the U.S. 2010 Census was used to map individuals aged 10 to 17 (youths) by census block. Figure 5 shows the geographic distribution of these older adults throughout the Beloit area. A number of findings are apparent:

- Most of the youth population in Beloit lives in or near the city core, with large populations to the west of Rock River between Olympian, 4th Street, Shirland, and Hackeett. and east of Rock River in the vicincity of Wisconsin Ave between Henry and White. These areas are well served by current BTS routes.

Low-Income Population

Data from the U.S. Census' American Community Survey 5-Year Estimates 2008-2012 was used to map median household income at the census block group unit of analysis. Figure 6 shows the geographic distribution of these household incomes throughout the Beloit area. A number of findings are apparent:

- Much of the city of Beloit has an average median household income of $40,001-60,000.
- The area around Beloit College has the highest median household income at $60,001-106,912.
- The further one gets from the core of Beloit, the lower the median income is, with the far north and east sides having median incomes of $12,241-20,000.

More than any other demographic group, low-income status is the strongest indicator of a higher-than-average propensity to use transit. This is primarily because as income falls, the cost of owning and using a private vehicle becomes more burdensome, which makes transit a more

attractive option. For this reason, it is important to understand the geographic distribution of low income individuals in the travel market.

Poverty Status

Poverty status data the U.S. 2010 Census was used to define and identify low income individuals. Because disposable income is largely a factor of household size and household income, the U.S. Census considers household income and the number of members in the household in classifying a household's poverty status. The distribution of individuals with low incomes (those living in a household considered in poverty by the Census), is shown in Figure 7.

The data is from the U.S. Census' American Community Survey 5-Year Estimates 2008-2012 at the census block group unit of analysis. A number of findings are apparent:

- Much of the poverty in Beloit is concentrated to the west and northeast of downtown Beloit, and to a slightly lesser degree downtown, to the southwest, and north. These areas are well served by multiple BTS routes.
- While there are gaps outside of the city of Beloit, most of the population living in poverty is currently served by the BTS system.

Vehicle Availability

For self-evident reasons, individuals without access to a vehicle represent a particularly strong market for transit. Identifying households without access to a vehicle helps in identifying areas that are likely to have a significant number of transit-dependent riders.

Data from the U.S. Census' American Community Survey 5-Year Estimates 2008-2012 was used to identify households who do not have regular access to a vehicle. The geographic unit of analysis for this data is the census block group.

A number of findings are apparent in Figure 8:

- Most of the zero vehicle households are located near downtown Beloit. These areas are currently served by the BTS.
- In northwest and north Beloit, and just southwest of the city, there are moderate levels of households without access to an automobile. Nearly all households within the city of Beloit are directly served by BTS service. While BTS service is not provided across the border in Illinois, it is a relatively close walking distance to BTS service.

Figure 4 Senior Population Density (65 or Older) - 2010

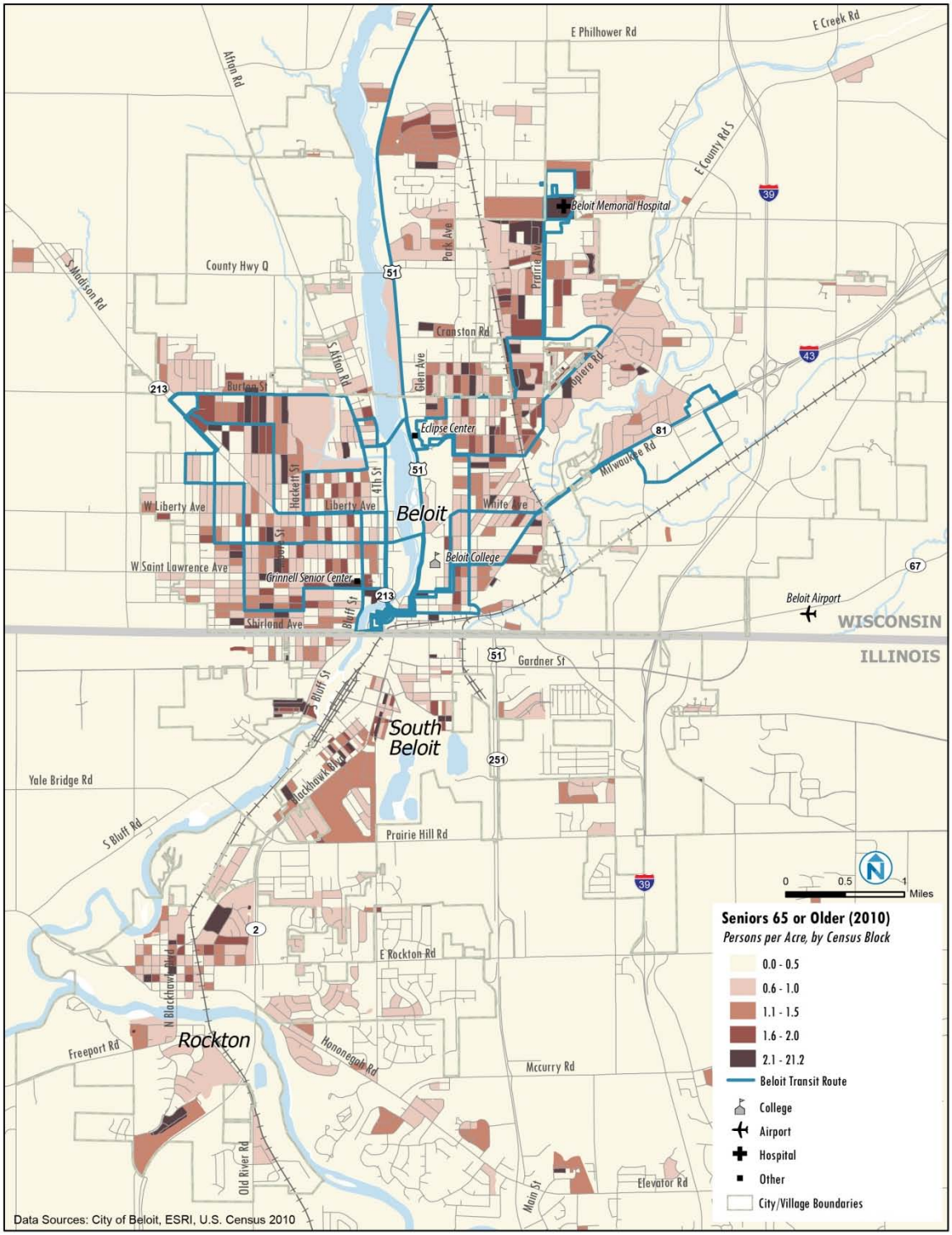


Figure 5 Youth Population Density (Ages 10 – 17) - 2010

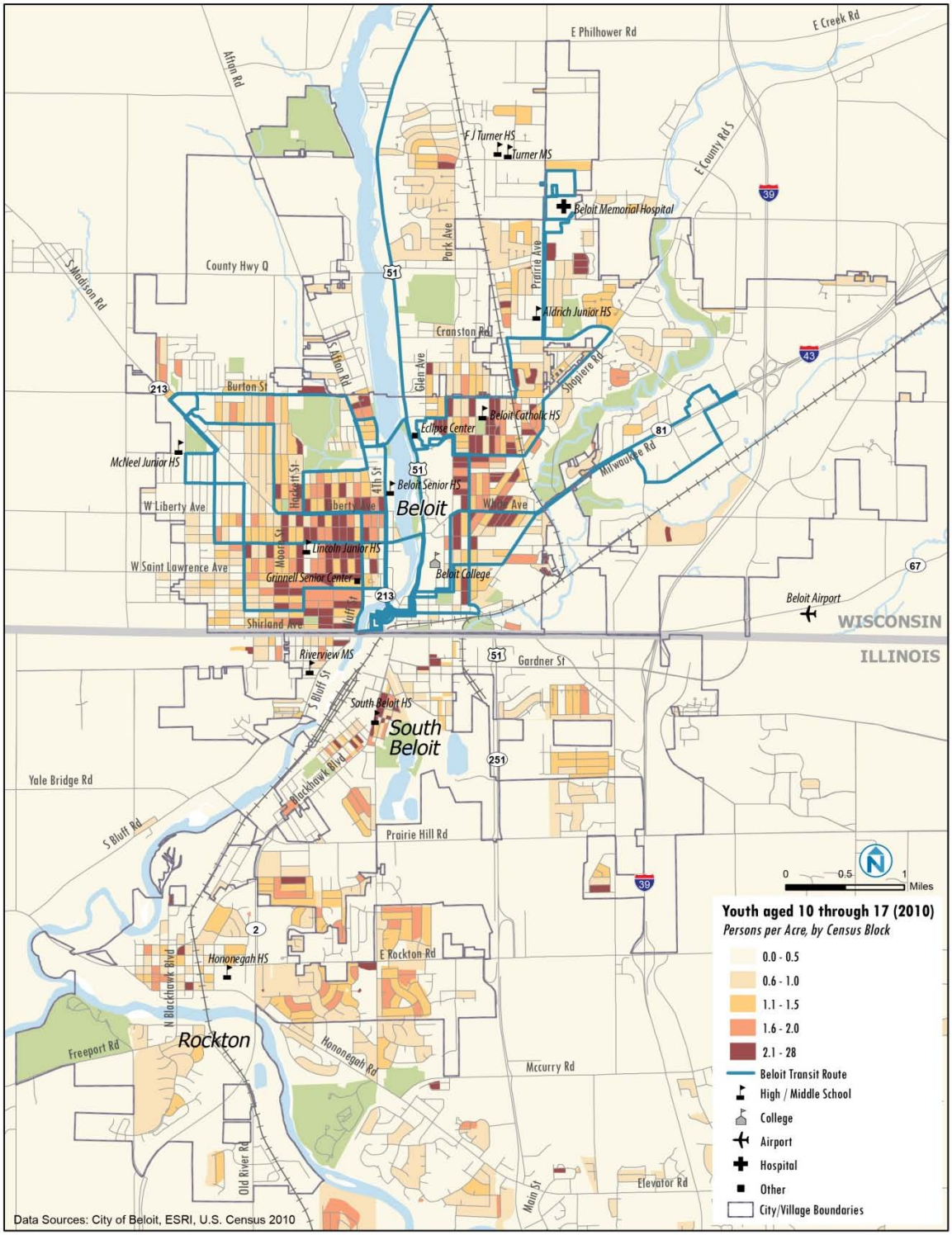


Figure 6 Median Household Income (2010)

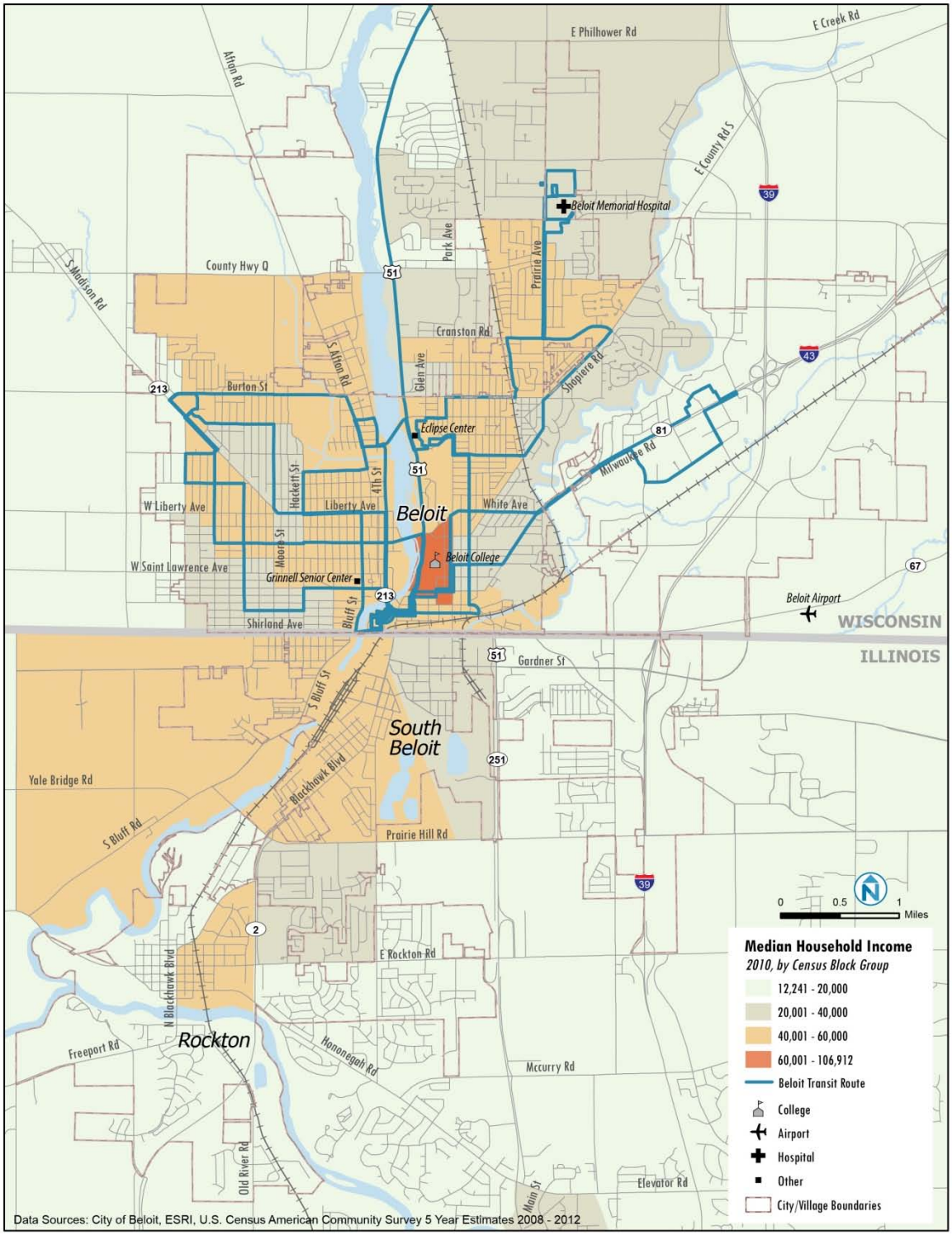


Figure 7 Population in Poverty (2010)

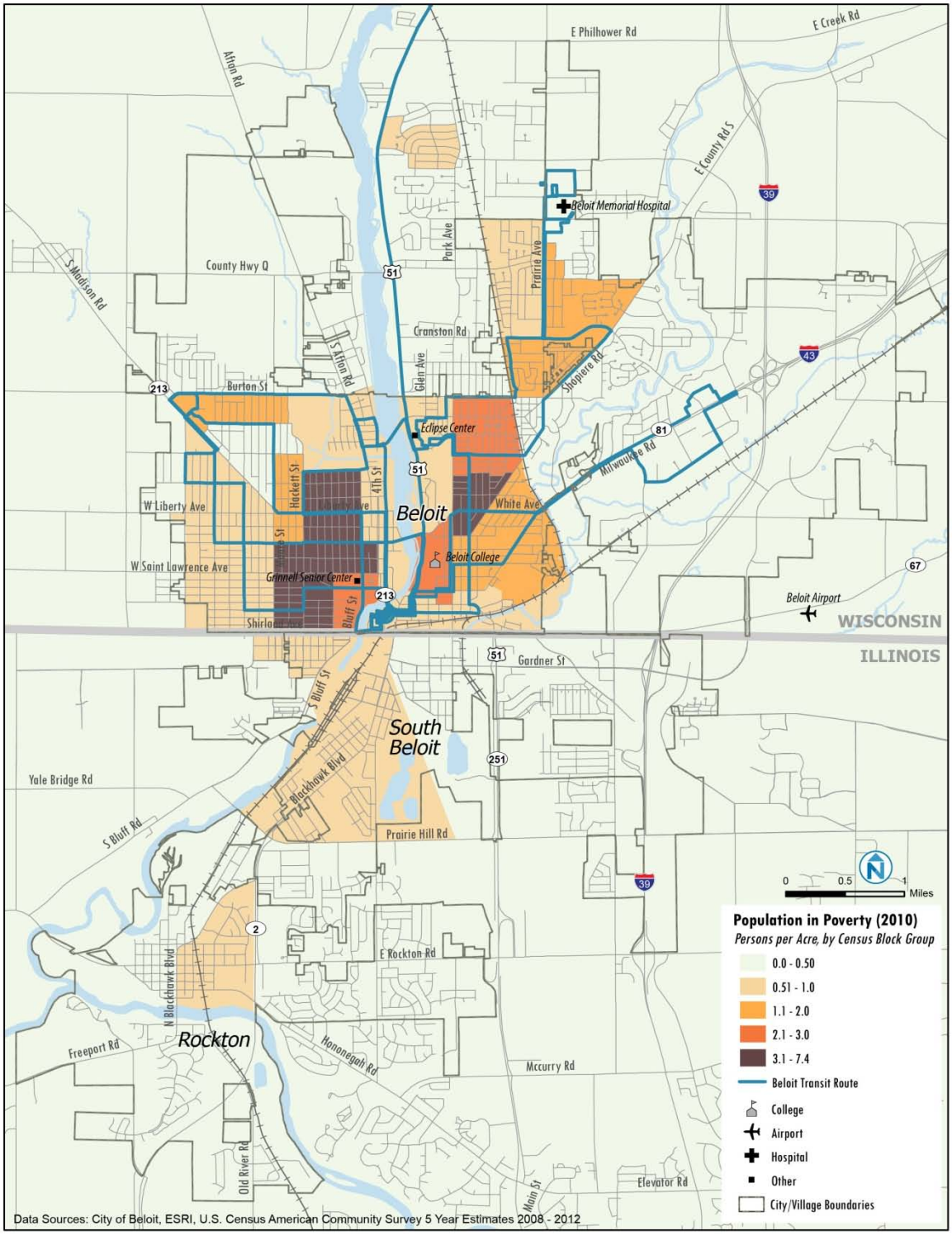
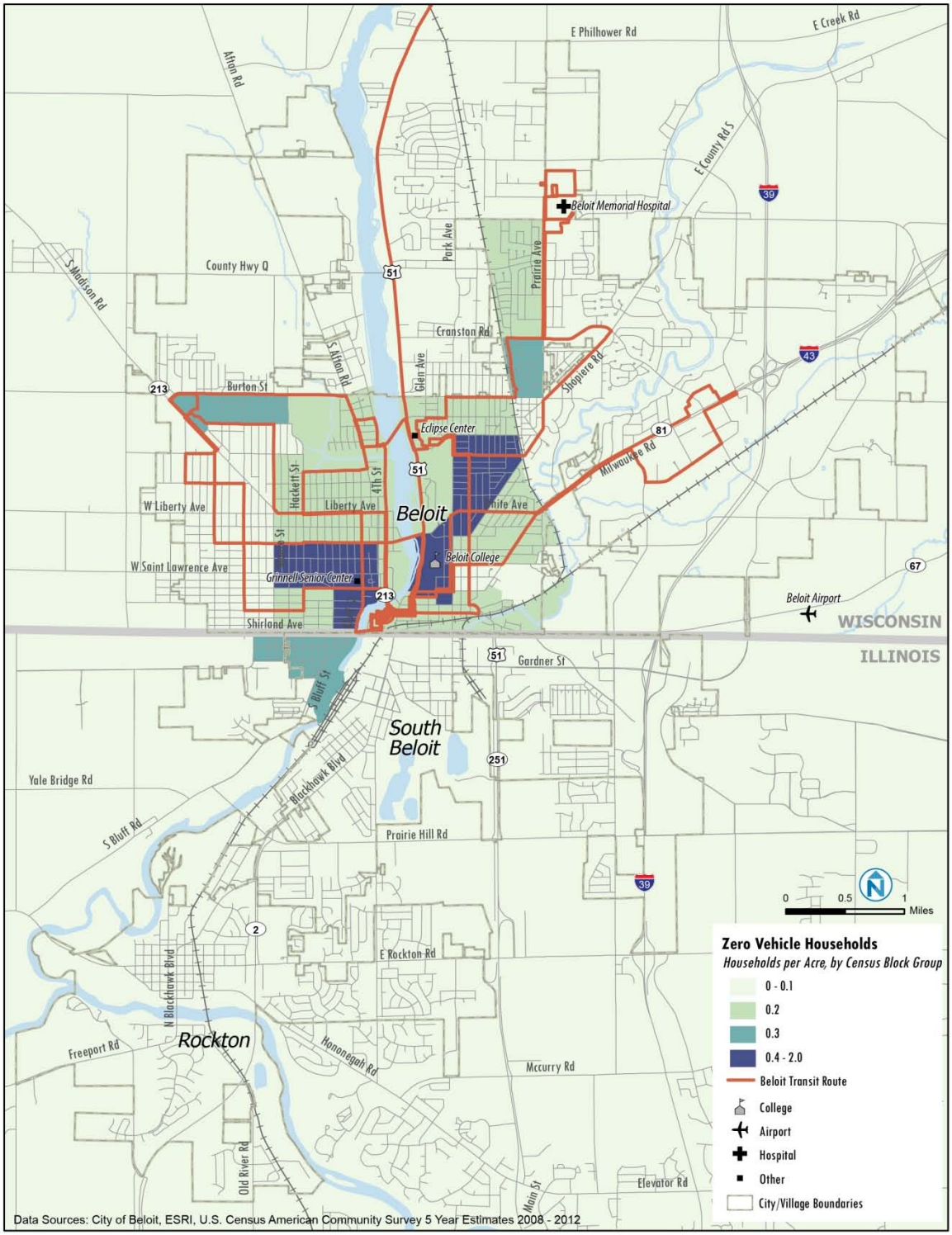


Figure 8 Zero Vehicle Households



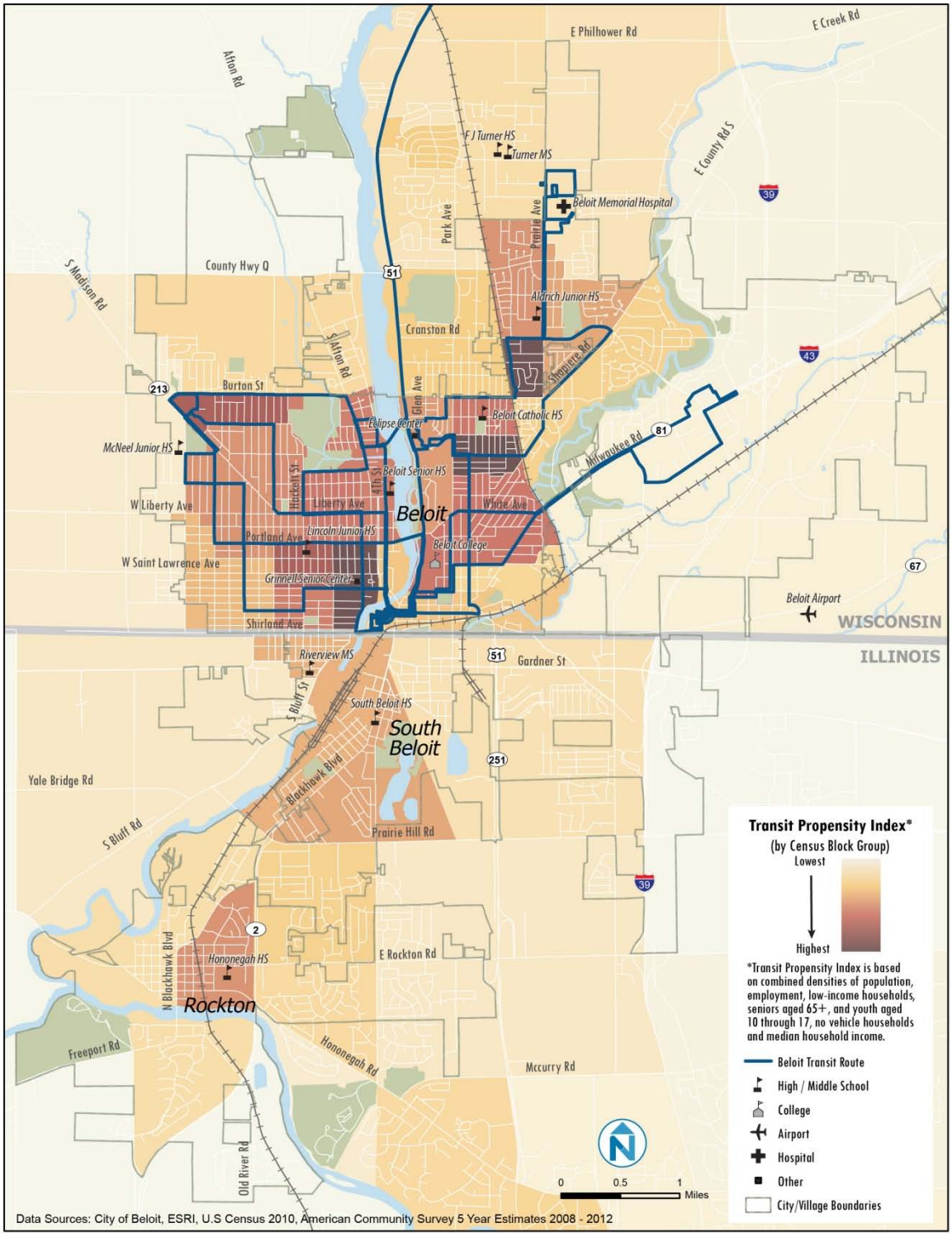
Transit Propensity Index

This section presents a measure of overall transit propensity by combining population, employment, and demographic factors to produce a transit propensity index. Note that this data provides an indication of transit demand, and not a specific determination. Ridership on individual routes and the effectiveness of individual routes can vary significantly depending on a number of factors, including the physical environment, how well service is designed, and the time and costs for competing alternatives.

This index still provides a strong indication of the relative demand for transit throughout the market area, and identifies areas where demand is highest and transit can be provided most effectively. A number of findings are apparent in Figure 9:

- The areas of highest transit propensity are west of downtown Beloit across the Rock River, north of downtown near Copeland Ave and Wisconsin Ave, as well as near Cranston Rd and Pioneer Dr.
- The data suggests there may be moderate demand for transit service to South Beloit and Rockton, perhaps offered as a service similar to the Beloit-Janesville Express route.
- The current BTS routes provide direct transit service to nearly all of the high propensity areas of the service area.

Figure 9 Transit Propensity Index



3 DOCUMENT AND POLICY REVIEW

The TDP update will previous planning work conducted in Beloit, including the following:

- City of Beloit Comprehensive Plan (2008)
- Rock County Comprehensive Plan 2035 (2009)
- A Study of the Feasibility of a Crosstown Transit Route in the Beloit Urbanized Area (2007)
- Beloit Transit System Transit Development Plan (2011 Update)
- South Central Wisconsin Commuter Transportation Study (2008)
- Stateline Area Transportation Study (SLATS) 2035 Long-Range Transportation Plan (2011 Update)

City of Beloit Comprehensive Plan, 2008

The City of Beloit's Comprehensive Plan calls for enhancements to the city's current bikeability and walkability, while also investing in buses, ridesharing, and rail. The plan calls for a requirement that "sidewalks or pedestrian pathways are included in all new residential and commercial developments, designing neighborhoods and development with the pedestrian in mind, and considering the needs of bicyclists and pedestrians in all road improvement projects (Beloit Comprehensive Plan – 126)." The plan also calls for the promotion of the current bus system, while also considering expansion of the system to developed areas of the Beloit that are underserved. Additionally, the plan calls for new park and ride facilities, particularly along the Interstates (see Figure 10).

Figure 10 City of Beloit Comprehensive Plan Transportation System Improvements

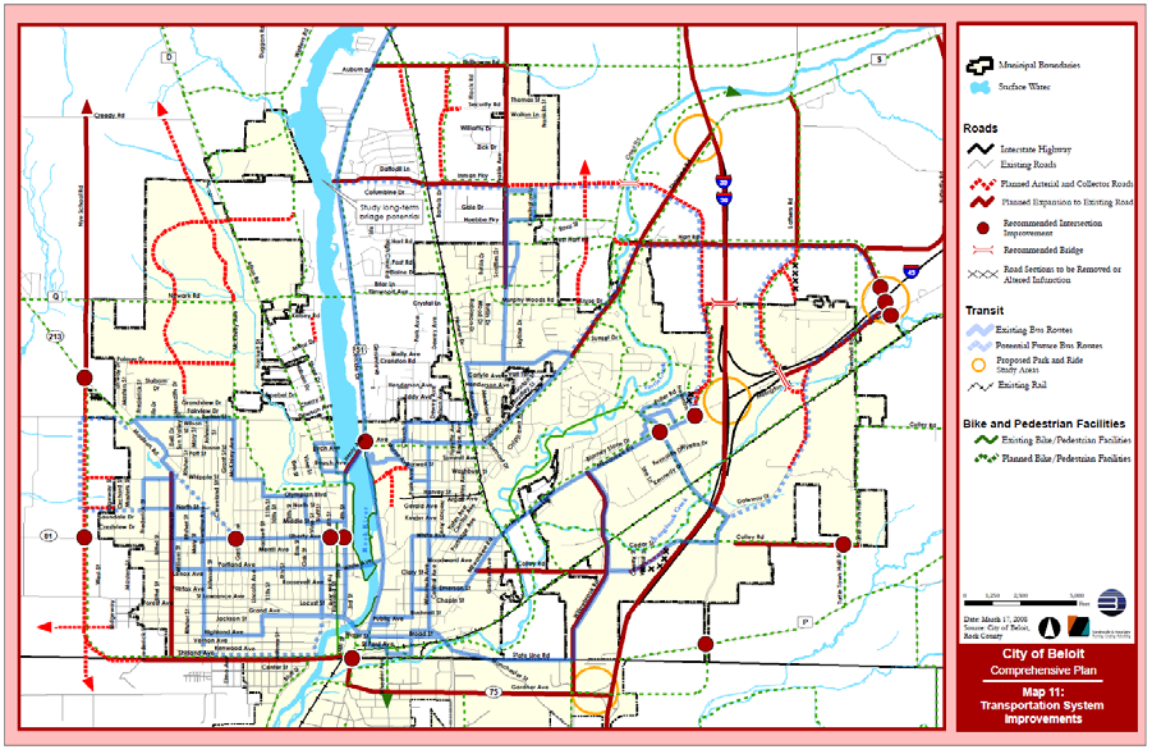


Figure 10 also identifies the proposed bus routes for Beloit. The plan identified routes to Gateway Business Park, the possible casino, and the west side of Beloit. The plan seeks a continued partnership with Janesville on express bus service, while it identifies Rockford as another potential regional transit connection.

Rock County Comprehensive Plan 2035 (2009)

Chapter 7 of the Rock County Comprehensive Plan states a need for alternative modes of transportation in the county to help alleviate congestion and vehicle emissions, in part through improved awareness of transit services offered by the Rock County Council on Aging, expansion of current fixed route service, and an increase in park and ride facilities.

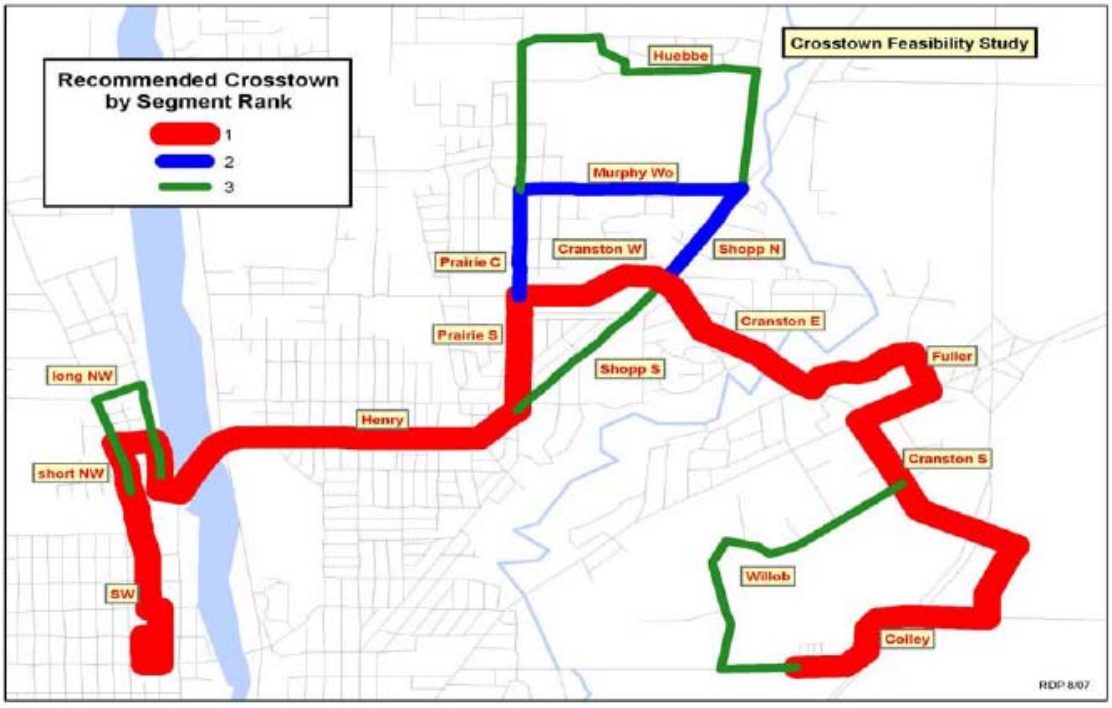
A Study of the Feasibility of a Crosstown Transit Route in the Beloit Urbanized Area (2007)

The study was conducted by SLATS to determine the feasibility of a new crosstown route in Beloit to provide more direct trips between west Beloit and east central Beloit. The study examined the current Beloit system, describing the circuitous radial pulse system pros and cons in the local context.

The study included several possible tweaks to the Beloit system. A new crosstown route would allow for the western end of Route 3 to be eliminated, shortening Route 3's trip times. Additional Route 3 recommendations include adding a deviation to serve neighborhoods west of Prairie Avenue along Hart Road and a deviation to the neighborhood south of Cranston. A new crosstown route is determined to be a large accessibility improvement for employment areas, particularly to the east, southeast, and northeast of the service area.

The study then broke down, segment by segment, demographic indicators of strong transit ridership.

Figure 11 SLATS Recommended Crosstown Route



The proposed red is depicted in Figure 11. This route would be 8.4 miles with each one-way trip taking approximately 30 minutes. While not necessary, this would allow for the route by pulse at the transfer center. It is also recommended that transfers outside of the center are timed with other routes throughout the system.

The study determined little short term capital costs because BTS had excess vehicles at the time of the study. Long-term, the route would require one vehicle to operate. Operational costs would increase as a minimum of one full-time driver would be needed to operate the route, unless it is operated on a limited basis.

Beloit Transit System Transit Development Plan (2011 Update)

The 2011 update to the BTS Transit Development Plan addresses the opportunities and needs of the system, with potential funding shortfalls taken into consideration. It was completed at a time when funding issues threatened to force BTS to make significant changes. The report outlines how to consider a reduced funding need, replace potential funding losses, and help decision-making if funding is severely cut.

The 2011 TDP's overall recommendations for BTS include the following:

- Stagger daily commencement and dismissal for students to spread peak hour demand.
- Beloit School System should provide payment to BTS for the service it provides to students.
- An investigation of how many Beloit College students use BTS.

- Human service providers should increase their overall portion of payments to BTS for paratransit trips.
- Schools and human service providers should reevaluate their transportation needs with potential BTS cuts in mind.
- Increasing transit fares should be a last resort.
- Pay and benefit cuts should be considered for BTS staff.
- During the summer, service could be reduced as much of the systems ridership is due to students.
- Schedule adjustments should be considered based on ridership data, even if requires adjustments for different times of day, month, or year. These changes should be made along with an improvement in information technology in order to ensure riders are well informed.
- Four funding forecasts were developed, with one optimistically projecting no significant cuts. One pessimistic scenario determined BTS will be deemed ineligible for Federal funding.
- If BTS loses 30-50% of its funding in the pessimistic scenarios, the system will have to (1) provide only morning, midday, and evening runs on weekdays; (2) provide only morning and evening runs on weekdays; (3) eliminate BJE service, or only peak hour service; (4) eliminate Saturday service, or only morning and evening Saturday service; (5) eliminate fixed route service and only provide paratransit service via the State Line Mass Transit District.

South Central Wisconsin Commuter Transportation Study (2008)

The government members of Beloit, Janesville, the Villages of Sharon and Clinton, Rock County, WisDOT, SLATS, and the Janesville MPO took part in an enhanced feasibility study of potential commuter connections between South Central Wisconsin and North East Illinois, which an emphasis on the Harvard Metra Station.

The study determined that while the current regional transit system is considered inadequate, there is interest in expanding regional transit to Madison and Chicago. Madison and Rockford job connections were considered more important than connections to Chicago. There was also determined to be recreational trip demand for connections to Madison and Chicago.

The report recommended new rail stations and commuter rail service along five potential corridors. An express bus service from Rockford to Madison, serving Beloit, Janesville, Edgerton, and Stoughton was proposed. The operating plan for this express bus route suggests logical segments of the route to be run as independent, coordinated routes. Additionally, a regional commuter bus fare was promoted to promote ridership throughout the region.

The study determined that Beloit and Janesville will not pursue an Alternatives Analysis for commuter rail service at the cost of $3 million as it would probably not qualify for FTA support. That said, the study encouraged re-evaluating the need for such service in the future and promoted preservation of rail lines, facilities, and rights of way. Finally, the study promotes park and ride facilities, vanpooling, ridesharing, as well as a north-south commuter bus experiment to Madison, Wisconsin.

Stateline Area Transportation Study (SLATS) 2035 Long-Range Transportation Plan (2011 Update)

The SLATS 2035 Long-Range Transportation Plan provides a background and summary of existing studies and documents related to the Beloit Transit System, in additional to several recommendations. The plan promotes the recommendations found in the Beloit Transit System Transit Development Plan from 2004, including, but not limited to, the promotion of 30 minute headways, more direct service to key destinations, reduce inefficient deviations, the construction of a new transfer site in downtown Beloit, optimized stop locations, interlining of routes, and establishing traffic signal priority.

The plan supported the continued support of the current funding mechanisms in which BTS, JTS, and Rockford Mass Transit District use intergovernmental agreements to define service parameters and funding responsibilities. The plan also promotes a similar service to the Beloit-Janesville Express that would connect Beloit and Rockford, Illinois. The plan promotes headways of at most 60 minutes with a span of service of at least 10 hours on weekdays and 8 hours on Saturday. The route would also stop in Machesney Park, downtown Roscoe, Rockton, South Beloit, and the Walmart on Rockton Road.

The plan makes no attempt to address potential growth of BTS due to projected near term funding restraints. It is recommended that BTS focus on maintaining and or replacing existing equipment and facilities so that current service levels can be maintained.

4 COMMUNITY ENGAGEMENT

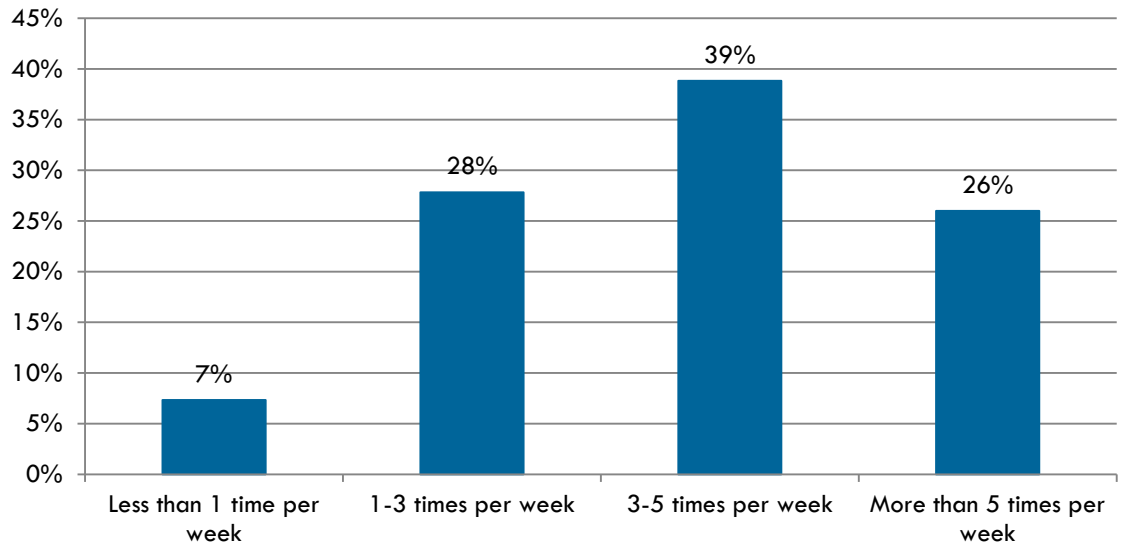
ON-BOARD SURVEY

An on-board survey of BTS riders was conducted in the spring of 2014 to better understand user patterns and perceptions of the system. A total of 327 respondents answered the 13 question survey.

Findings

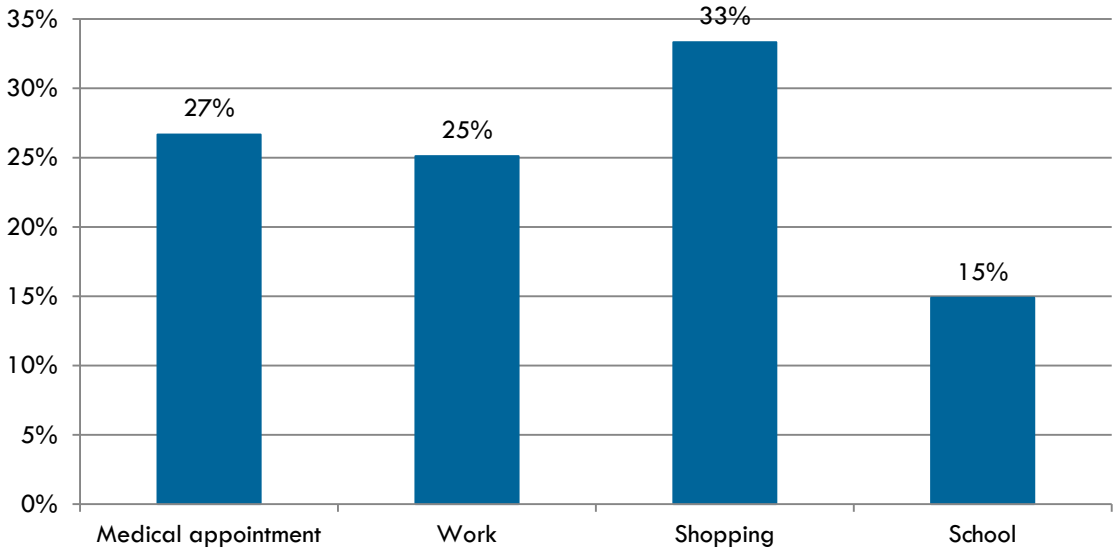
Most of the respondents indicated they are frequent riders with 39% riding 3-5 times per week and 26% riding more than 5 times per week.

Figure 12 Frequency of Use



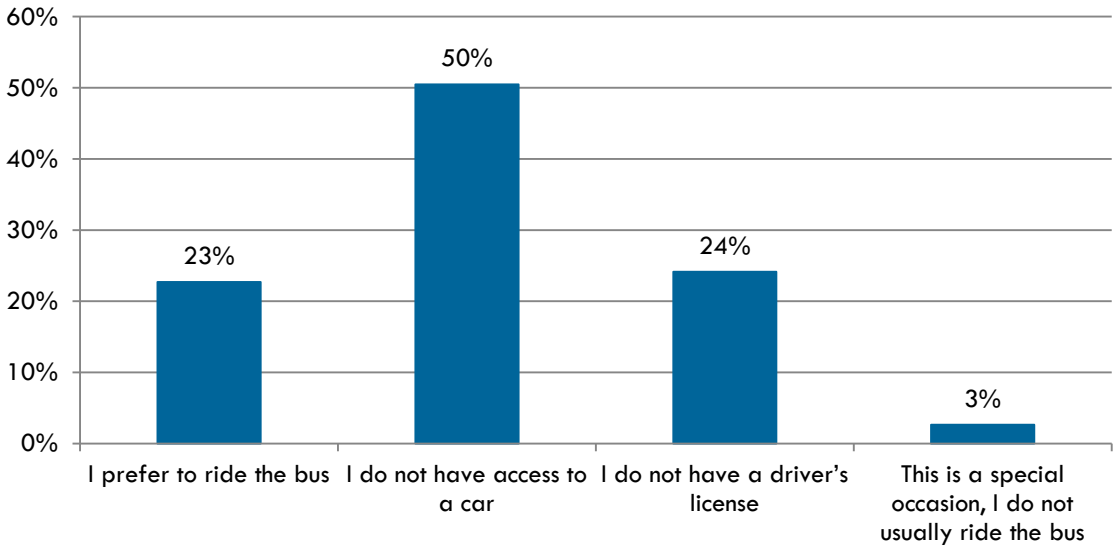
The purpose of rider's trips are diverse, with 26.7% riding for medical appointments, 25.1% for work, 33.3% for shopping, and 14.9% for school. In most transit systems, medical-related trips typically rank behind shopping and work.

Figure 13 Trip Purpose



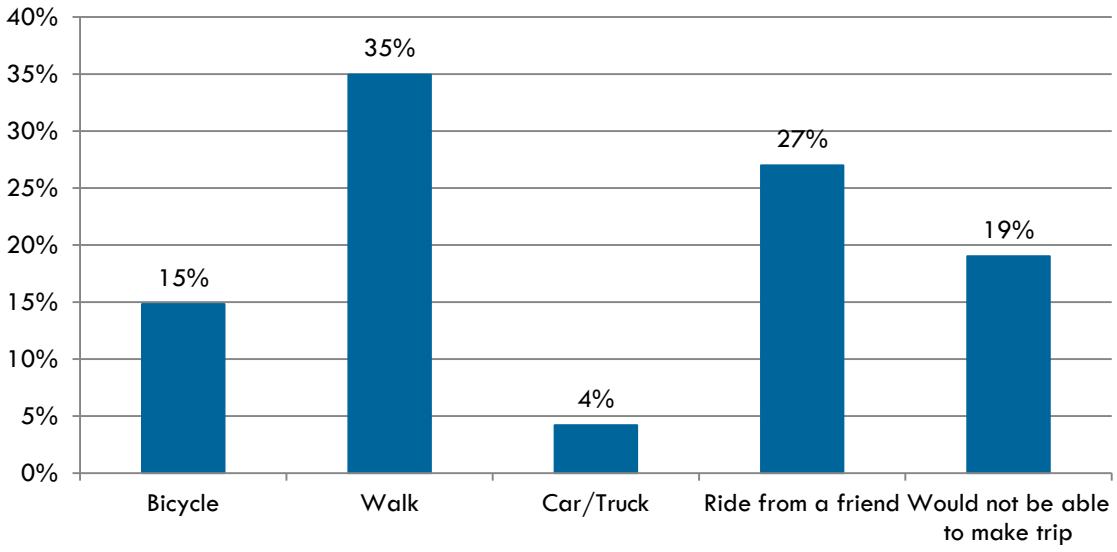
According to the survey, most riders are what would be classified as dependent riders (riders with little to no other options), as 50.5% do not have access to a car, while an additional 24.2% do not have a license to operate a vehicle.

Figure 14 Reason for Riding Bus



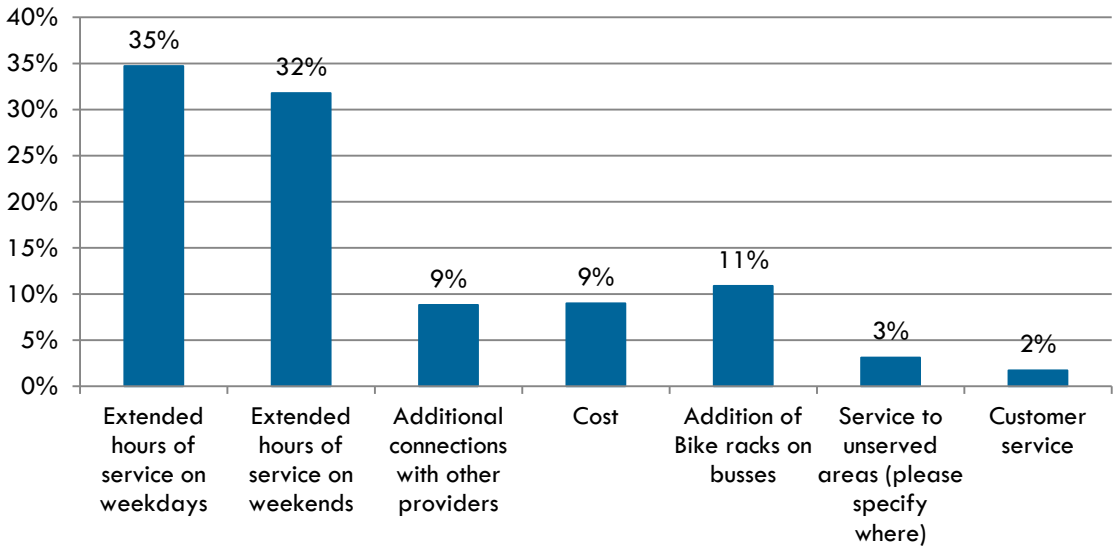
Nineteen percent of respondents indicated they would not be able to make their trip if the BTS system did not exist. With 35% of respondents, walking was the most likely travel alternative for users, although the distance of such trips is unknown.

Figure 15 How would you Make this Trip if the City Bus was Not Available?



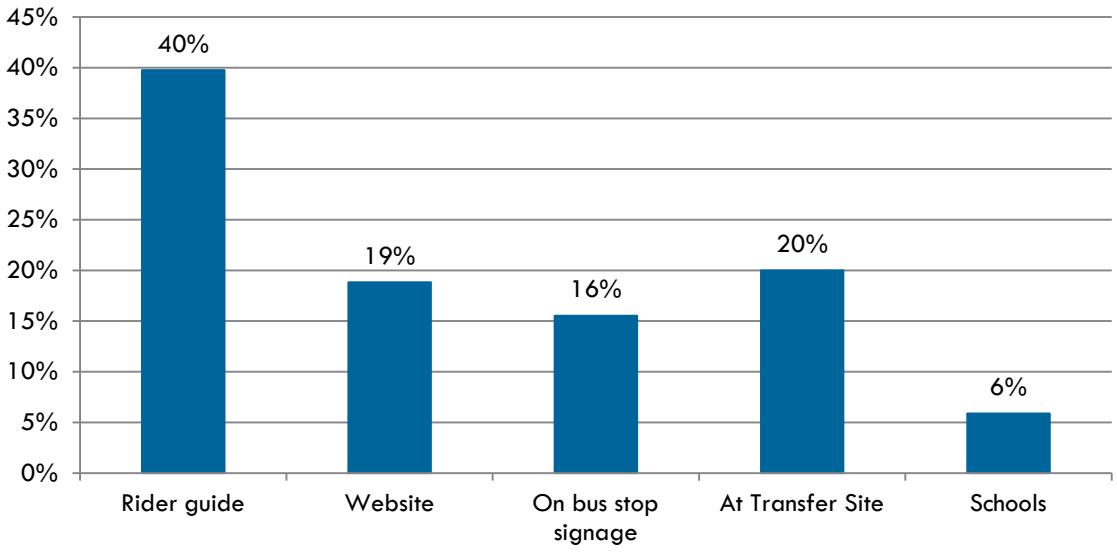
Extended hours for both weekday (34.7%) and weekend (31.8%) service are by far the most desirable service improves respondents would like to see made to the BTS. The addition of new services did not rank highly on the desires of survey respondents. Only 8.8% would like to see improved connections with other transit systems and only 3.1% want service added to new areas.

Figure 16 Potential Service Improvements



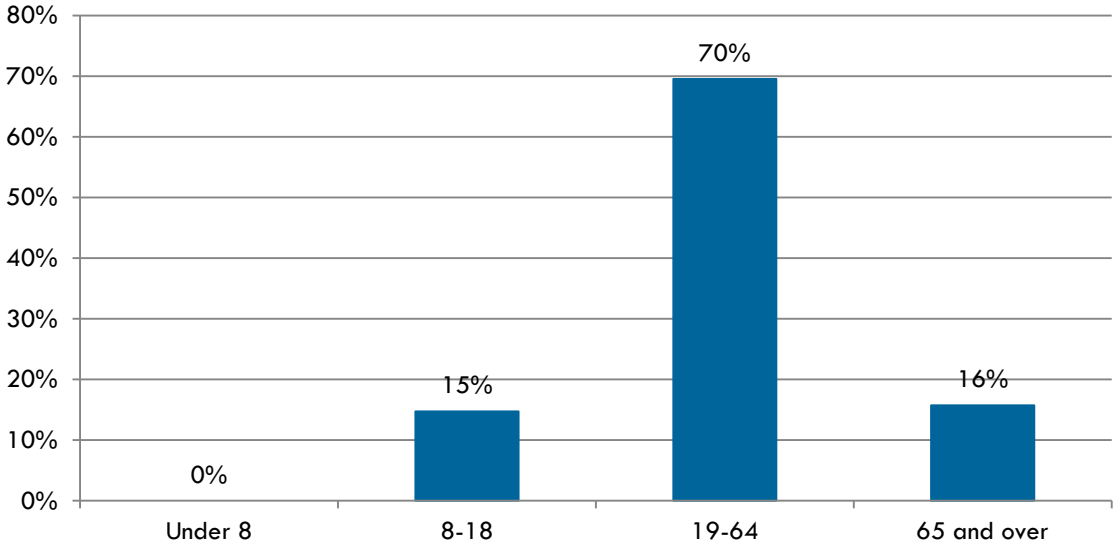
When asked how they would like to obtain information about BTS, the most popular answers were rider guide (40%), at transfer site (20%), and website (19%). This indicates that the rider guide is the most important component of rider information to focus on.

Figure 17 How would you Like to Obtain Information Related to BTS?



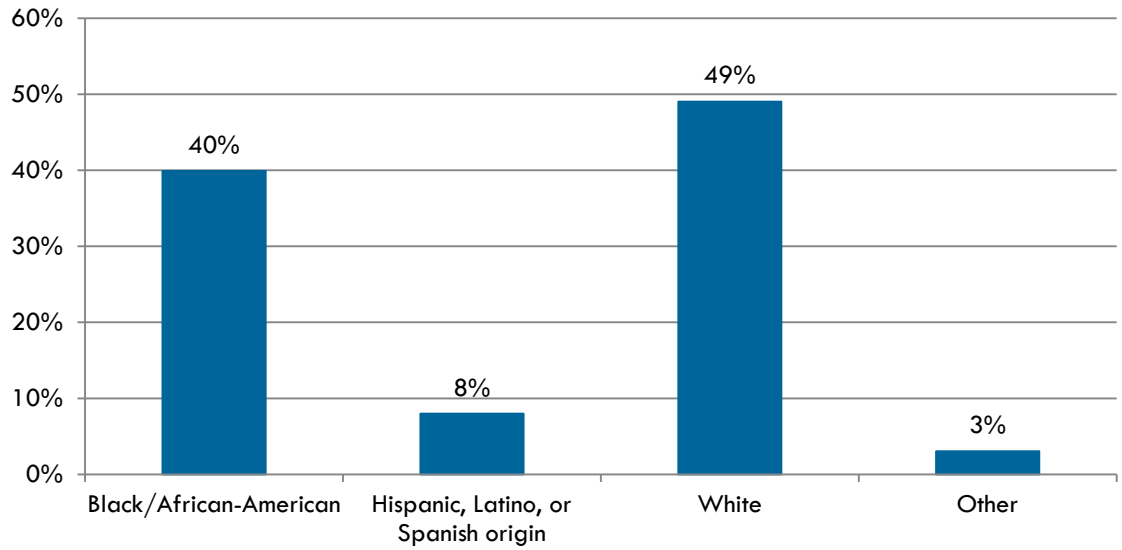
The vast majority of riders who took the survey (70%) were adults between the ages of 19 and 64. Of the rest, 16% were 65 and over and 15% were 8-18.

Figure 18 Age



Respondents were diverse, with 49.0% of respondents identifying as white, 39.9% as Black/African-American, 8.0% as Hispanic/Latino, and 3.0% other.

Figure 19 Race/Ethnicity



STAKEHOLDER INTERVIEWS

To better understand community perceptions, needs, and priorities related to public transit, stakeholder interviews were conducted on November 5th, 2014 with individuals who have a direct stake in the transit services provided in Beloit.

A total of 17 individuals representing a wide variety of organizations participated in the stakeholder meetings. Several different segments of the community were encouraged to participate in the interviews, including organizations that serve seniors and people with disabilities, the educational community, the City of Beloit, the business community, and other community organizations. The following organizations were represented in the stakeholder interviews:

- KANDU Industries
- Merrill Community Center
- Rock-Walworth Comprehensive Family Services Head Start
- Hands of Faith
- Women's Fund of the Stateline Community Foundation
- School District of Beloit
- Rock Valley Community Programs
- Project 16:49 / Robin House
- RSVP
- Retired and Senior Volunteer Program of Rock County
- Latino Service Providers Coalition
- Beloit City Council

At the start of each stakeholder interview, participants were given a brief overview of the study, its goals, and the purpose of the stakeholder meeting. Participants were asked to describe the services offered by their business, organization, or agency, and to discuss what they viewed as the top transportation issues or challenges in Beloit. They were then asked to discuss their views on local transit services in Beloit, its strengths and weaknesses, and key transit needs.

Major Themes

A number of major themes emerged during the stakeholder interviews. Rather than attribute comments to an individual or a stakeholder group in isolation, the major themes have been summarized below.

Cost of Transit

- Many BTS riders are low-income and the cost to ride may be an impediment to riding the bus more. Stakeholders have heard of riders only shopping one day a week because they can only afford to ride the bus one day a week.
- Appleton and Janesville have free or reduced transit costs for students. Stakeholders would like BTS to provide a more discounted fare for students. A discounted semester pass is available as well as ten ride punch passes, but it can be difficult to come up with the money in advance for those items. One idea is to spread the cost of a yearly pass over four terms instead of two semesters.

- BTS should consider more low income passes and fare media that make it more affordable to make frequent trips. The system should examine if there are revenue neutral ways to increase ridership.

Evening Service

- Consider evening service in Beloit, like Janesville, which has deviated fixed route service in the evenings. This service has allowed KANDU Industries to expand.
- The last BJE trip arrives in Beloit at 6:00 p.m., but there is no local service to take riders to other parts of town at that point, because there is no evening service.
- Some students at Beloit College can't get to jobs and internships because of transportation issues, particularly in the evening. A student fee to fund additional service is worth exploring.
- Transportation at night is a concern for everyone, because most jobs are outside the community. Look at shift change times for opportunities to serve workers.
- Getting to urgent care at night is an issue.
- Many kids don't do school activities at night because they have no transportation home due to the lack of evening service.
- Many teenagers can't work because they don't have transportation in the evenings due to a lack of bus service.

Service Design

- Some feel that bus stops are too far from where people live and where they want to go. Others feel that the routes do a good job of covering the city.
- The one-way loop structure can make the routes slow and time consuming due to out of direction travel.
- There are pockets residents in Beloit Township that would benefit from service.
- Consider operating service to Staples and Frito Lay.
- The infrequent service on the BJE route is an issue. Some wish it were more frequent. In addition, it can be time consuming to make a transfer because the BJE operates every 60 minutes but the other routes operate every 40, so transfers are not timed.

Passenger Information

- Many people don't know that maps and information about the system exist.
- Some people have a hard time understanding and reading maps, making it difficult to understand the system.
- Language is a barrier for some people riding the bus. BTS should consider providing materials in Spanish.
- Leverage partnerships with organizations to provide information to the community.
- It would be nice to have someone explain how the system works to kids. The school district has to explain to people how to use the bus, and it can be confusing. Students tend to learn from other students. In the past, schools have had outings in the city where they used the bus, and that showed students how to use it. There could be a summer class on how to use the bus.

- Showing stop locations on the route map would be helpful.
- Google Transit will help, but not everyone has Internet access.
- People often don't know where bus stops are because the signs are difficult to spot.
- Have some kind of connection with social media to attract young people.

Passenger Amenities

- Passenger amenities are poor at most stops, with no bench and no shelter.
- Shelters should be installed in places where there are lots of riders.
- The Transfer Center feels isolated to some people. Consider improving the landscaping to enhance it visually, and make it more like a park.

Public Outreach

- Surveying students is a good idea, to find out about their needs and family needs. There are kids who would want to do sports, but can't because they don't have transportation.
- Find places where people naturally congregate to get input.

Other

- Safety is a concern for people walking to and from the bus stop at night.
- The plan should consider that the city needs better infrastructure for ridership. Sidewalks and lighting are an issue, and there should be sidewalks along all bus routes.
- The transit system should make a map of which areas need capital improvements.
- Many places in the city don't have sidewalks, and the sidewalks that do exist are often covered with snow in the winter.
- Enhance the aesthetic value of transit, and ridership and support will increase.
- Advertising may be a way to get more funds for transit.
- Seek diversity among bus drivers.

Tradeoff Exercise

At the end of the stakeholder interviews, all participants were asked to participate in a short tradeoff exercise. Participants were given a sheet with a series of tradeoff statements and asked to mark their preference for each tradeoff. The results, included in Figure 20, highlight stakeholders' values about certain transit issues.

Figure 20 Tradeoff Exercise Summary

Tradeoff	Choices	% of Responses
Service Expansion	Improve frequency to 30 minutes	17%
	Increase hours of service to 6:00 a.m. - 9:00 p.m.	83%
Service Allocation	Increase service in high ridership areas and reduce service in low ridership areas	50%
	Maintain service levels on all existing routes	50%
Service Expansion	Provide more weekday service	67%
	Add Sunday service	33%
Directness and Access	Space bus stops every other block to minimize walking distance	50%
	Space bus stops ever 3-4 blocks to minimize travel time	50%
Route Connectivity	Start/end all routes at Downtown Transit Center to ensure connections to all other routes	0%
	Add crosstown service that bypasses Downtown TC to reduce out of direction travel	100%

The exercise was only conducted with participants in the stakeholder interviews, making the sample size small, so the results should not be viewed as representative of the entire community. However, the results do provide some information about the preferences of individuals and organizations in Beloit.

For the service expansion questions, participants favored increasing hours of service over improving service frequency to 30 minutes. They also slightly preferred providing more weekday service over adding more Sunday service. There was unanimous consensus that a crosstown service that bypasses the Transfer Center to reduce out of direction travel is preferred over starting and ending all routes at the Transfer Center to ensure connections to all other routes. The responses to the service allocation and directness and access questions were evenly split between the two options.

Figure 21 Interviewed Stakeholders

Name	Organization
Gary Bersell	KANDU Industries
Regina Dunkin	Merrill Community Center
Tammy DeGarmo	Project 16:49 / Robin house
Donna Goldsmith	Rock-Walworth Comprehensive Family Services Head Start
Patty Hansberry	Retired and Senior Volunteer Program of Rock County
Marline Holmes	Women's Fund of the Stateline Community Foundation
Steve Howland	Interested Citizen
Jeff Hoyt	Hands of Faith
Chuck Kincaid	Beloit City Council
Sandra Kincaid	Women's Fund of the Stateline Community Foundation
Janelle Marotz	School District of Beloit
Stacy Nemetz	School District of Beloit
Cecilia Ramirez	Latino Service Providers Coalition
Travis Schueler	Rock Valley Community Programs
Robin Stuht	School District of Beloit
Shirley Williams	Interested Citizen

OPERATOR FEEDBACK

To help the consulting team better understand the BTS system and the operating environment in Beloit, BTS operators were interviewed to gain their insights. The following is a summary of the comments that are most relevant to this planning effort.

General Comments

- **Service Characteristics**
  - Some riders want a direct connection from Shopko to Walmart to make shopping more convenient.
  - More service to areas near Park Ave & Henry Ave may be warranted.
  - Customers have requested more Saturday service.
- **Fares**
  - Riders need more pass options, and a day pass should be considered
  - There should be a change machine in the Transfer Center, similar to what they have in Janesville.
- **Passenger Amenities**
  - Consider adding a shelter on Fourth at Family Dollar
  - Consider adding a shelter near Charter Communications on Cranston Road

- **Rider Characteristics**
  - There is a significant Spanish-speaking population riding the bus.
- **Trip Characteristics**
  - The system has significant transfer activity between routes.

Route-Specific Comments

- **Route 1**
  - The route has adequate time in the schedule.
  - Consider serving Shore Dr with Route 1 instead of Route 2.
- **Route 2**
  - Evaluate the routing on Route 2 and consider operating on Shirland and Madison
  - The Woodman's stop is in a bad location and should be reevaluated
  - Stops on Bluff St. can be difficult to serve when there is snow.
- **Route 3**
  - It is difficult to stay on schedule on Route 3, particularly when the bus serves Caritas.
  - Consider not going into the Piggly Wiggly parking lot.
  - It can be difficult to get through the Maple & 4th and Wisconsin & White intersections.
  - Consider serving more of Henry Avenue.
  - The one-way loop design is inconvenient for some passengers because they have to ride out of direction.
  - Passengers don't like walking across the parking lot to the Hospital from the bus stop because it is a long distance.
  - Ambulances sometimes block the bus at the cancer center
  - Consider adding shelter on Cranston Road near Cable office
  - Consider adding shelter on Henry
  - It is a long way to walk to the front door of the hospital from the bus stop
- **Route 4**
  - It is difficult to stay on schedule on this route.
  - Walmart is a major destination on the route, and people also ride to Central Christian Church, Hormel, Frito Lay, the BTS facility, and Kettle Foods.
- **BJE Route**
  - Certain trips on the BJE route can be difficult to maintain on-time, particularly the 8:00 a.m. and 2:00 p.m. trips.
  - Customers request Saturday service on the BJE.
  - The BJE Route is often held up in Janesville because it needs to wait for transferring riders from JTS buses that are running late.
  - BJE fares are confusing for some people because they are different than normal fares. More information should be provided to riders about fares.

5 FIXED-ROUTE SYSTEM OVERVIEW

Routes

BTS provides local fixed-route bus service six days a week with express service to Janesville operating Monday through Friday. Local service consists of 4 routes operating within the city of Beloit. Local routes make frequent stops while winding along both arterials and through local neighborhoods.

Route 1 operates one looping bus to the northwest from the Beloit Transfer Center, through neighborhoods, to Woodman's Market, and back in 40 minutes. One bus along Route 2 loops west from the Beloit Transfer Center, through neighborhoods, to Woodman's Market as well, and is back in 40 minutes. Two buses on Route 3 offer bi-directional service between the Beloit Clinic and Beloit Transfer Center. Outbound service travels north primarily along Fourth St, Bayliss Ave, and Prairie Ave to the Beloit Clinic. Inbound service travels along Prairie Ave, Shopiere Rd, Wisconsin Ave, and Broad St to the Beloit Transfer Center. Route 4 has one bus operating a loop pattern that primarily travels along Milwaukee Rd to the new commercial developments to the east of downtown, including Walmart.

Service frequency and span (hours of operation) are identical for each route with service operating every 40 minutes from 6am-6pm. Gillig 35-foot buses are utilized on each route.

BTS also operates the Beloit-Janesville Express route that connects Beloit and Janesville with a number of employment and activity centers, including the following:

- Janesville Mall
- Blackhawk Tech
- University of Wisconsin Rock County
- Beloit Transfer Center
- Downtown Janesville Transfer Center

In partnership with the Janesville Transit System, the BJE operates two buses in order to maintain 60 minute frequencies along the 115 minute service pattern. Service begins at 6:00 a.m. in Beloit and 6:15 a.m. in Janesville and operates until 5:55 p.m. and 6:13 p.m. respectively.

Rock County Specialized Transit offers Dial-A-Ride service to qualified disabled individuals during the same hours of operation as BTS.

Service Levels

Weekday service span and frequency is detailed in Figure 22. Saturday service span and frequency are detailed in Figure 23.

Figure 22 Weekday Service Span and Frequency

Route	Service Type	Span	Frequency (minutes)				
			AM 5AM-9AM	Midday 9AM-3PM	PM 3PM-6PM	Evening 6PM-9PM	Night 9PM-12AM
1	Local	6:00a – 5:55p	40	40	40	-	-
2	Local	6:00a – 5:55p	40	40	40	-	-
3	Local	6:00a – 5:55p	40	40	40	-	-
4	Local	6:00a – 5:55p	40	40	40	-	-
BJE	Express	6:00a – 6:13p	60	60-65	60	-	-

Figure 23 Saturday Service Span and Frequency

Route	Service Type	Span	Frequency (minutes)
1	Local	9:00a – 4:15p	80
2	Local	9:40a – 3:35p	80
3	Local	9:00a – 4:20p	80
4	Local	9:00a – 4:15p	40

Transit Centers

In 2005, the Beloit Transfer Center was re-located from the Beloit Mall to the corner of Broad St and Pleasant St. A permanent transfer facility was built in 2009 south of downtown Beloit near the corner of Shirland Ave and Mill St, next to the Beloit City Hall.

In addition to serving as the hub for local and express bus service, the Beloit Transfer Center includes public restrooms, indoor waiting area, driver break room, and a customer service room. Due to its location on the south end of town, BTS bus routes must travel up to an additional 5 minutes than if the center were more centrally located.

Fare Structure

The base fare for local bus service is $1.50 per one-way trip. Seniors (65+), Disabled Passengers and seniors may ride for a reduced cash fare of $0.75 on local bus service. Up to two children under the age of 5 may ride for free with a fare-paying adult.

BTS also sells 10 ride punch passes as well as tokens in packs and groups. The cost per ride is proportionally reduced as the packs get larger. For instance, the cost of a 10 token pack makes each trip $1.20, while a 50 token pack averages out to $1.10. Additionally, a student semester pass is available for $85.00 that allows free rides on all school days.

Fares for BJE bus service vary by distance traveled. A full BJE cash fare is $3.50, while a rider only traveling as far as Blackhawk Tech is required to pay $2.25. A full fare breakdown is shown below in Figure 24.

Figure 24 Fare Structure

Fares		
City Routes	Full Fare	Senior/Disabled
Cash Fare	$1.50	$0.75
BTS Ten Ride Punch Pass (In Town)	$12.00	-
Student Semester Pass (In Town)	$85.00	-
Pack of 10 Tokens	$12.00	-
Pack of 20 Tokens	$23.00	-
Pack of 50 Tokens	$55.00	-
Vending Machine: 4 Tokens	$5.00	-
Vending Machine: 8 Tokens	$10.00	-
Vending Machine: 17 Tokens	$20.00	-
BJE	Full Fare	Senior/Disabled
BJE Cash Fare	$3.50	$1.75
Blackhawk Tech (Cash Fare)	$2.25	$1.10
10 Ride Pass – Beloit to Janesville	$30.00	$17.50
10 Ride Pass – Beloit to Blackhawk Tech	$20.00	-

Historical Trends

Annual trends for systemwide boardings, revenue hours, revenue miles, operating costs, and farebox revenue between 2009 and 2013 are shown in Figure 25. For 2014, operating data is for the first two quarters of FY 2014. Data shown here represents all BTS fixed-route service, including the BJE route and school trippers.

Ridership declined significantly from 2009 to 2011 (see Figure 26). This was due in part to the change from 30-minute to 40-minute headways on local routes, which occurred in August 2010. Revenue hours remained roughly the same, because buses are on the street for the same period of time, but revenue miles declined significantly due to fewer trips during the day caused by longer headways. Losses in ridership led to declines in productivity measured in passengers per revenue hour (see Figure 27) and passengers per revenue mile from 2009 to 2011, but these measures have increased slightly in recent years due to increasing ridership from 2011 to 2013. Operating costs and farebox revenues are slightly higher than they were in 2009.

Figure 25 Operating Trends

	2009	2010	2011	2012	2013	2009-2013
Operating Data						
Ridership	312,832	269,075	241,208	246,323	251,880	-19.5%
Revenue Hours	20,885	20,680	20,502	20,628	20,526	-1.7%
Revenue Miles	326,023	324,427	294,754	298,943	287,809	-11.7%
Operating Costs	1,742,661	1,813,063	1,869,932	1,849,380	1,872,263	7.4%
Farebox Revenue	198,110	260,801	184,808	204,981	204,153	3.1%
Performance Indicators						
Cost Efficiency						
Operating Cost per Revenue Hour	$83.44	$87.67	$91.21	$89.65	$91.21	9.3%
Operating Cost per Revenue Mile	$5.35	$5.59	$6.34	$6.19	$6.51	21.7%
Cost Effectiveness						
Operating Cost per Passenger	$5.57	$6.74	$7.75	$7.51	$7.43	33.4%
Farebox Recovery Ratio	11%	14%	10%	11%	11%	-4.1%
Average Revenue per Passenger	$0.63	$0.97	$0.77	$0.83	$0.81	28.0%
Average Subsidy per Passenger	$4.94	$5.77	$6.99	$6.68	$6.62	34.1%
Service Productivity						
Passengers per Revenue Hour	15.0	13.0	11.8	11.9	12.3	-18.1%
Passengers per Revenue Mile	0.96	0.83	0.82	0.82	0.88	-8.8%

Figure 26 Annual Ridership, 2009 - 2013

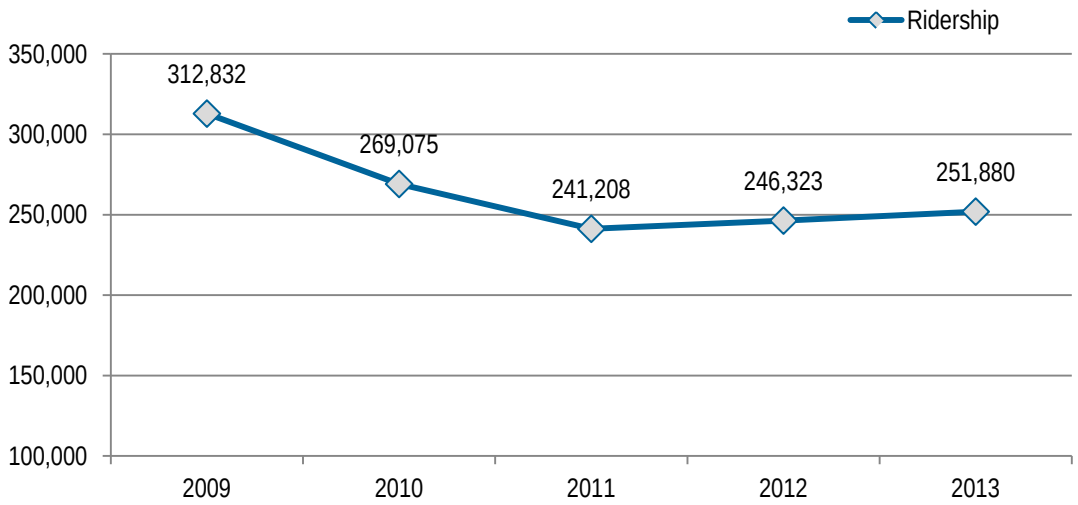
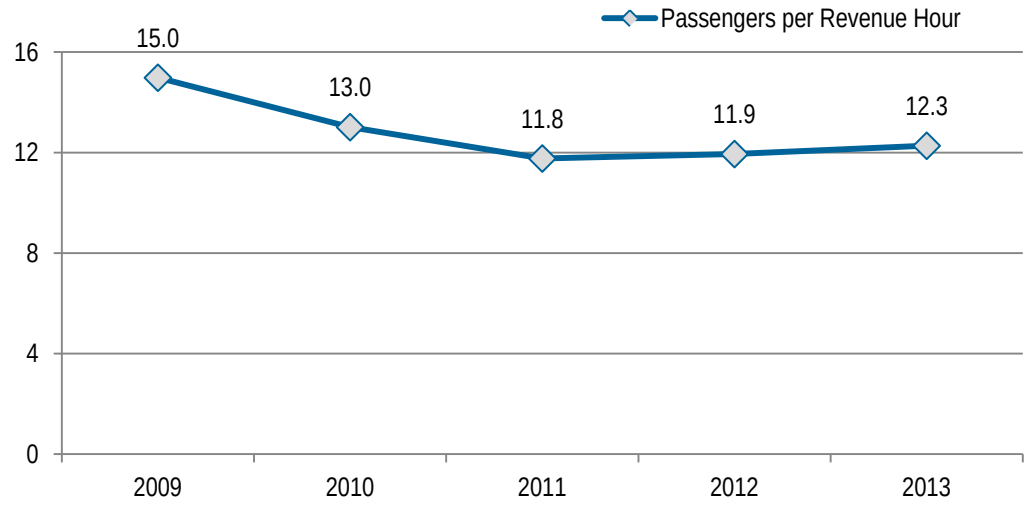


Figure 27 Passengers per Revenue Hour, 2009 - 2013



System Performance

The following charts and tables present systemwide findings based on data collected during the ridecheck effort, conducted in November 2014.

Figure 28 and Figure 29 illustrate key data for BTS routes, including total weekday boardings and boardings per service hour. The systemwide average boardings per weekday was 183.2. The systemwide average for boardings per hour was 10.3.

Figure 28 Total Weekday Boardings by Route

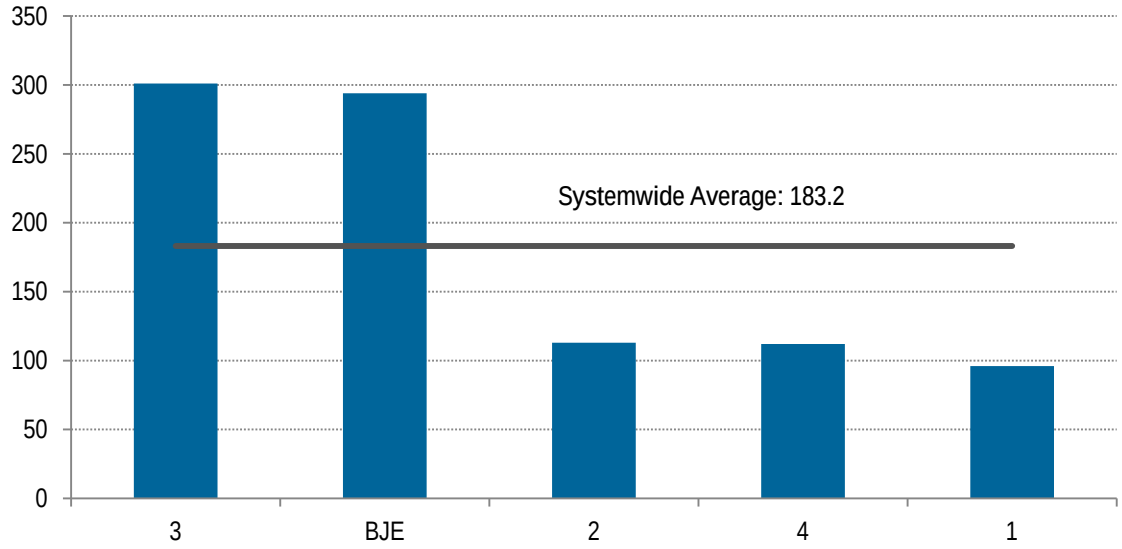


Figure 29 Total Boardings per Service Hour by Route

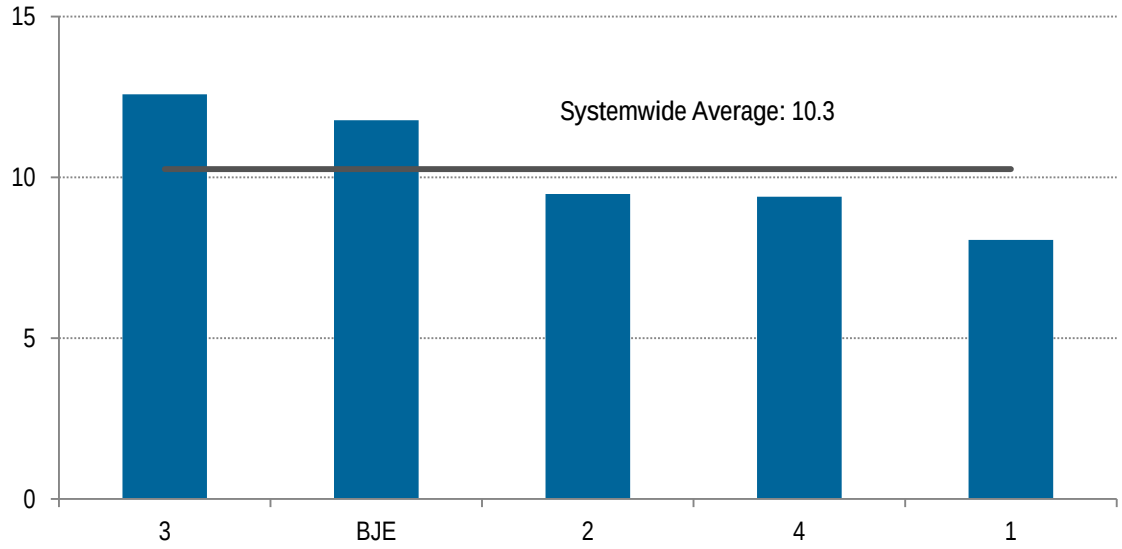


Figure 30 shows on-time performance by route. All route segments departing within 5 minutes of the schedule departure time were considered “on-time”. Segments departing more than 5 minutes after the scheduled departure time were considered “late”, and segments departing 1 or more minute before the scheduled departure time were considered “early”. It is worth noting that many routes regularly arrive early to scheduled timepoints and are forced to dwell, indicating that schedules need to be tightened on some segments. Conversely, few timepoints along trips were considered “late”.

Figure 30 On-Time Performance by Route

Route	On-time	Early	Late
1	72.0%	27.1%	0.9%
2	81.0%	19.0%	0.0%
3	70.7%	29.3%	0.0%
4	69.2%	30.8%	0.0%
BJE	81.5%	15.2%	3.3%

Figure 31 shows all weekday boardings on BTS routes. Boarding activity is concentrated in and around downtown Beloit, with little demand on the edges of town outside of a few strong trip generators, such as the Beloit Clinic and Walmart. The Transfer Center is the most significant stop by a wide margin.

Figure 32 shows all Saturday boardings. Overall ridership is much lower than on weekdays, and the only stops with more than 5 daily boardings are the Transfer Center and Walmart.

Figure 31 Systemwide Boardings - Weekday

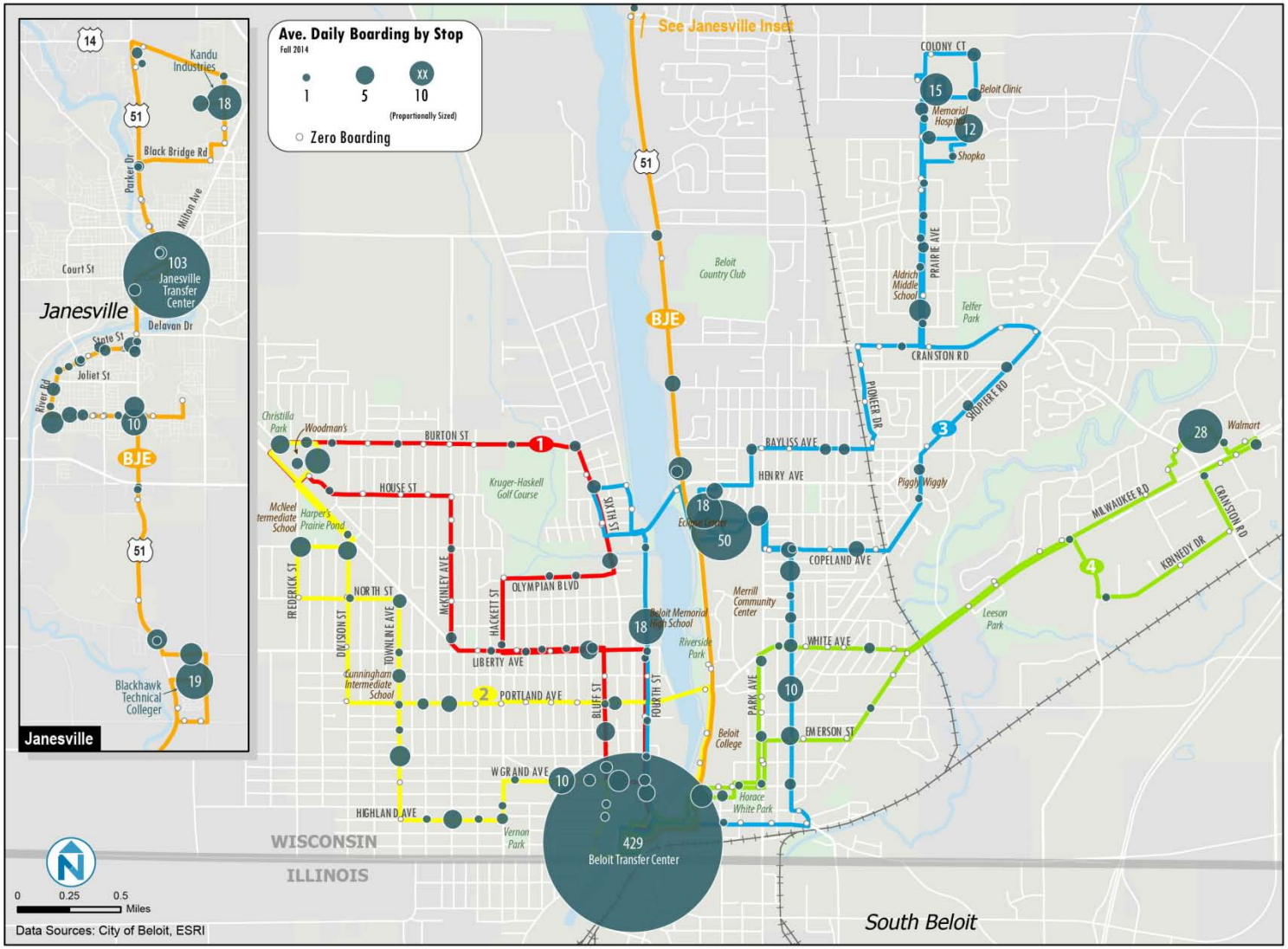
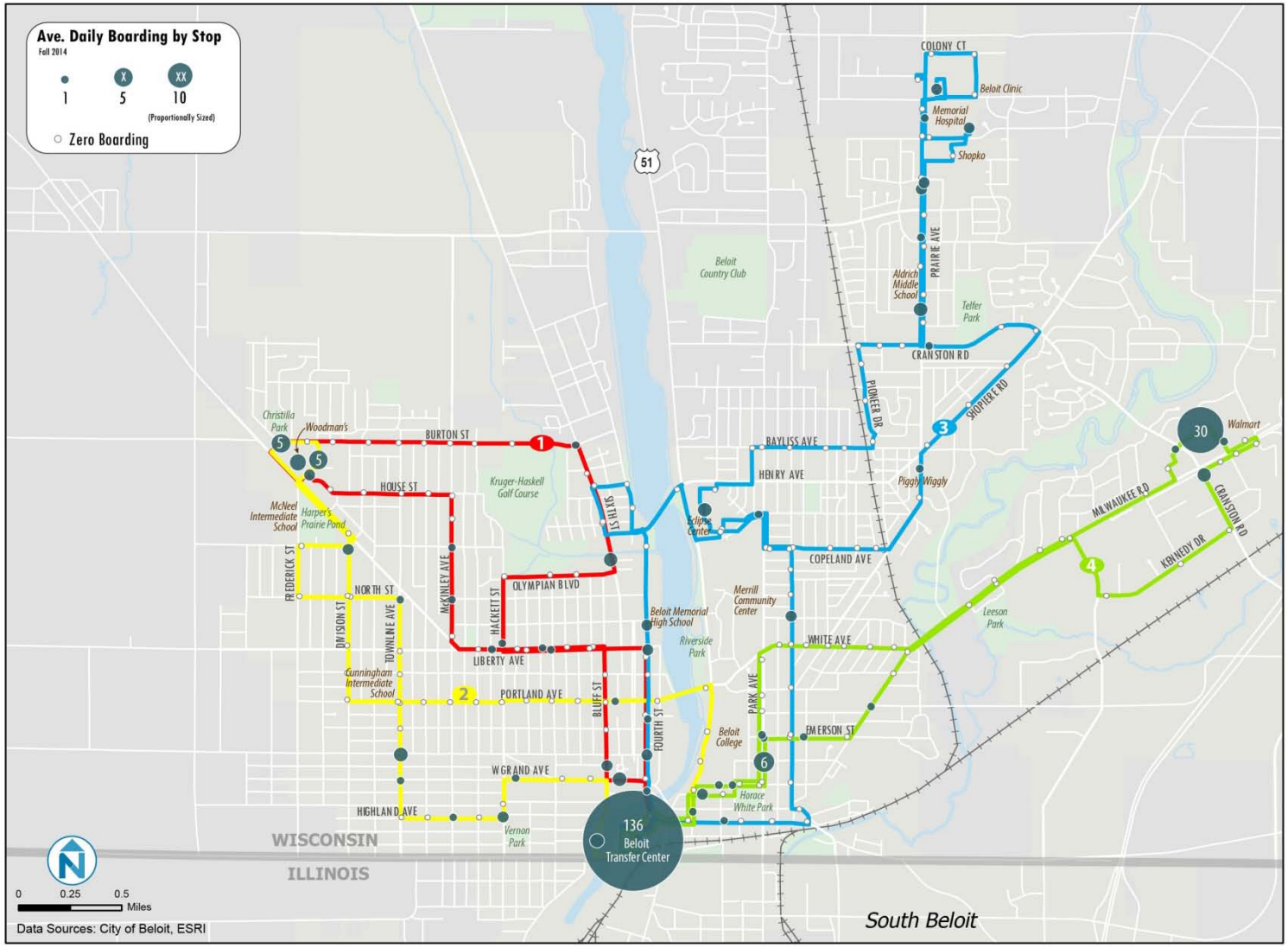


Figure 32 Systemwide Boardings - Saturday



6 ROUTE SUMMARIES

This section contains a summary of each route based on performance data and field observations. Average daily boardings and route productivity are based on data collected during November 2014. On time arrivals at the station are defined as trips arriving between 0 and 5 minutes after the scheduled arrival time.

ROUTE 1

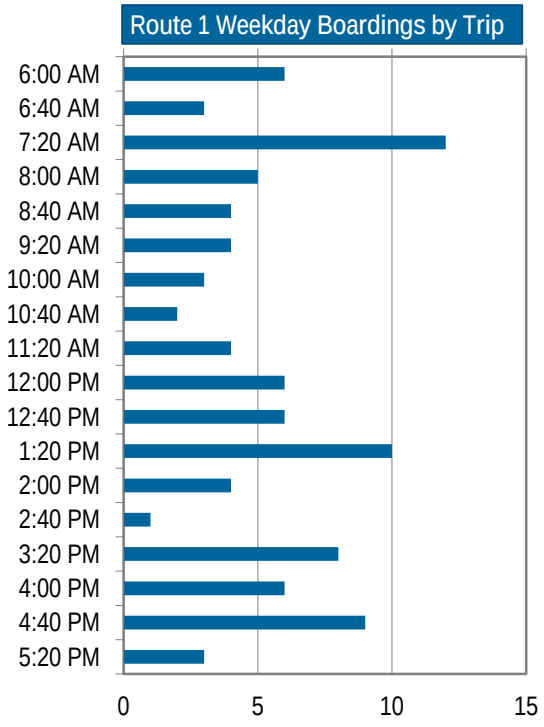
Description

Route 1 serves the west side of Beloit along a one-way loop alignment using one bus operating every 40 minutes on weekdays and every 80 minutes on Saturdays. The span of service is 6:00 a.m. to 5:55 p.m. on weekdays and 9:00 a.m. to 4:15 p.m. on Saturdays

From the Transfer Center, the route travels north on Fourth, west on Grand, north on Bluff, west on Liberty, north on McKinley, west on House, and north on Cleora to Woodman's. The route travels north on Madison for a short distance, and then west on Burton before turning south on Sixth. It then travels west on Olympian, south on Hackett, east on Liberty, and south on fourth to the Transfer Center.

Very few segments of the route are served bi-directionally, with the exception of portions of Liberty Ave. This means that some riders must travel out of direction to get to their destination.

Route Characteristics	
Stops	49
Route Length (miles)	8.43
Stop Spacing (miles)	0.17
Weekday	
Ridership	96
Productivity (boardings per hour)	9.1
On-Time Performance	72%
Saturday	
Ridership	45
Productivity (boardings per hour)	12.9
On-Time Performance	78%



Performance

Route 1 has 96 weekday boardings and 9.1 boardings per service hour, which is the lowest performance among all BTS routes. On Saturdays, the route has 45 daily boardings and 12.9 boardings per service hour.

The stops with at least seven weekday boardings and alightings include the Transfer Center, Woodman's, Woodside Terrace Apartments (Madison & Burton), Olympian & Oak, Parkview Apartments (Grand & Bluff), and Liberty & Vine. The segments along Bluff St and Liberty Ave have significantly more ridership than segments along the loop at the northern end of the route, excluding the stops mentioned above. The trip with the highest boarding activity is 7:20 a.m., with 12 weekday boardings.

Weekday on-time performance was measured at 72%, with 27% of arrivals early. Late running is not an issue on this route.

ROUTE 2

Description

Route 2 serves the west side of Beloit along a one-way loop alignment using one bus operating every 40 minutes on weekdays and every 80 minutes on Saturdays. The span of service is 6:00 a.m. to 5:55 p.m. on weekdays and 9:00 a.m. to 3:35 p.m. on Saturdays.

From the Transfer Center, the route travels to McNeel Intermediate School via Shirland, Bluff, Grand, Hackett, Highland, Townline, North, and Frederick. It then proceeds to Woodman's via Whipple, Madison, and Burton. From there it travels back downtown via Madison, Division, Portland, and Pleasant.

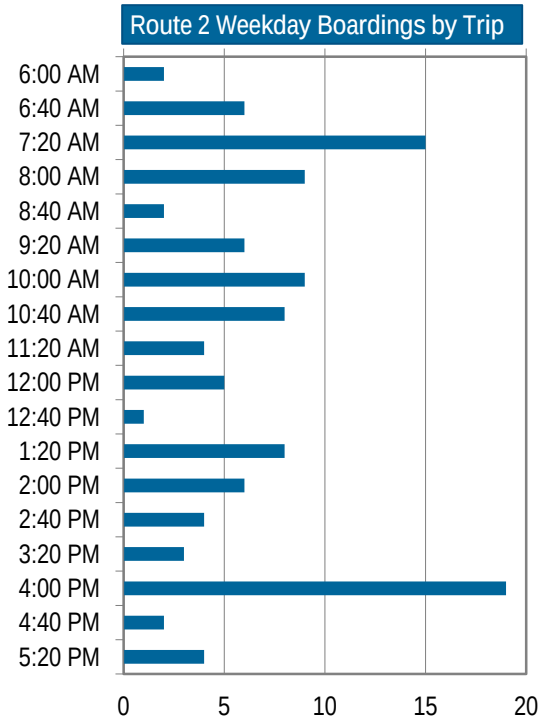
The route's one-way loop design provides coverage to most areas of west Beloit south of Portland and west of Madison, but some riders must travel out of direction to get to their destination.

Route Characteristics	
Stops	45
Route Length (miles)	9.06
Stop Spacing (miles)	0.20
Weekday	
Ridership	113
Productivity (boardings per hour)	10.8
On-Time Performance	81%
Saturday	
Ridership	29
Productivity (boardings per hour)	9.9
On-Time Performance	97%

Performance

Route 2 has 113 weekday boardings and 10.8 boardings per service hour, which third among all BTS routes in terms of performance. On Saturdays, the route has 29 daily boardings and 9.9 boardings per service hour.

Stops with the highest ridership include the Transfer Center, Grand & Eighth, Highland & McKinley, McNeel Intermediate School, and Woodman's. Several segments have low ridership, including Division St and portions of Portland Ave. The route has one segment in the inbound direction on the east side of the Rock River serving Pleasant Street, but it is not well utilized.



The highest ridership trips are at 7:20 a.m. and 4:00 p.m. Given the proximity to the school start and end times at McNeel, it is likely that many of the riders on these trips are students. All other trips have fewer than ten boardings per day.

The route's weekday on-time percentage is 81 %, with the remaining arrivals running early. No late arrivals were observed on this route.

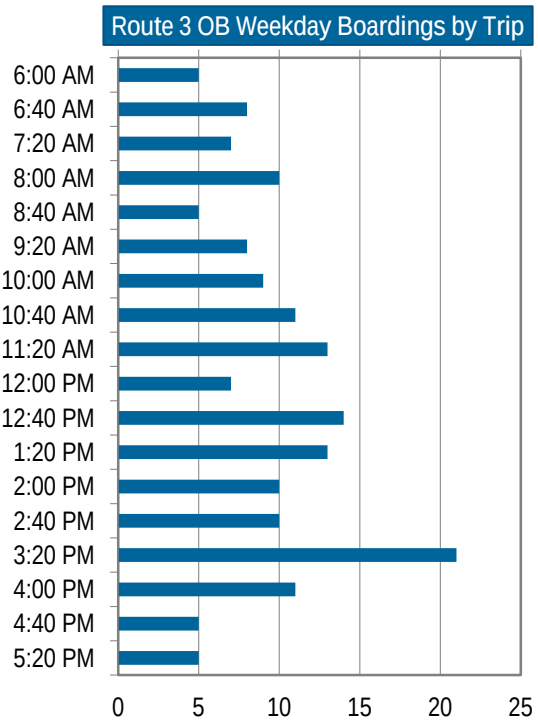
ROUTE 3

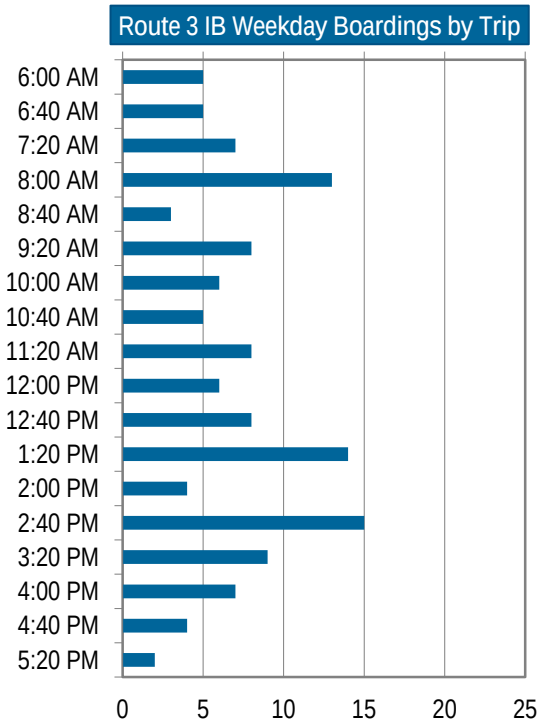
Description

Route 3 operates through central Beloit between the Transfer Center and Beloit Clinic at the north end of the city. On weekdays, the route is operated with two buses to provide 40 minute service from 6:00 a.m. to 5:55 p.m. On Saturdays, the route is operated with one bus providing service every 80 minutes from 9:00 a.m. to 4:20 p.m.

Route Characteristics	
Stops	84
Route Length (miles)	15.63
Stop Spacing (miles)	0.19
Weekday	
Ridership	301
Productivity (boardings per hour)	13.4
On-Time Performance	75%
Saturday	
Ridership	44
Productivity (boardings per hour)	6.4
On-Time Performance	73%

In the outbound direction, the route serves the west side of the Rock River along Fourth, does a loop to serve housing north of Maple,a nd then crosses the river to get to the Eclipse Center. From there, it operates on Henry, Church, Bayliss, Pioneer, Cranston, and Prairie before serving Shopko, Memorial Hospital andBeloit Clinic. In the inbound direction the route serves Prairie, Cranston, Shopiere, Prairie, Copeland, Eclipse Center, Wisconsin, and Broad. The only segment with bidirectional service is along Prairie Ave. The Eclipse Center is also served in both directions.





Performance

Route 3 is the highest performing route in the system with 301 weekday boardings and 13.4 boardings per hour. On Saturdays, ridership is significantly lower with many fewer trips, at 44 daily boardings and 6.4 boardings per hour.

Ridership is relatively even along the entire route with the exception of major trip generators. The highest ridership stops include the Transfer Center, Beloit Memorial High School, Eclipse Center, Shopko, Memorial Hospital, Beloit Clinic, Aldrich School, and Wisconsin & Woodard. The loop deviation north of Maple Ave on the west side of the river generates little ridership.

On weekdays, the route is on-time for 75% of arrivals, with the remainder being early. No late arrivals were observed.

ROUTE 4

Description

Route 4 operates with one bus on weekdays at 40 minute frequency from 6:00 a.m. to 5:55 p.m. On Saturdays, the route also operates at 40 minute frequency but has a shorter span from 9:00 a.m. to 4:15 p.m. It is the only BTS route that operates at the same frequency on Saturday as it does on weekdays.

In the outbound direction, the route operates east from the Transfer Center along Shirland, State, Broad, Pleasant, Bushnell, Park, Emerson, and Milwaukee. The route serves a terminal loop along Willowbrook, Kennedy, and Cranston before completing a U-turn on Milwaukee and serving Walmart. The route then serves the Staples shopping center before proceeding inbound along Milwaukee, White, Park, Bushnell, Public, Pleasant, and Broad.

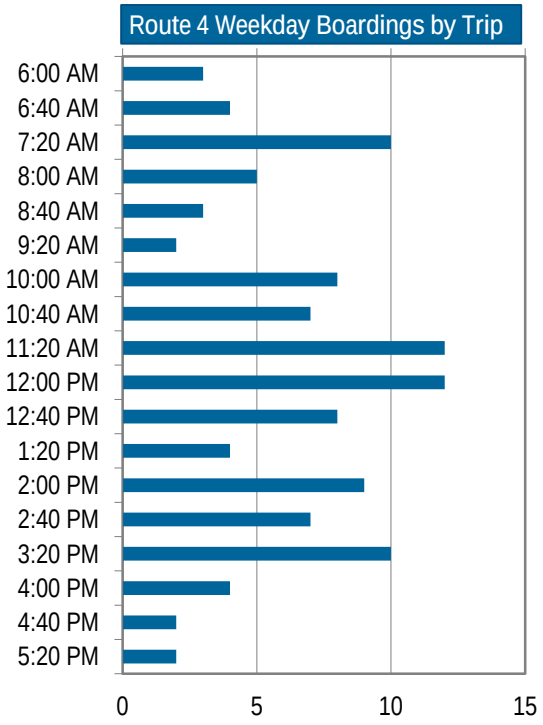
Performance

Route 4 has 112 weekday boardings and 10.7 boardings per service hour, which is the second worst among all BTS routes. Productivity is higher on Saturdays, with 83 daily boardings and 12.9 boardings per hour.

Ridership activity on the route mostly occurs at the Transfer Center at Walmart. The only other stops with more than five boardings and alightings a day on weekdays are Scoville Hall and several stops near Walmart. There is little ridership along other route segments, particularly along Emerson and Milwaukee.

The route was observed operating on-time 69% of the time and early for 31%. No late on-time performance was observed.

Route Characteristics	
Stops	50
Route Length (miles)	9.46
Stop Spacing (miles)	0.19
Weekday	
Ridership	112
Productivity (boardings per hour)	10.7
On-Time Performance	69%
Saturday	
Ridership	83
Productivity (boardings per hour)	12.9
On-Time Performance	87%



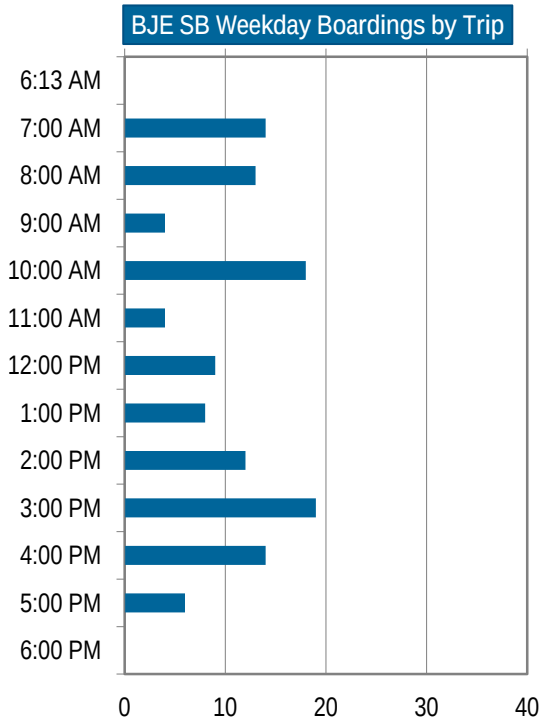
BELOIT – JANESVILLE EXPRESS

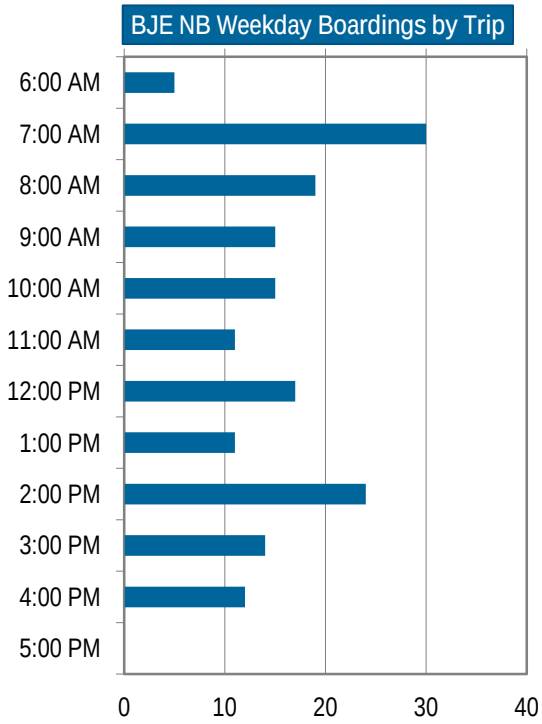
Description

The Beloit-Janesville Express is a route jointly operated by Beloit Transit System and Janesville Transit System to provide service between the two cities. Each system operates one bus on the route to provide combined sixty minute service from 6:00 a.m. to 6:13 p.m. on weekdays. Saturday service is not provided.

Route Characteristics	
Stops	95
Route Length (miles)	48.14
Stop Spacing (miles)	0.51
Weekday	
Ridership	294
Productivity (boardings per hour)	12.8
On-Time Performance	82%

Within Beloit, the route operates on Pleasant St/Riverside Dr (Hwy 51). Between Beloit and downtown Janesville, the route serves several major destinations, including Blackhawk Tech, Industries, and the Rock County Job Center. In north Janesville, major destinations include KANDU Industries and the Rock County Complex. Rock Valley Community Programs, KANDU





Performance

The BJE route has 294 weekday boardings and 12.8 boardings per revenue hour, which is comparable to BTS Route 3. The two most significant stops on the route are Beloit Transfer Center and Janesville Transfer Center, indicating that many riders are destined for the city downtowns or transferring to other routes. Other stops with significant ridership activity include

Blackhawk Tech, the Rock County Job Center, Rock Valley Community Program, University of Wisconsin – Rock County, and KANDU Industries.

Observed on-time performance was high overall, with 82% on-time arrivals. Operators have indicated that it is difficult for certain trips to operate on time, particularly 8:00 a.m. and 2:00 p.m.

7 SCHOOL TRIPPER ANALYSIS

OVERVIEW

BTS operates a series of tripper routes providing service to schools in Beloit. Each route operates with one trip per time period, with the exception of Route 3X, which operates in the AM only. This section describes the performance of the four tripper routes, and boardings and alighting for each route are shown in Figures 33 and 34.

- Route 1X (McNeel School) – AM and PM
- Route 2X (Cunningham School) – AM and PM
- Route 3X (Beloit Memorial High School) – AM only
- Aldrich Route (Aldrich School) – AM and PM

ROUTES

Route 1X

Route 1X provides service to and from McNeel Intermediate School. In the morning, the route operates from the Transfer Center to McNeel, primarily on Bluff, Liberty, and Madison. In the afternoon, the route follows a much different route, starting at McNeel, serving neighborhoods in west Beloit and the library, and then traveling across town to serve Spring Brook Village mobile home park on Colley Road.

Overall ridership is low to moderate, with 6 average daily boardings in the morning and 9 average daily boardings in the afternoon. In the morning, riders board at the Transfer Center and at several other stops, and all riders alight at McNeel. In the afternoon, the route is serving two ridership patterns. About 5 to 6 riders board at McNeel, and all riders generally alight at several different stops in west Beloit so that the load is zero before serving the library stop. At the library, an average of three riders a day board the bus and ride to Spring Brook Village mobile home park.

Route 2X

Route 2X provides service to and from Cunningham Intermediate School. In the morning, the route operates from the Transfer Center to Cunningham Primarily via Bluff, Grand, Hackett, Highland, and Townline. In the afternoon, the route travels from Cunningham to the Transfer Center via Portland and Pleasant.

Ridership on the route is low, with just four average daily boardings in the morning and one boarding in the afternoon. In the morning, almost all riders board at the Transfer Center and alight at Cunningham, and in the afternoon, almost all riders board at Cunningham and alight at the Transfer Center.

Route 3X

Route 3X provides service to Beloit Memorial High School in the morning only with an alignment that is significantly different than the regular Route 3. Route 3X starts at Freeman Parkway Apartments, serves Spring Brook Village mobile home park, and then stops along Wisconsin, Grand, and Fourth before ending at Beloit Memorial High School.

The route generates moderate ridership with an average of 11 boardings per trip. The stops responsible for most of the ridership are Spring Brook Village Mobile Home Park and Wisconsin & Copeland.

Aldrich Tripper

The Aldrich Tripper provides service between the Transfer Center and Aldrich Middle School and serves many of the same streets that Route 3 inbound does. From the Transfer Center, the route operates primarily on Grand, Wisconsin, Henry, Shopiere, Cranston, and Prairie to Aldrich Middle School. The routing is almost identical in the afternoon, but it operates in the reverse direction.

The route has moderate performance, with 11 average daily boardings in the morning and 13 boardings in the afternoon. In the morning, ridership comes from the Transfer Center, Wisconsin & Keeler, and Wisconsin & Harvey stops. In the afternoon, riders board at Aldrich and alight at Wisconsin & Copeland/Harvey/Alice/Keeler, as well as the Transfer Center.

Figure 33 Total Daily Boardings – School Trippers (AM)

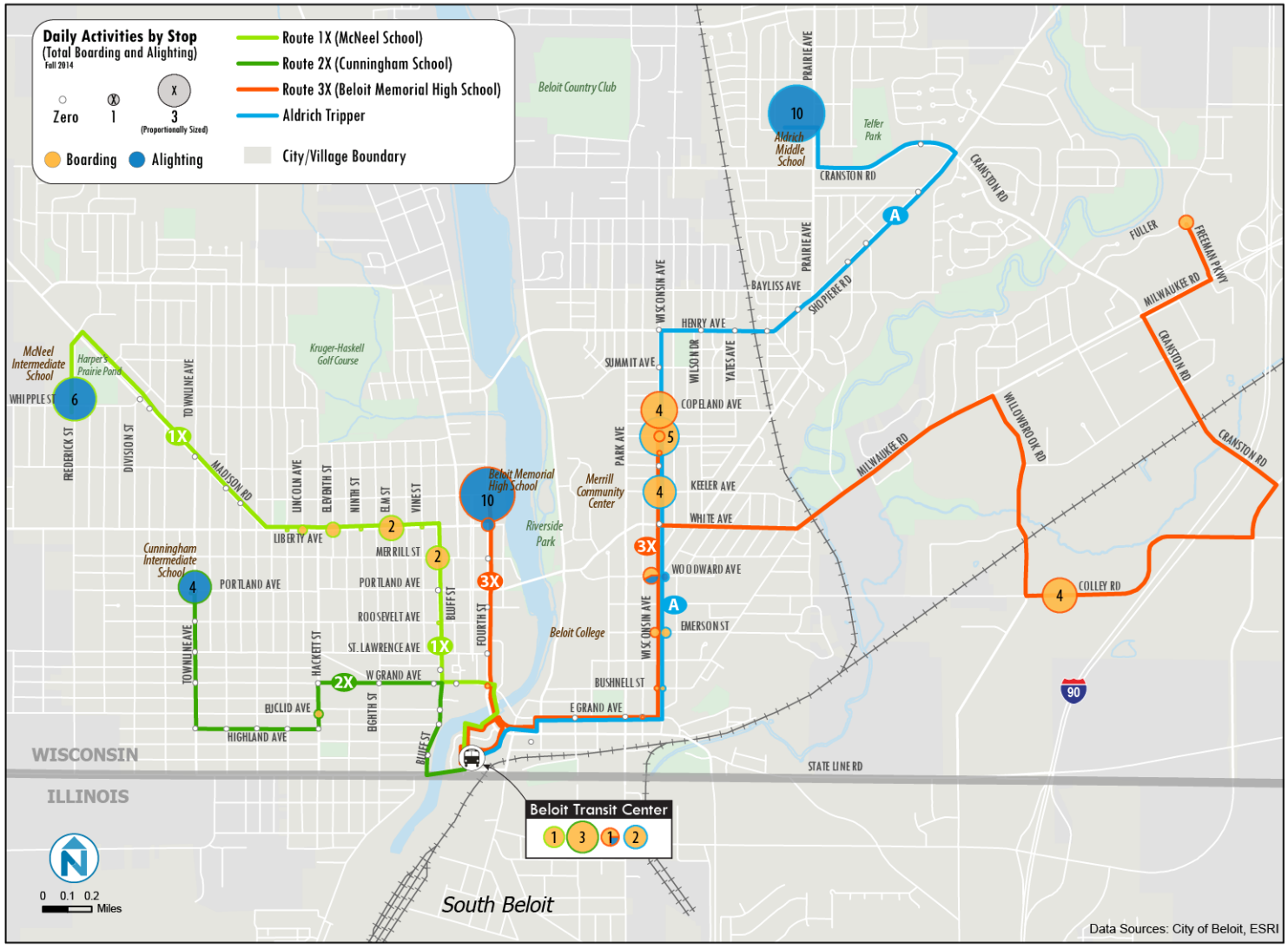
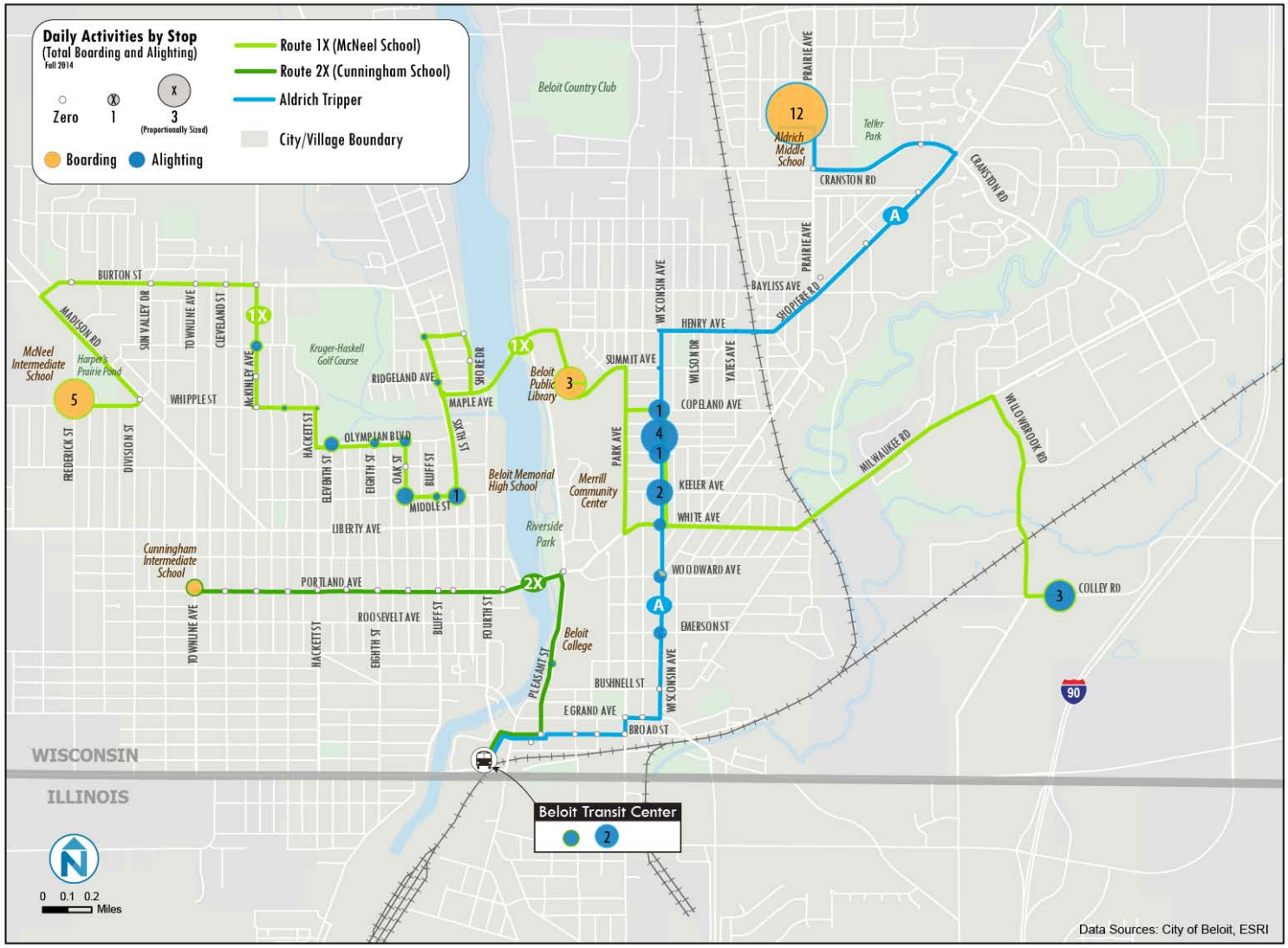


Figure 34 Total Daily Activities – School Trippers (PM)

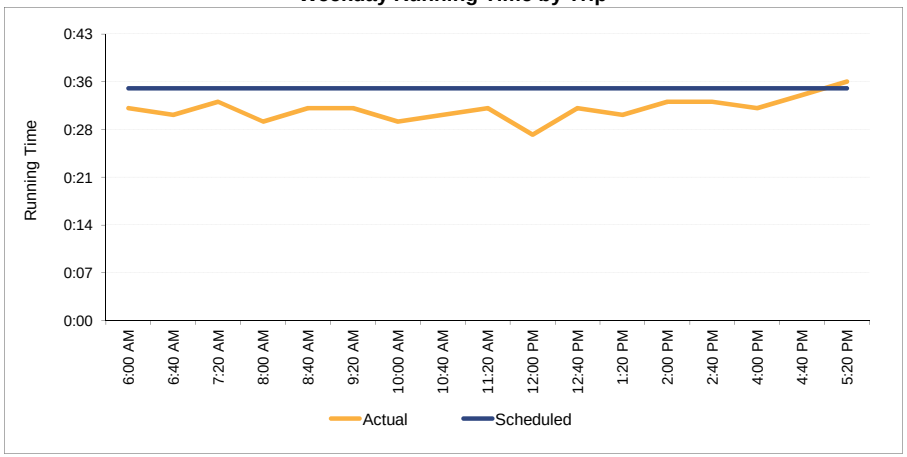


APPENDIX A: ROUTE SCORECARDS

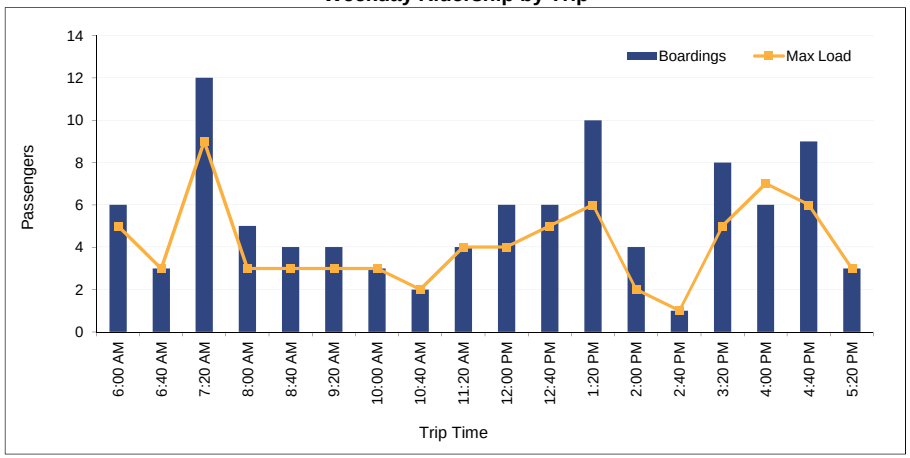
Route 1 Weekday

		Route Productivity Summary								Route Operations Summary					
		Activity		Service		Utilization		Productivity		On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Revenue Miles	Average Trip Length	Passenger Miles	Boardings per Service Hour	Boardings per Revenue Mile	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
	Total	96	90	10.5				9.1		72%	27%	1%	47	Bluff & Roosevelt	L
	Loop	96	90	10.5				9.1		72%	27%	1%	47	Bluff & Roosevelt	L
	By Segment														
1	Transfer Center to Grinnell Hall	49	6	1.2				40.8		94%	6%				
2	Grinnell Hall to Family Dollar	16	26	3.3				4.8		61%	39%				
3	Family Dollar to Woodman's	1	3	0.3				3.3		61%	39%				
4	Woodman's to Fourth & Merrill	27	19	3.6				7.5		89%	6%	6%			
5	Fourth & Merrill to Transfer Center	3	36	2.1				1.4		24%	76%				
	By Time Period														
	Early AM														
	AM	30	30	2.9				10.3					18	Liberty & Tenth	L
	Midday	40	34	5.3				7.6					23	Transfer Center	L
	PM	26	26	2.3				11.1					16	Transfer Center	L
	Eve														
	Night														
	Owl														

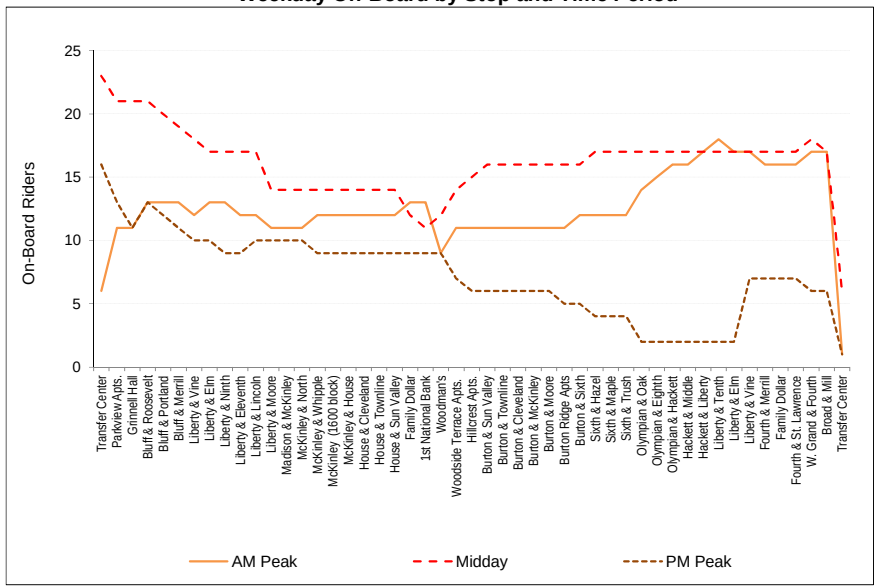
Weekday Running Time by Trip



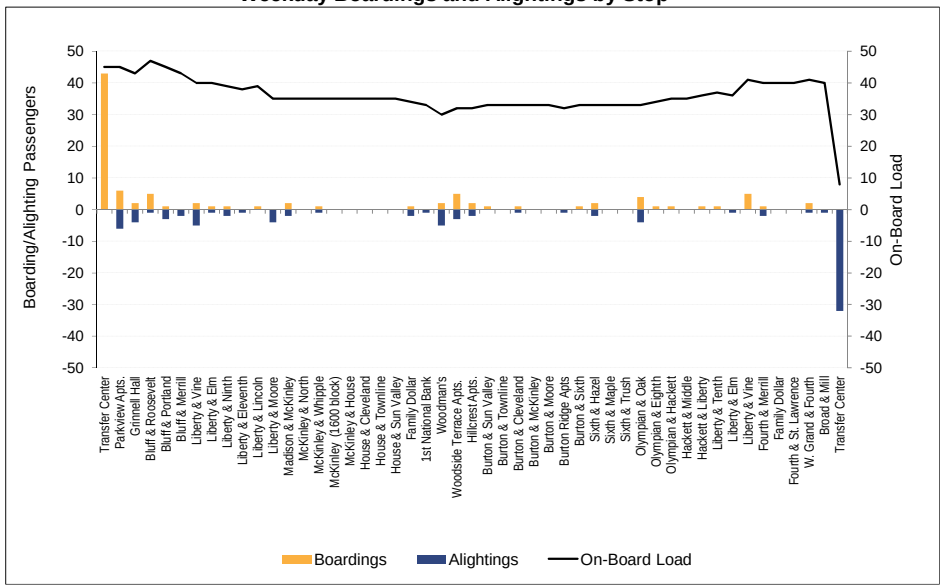
Weekday Ridership by Trip



Weekday On-Board by Stop and Time Period



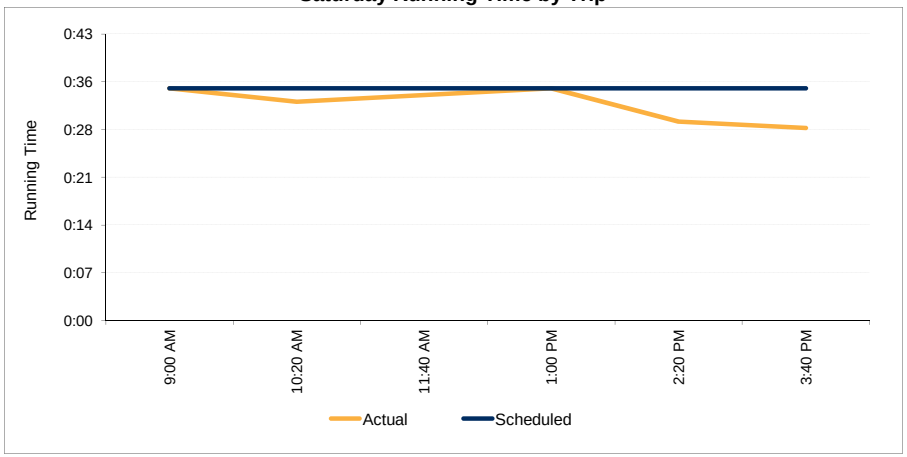
Weekday Boardings and Alightings by Stop



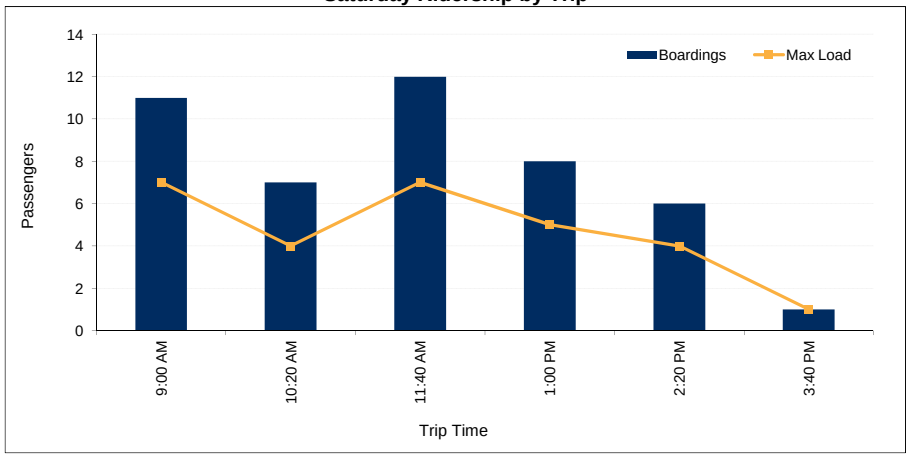
Route 1 Saturday

		Route Productivity Summary								Route Operations Summary					
		Activity		Service		Utilization		Productivity		On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Revenue Miles	Average Trip Length	Passenger Miles	Boardings per Service Hour	Boardings per Revenue Mile	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
	Total	45	35	3.5				12.9		78%	19%	3%	23	Olympian & Oak	L
	Loop	45	35	3.5				12.9		78%	19%	3%	23	Olympian & Oak	L
	By Segment														
1	Transfer Center to Grinnell Hall	22	3	0.4				55.0		100%					
2	Grinnell Hall to Family Dollar	6	8	1.1				5.5		67%	33%				
3	Family Dollar to Woodman's	2	3	0.1				20.0		83%	17%				
4	Woodman's to Fourth & Merrill	15	8	1.2				12.5		67%	17%	17%			
5	Fourth & Merrill to Transfer Center		13	0.7						50%	50%				
	By Time Period														
	Early AM														
	AM														
	Midday	44	33	2.9				15.1					22	Sixth & Hazel	L
	PM	1	2	0.6				1.7					1	Transfer Center	L
	Eve														
	Night														
	Owl														

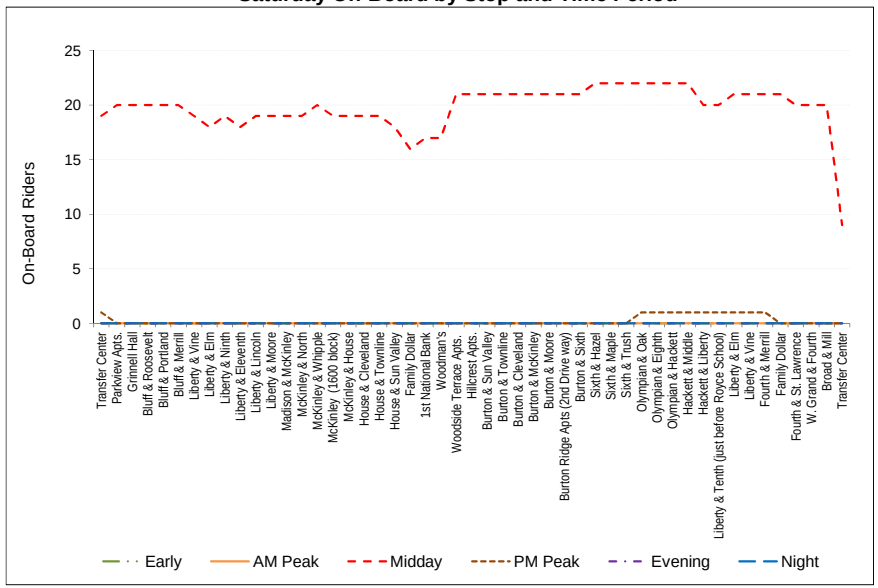
Saturday Running Time by Trip



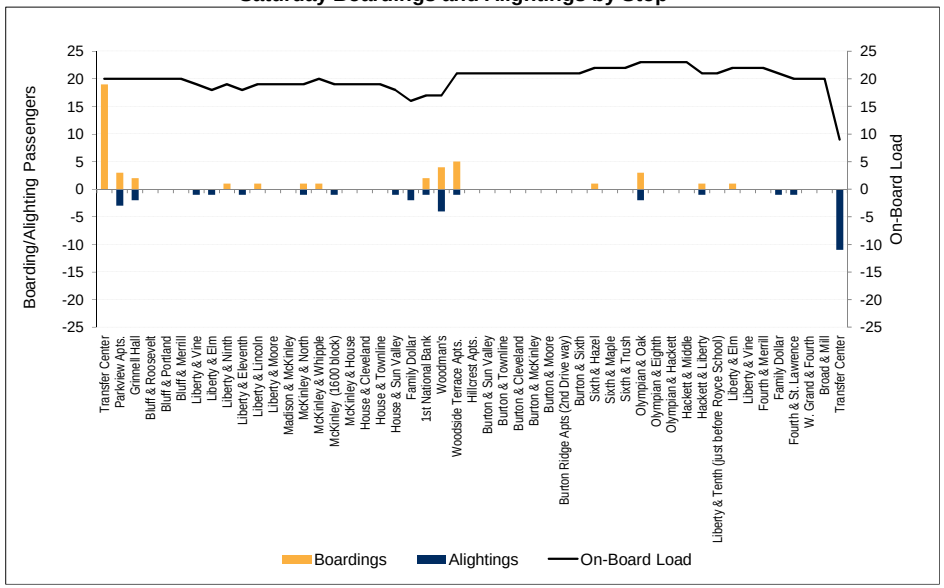
Saturday Ridership by Trip



Saturday On-Board by Stop and Time Period



Saturday Boardings and Alightings by Stop

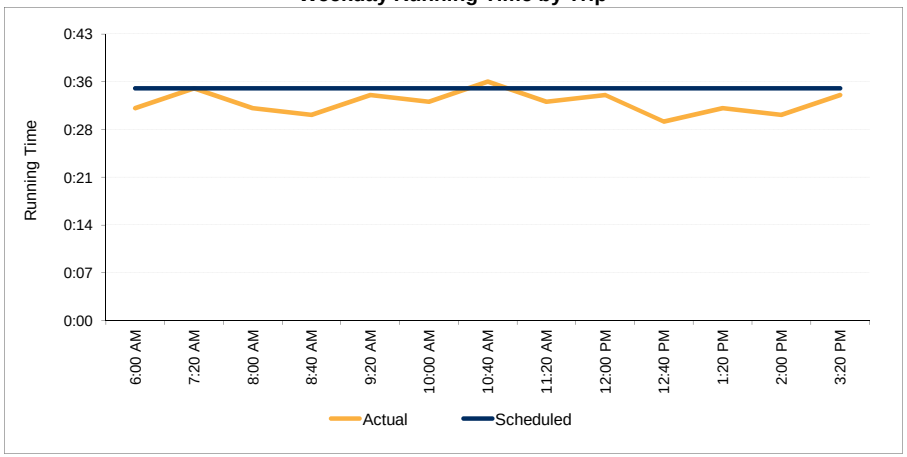


NELSON NYGAARD

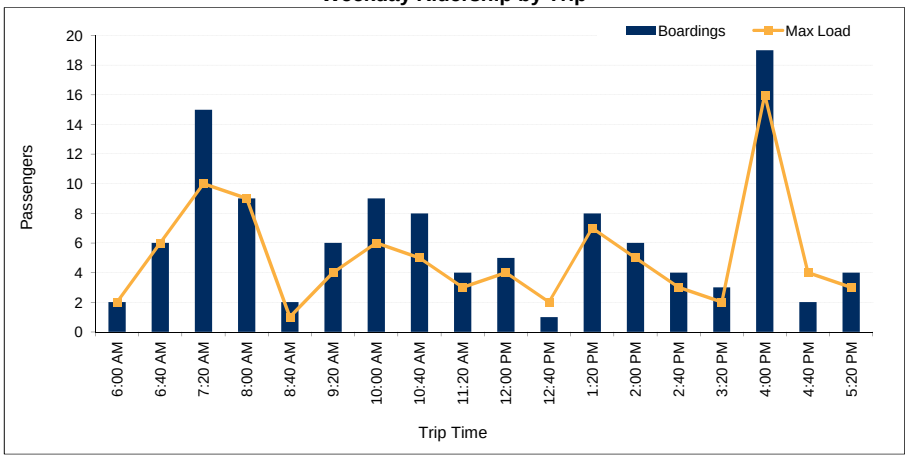
Route 2 Weekday

		Route Productivity Summary								Route Operations Summary					
		Activity		Service		Utilization		Productivity		On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Revenue Miles	Average Trip Length	Passenger Miles	Boardings per Service Hour	Boardings per Revenue Mile	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
	Total	113	112	10.5				10.8		81%	19%	0%	61	Portland & McKinley	L
	Loop	113	112	10.5				10.8		81%	19%	0%	61	Portland & McKinley	L
	By Segment														
1	Transfer Center to Townline & W. Grand	67	24	2.4				27.9		100%					
2	Townline & W. Grand to McNeel	16	9	2.1				7.6		85%	15%				
3	McNeel to Woodman's	7	12	0.9				7.8		93%	7%				
4	Woodman's to Portland & Sixth	20	14	3.0				6.7		86%	14%				
5	Portland & Sixth to Transfer Center	3	53	2.1				1.4		35%	65%				
	By Time Period														
	Early AM														
	AM	34	34	2.9				11.7					24	Townline & Roosevelt	L
	Midday	51	49	5.3				9.7					24	W. Grand & Eighth	L
	PM	28	29	2.3				12.0					22	Division & Whipple	L
	Eve														
	Night														
	Owl														

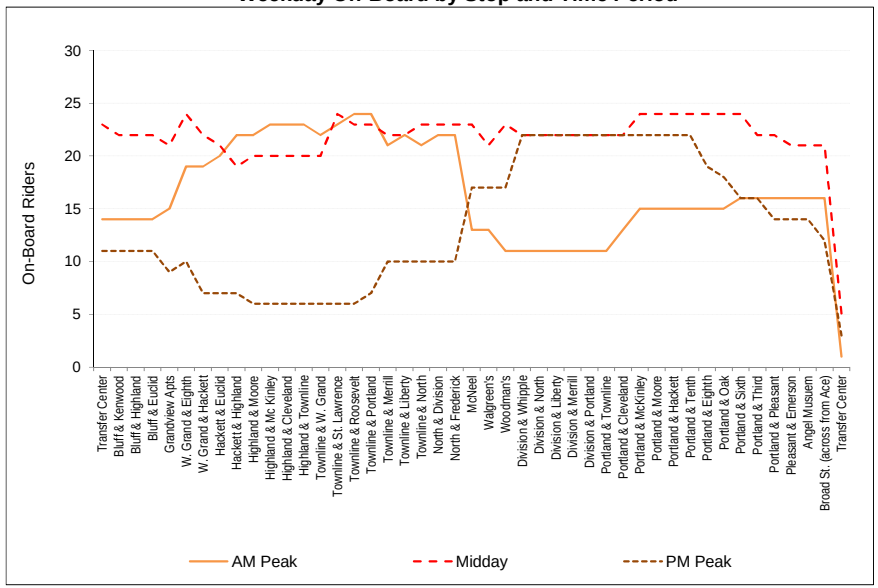
Weekday Running Time by Trip



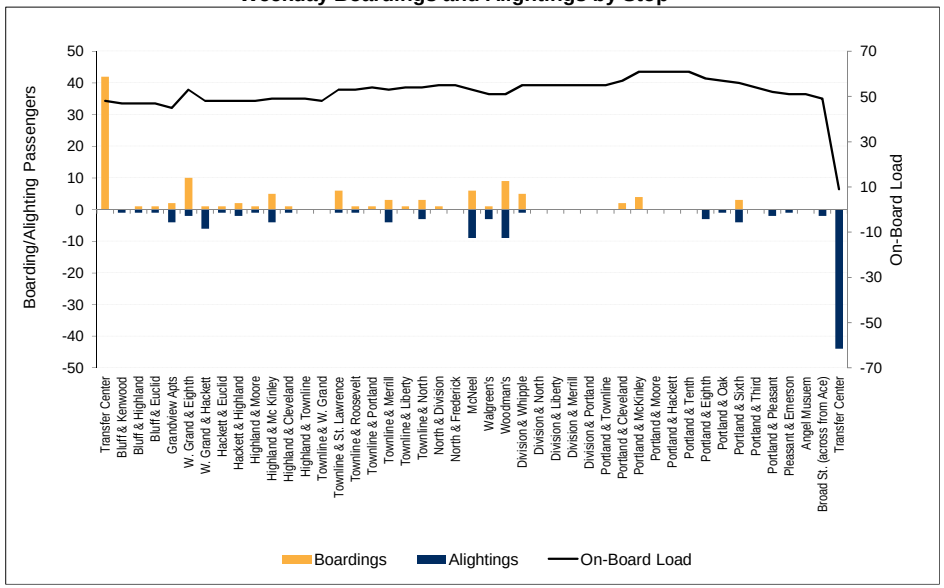
Weekday Ridership by Trip



Weekday On-Board by Stop and Time Period

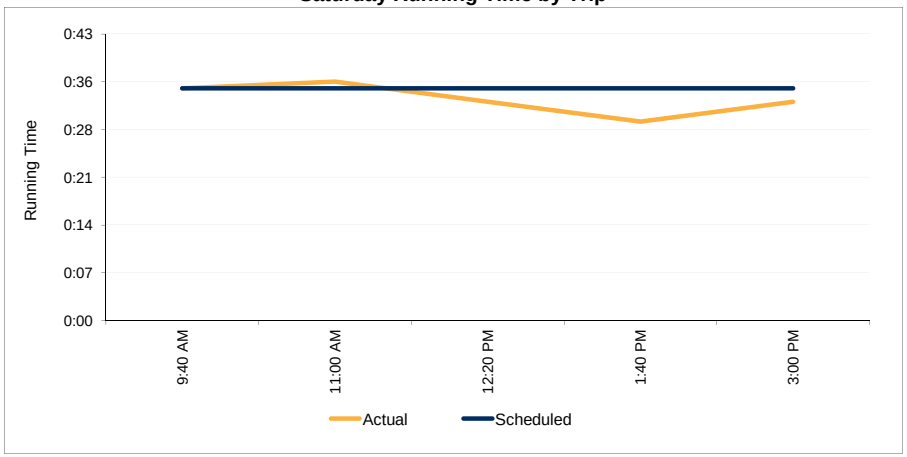


Weekday Boardings and Alightings by Stop

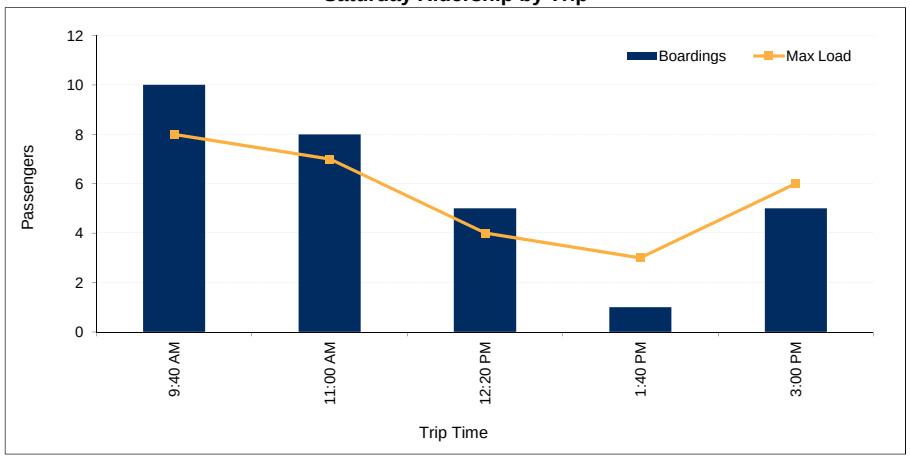


Route 2 Saturday		Route Productivity Summary								Route Operations Summary					
		Activity		Service		Utilization		Productivity		On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Revenue Miles	Average Trip Length	Passenger Miles	Boardings per Service Hour	Boardings per Revenue Mile	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
	Total	29	37	2.9				9.9		97%	3%	0%	21	Bluff & Kenwood	L
	Loop	29	37	2.9				9.9		97%	3%	0%	21	Bluff & Kenwood	L
	By Segment														
1	Transfer Center to Townline & W. Grand	16	9	0.7				24.0		100%					
2	Townline & W. Grand to McNeel	5	8	0.6				8.6		100%					
3	McNeel to Woodman's			0.3						100%					
4	Woodman's to Portland & Sixth	7	9	0.8				8.4		100%					
5	Portland & Sixth to Transfer Center	1	11	0.6				1.7		80%	20%				
	By Time Period														
	Early AM														
	AM														
	Midday	24	32	2.3				10.3					15	Bluff & Kenwood	L
	PM	5	5	0.6				8.6					6	Transfer Center	L
	Eve														
	Night														
	Owl														

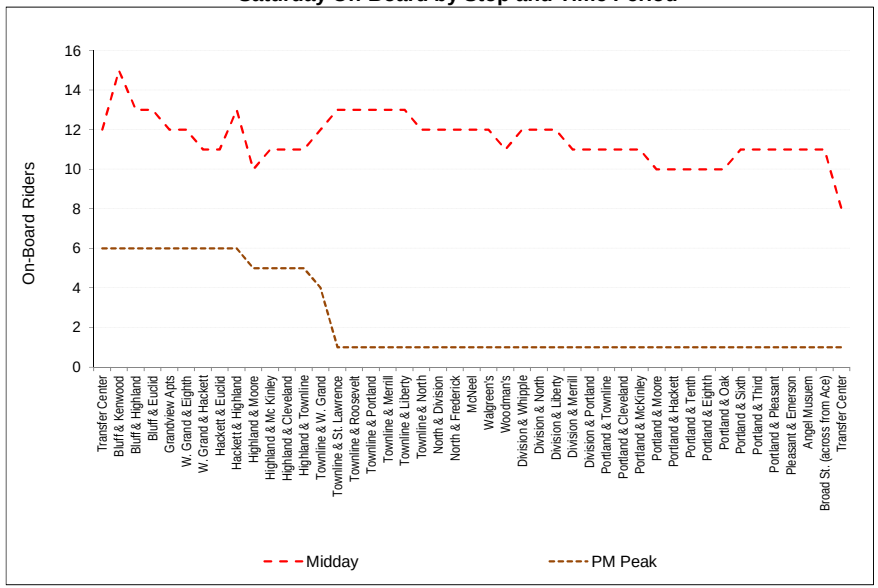
Saturday Running Time by Trip



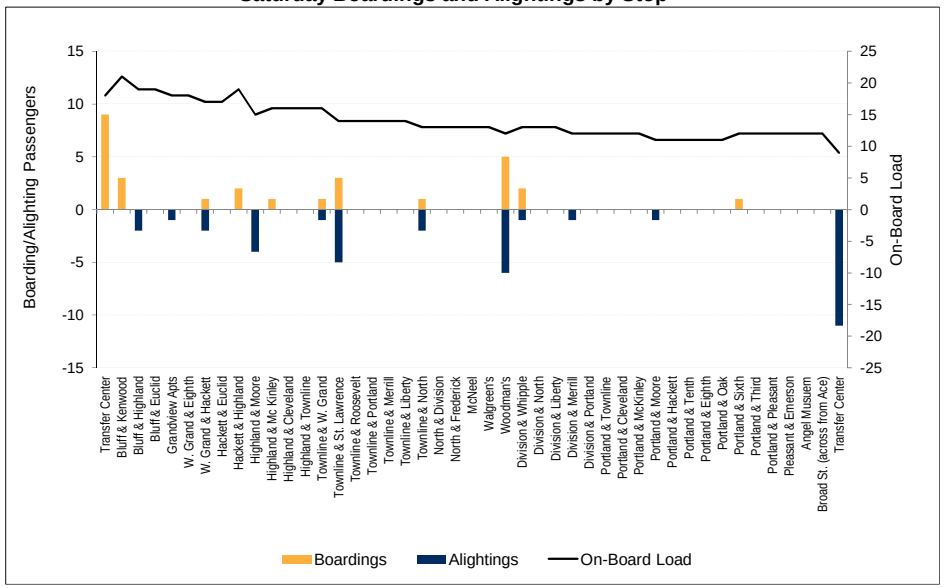
Saturday Ridership by Trip



Saturday On-Board by Stop and Time Period



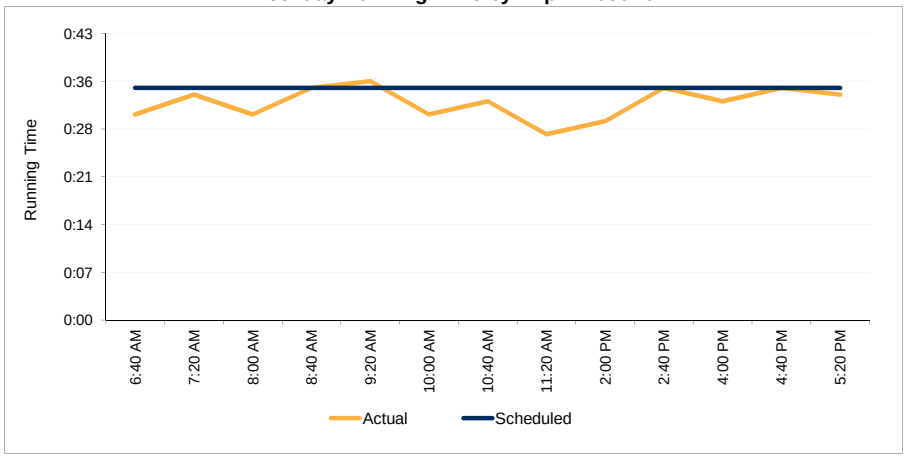
Saturday Boardings and Alightings by Stop



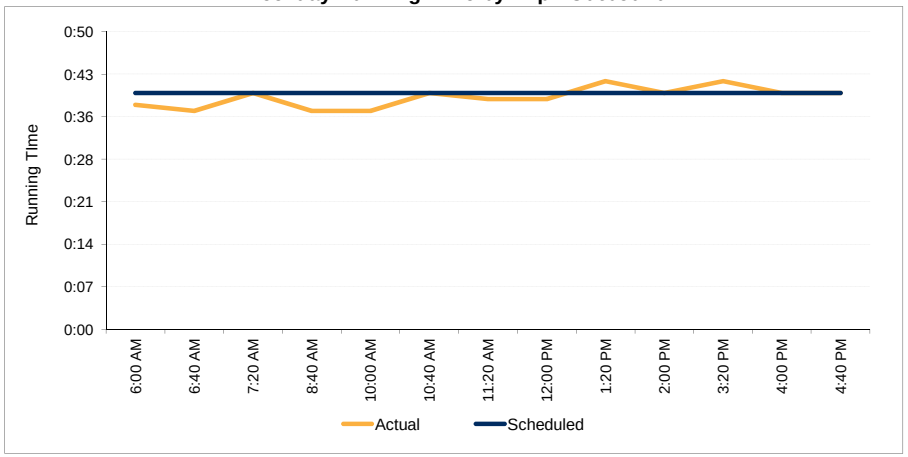
Route 3 Weekday

		Route Productivity Summary								Route Operations Summary					
		Activity		Service		Utilization		Productivity		On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Revenue Miles	Average Trip Length	Passenger Miles	Boardings per Service Hour	Boardings per Revenue Mile	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
	Total	301	298	22.5				13.4		75%	25%	0%	112	Shore & Carpenter	O
	Inbound	129	146	10.5				12.3		75%	25%	0%	103	Wisconsin & Bushnell	I
	Outbound	172	152	12.0				14.3		75%	25%	0%	112	Shore & Carpenter	O
	By Segment														
1	Beloit Clinic to Aldrich School	47	59	4.8				9.8		77%	23%				
2	Aldrich School to Eclipse & Park	81	57	7.2				11.3		73%	27%				
3	Eclipse & Park to Transfer Center	173	182	10.5				16.5		59%	41%				
	By Time Period														
	Early AM														O
	AM	63	58	5.6				11.3					30	Wisconsin & Bushnell	I
	Midday	164	163	11.3				14.6					61	Wisconsin & Bushnell	I
	PM	74	77	5.7				13.1					43	Fourth & Middle	O
	Eve														O
	Night														O
	Owl														O

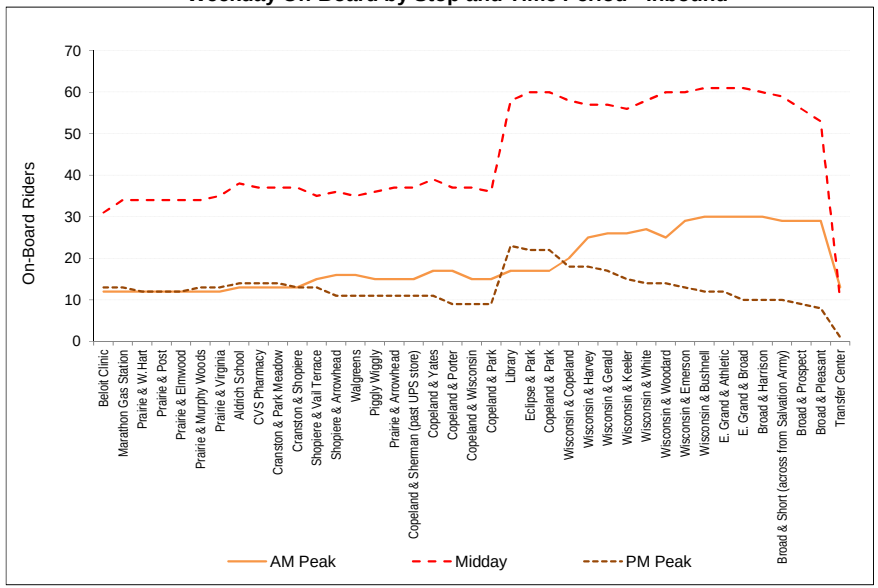
Weekday Running Time by Trip - Inbound



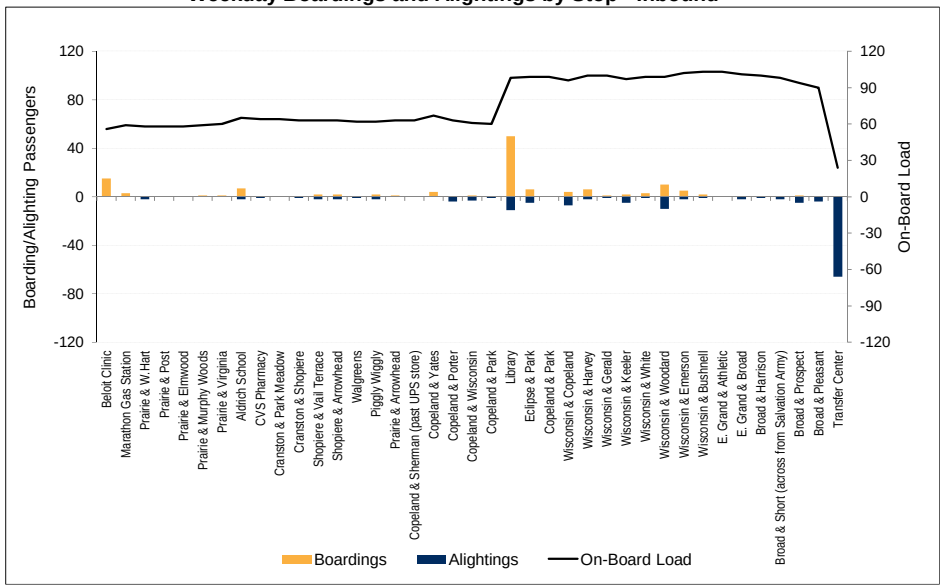
Weekday Running Time by Trip - Outbound



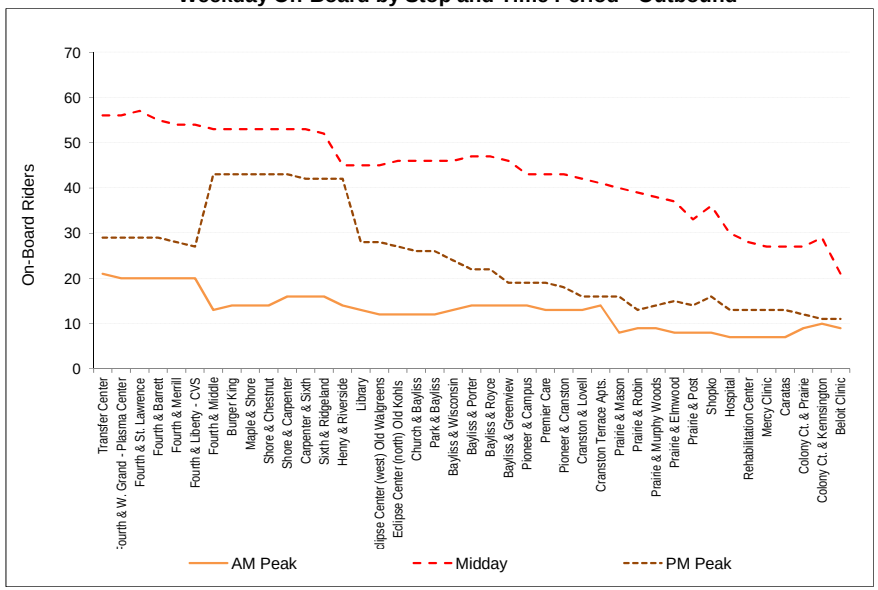
Weekday On-Board by Stop and Time Period - Inbound



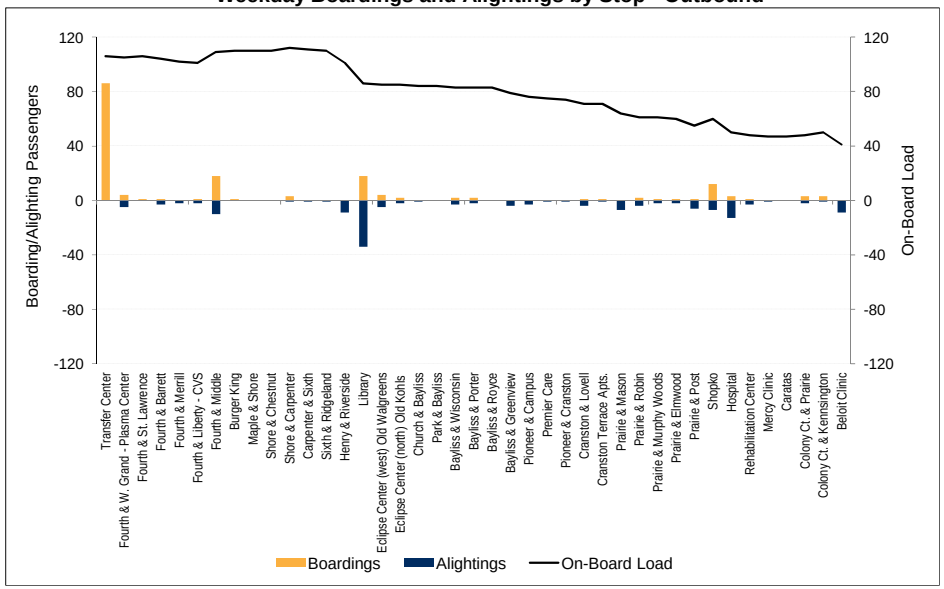
Weekday Boardings and Alightings by Stop - Inbound



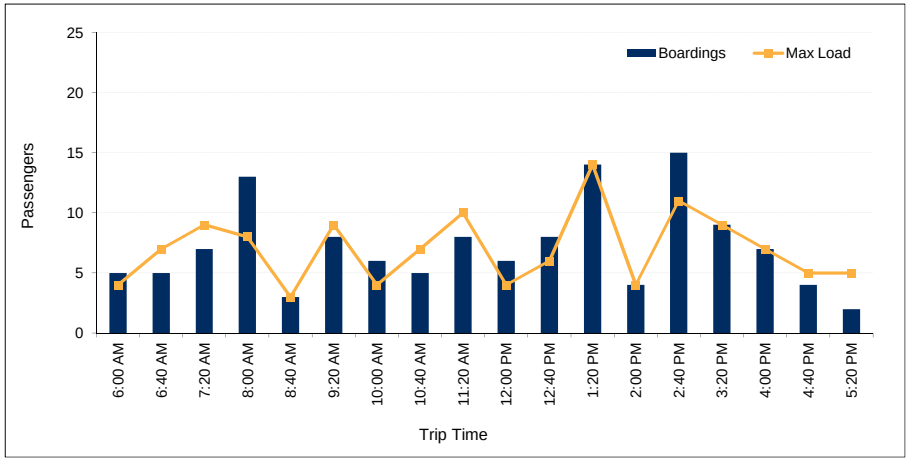
Weekday On-Board by Stop and Time Period - Outbound



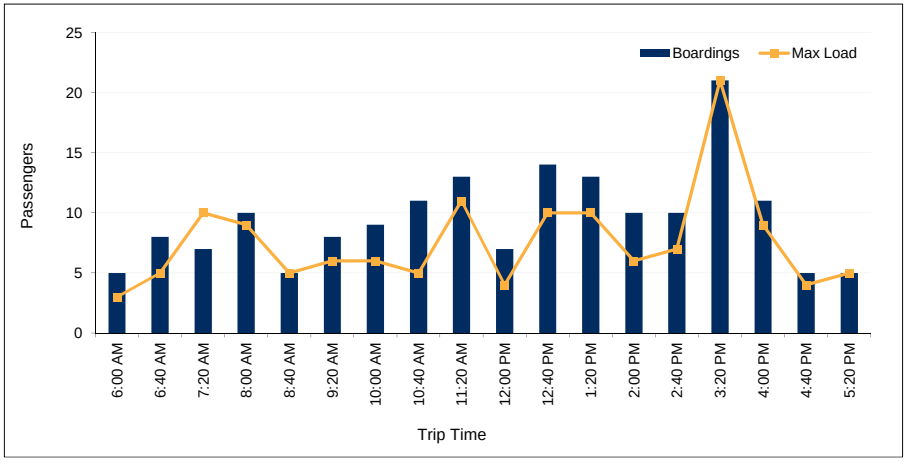
Weekday Boardings and Alightings by Stop - Outbound



Weekday Ridership by Trip - Inbound



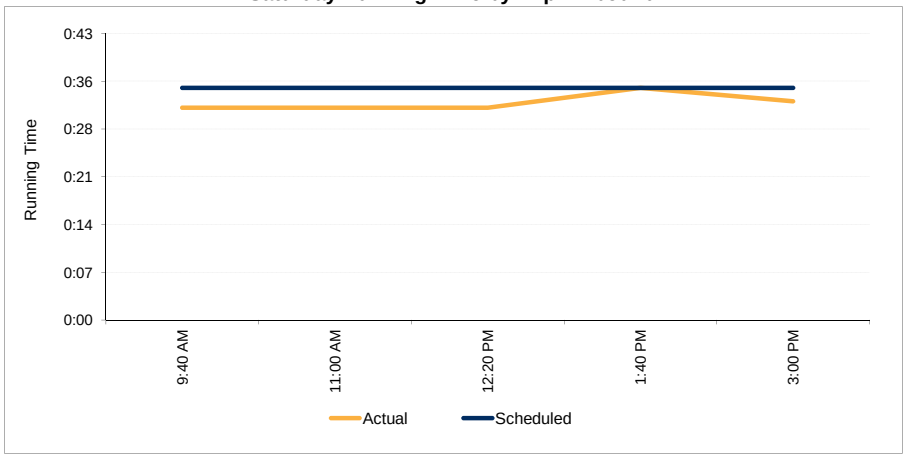
Weekday Ridership Time by Trip - Outbound



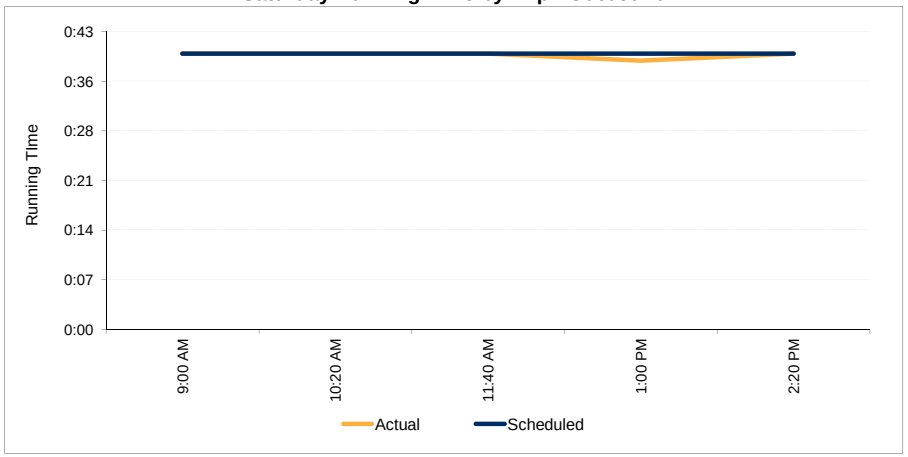
Route 3 Saturday

		Route Productivity Summary								Route Operations Summary					
		Activity		Service		Utilization		Productivity		On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Revenue Miles	Average Trip Length	Passenger Miles	Boardings per Service Hour	Boardings per Revenue Mile	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
	Total	44	44	6.9				6.4		73%	27%	0%	22	Fourth & Middle	O
	Inbound	14	23	2.9				4.8		58%	42%	0%	21	Wisconsin & Keeler	I
	Outbound	30	21	4.0				7.5		87%	13%	0%	22	Fourth & Middle	O
	By Segment														
1	Beloit Clinic to Aldrich School	10	11	1.5				6.7		90%	10%				
2	Aldrich School to Eclipse & Park	5	6	2.2				2.3		38%	63%				
3	Eclipse & Park to Transfer Center	29	27	3.2				8.9		43%	57%				
	By Time Period														
	Early AM														O
	AM														O
	Midday	43	43	5.7				7.6					22	Fourth & Middle	O
	PM	1	1	1.3				0.8					1	Piggly Wiggly	I
	Eve														O
	Night														O
	Owl														O

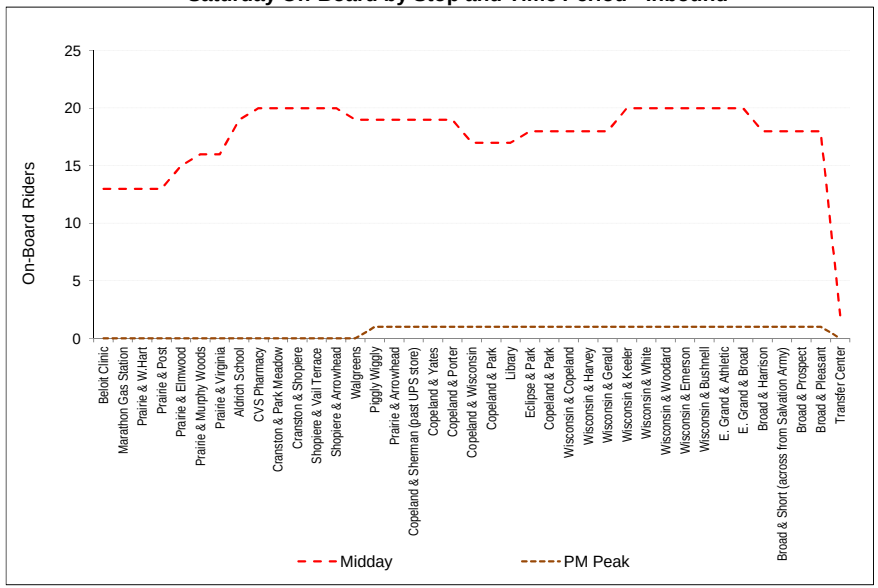
Saturday Running Time by Trip - Inbound



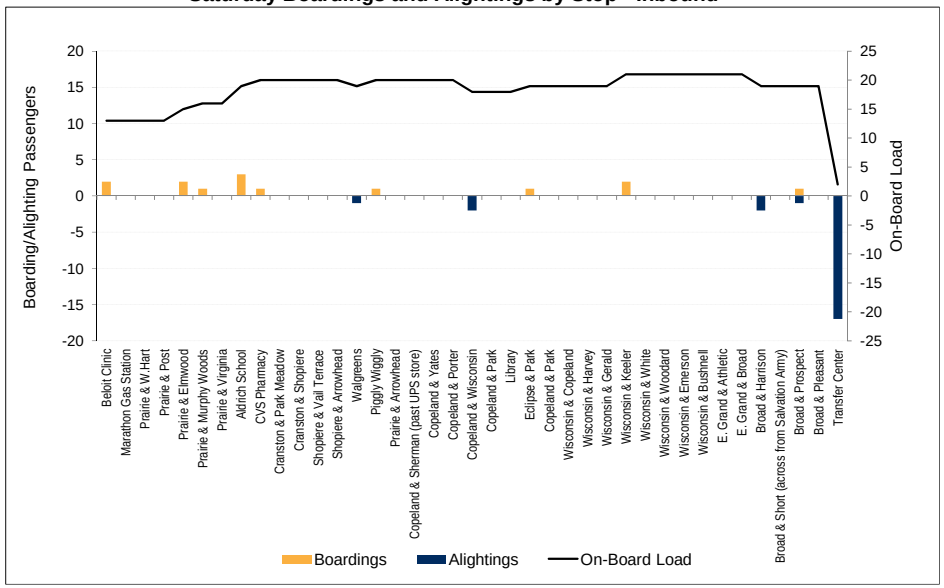
Saturday Running Time by Trip - Outbound



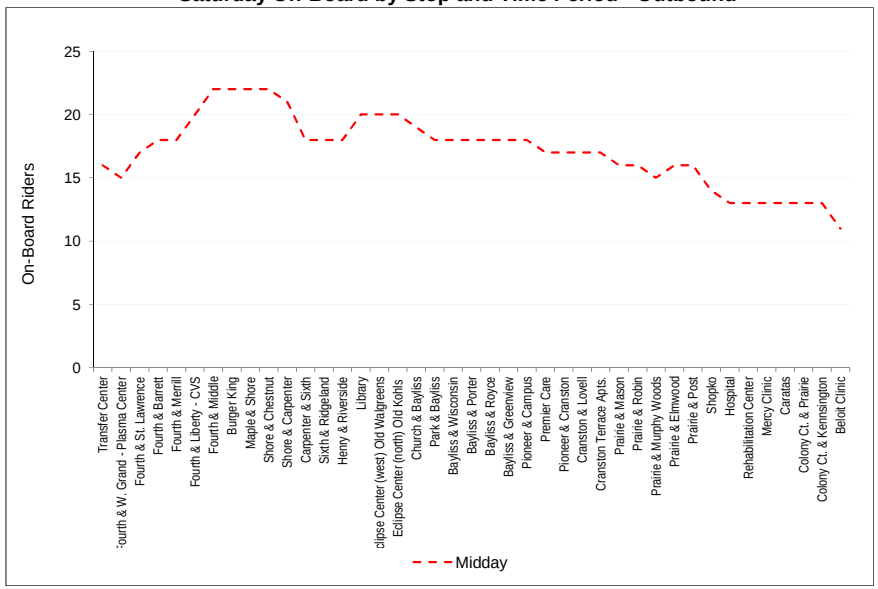
Saturday On-Board by Stop and Time Period - Inbound



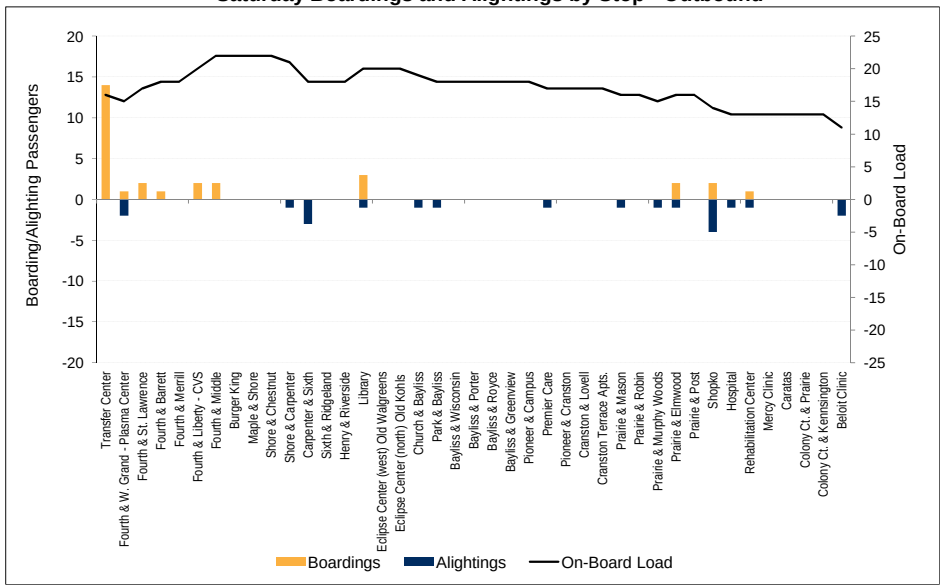
Saturday Boardings and Alightings by Stop - Inbound



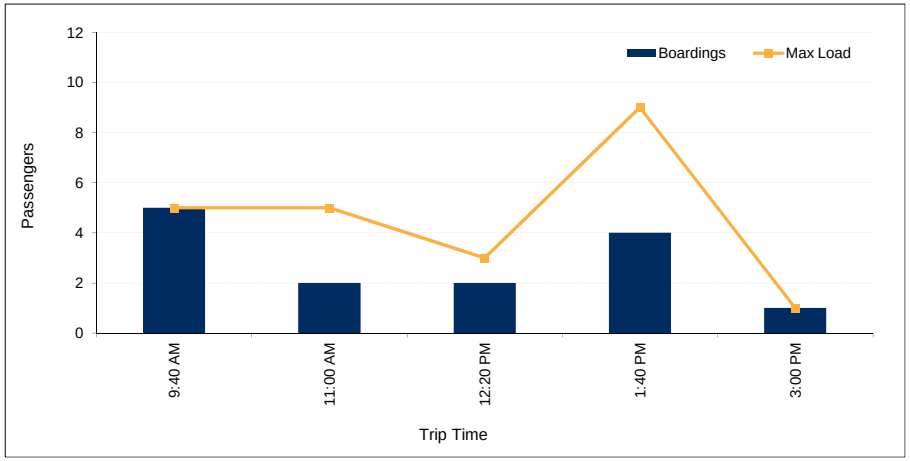
Saturday On-Board by Stop and Time Period - Outbound



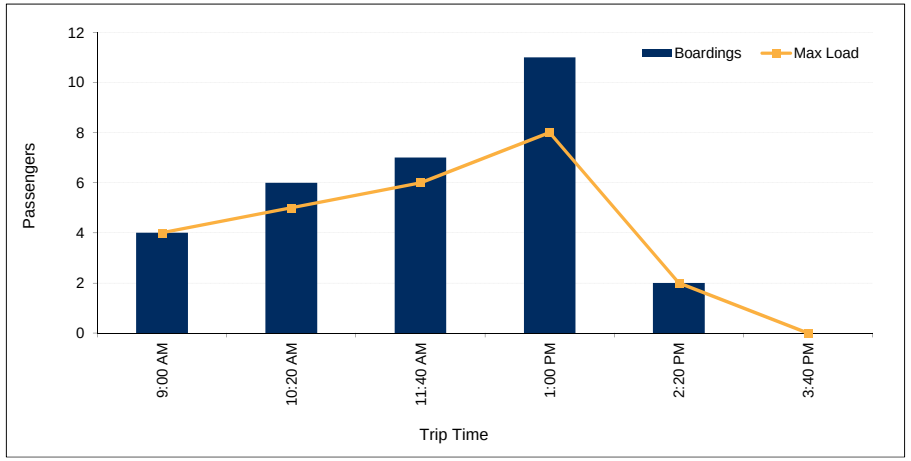
Saturday Boardings and Alightings by Stop - Outbound



Saturday Ridership by Trip - Inbound



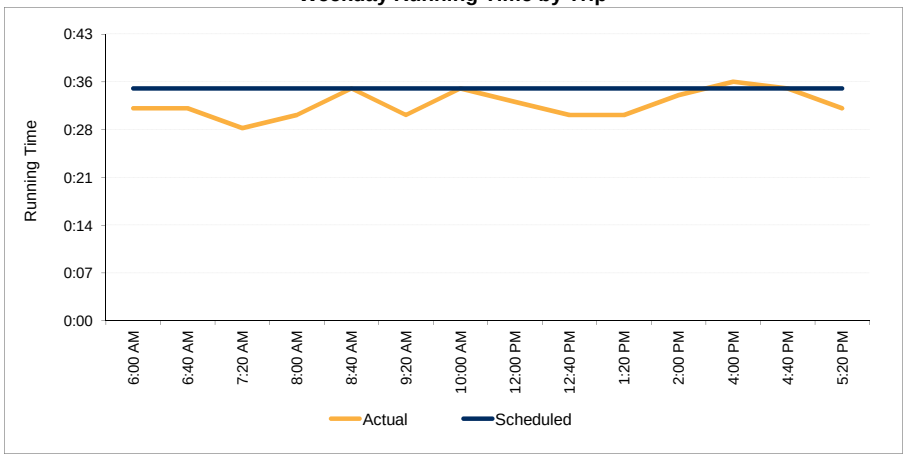
Saturday Ridership Time by Trip - Outbound



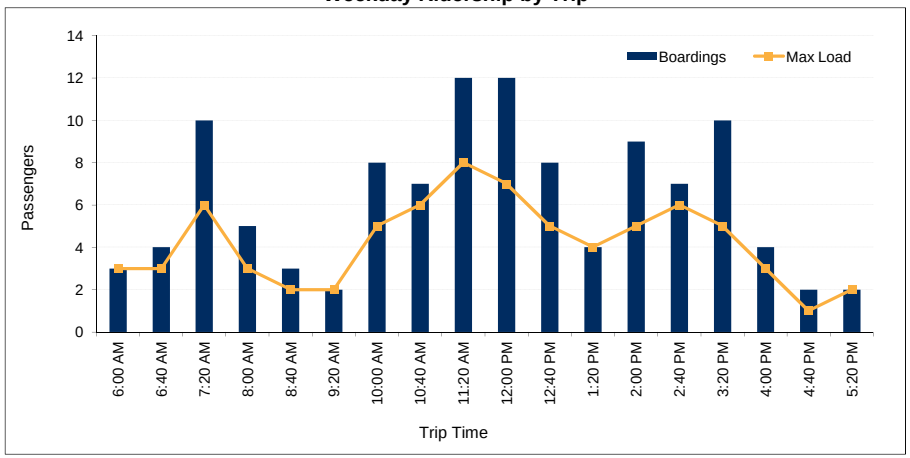
Route 4 Weekday

		Route Productivity Summary								Route Operations Summary					
		Activity		Service		Utilization		Productivity		On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Revenue Miles	Average Trip Length	Passenger Miles	Boardings per Service Hour	Boardings per Revenue Mile	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
	Total	112	111	10.5				10.7		69%	31%	0%	63	Transfer Center	L
	Loop	112	111	10.5				10.7		69%	31%	0%	63	Transfer Center	L
	By Segment														
1	Transfer Center to Park & Emerson	59	5	1.8				32.8		50%	50%				
2	Park & Emerson to Cancer Center	3	6	1.5				2.0		88%	12%				
3	Cancer Center to Wal-Mart	4	19	2.1				1.9		65%	35%				
4	Wal-Mart to White & Harrison	30	35	2.1				14.3		89%	11%				
5	White & Harrison to Scoville Hall	9	2	1.5				6.0		56%	44%				
6	Scoville Hall to Transfer Center	7	44	1.5				4.7		41%	59%				
	By Time Period														
	Early AM														
	AM	25	24	2.9				8.6					14	Transfer Center	L
	Midday	69	69	5.3				13.1					39	Transfer Center	L
	PM	18	18	2.3				7.7					10	Transfer Center	L
	Eve														
	Night														
	Owl														

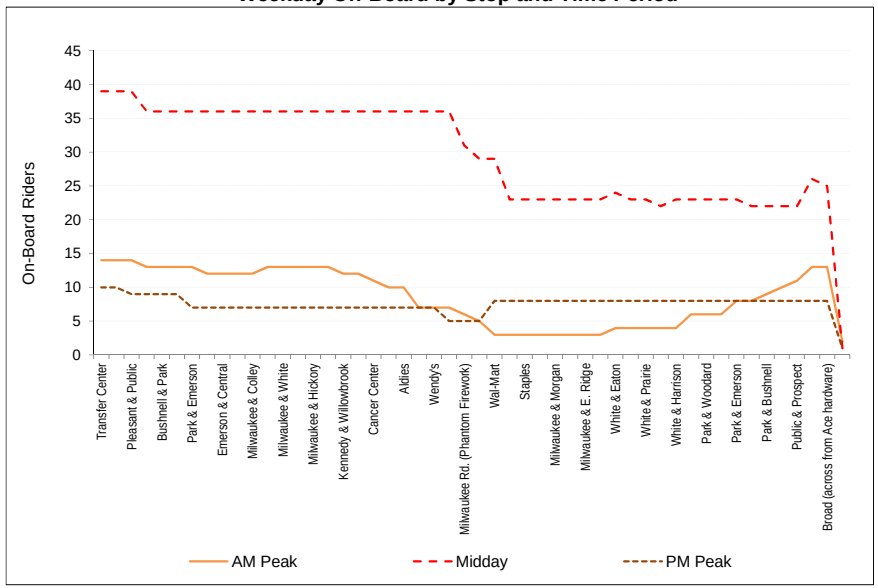
Weekday Running Time by Trip



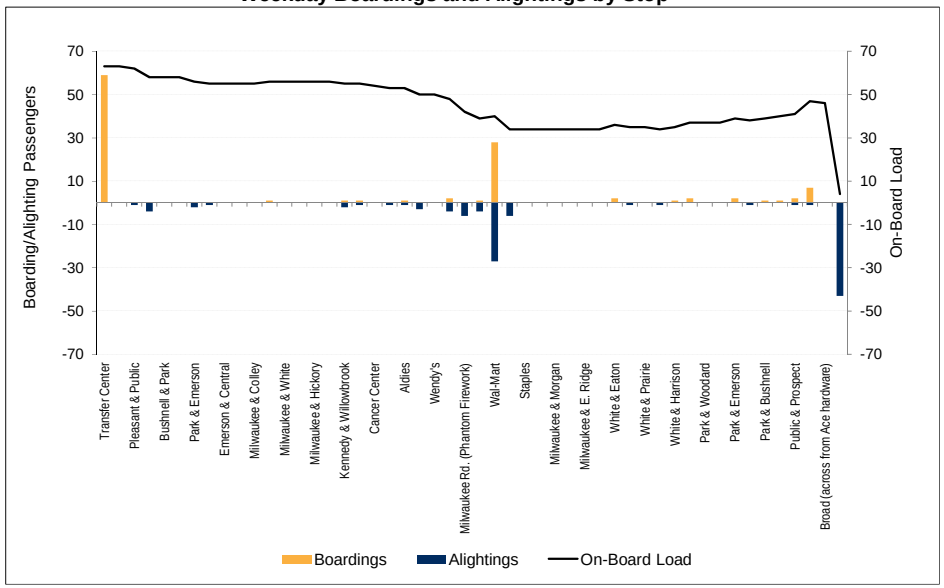
Weekday Ridership by Trip



Weekday On-Board by Stop and Time Period



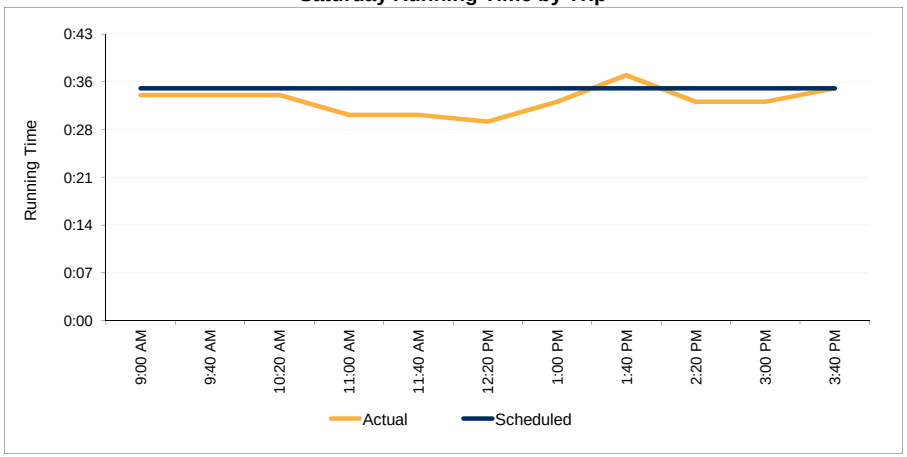
Weekday Boardings and Alightings by Stop



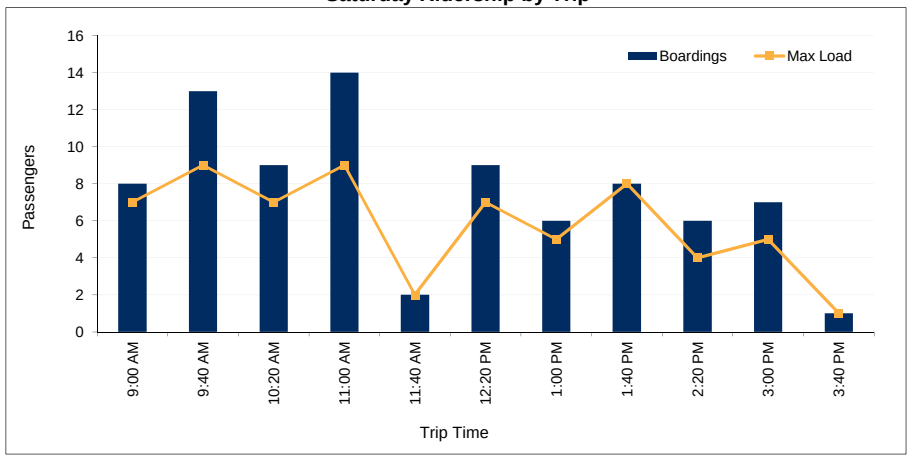
Route 4 Saturday

		Route Productivity Summary								Route Operations Summary					
		Activity		Service		Utilization		Productivity		On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Revenue Miles	Average Trip Length	Passenger Miles	Boardings per Service Hour	Boardings per Revenue Mile	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
	Total	83	83	6.4				12.9		87%	13%	0%	47	Milwaukee & Strong	L
	Loop	83	83	6.4				12.9		87%	13%	0%	47	Milwaukee & Strong	L
	By Segment														
1	Transfer Center to Park & Emerson	36	1	1.1				32.7		90%	10%				
2	Park & Emerson to Wal-Mart	13	10	2.2				5.9		80%	20%				
3	Wal-Mart to White & Harrison	31	38	1.3				24.2		91%	9%				
4	White & Harrison to Scoville Hall	1	11	0.9				1.1		100%					
5	Scoville Hall to Transfer Center	2	23	0.9				2.2		64%	36%				
	By Time Period														
	Early AM														
	AM														
	Midday	75	75	5.3				14.3					41	Milwaukee & Strong	L
	PM	8	8	1.2				6.9					6	Emerson & Wisconsin	L
	Eve														
	Night														
	Owl														

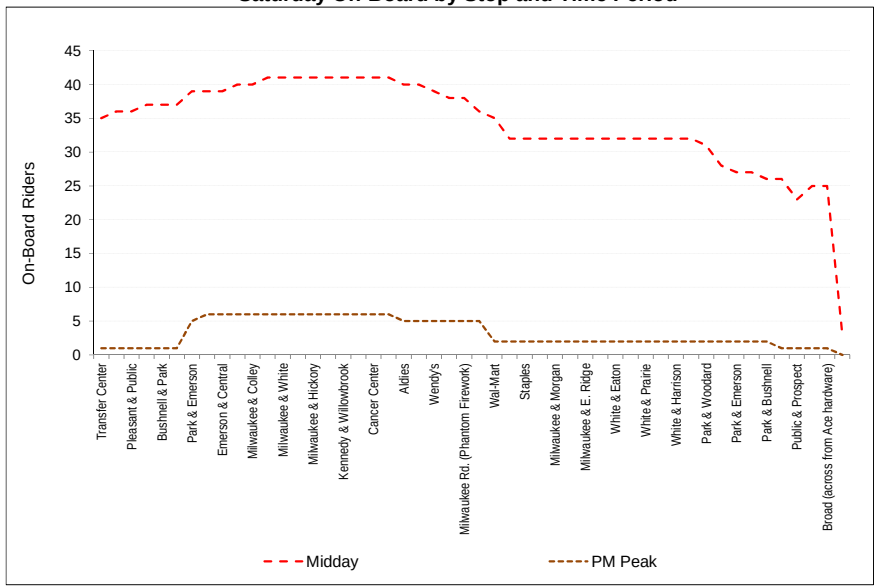
Saturday Running Time by Trip



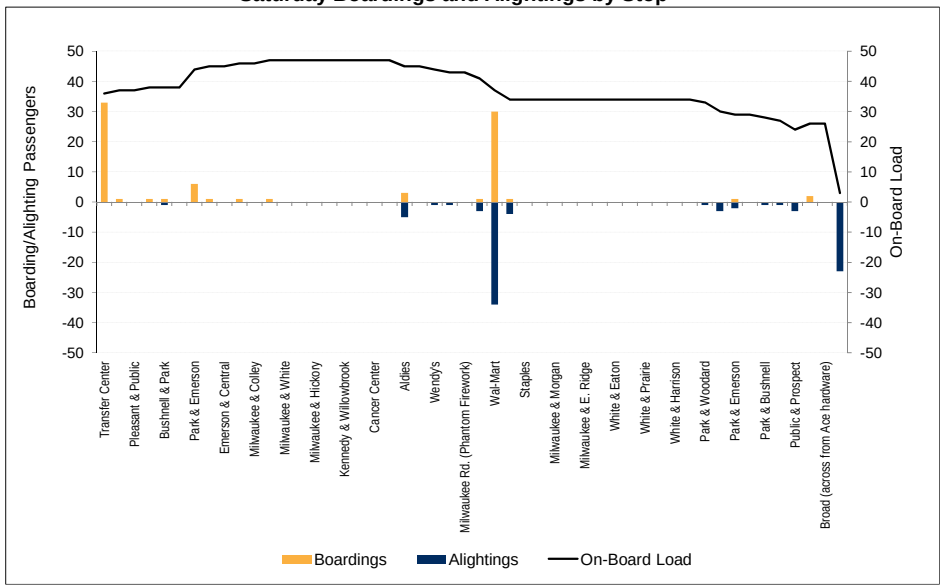
Saturday Ridership by Trip



Saturday On-Board by Stop and Time Period



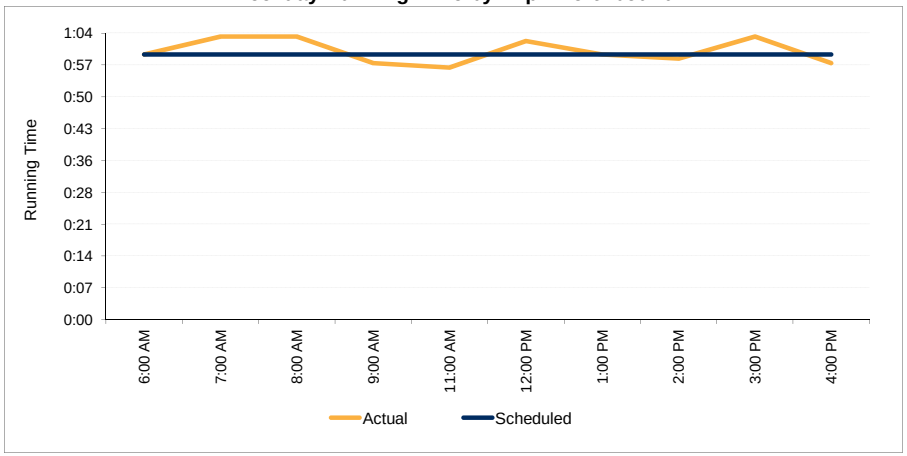
Saturday Boardings and Alightings by Stop



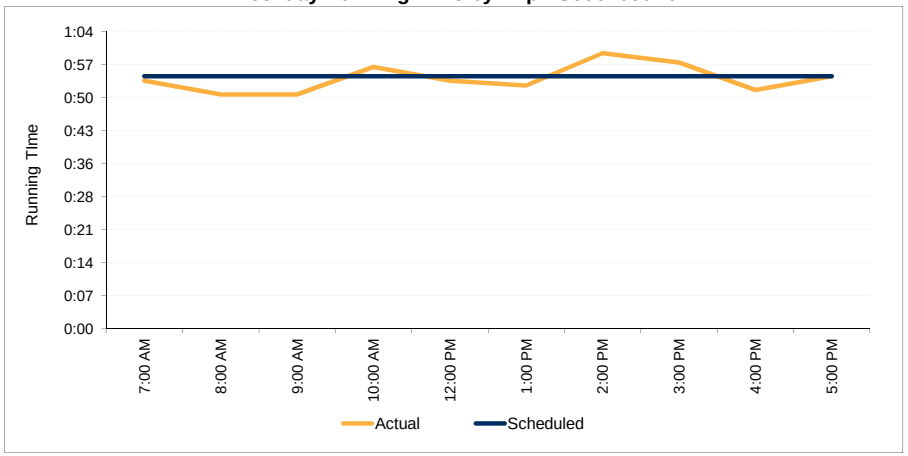
BJE Route Weekday

		Route Productivity Summary								Route Operations Summary					
		Activity		Service		Utilization		Productivity		On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Revenue Miles	Average Trip Length	Passenger Miles	Boardings per Service Hour	Boardings per Revenue Mile	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
	Total	294	278	23.0				12.8		82%	15%	3%	89	JTS Pad	S
	Northbound	173	134	12.0				14.4		78%	16%	5%	81	WSVH	N
	Southbound	121	144	11.0				11.0		85%	14%	1%	89	JTS Pad	S
	By Segment														
1	Transfer Center to Hwy 51 & Inman Pkwy	71	55	3.9				18.1		95%		5%			
2	Hwy. 51 & Inman Pkwy to BTC	7	14	2.0				3.5		76%	19%	5%			
3	BTC to Corrections	20	12	0.9				21.4		68%	26%	5%			
4	Corrections to Job Center	19	16	3.2				5.9		70%	25%	5%			
5	Job Center to U-Rock	13	31	2.0				6.5		80%	20%				
6	U-Rock to State & Washington	22	13	2.0				11.0		75%	25%				
7	State & Washington to JTS Pad	82	42	2.4				34.2			14%				
8	JTS Pad to Barberry & Kennedy	60	95	6.5				9.2		95%		5%			
	By Time Period														
	Early AM														S
	AM	81	79	5.5				14.6					34	Hwy. 51 & Inman Pkwy	N
	Midday	148	121	11.5				12.9					40	State & Willard	N
	PM	65	78	5.8				11.3					33	JTS Pad	S
	Eve			0.2											S
	Night														S
	Owl														S

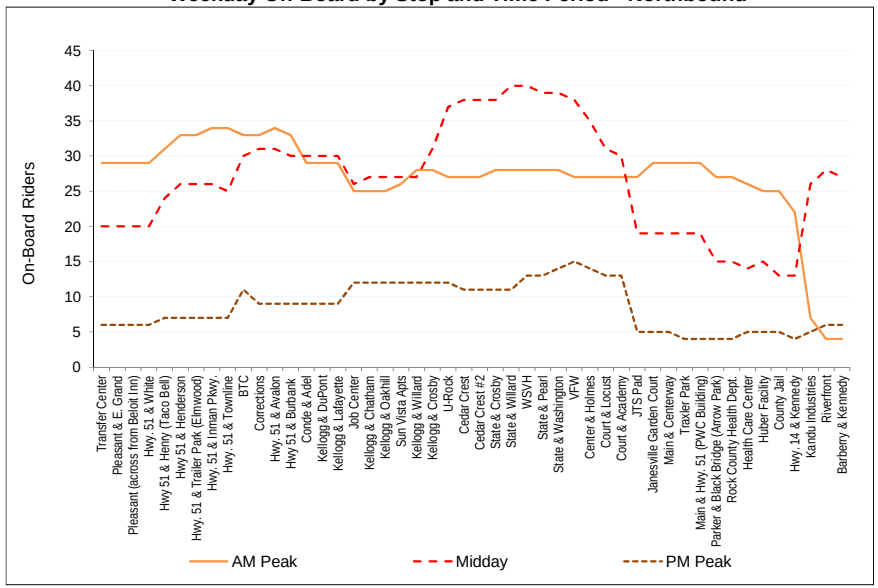
Weekday Running Time by Trip - Northbound



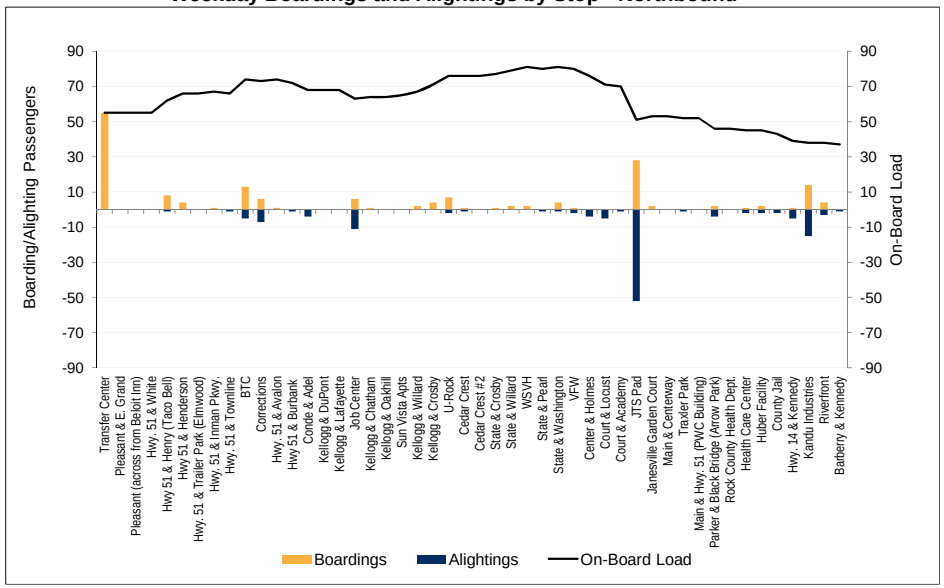
Weekday Running Time by Trip - Southbound



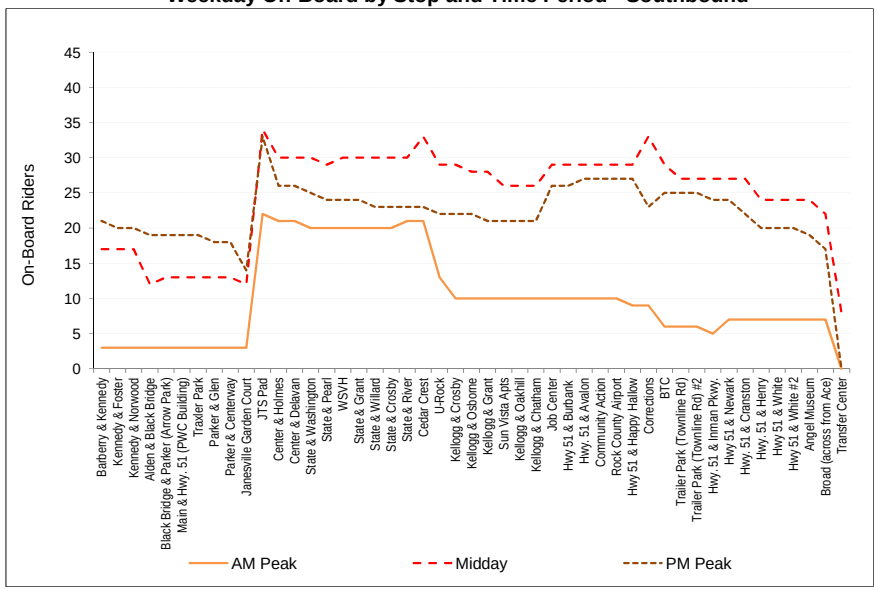
Weekday On-Board by Stop and Time Period - Northbound



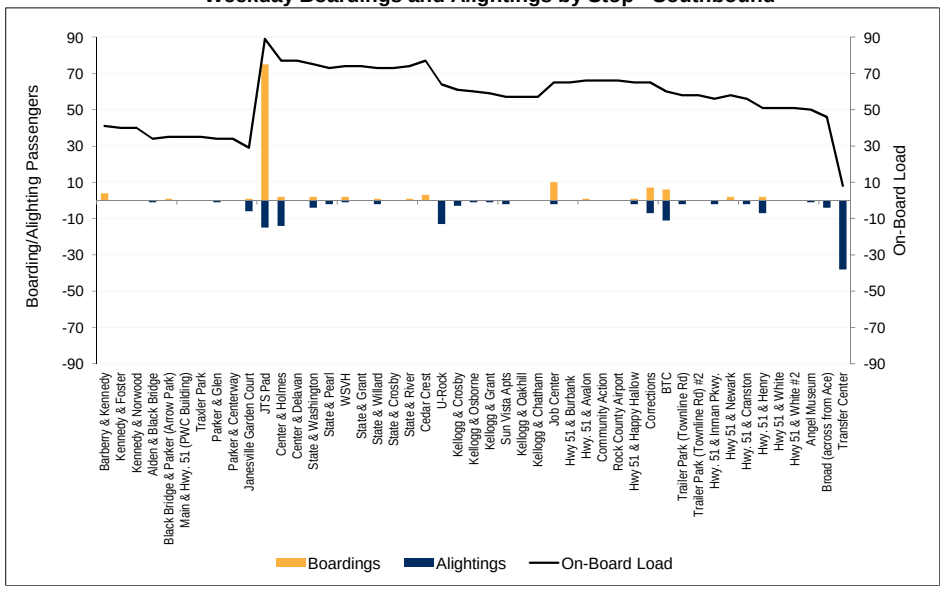
Weekday Boardings and Alightings by Stop - Northbound



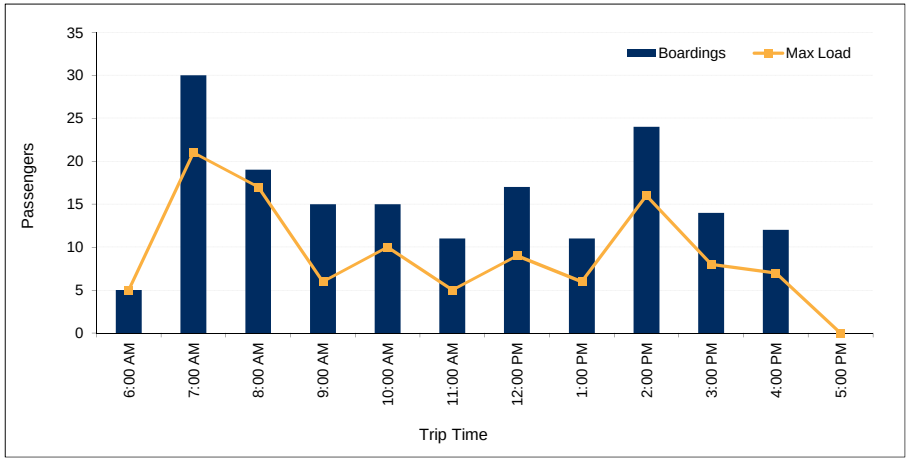
Weekday On-Board by Stop and Time Period - Southbound



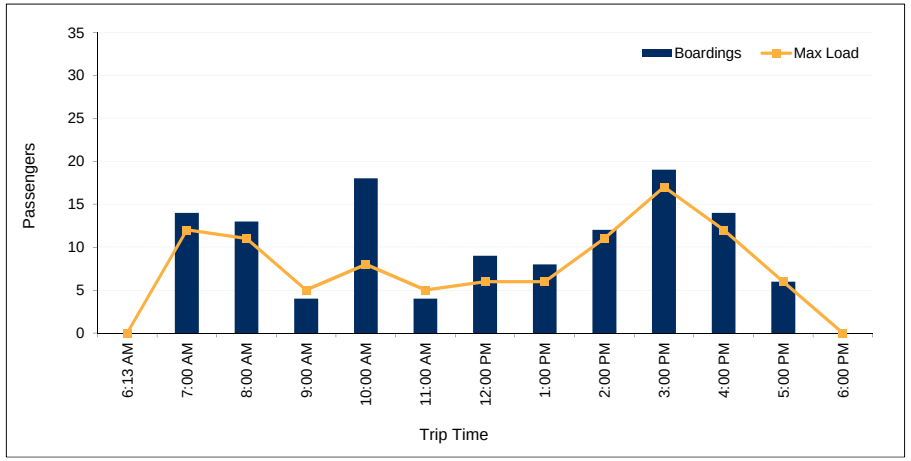
Weekday Boardings and Alightings by Stop - Southbound



Weekday Ridership by Trip - Northbound



Weekday Ridership Time by Trip - Southbound



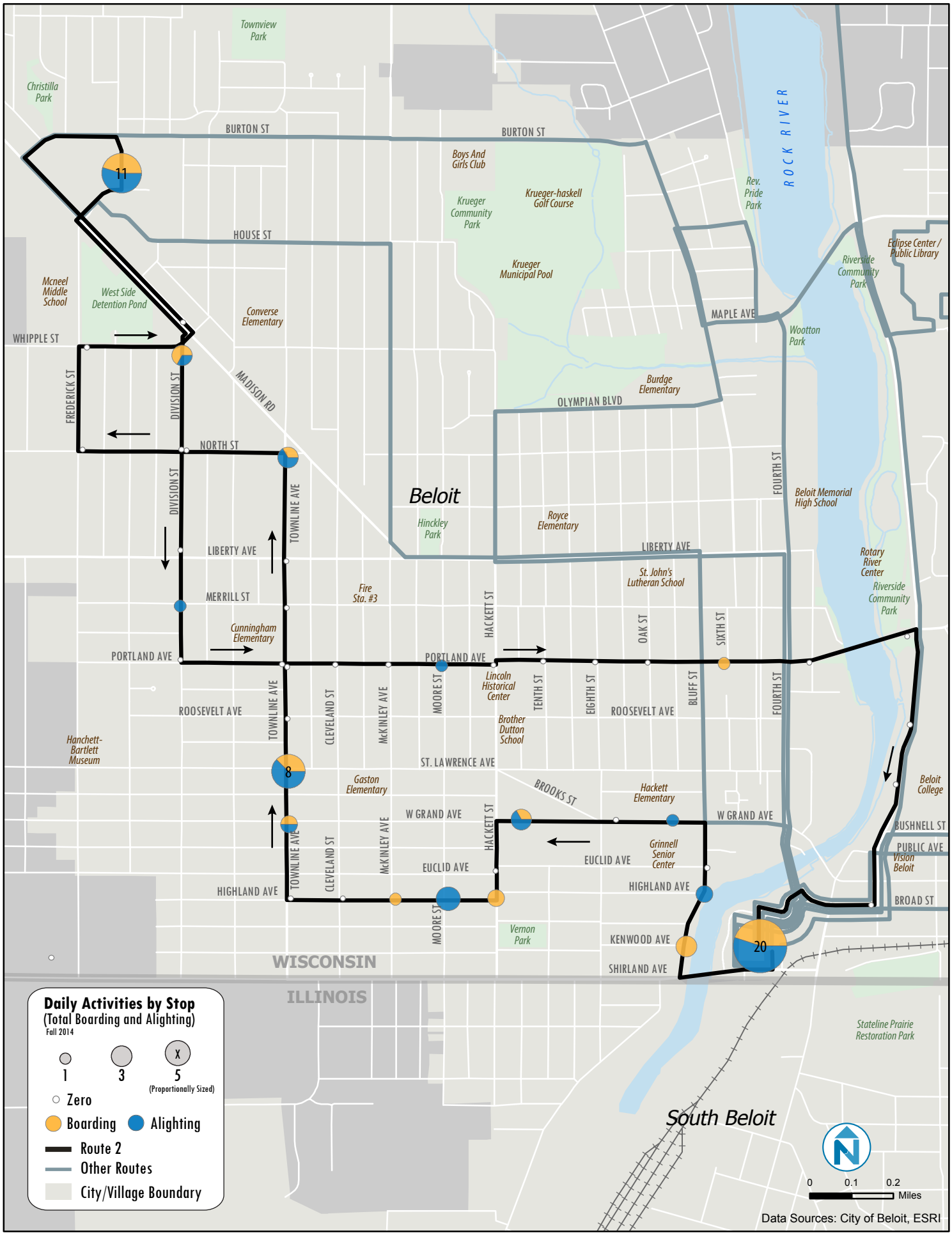
APPENDIX B: ROUTE BOARDING & ALIGHTING MAPS

Total Daily Activities: Route 1 - Weekday

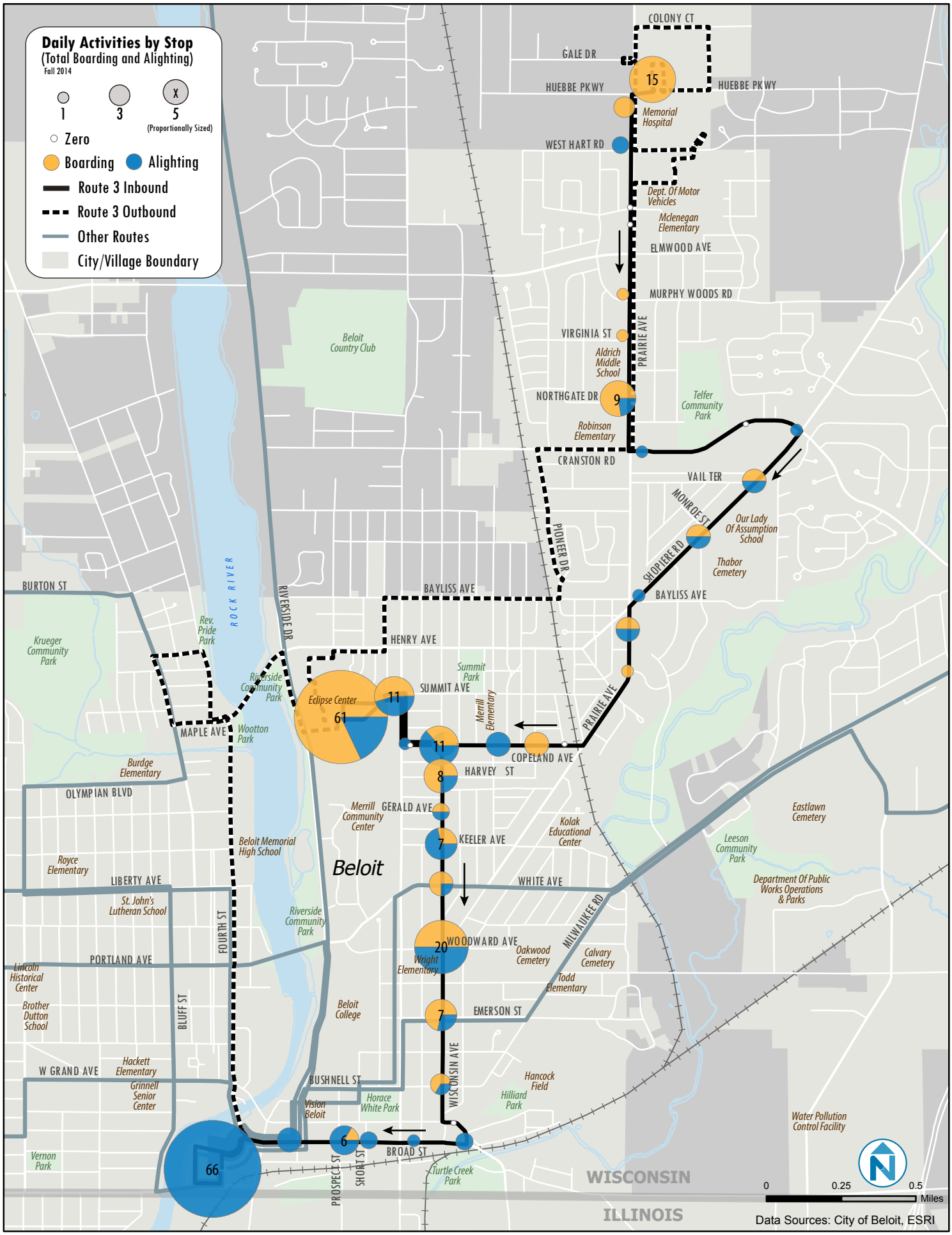
Total Daily Activities: Route 1 - Saturday

Total Daily Activities: Route 2 - Weekday

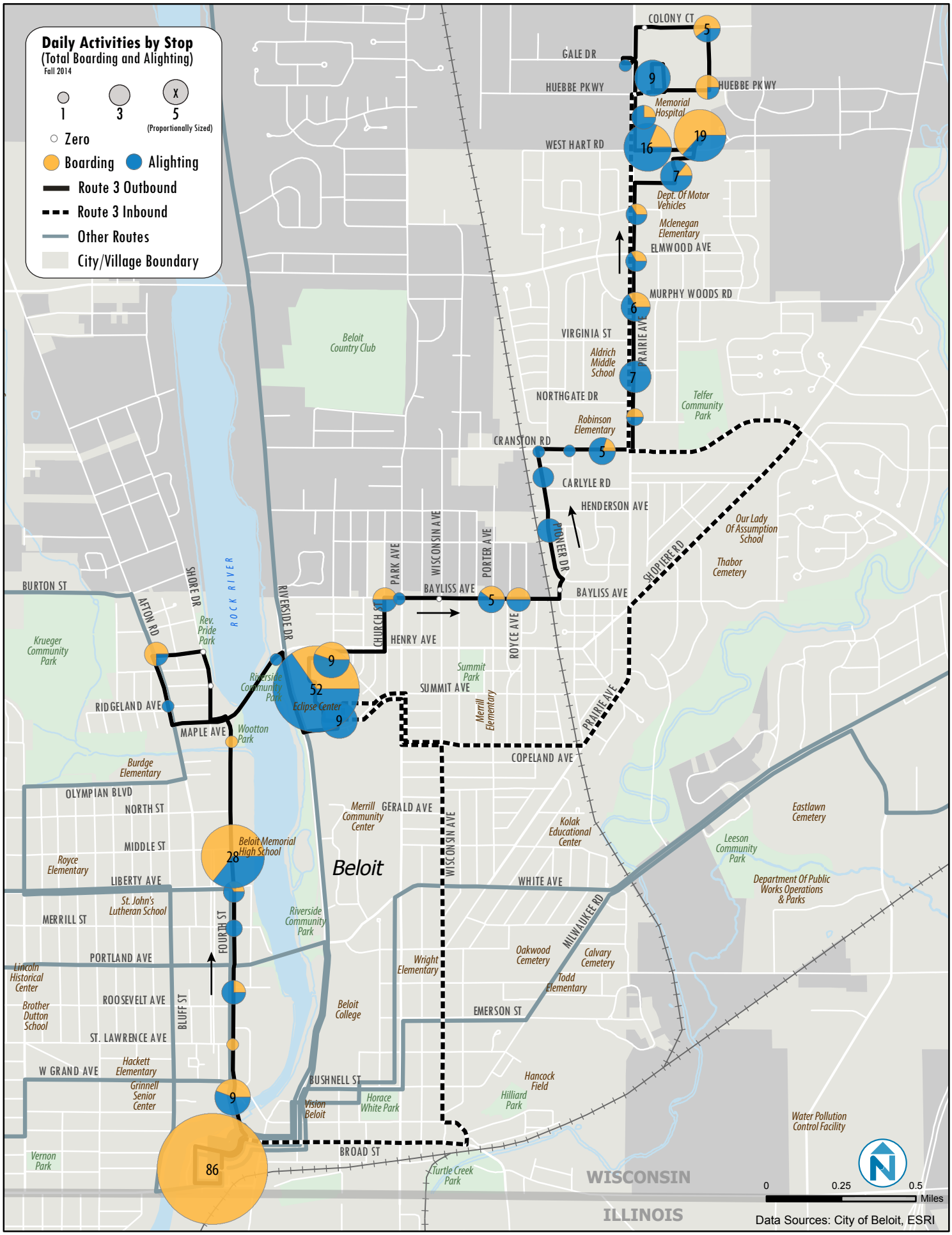
Total Daily Activities: Route 2 - Saturday



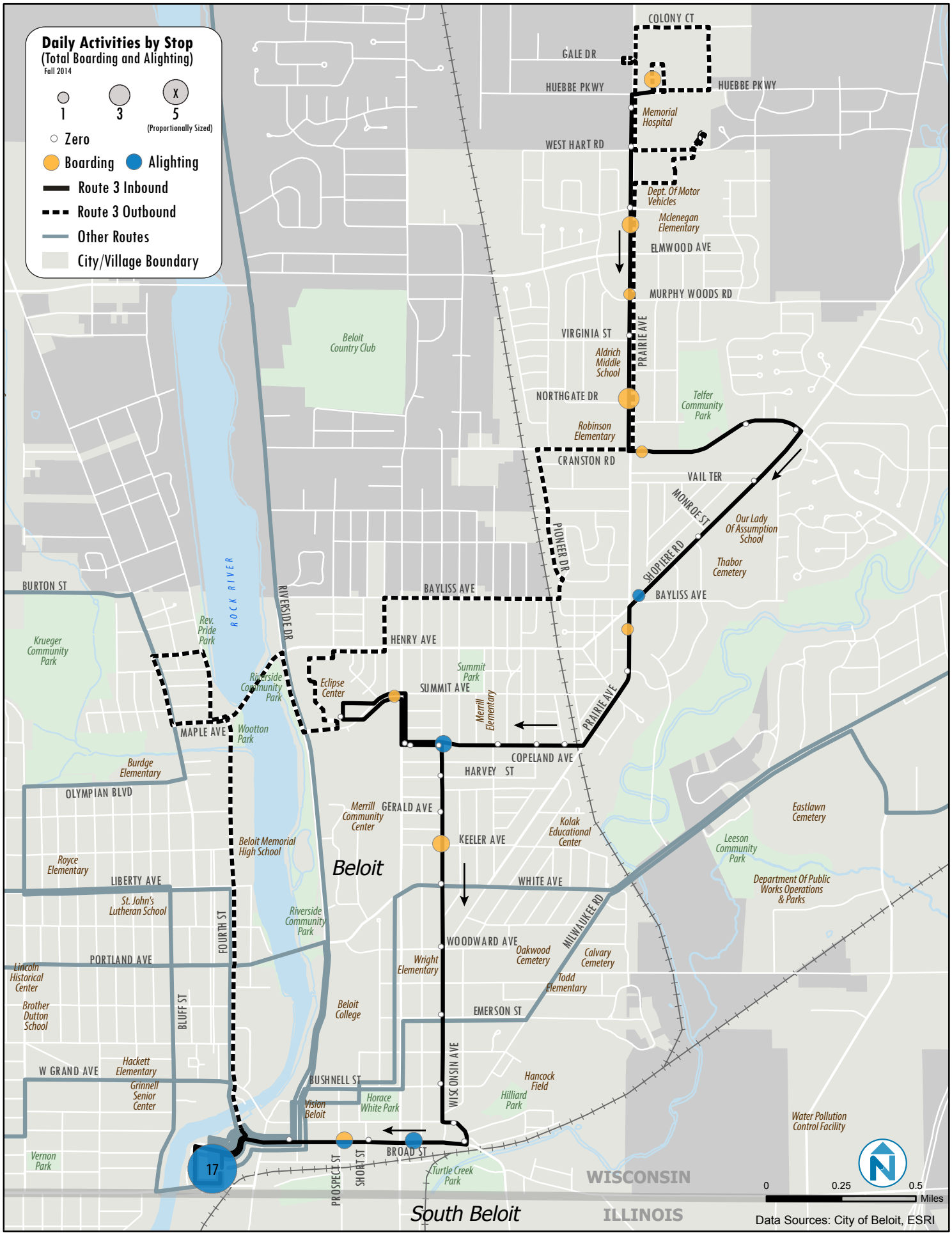
Total Daily Activities: Route 3 Inbound - Weekday



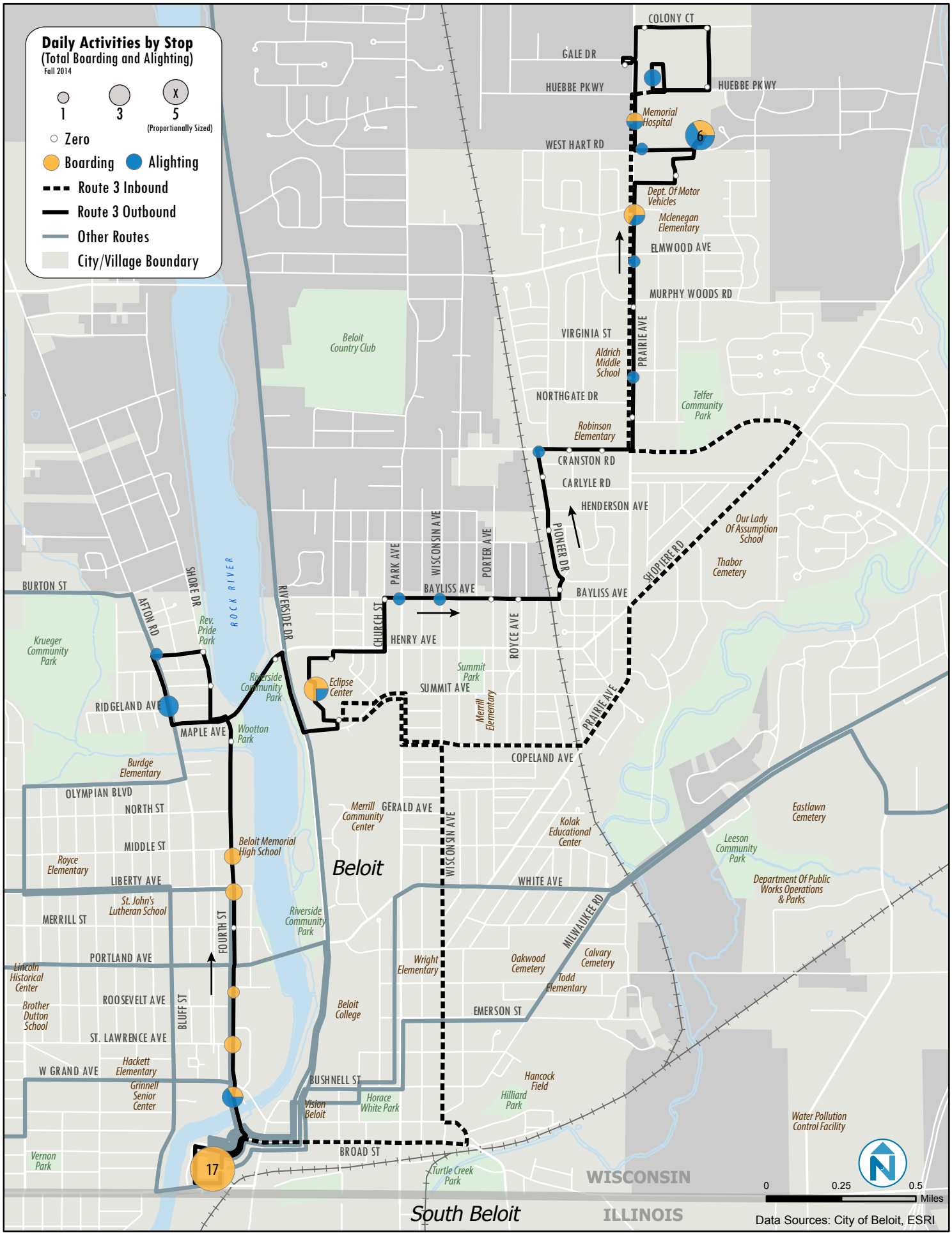
Total Daily Activities: Route 3 Outbound - Weekday



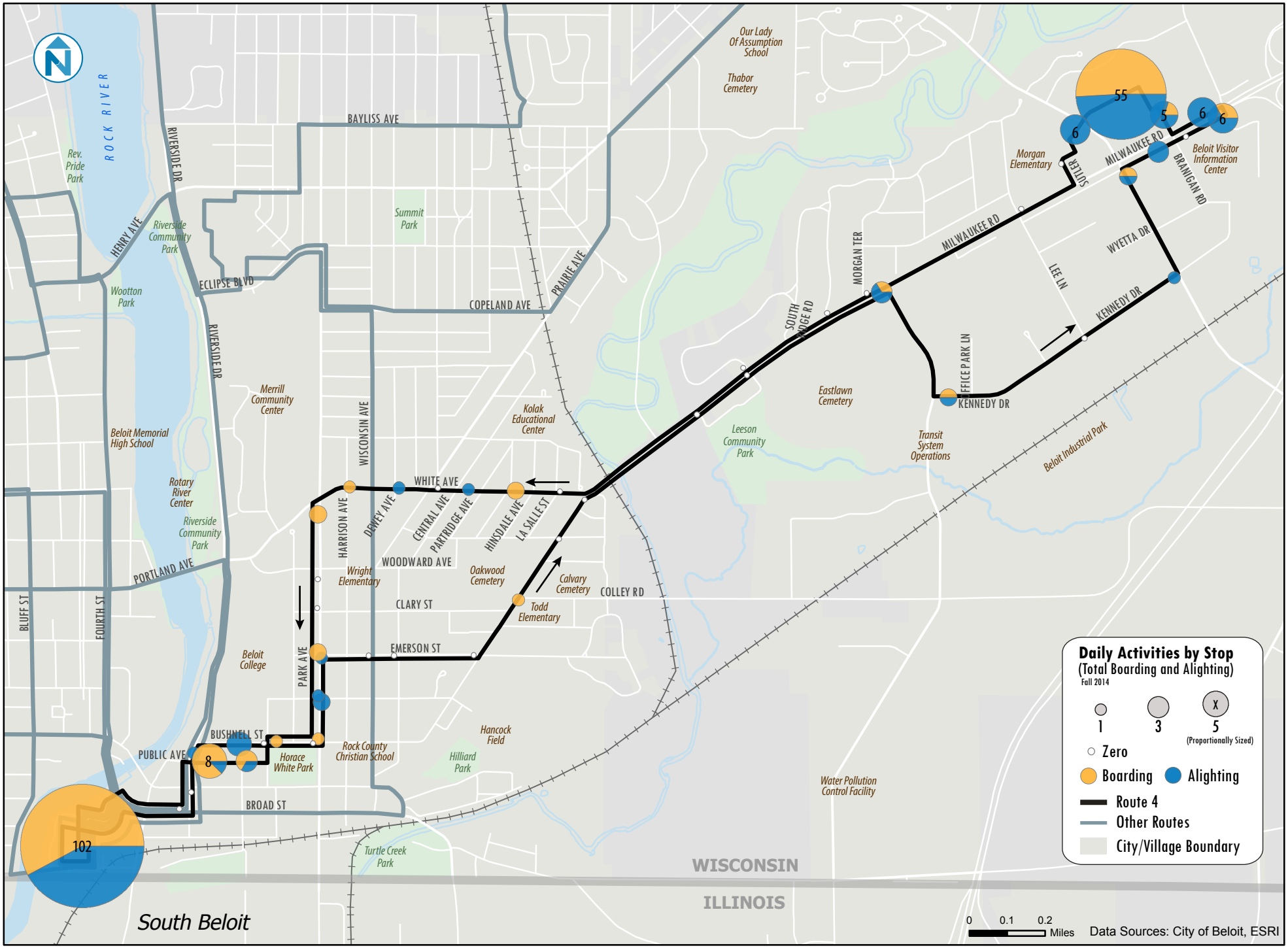
Total Daily Activities: Route 3 Inbound - Saturday



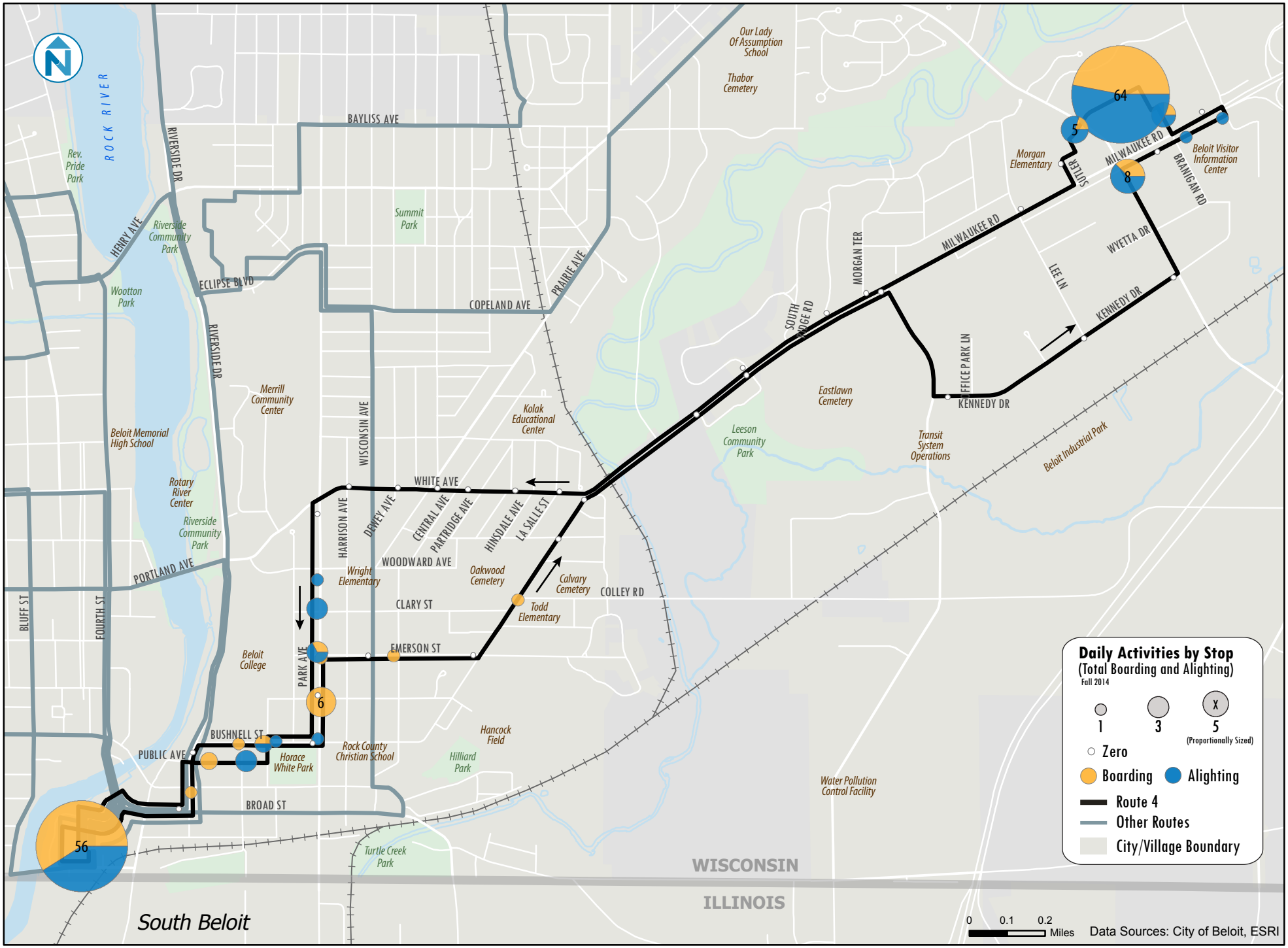
Total Daily Activities: Route 3 Outbound - Saturday



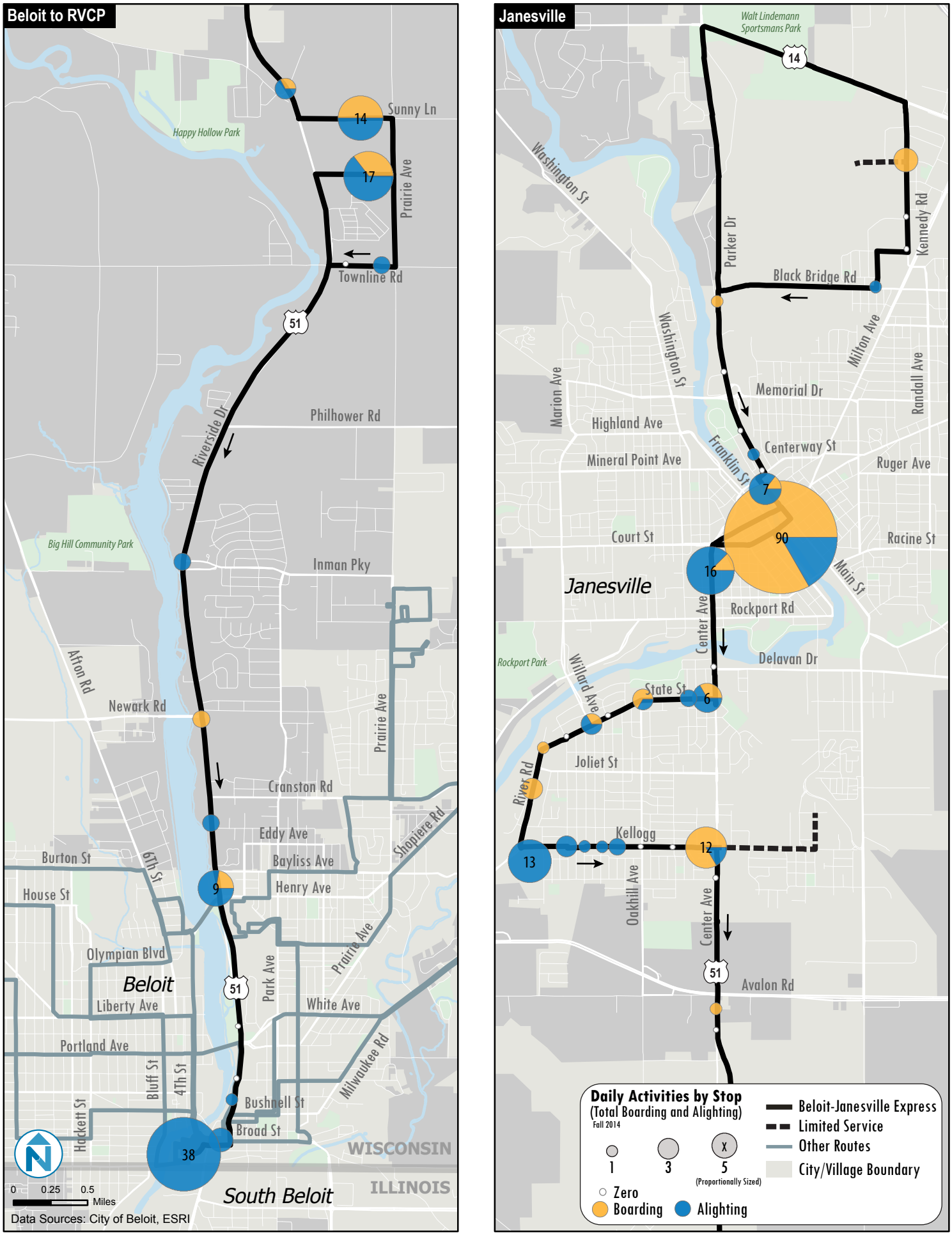
Total Daily Activities: Route 4 - Weekday



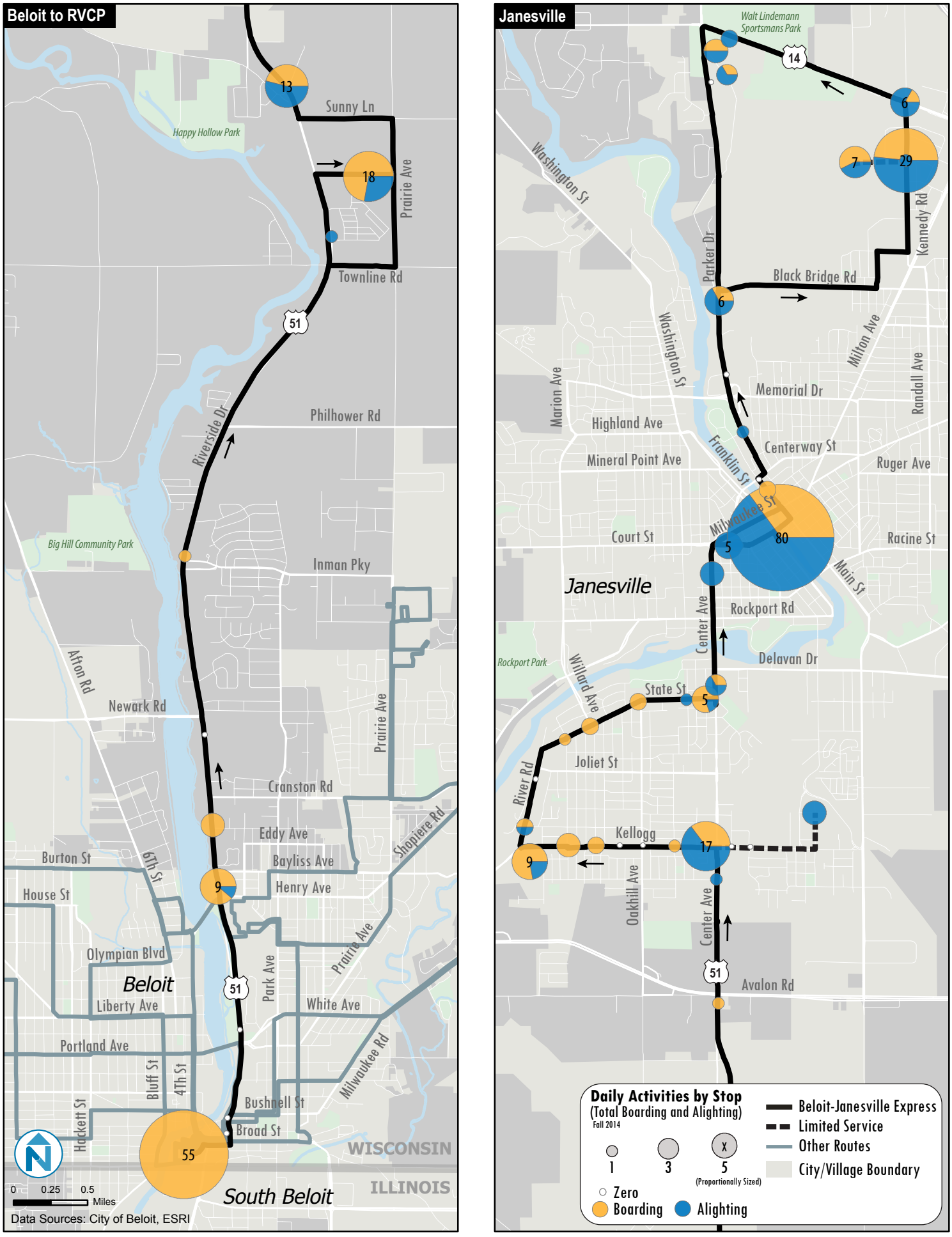
Total Daily Activities: Route 4 - Saturday



Total Daily Activities: Beloit - Janesville Express (To Beloit) - Weekday



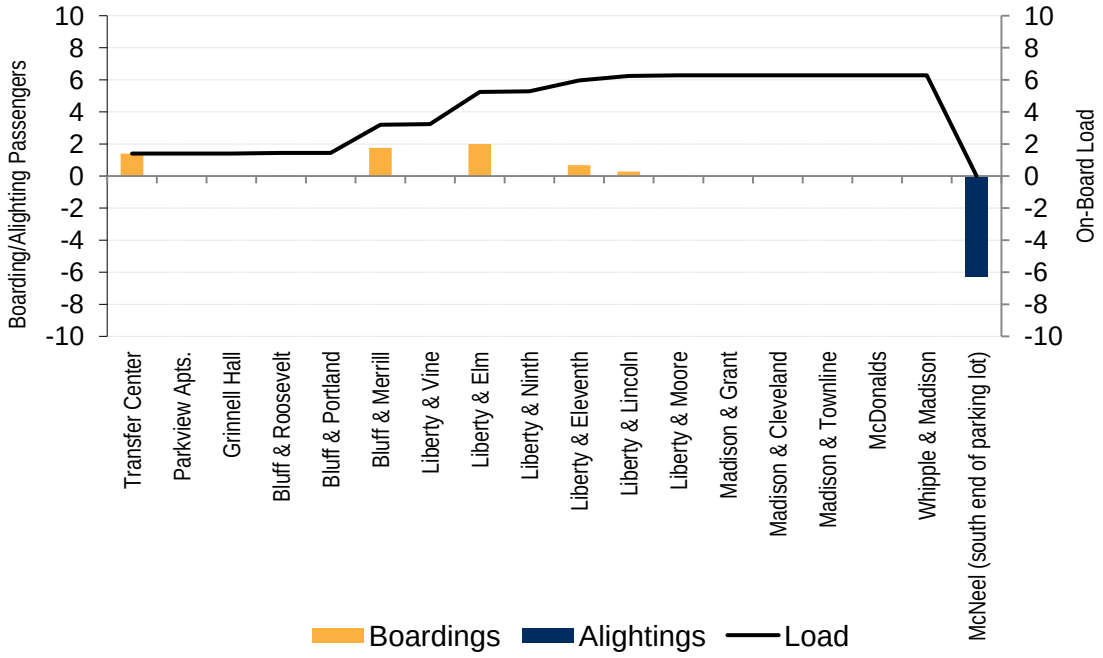
Total Daily Activities: Beloit - Janesville Express (To Janesville) - Weekday



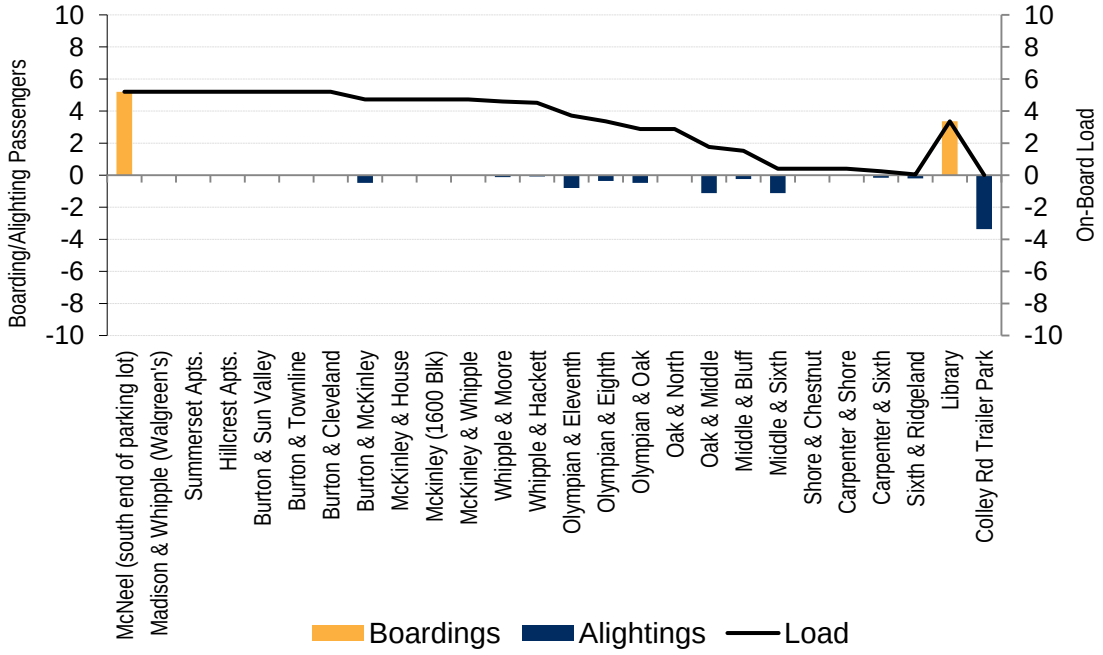
APPENDIX C: TRIPPER ROUTE BOARDING & ALIGHTING CHARTS

Route 1X

AM Boarding & Alighting

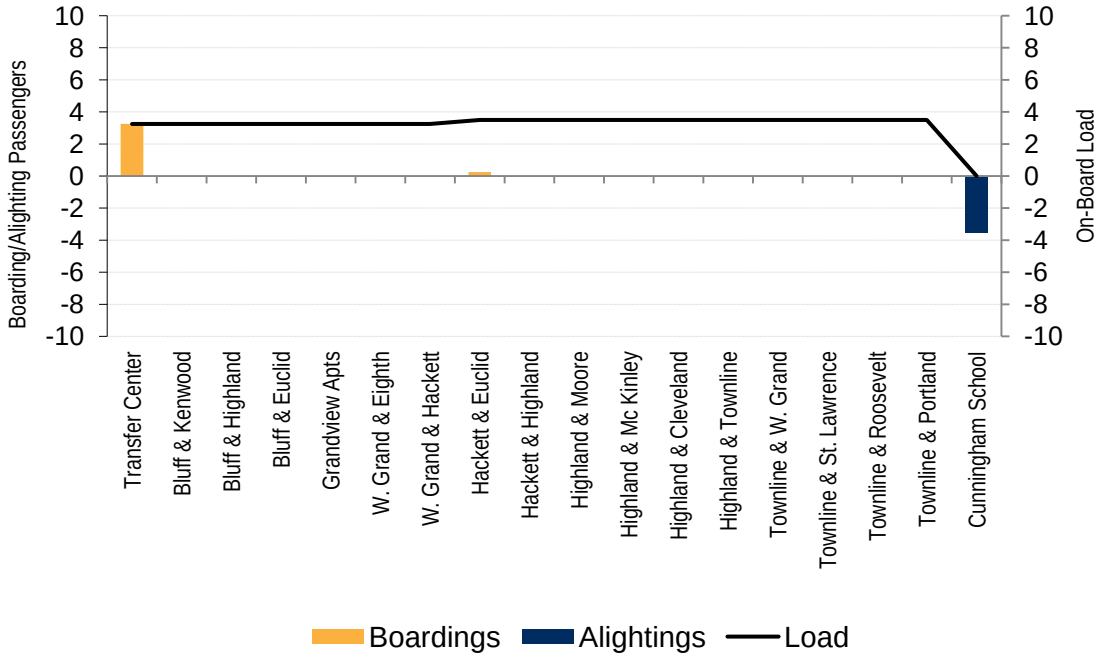


PM Boarding & Alighting

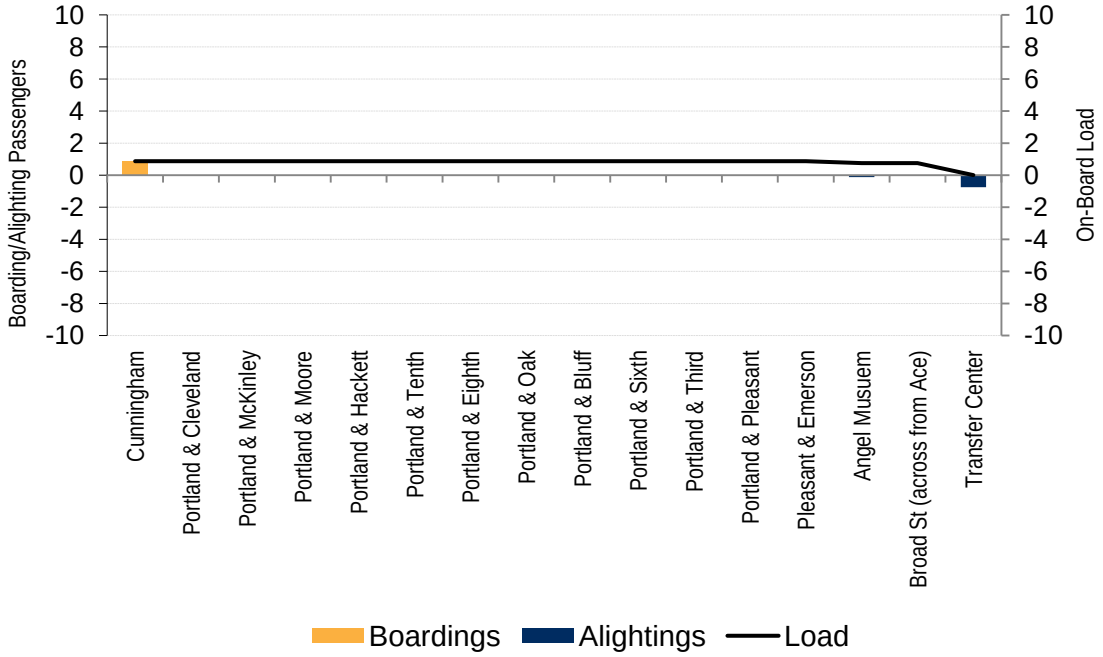


Route 2X

AM Boarding & Alighting

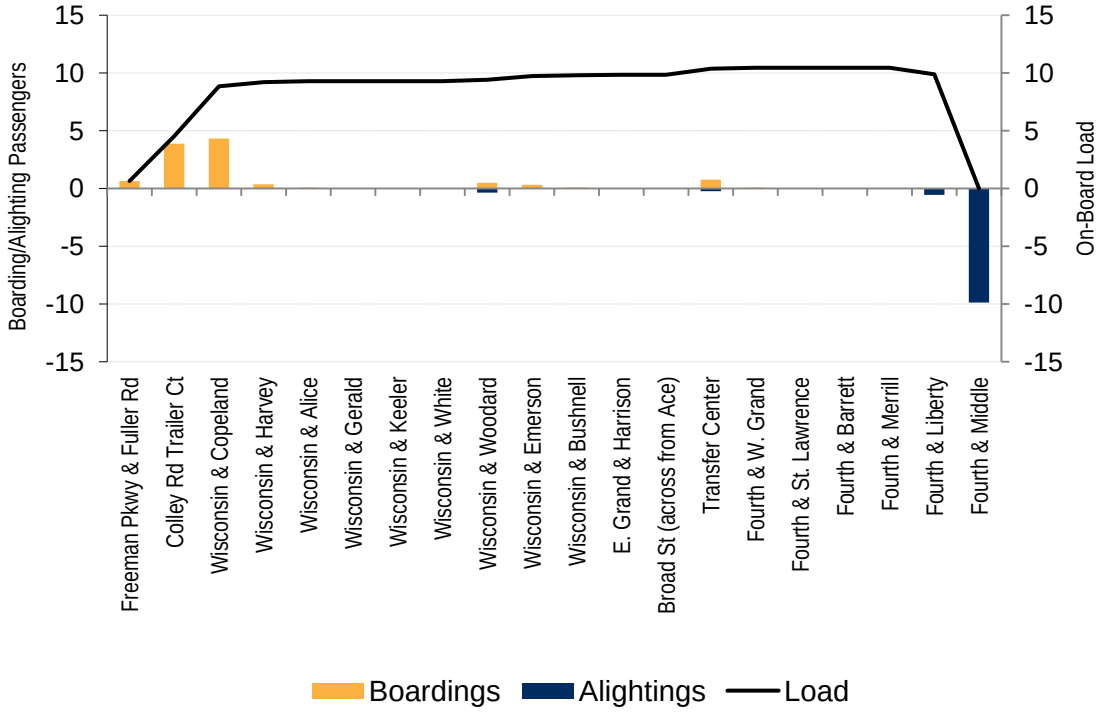


PM Boarding & Alighting



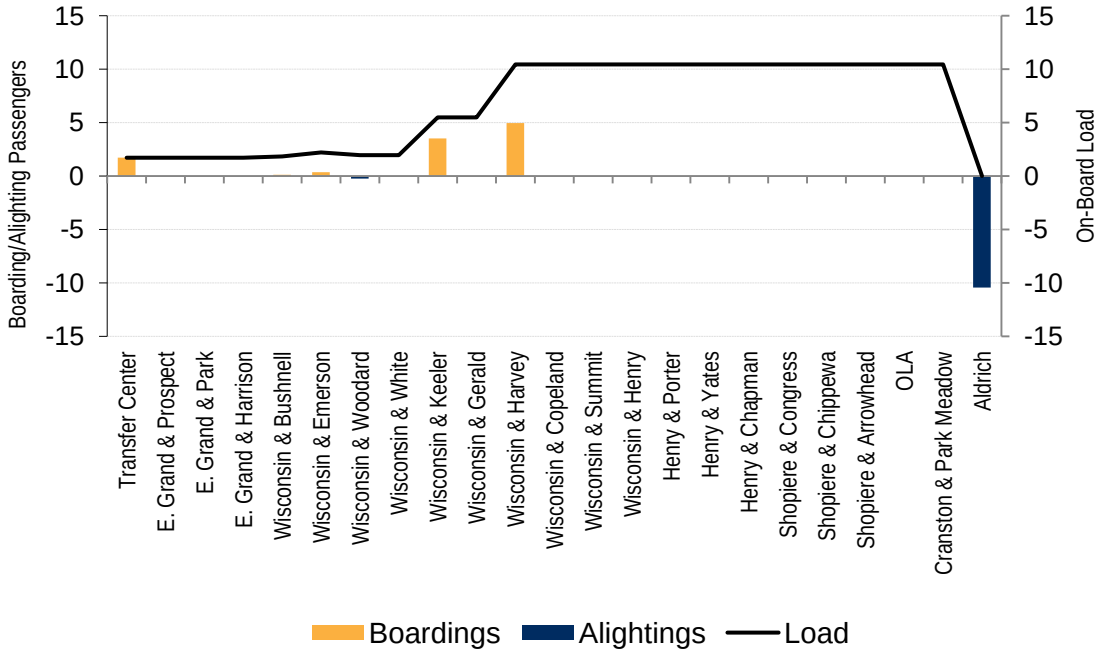
Route 3X

AM Boarding & Alighting



Aldrich Route

AM Boarding & Alighting



PM Boarding & Alighting