



Stateline Area Transportation Study

2040 Long Range
Transportation Plan

October 11, 2016



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Chapter 1: Long Range Transportation Planning Process

1.1. Introduction

The Stateline Area Transportation Study (SLATS) is the designated Metropolitan Planning Organization (MPO) as the Beloit urbanized area population exceeds 50,000. As such, SLATS receives federal funding to carry out the metropolitan transportation planning process for the urbanized area, and contiguous geographic areas expected to become urbanized in the next twenty-years. The transportation planning process is intended to be a comprehensive, cooperative, and continuing planning process that includes various local, state and federal stakeholders. The SLATS Policy and Technical Committees, comprised of duly appointed government officials and transportation stakeholders, oversee this process for the Beloit Metropolitan Planning Area (MPA).

1.2. The SLATS LRTP

Federal law requires, among other planning activities, that SLATS prepare a metropolitan transportation plan, or more commonly referred to as a Long Range Transportation Plan (LRTP). The LRTP must cover a minimum 20-year planning horizon; in this case the plan has a horizon year of 2040. As SLATS is designated an air quality attainment area, the LRTP must be updated every five-years, as opposed to every three-years for non-attainment areas. The 2040 LRTP was adopted October 11, 2016 by the SLATS Policy Committee. The previous LRTP was adopted October 17, 2011.

The SLATS 2040 LRTP builds on recent planning efforts within the SLATS MPA and surrounding region. This includes short-term and long-term strategies that support the development of an integrated, multimodal transportation system that aims to facilitate the safe and efficient movement of people and goods for both current and future travel demand.

1.3. Federal Surface Transportation Program

The Fixing America's Surface Transportation (FAST) Act was signed into law December 4, 2015 and replaces the former federal surface transportation bill, Moving Ahead for Progress in the 21st Century Act (MAP-21). FAST Act authorizes federal highway, highway safety, transit, and rail programs for federal fiscal years (FY) 2016 through 2020. This five-year legislation builds upon previous MAP-21 legislation by reforming and strengthening transportation programs that place greater focus on addressing national priorities. The \$305 billion bill provides greater flexibility for states and local governments to allocate resources appropriate to unique infrastructure priorities and streamlines the project approval process. Similar to previous legislation, FAST Act continues to emphasize a strong safety commitment.



Multi-use path along Riverside Drive

1.4. SLATS Planning Area

The SLATS MPA is a bi-state planning area as it straddles the Wisconsin-Illinois Stateline and includes significant parts of Rock County, WI and Winnebago County, IL. Figure 1-1 and Figure 1-2 display the SLATS MPA in a regional and local context. The SLATS MPA encompasses all or parts of several local general purpose units of government. In Wisconsin, these include the City of Beloit and all parts of the Towns of Beloit, Turtle, and a small portion of the Town of Rock; in Illinois, it includes all of, or parts of, the City of South Beloit, the Village of Rockton and Roscoe, and the Townships of Rockton and Roscoe. Only a small portion of the Village of Roscoe is included within the SLATS MPA as most of this area is included in the Rockford urbanized area.

In 1970, the Bureau of the Census determined that the heavily developed lands in and around the Cities of Beloit and South Beloit met their pre-defined criteria so as to be declared an “urbanized area.” To be declared urbanized, the area must be a densely populated contiguous area with a minimum of 50,000 persons. In 1974, SLATS was created by cooperative agreement of the general purpose units of government in the urbanized area. With the approval of the Governors of the States of Wisconsin and Illinois, SLATS was given the responsibility to carry out the urban transportation planning for the Stateline MPA. The MPA is comprised of three parts:

- 1.** The Beloit WI-IL urbanized area as defined by the Census Bureau, plus;
- 2.** The Adjusted Urbanized Area (those surrounding lands forecasted by SLATS to become urbanized in the next 5 years), plus;
- 3.** Those additional surrounding lands forecasted by SLATS to become urbanized in the next 20 years.

Figure 1-1. SLATS Metropolitan Planning Area – Regional Context

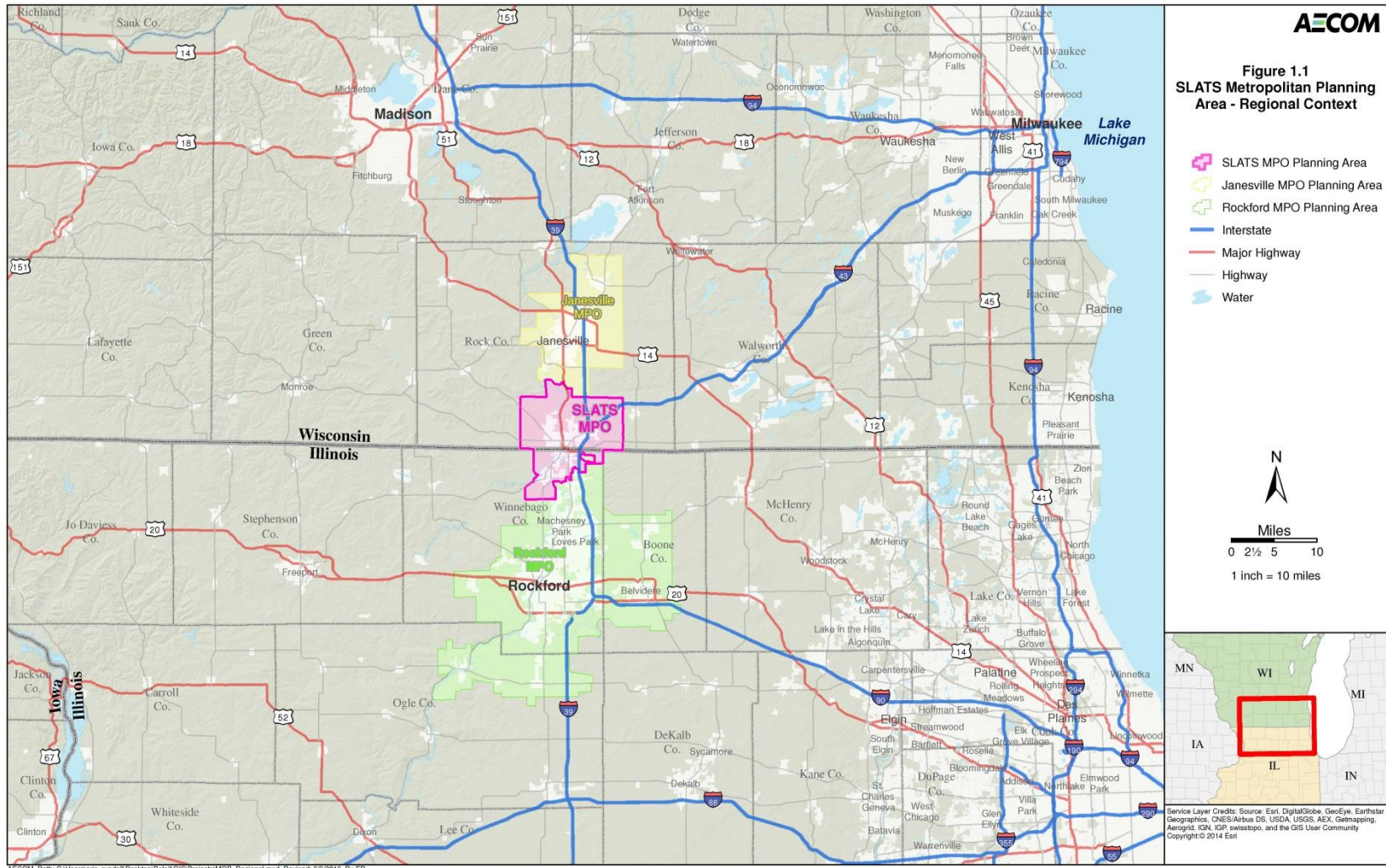
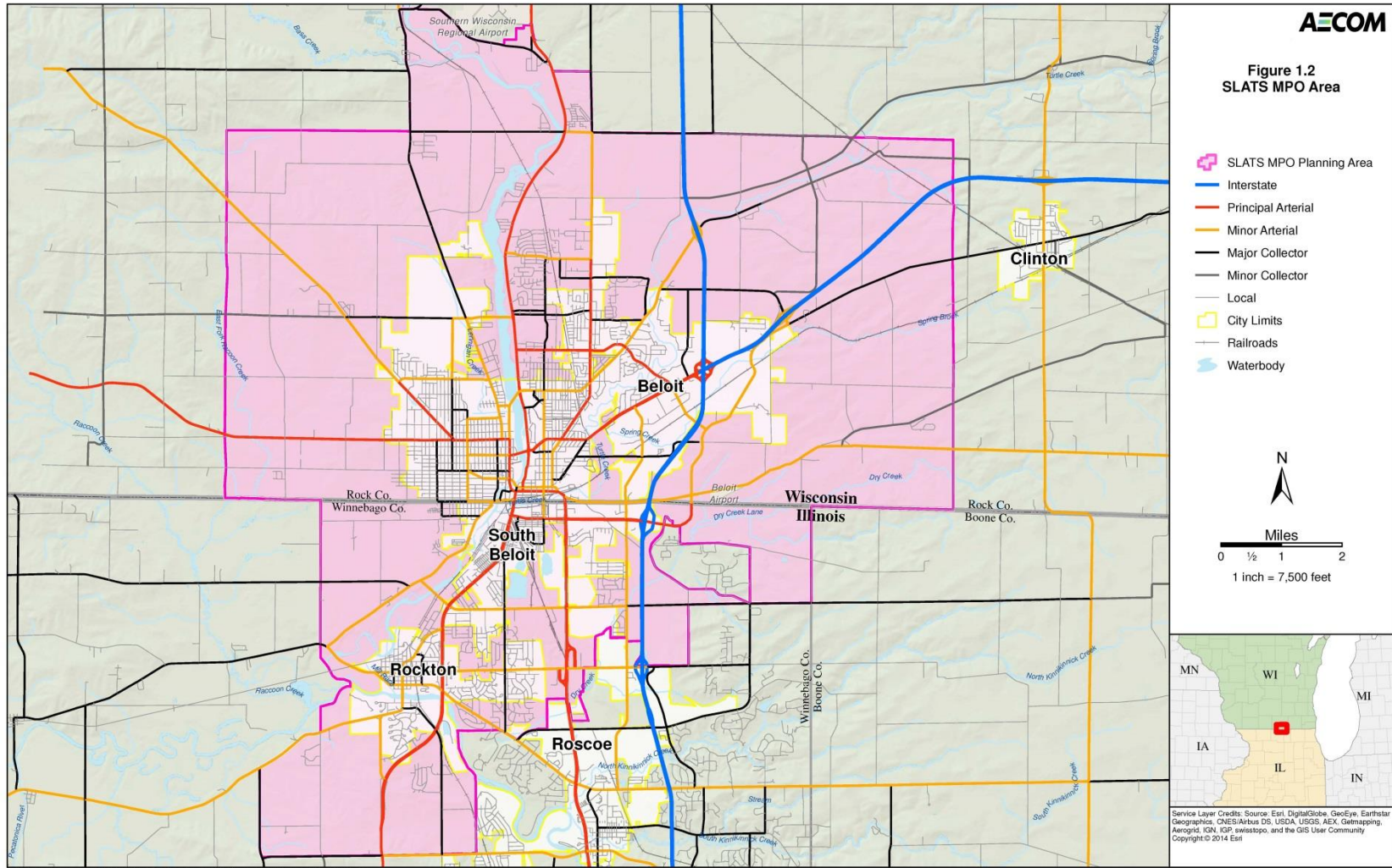


Figure 1-2. SLATS Metropolitan Planning Area



1.5. SLATS Committees

SLATS is made up of a separate Policy Board and Technical Committee consisting of local and state government officials that meet on a regular basis through an established committee structure. SLATS policy is determined by the Policy Board which receives input from the Technical Committee. The majority of the Policy Board members are elected officials who appoint members to the Technical Committee. The Technical Committee is comprised mainly of professional staff of the member units of government which includes engineers, planners, and other transportation professionals. The Technical Committee reviews and recommends policies, proposals, and documents to the Policy Board. Final authority for approval lies within the Policy Board. Table 1-1 and Table 1-2 summarize the SLATS committee membership.

Table 1-1. SLATS Policy Board

Wisconsin Members	Illinois Members
<ul style="list-style-type: none"> • City of Beloit Council President • City of South Beloit Mayor • Village of Rockton President • Town of Beloit Chair • Town of Turtle Chair 	<ul style="list-style-type: none"> • Rockton Township Chair • Rock County Board Chair • Winnebago County Board Chair • Southwest Region Planning Chief (WisDOT) • Region 2 Engineer (IDOT)

Table 1-2. SLATS Technical Committee

Voting Members	Other Members (Non-Voting)
<ul style="list-style-type: none"> • The City of Beloit Public Works Department • The City of Beloit Engineering Division • The City of Beloit Community Development Department • The Winnebago County Planning Department • The Winnebago County Highway Department • The Rock County Planning Department • The Rock County Highway Department • The Town of Beloit* • The Town of Turtle* • The Village of Rockton* • The City of South Beloit* • The Beloit Transit System (BTS) • The Stateline Mass Transit District (SMTD) • Southwest Region Designated Representative (WisDOT) • District 2 Designated Representative (IDOT) <p>*May include a designated public works, engineering, highway, planning or similar representative.</p>	<ul style="list-style-type: none"> • The Federal Highway Administration, Wisconsin Representative • The Federal Highway Administration, Illinois Representative • FTA Region 5 Chicago Representative • Bureau of Urban Program Planning (IDOT) • Central Planning Office (WisDOT) • Janesville Area Metropolitan Planning Organization (JAMPO) • Rockford Metropolitan Agency for Planning (RMAP) • Village of Roscoe • Roscoe Township • Town of Rock

1.6. SLATS Funding

The SLATS transportation planning activities are funded through a combination of local, State and Federal funds as set forth in the Unified Planning Work Program (UPWP) and further specified via contractual agreements between SLATS, WisDOT and IDOT.

As a federally mandated entity, the bulk of funding is provided through annual federal grants secured from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). The Federal monies, however, are not provided directly to the MPO, but are passed through to the MPO by the States of Wisconsin and Illinois. The State's role is to divide their allotted federal monies among all the MPOs throughout their respective States in amounts reflective of the varying needs in those MPOs. Because a significantly larger share of the population of the SLATS MPO is located on the Wisconsin side, a proportionately larger share of the Federal pass-through is provided by the State of Wisconsin.

To assure that the State and local governments acknowledge their shares of the planning responsibilities for the MPO, the Federal government requires that the Federal funds be matched on an 80 percent Federal to 20 percent non-Federal funding basis. Funding by State and local governments may fluctuate from year to year. In Wisconsin, the State typically provides a smaller share while local jurisdictions (City of Beloit, Town of Beloit and Town of Turtle) provide a larger share of the 20 percent match. In Illinois, the State typically provides a larger share while local jurisdictions (City of South Beloit, Village of Rockton and Rockton Township) provide a smaller share of the 20 percent match.

1.7. Public Involvement

The Public Involvement Plan (PIP) is a Federally-mandated document SLATS updates on a periodic basis. The PIP addresses the overall SLATS planning process, including the development of the 2040 LRTP. The PIP specifies practices, methods, and procedures to engage the general public and transportation stakeholders, both by disseminating information and obtaining feedback to inform the planning process.

For the 2040 LRTP, community input was gathered primarily through two public opinion surveys. The survey results were used to ensure that the LRTP reflects local issues and values. Both surveys were available online and in hardcopy format. SLATS staff emailed the survey link directly to existing email distribution lists that the MPO maintains, including targeted outreach to social service and environmental agencies (Survey #2). An open house was held in September 27, 2016 to provide the public an opportunity to review the plan recommendations, to ask questions of the MPO staff, and to provide feedback regarding the draft plan. A 30-day public review (30 days minimum) of the draft plan was conducted between August 23, 2016 and September 30, 2016. (See Appendix A for a summary of the survey results and open house feedback. See Appendix D for public review comments.)

The first LRTP survey took place between January 4, 2016 and February 5, 2016. A total of 125 individuals answered all, or some, of the questions related to travel characteristics, existing multimodal conditions and transportation system deficiencies and gaps, and preferences for the transportation network. The second LRTP survey took place between June 6, 2016 and July 11, 2016. A total of 67 individuals answered all, or some, of the questions related potential multimodal improvements. It is important to note that these surveys were not intended to be statically valid surveys but instead were used as a way to obtain insight into transportation issues within the region. The survey responses provide general information that was used, as appropriate, to inform the LRTP analysis.

1.8. L RTP Content and Organization

The SLATS 2040 L RTP builds on recent planning efforts in the region and begins to move the MPO toward a performance-based planning approach consistent with FAST Act performance measures. As described in “Development and content of the metropolitan transportation plan” (CFR 450.322), the L RTP should include the following:

- Long-range and short-range strategies/actions that lead to the development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods while addressing current and future transportation demand.
- Existing and proposed transportation facilities (including major roadways, transit, multimodal and intermodal facilities, pedestrian walkways and bicycle facilities, and intermodal connectors) that should function as an integrated metropolitan transportation system, giving emphasis to those facilities that serve important national and regional transportation functions over the period of the transportation plan.
- Operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods.
- Assessment of capital investment and other strategies to preserve the existing and projected future transportation infrastructure and provide for multimodal capacity increases based on regional priorities and needs.
- Discussion of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the L RTP.
- Financial plan that demonstrates how the priority projects can be implemented.
- Safety component that incorporates or summarizes the priorities, goals, countermeasures, or projects for the MPA contained in the Strategic Highway Safety Plan as well as (as appropriate) emergency relief and disaster preparedness plans and strategies and policies that support homeland security (as appropriate) and safeguard the personal security of motorized and non-motorized users.

This L RTP is organized into nine chapters. The following provides a brief summary of each chapter. Supporting documentation is available in separate appendices.

Chapter 1: Long Range Transportation Planning Process – This chapter provides an overview of SLATS, the metropolitan planning area, and the overall long range transportation planning process.

Chapter 2: Regional Demographics and Land Use – This chapter summarizes the population and demographic characteristics of the MPA.

Chapter 3: Goals, Objectives, and Performance Measures – This chapter summarizes the L RTP goals and objectives and establishes the strategic direction to address FAST Act performance measures.

Chapter 4: Roadways – This chapter summarizes the existing and future roadway conditions and issues within the MPA.

Chapter 5: Public Transportation – This chapter summarizes the existing and future conditions and issues for public transportation within the MPA.

Chapter 6: Non-Motorized Transportation – This chapter summarizes the existing and future conditions and issues for non-motorized travel and facilities within the MPA. It should be noted that SLATS intends to conduct a non-motorized plan in 2017 and will update this section accordingly.

Chapter 7: Freight and Intermodal Connectivity – This chapter summarizes the existing and future conditions and issues related to freight movement within and through the MPA. It focuses primarily on truck and rail, while aviation is also generally addressed.

Chapter 8: Recommended Plan and Implementation – This chapter summarizes the 2040 L RTP recommendations and summarizes implementation related strategies.

Chapter 9: Environmental Justice and Environmental Mitigation Analysis – This chapter summarizes the environmental justice analysis which evaluates the potential impacts on low income and minority populations within the MPA. It also includes a high-level environmental mitigation analysis to identify potential negative impacts that future year projects could have on the region’s environmental assets.

Chapter 2: Regional Demographics and Land Use

This chapter provides an overview of the regional demographics and land uses within the SLATS MPA. This analysis helps in part to determine if the Stateline Area is likely to decline, remain stable, or grow in population and employment through the 2040 planning horizon. Under any growth scenario, transportation planning and land use coordination play a significant role in enhancing regional mobility, strengthening economic vitality, and enhancing quality of life.

2.1. Population

According to the 2010 US Census, the highest-populated municipality located in the MPA is the City of Beloit (36,966) followed by Village of Roscoe (10,785), City of South Beloit (7,892), and Village of Rockton (7,685). The estimated 2010 population for the SLATS MPA is 68,273, which is based on the regional travel demand forecasting model data. Population figures from 1990 to 2010 for the United States, Wisconsin, Illinois, Rock County, Winnebago County, and select municipalities are displayed in Table 2-1.

Table 2-1. Total Population Growth

Location	1990	2000	2010	Change 1990-2000 (%)	Change 2000-2010 (%)
Nation	248,709,873	281,421,906	308,745,712	13.2%	9.7%
Wisconsin	4,891,769	5,363,675	5,686,986	9.6%	6.0%
City of Beloit	36,174	35,828	36,966	-1.0%	3.2%
Illinois	11,430,602	12,419,293	12,830,632	8.6%	3.3%
City of South Beloit	4,105	5,441	7,892	32.5%	45.0%
Village of Roscoe	2,225	6,350	10,785	185.4%	69.8%
Village of Rockton	3,017	5,469	7,685	81.3%	40.5%
Rock County	139,510	152,307	160,331	9.2%	5.3%
Winnebago County	252,913	278,418	295,266	10.1%	6.1%

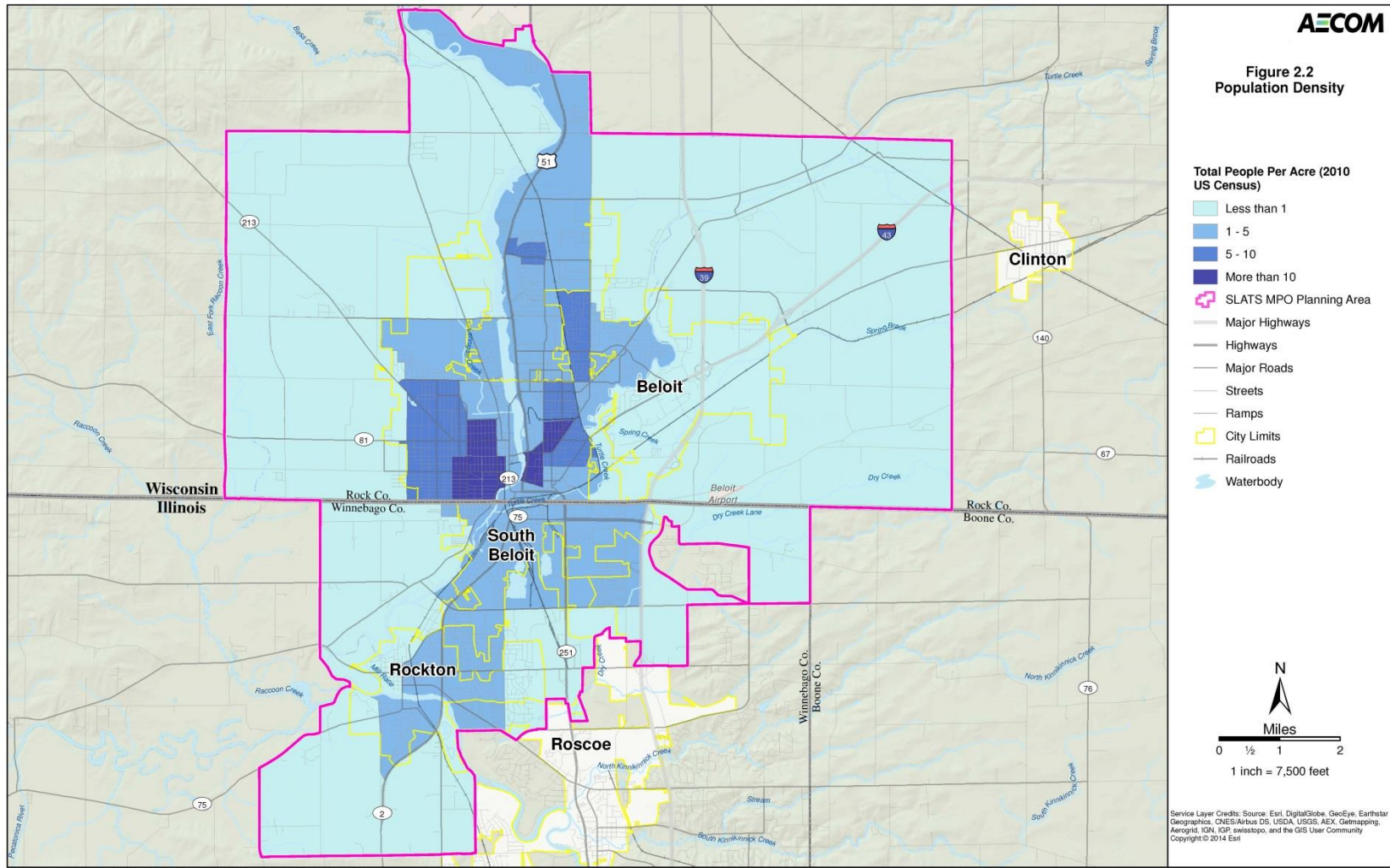
Source: US Census, 1990 – 2010.

2.1.1. Population Distribution

Population distribution is an important factor in assessing MPA travel patterns and determining appropriate infrastructure needs. Furthermore, understanding where residents live or workers commute plays a vital role in identifying appropriate transportation services. In general, densely-populated areas include a wider range of infrastructure that is able to better support alternative transportation modes, such as public transportation and bicycling. Less densely-populated areas, such as rural or fringe areas, often have limited mobility options, and as such the automobile often serves as the primary means of transportation.

Figure 2-1 and Figure 2-2 illustrates current population distribution and density within the SLATS MPA. The primary population density surrounds Downtown Beloit in close proximity to areas to the east and west. Large residential clusters also exist east of the Rock River in northern Beloit and within Rockton and Roscoe in the southern MPA. Despite relatively low residential population density along the I-39/90 and I-43 corridors, this area is highly active with development activity.

Figure 2-2. SLATS MPA Population Density



2.2. Population and Demographic Characteristics

Analyzing demographic characteristics helps assess transportation infrastructure needs within the SLATS MPA. Demographic data is significant in that it provides an understanding of how population changes influence community transportation decisions. Understanding the distribution and composition of population changes further enables the ability to plan for appropriate transportation infrastructure. The 2010 US Census and American Community Survey (ACS) describe the distribution of population growth within the MPA. Population characteristics of specific municipalities are as follows:

- City of Beloit growth rate increased 0.6 percent from 1990 to 2000 and 3.3 percent from 2000 to 2010. Overall, the growth rate from 1990 to 2010 increased by 1,393 residents (3.9 percent).
- Municipalities in the southern portion of the MPA have recently experienced rapid growth. The Village of Roscoe is the fastest growing community, growing over 70 percent from 2000 to 2010. From 2000 to 2010, the City of South Beloit’s population and the Village of Rockton’s population both increased over 45 percent.
- The population increase for the urbanized area can be attributed in part to growing employment areas along the I-39/90 corridor and SLATS MPA strategic position between other growing urbanized areas including Rockford to the south, and Janesville and Madison to the north.

2.2.1. Age

Based on 2010 Census data, the Beloit Urbanized Area’s population within selected municipalities is comprised of 11 percent (7,137) older adults and 28 percent (17,856) youth. Older adults are defined as persons 65 years and older and youth are defined as persons under 18. In comparison to other regional urbanized areas, the SLATS MPA is relatively young. The median age in the City of Beloit is 33.1 years old, far younger than the averages for the United States (37.2 years old), State of Wisconsin (39.6 years old), and State of Illinois (37.9 years old). Table 2-2 provides age distribution for incorporated municipalities within the MPA. Non-incorporated, more suburban and rural areas surrounding the cities and villages tend to be older.

Table 2-2. 2010 Age of the Beloit Urbanized Area by Selected Municipality

Community	Sex		Age						
	Male	Female	Under 18	18 and Over	20-24	25-34	35-49	50-64	65 & Over
City of Beloit	17,700	19,266	10,035	26,931	2,984	4,925	7,023	6,120	4,421
% of Total	58.0%	58.7%	56.2%	59.2%	70.6%	60.1%	52.5%	58.4%	61.9%
Village of Roscoe	5,298	5,487	3,284	7,501	544	1,264	2,800	1,739	919
% of Total	17.4%	16.7%	18.4%	16.5%	12.9%	15.4%	20.9%	16.6%	12.9%
City of South Beloit	3,851	4,041	2,247	5,645	418	1,217	1,733	1,238	844
% of Total	12.6%	12.3%	12.6%	12.4%	9.9%	14.9%	12.9%	11.8%	11.8%
Village of Rockton	3,655	4,030	2,290	5,395	281	784	1,831	1,381	953
% of Total	12.0%	12.3%	12.8%	11.9%	6.6%	9.6%	13.7%	13.2%	13.4%
Total	30,504	32,824	17,856	45,472	4,227	8,190	13,387	10,478	7,137
% of Total	48.2%	51.8%	28.2%	71.8%	6.7%	12.9%	21.1%	16.5%	11.3%

Source: US Census, 2010.

Age plays a vital role in determining appropriate transportation infrastructure. Younger populations in dense, urban areas typically have a greater desire to walk, bike, and use transit. Older populations in suburban or rural areas typically do not share the same desire for a variety of transportation choices and choose to primarily rely on personal vehicles. Understanding these differences allows for a greater ability to provide resources and services to best meet the needs of all transportation users.

2.2.2. Race

Based on the 2010 Census, SLATS MPA’s ethnicity within selected municipalities is comprised of 74.8 percent (51,526) White, 9.4 percent (6,453) African American, and 1.1 percent (731) Asian. Hispanic or Latino populations represent 12.0 percent (8,296) of the population. African Americans represented the largest minority group in the urbanized area and are primarily concentrated in the City of Beloit (14.7 percent of municipal population); however, Hispanics are the most dispersed minority group within the urbanized area. Additional discussion of race is included in Chapter 9 as part of the environmental justice analysis. Table 2-3 summarizes the race and ethnicity distribution for MPA municipalities.

Table 2-3. 2010 Race and Ethnicity of SLATS MPA by Selected Municipality

Place	Total Population by Place	Total Minority Population by Place - Includes Hispanic Population	Hispanic	Non-Hispanic Population by Race						
				White	African American	American Indian or Alaskan Native	Asian	Native Hawaiian or Pacific Islander	Some Other Race	Two or More Races
City of Beloit	36,966	13,481	6,332	23,485	5,440	114	409	9	53	1,124
% of Total	53.6%	36.5%	17.1%	63.5%	14.7%	0.3%	1.1%	0.0%	0.1%	3.0%
Town of Beloit	7,662	1,174	511	6,488	415	20	66	2	13	147
% of Total	11.1%	15.3%	6.7%	84.7%	5.4%	0.3%	0.9%	0.0%	0.2%	1.9%
Town of Turtle	2,388	161	53	2,227	63	3	14	0	2	26
% of Total	3.5%	6.7%	2.2%	93.3%	2.6%	0.1%	0.6%	0.0%	0.1%	1.1%
Town of Rock	1,712	222	143	1,490	49	3	7	0	3	17
% of Total	2.5%	13.0%	8.4%	87.0%	2.9%	0.2%	0.4%	0.0%	0.2%	1.0%
City of South Beloit	7,785	1,249	608	6,536	310	16	128	3	4	180
% of Total	11.3%	16.0%	7.8%	84.0%	4.0%	0.2%	1.6%	0.0%	0.1%	2.3%
Village of Rockton	7,685	584	278	7,101	101	9	84	1	5	106
% of Total	11.2%	7.6%	3.6%	92.4%	1.3%	0.1%	1.1%	0.0%	0.1%	1.4%
Rockton Township	3,181	425	321	2,756	70	0	7	0	0	27
% of Total	4.6%	13.4%	10.1%	86.6%	2.2%	0.0%	0.2%	0.0%	0.0%	0.8%
Village of Roscoe	6	0	0	6	0	0	0	0	0	0
% of Total	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Roscoe Township	1,522	85	50	1,437	5	1	16	0	0	13
% of Total	2.2%	5.6%	3.3%	94.4%	0.3%	0.1%	1.1%	0.0%	0.0%	0.9%
Total	68,907	17,381	8,296	51,526	6,453	166	731	15	80	1,640
Percent of Total	100.0%	25.2%	12.0%	74.8%	9.4%	0.2%	1.1%	0.0%	0.1%	2.4%

Source: US Census - American Fact Finder Tables QT-P4 Race, Two Races, and Not Hispanic or Latino: 2010 SF1 100% by Block.

2.3. Employment Distribution

High employment density is concentrated in proximity to Downtown Beloit with many employers clustered within the Central Business District. Major employers are also located on the urbanized fringe, including Beloit Memorial Hospital to the north and Woodman's to the west. The eastern portion of SLATS MPA is a primary employment center with multiple large employers taking advantage of the proximity to convenient interstate access.

Figure 2-3 illustrates current employment density/distribution. Figure 2-4 displays unemployment levels within the SLATS MPA. Not surprisingly, urban areas including many older neighborhoods have higher densities compared to rural areas that are less dense. While many of the urban areas have higher densities, some also contain the highest unemployment rates, particularly within the City of Beloit. From a transportation standpoint, many of these residents may lack access to an automobile and rely on public transportation and non-motorized facilities to meet their daily travel needs. While these facilities, particularly public transit may readily serve these neighborhoods, it is equally important that the transit service connect to these major employment destinations to ultimately connect people to jobs. This LRTP attempts to enhance connections for all transportation modes, including transit and non-motorized networks, and looks to support travel to jobs and for other trip purposes.

Figure 2-3. SLATS MPA Employment Density – Where Workers Live

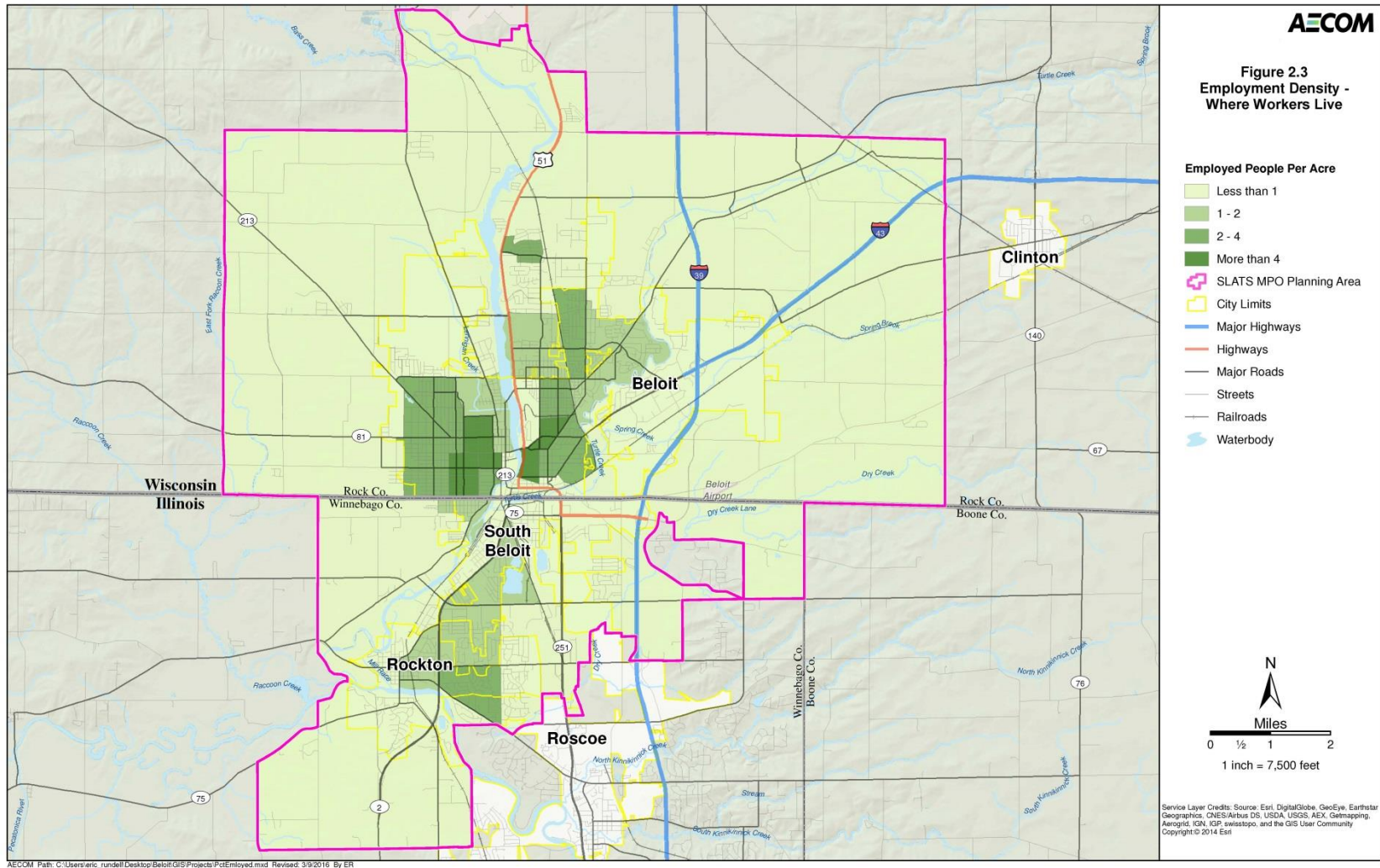
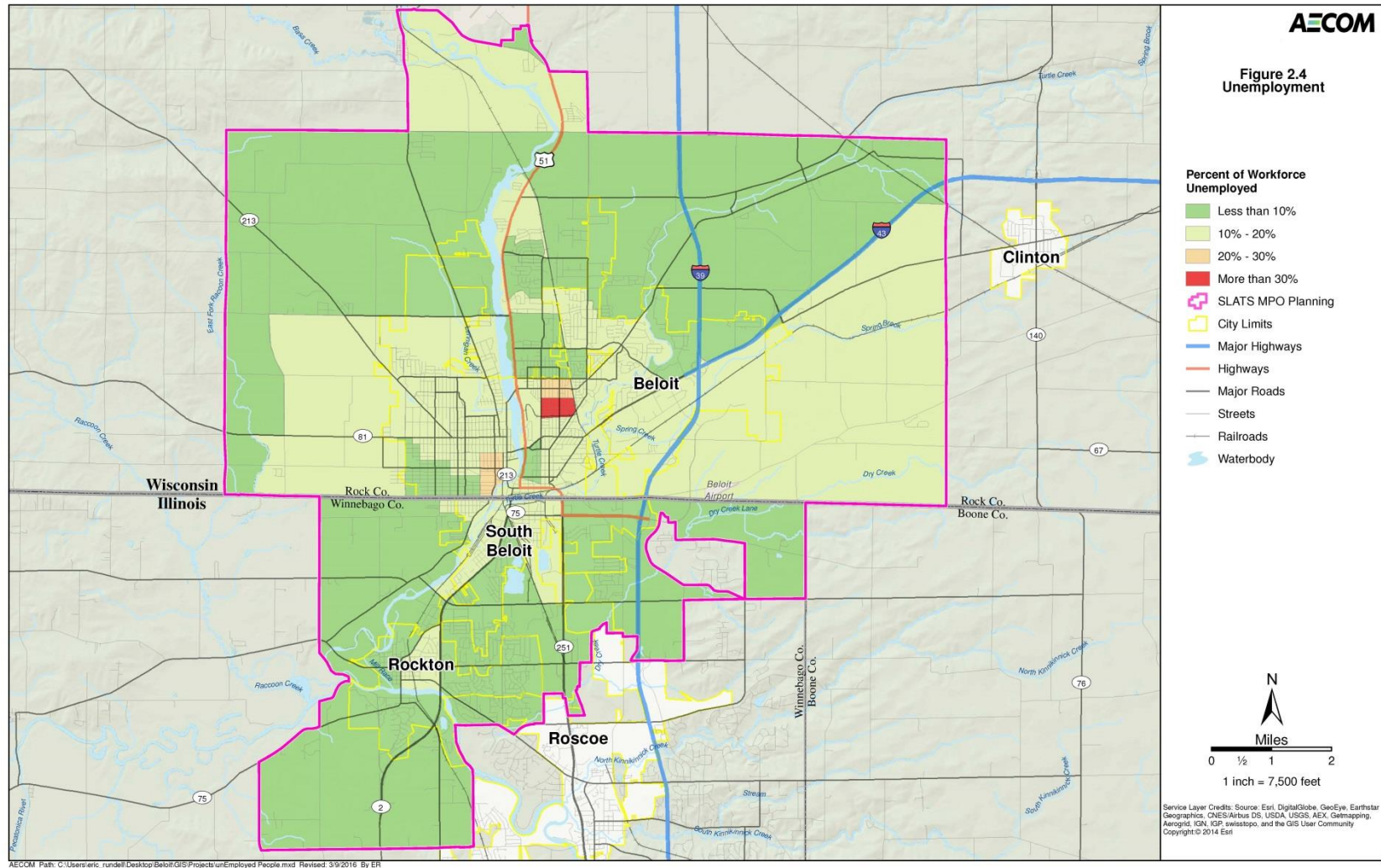


Figure 2-4. SLATS MPA Unemployment



2.3.1. Major Employers

The location of major employers is an important factor of where economic activity is focused within the MPA. For many major employers, direct access to major roadways and interstates is critical to moving goods in a timely and efficient manner. Connecting people to jobs, by car, bus, bike or walking, are also important considerations in where employers choose to locate their business.

Currently, the MPA has a concentration of major employers located in Downtown Beloit and along the interstate corridors. Beloit Health System, School District of Beloit, and Taylor Company, located in Rockton, are the largest employers and combine for over 3,300 employees. As land use patterns change to accommodate economic growth, it is important for the region to continually monitor and modify the transportation resources to accommodate current and future employers within the region. A list of employers within the MPA is provided in Table 2-4. Figure 2-5 displays the location of major employers.

Table 2-4. Major Employers

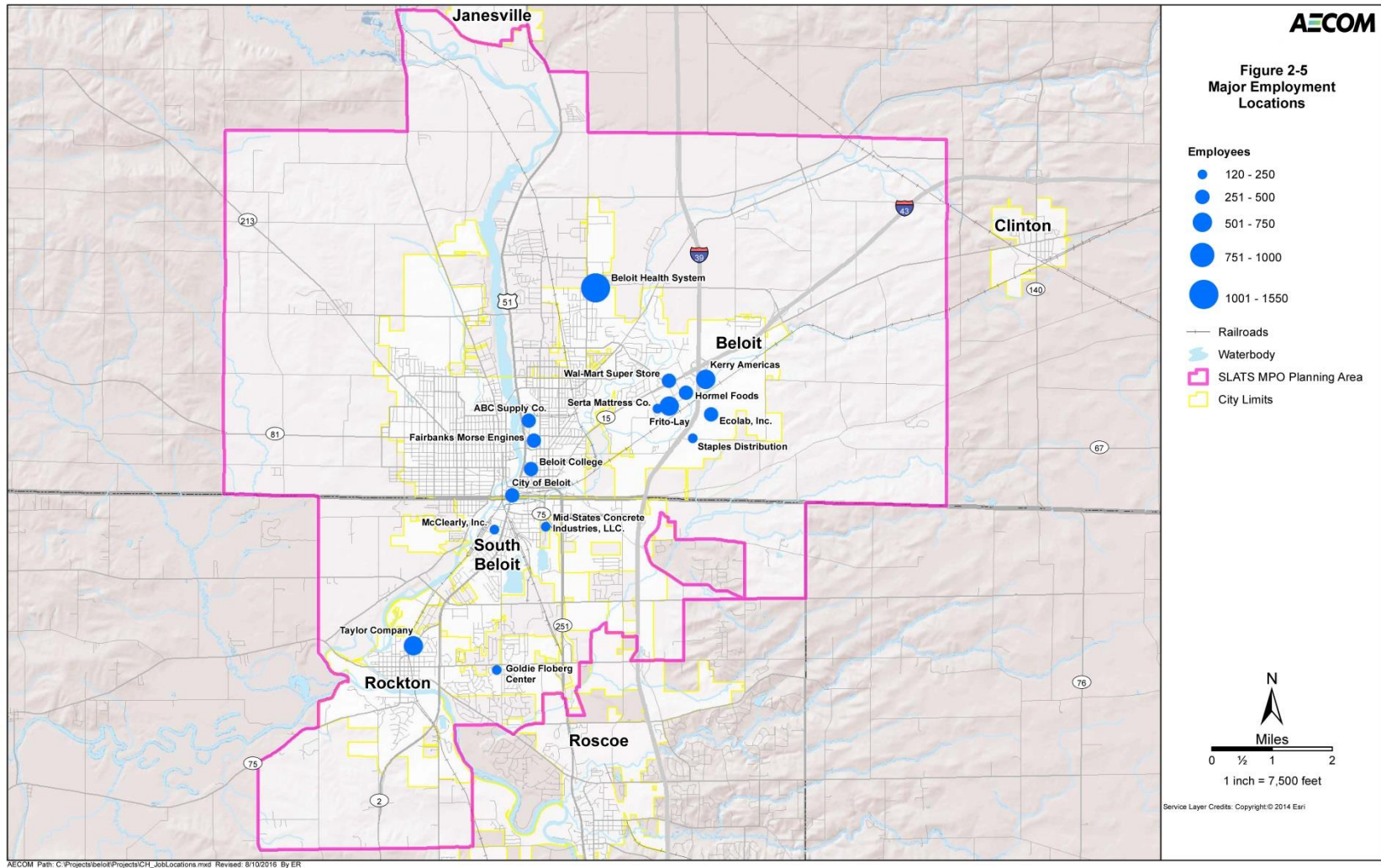
Employer	Product or Service	Number of Employees
Beloit Health System	Medical Services	1,550
School District of Beloit	Public Education Grades K-12	1,006
Taylor Company*	Food Service Industry	750
Kerry Americas	Dehydrated Food Products	690
Frito-Lay	Snack Foods	685
City of Beloit	Municipal Services	475
Beloit College	4-year Liberal Arts College	413
ABC Supply Co.	Roofing, Siding and Building Products	406
Fairbanks Morse Engines	Diesel Engines & Accessories	373
Wal-Mart 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
McCleary, Inc.*	Food Manufacturing	160
Goldie Floberg Center*	Health Care and Social Assistance	140
Mid-States Concrete Industries*	Precast Concrete Building Systems	120

*Major employers located in Illinois.

Source: Greater Beloit Economic Development Corporation.

NOTE: The table reflects MPA employers with a minimum of 200 employees in Wisconsin and a minimum of 100 employees in Illinois.

Figure 2-5. Major Employers



2.4. Land Use

An understanding of land use and its effect on transportation plays an important role in the long-term success of the SLATS regional transportation system. Land use decisions carry direct implications that impact the efficiency and viability of an integrated transportation system. According to FHWA, an evaluation of land use decisions increases options for system users to access opportunities, goods, services, and other resources to improve the quality of their lives. This requires regional coordination among local agencies to address both land use and transportation decisions.

An inventory of current land use plans that fall within the SLATS MPA was assembled. The plans were reviewed at a high level to better understand where local communities stand on transportation and land use decisions. Table 2-5 summarizes the key visions for land use and transportation elements among selected local agencies in the MPA.

Table 2-5. Review of Local and Regional Land Use Plans

Vision Statements		Rock County	Winnebago County	City of Beloit	City of South Beloit	Town of Turtle	Town of Beloit	Village of Rockton
Transportation System Vision & Goals	Balanced, Multi-Modal, Support Alternative	X	X	X	X	X	X	X
	Safe, Efficient	X	X	X				
	Support Economic Development / Vitality	X	X	X	X	X		X
	Affordable / Fiscally Sound	X						X
	Accessible / Multiple Users	X		X			X	X
	Attractively Designed Facilities	X		X				X
	Provide Bicycle and Pedestrian Facilities			X	X		X	X
	Maintain Existing Infrastructure / Facilities		X	X	X			
	Address Capacity Needs / Accommodate Growth	X	X	X	X	X	X	X
	Joint Cooperation / Agency Coordination	X		X			X	X
Land Use/Development-Related Vision & Goals	Maintain/Promote Quality of Life	X	X	X		X	X	X
	Protect Natural Resources / Environmentally	X	X	X		X	X	
	Desire/Protect Rural Character	X	X	X	X	X		X
	Desire Suburban Character				X			
	Desire Balance of Urban / Rural Amenities	X		X		X	X	X
	Desire Sustainable Land Uses (Agricultural, Forestry)	X	X			X		
	Create Sense of Place	X		X				
	Coordinate Land Use, Transportation	X	X	X	X	X	X	X

Source: Local County and Municipal Land Use Plans.

Both Rock and Winnebago Counties recognize the important connection between land use development and transportation. The Rock County Comprehensive Plan (2035) acknowledges new and improved transportation corridors are likely to change how land is used not only along those corridors, but also throughout the County. Winnebago County's 2030 Land Resource Management Plan advocates for a balanced transportation system that is integrated with land use policy to enhance economic development, vitality and community character. Based on multiple land use plans from within the MPA area, municipalities recognize the importance of land use and its connection to transportation.

As reflected in the area comprehensive plans, the communities located within the SLATS MPA place a high value on developing a multimodal transportation system. Furthermore, these plans recognize the need to accommodate future growth and economic development and specifically acknowledge the need to preserve the region's extensive rural character and agricultural resources. Ultimately, these plans support strong land use and transportation coordination, acknowledging the critical link between the two. Overall, these comprehensive plans are consistent with SLATS goals as set forth in Chapter 3. Specifically, these comprehensive plans support the LRTP goals of preserving and protecting the environment, providing well-connected and sustainable neighborhoods that enhance quality of life, and strengthening the integration between land use and transportation to promote transportation system efficiency.

Chapter 3: Goals & Objectives

3.1. Goals and Objectives

This chapter establishes the SLATS vision through the 2040 LRTP goals and objectives that guide the identification of future transportation priorities and investments within the MPA. Seven goals, along with supporting objectives, were developed in consultation with the SLATS Technical and Policy Committees, as well as input from the general public through the first online public opinion survey. Generally speaking, goals define a desired end state or outcome, while objectives support a goal by providing additional detail regarding how a specific goal will be achieved (e.g., travel mode, type of user, etc.).

Table 3-1 displays the SLATS goals and objectives. The following sources were reviewed as a part of the development process in defining the SLATS 2040 LRTP goals and objectives:

- Review of the 2006 LRTP goals/objectives;
- Review of the 2011 LRTP goals;
- Review of the 2003 visioning exercise, as referenced in the 2006 and 2011 LRTPs;
- Results and discussion from the 2016 LRTP visioning exercise (conducted November 16, 2015 as part of the 2040 LRTP kick-off meeting); and,
- Feedback from the 2016 LRTP public opinion survey #1.

Table 3-1. SLATS Goals and Objectives

Goals	Objectives
<p>1. Economic Vitality – Prioritize transportation investments that foster regional economic development opportunities.</p>	<p>a. Participate in transportation, land use, and economic development planning across the state line. b. Develop a transportation system to enhance access to local and regional employment centers. c. Maintain and improve existing transportation links to central business districts within the MPA.</p>
<p>2. System Preservation – Strategically support and strengthen existing local and regional transportation assets.</p>	<p>a. Strive for sufficient budgetary resources to maintain the existing transportation infrastructure. b. Where possible, enhance the system efficiency of existing travel corridors as opposed to adding new roadway capacity. c. Utilize emerging technology to increase the efficiency of the existing regional transportation system.</p>
<p>3. Mobility and Accessibility – Develop a comprehensive, multimodal system that enhances mobility and accessibility for all transportation users.</p>	<p>a. Improve current access and level of service on interstate highway system. b. Improve transit access within the Stateline Area and explore regional transit connections to Rockford, Janesville, Madison, Chicago and Milwaukee. c. Expand the bicycle and pedestrian system to improve regional connectivity with a particular focus on enhancements to the multi-use trail system. d. Support the development of complete streets which incorporate appropriate transit, bicycle and pedestrian accommodations into roadway improvements.</p>
<p>4. Safety and Security – Improve transportation safety and security throughout the region.</p>	<p>a. Minimize crash exposure within the Stateline Area with an emphasis on reducing fatalities and serious injuries. b. Consider all system users (cyclists, transit users, pedestrians, motorists, freight carriers) when planning, designing and constructing transportation facilities. c. Support public education to promote safe transportation behavior.</p>
<p>5. Environmentally Friendly – Promote transportation investments that preserve and protect the environment.</p>	<p>a. Support transportation system investments that preserve open space and natural amenities, and enhance connections to these regional assets. b. Proactively evaluate, and minimize, the environmental impacts of proposed transportation improvements within the region.</p>
<p>6. Healthy Neighborhoods – Provide well-connected, sustainable neighborhoods that enhance quality of life.</p>	<p>a. Facilitate the efficient, effective movement of freight through the region to minimize the negative impacts on residential neighborhoods. b. Support mixed-use, transit-oriented developments that encourage walkable, connected neighborhoods that provide an alternative to driving.</p>
<p>7. Land Use Integration – Strengthen the integration between land use and transportation initiatives to promote transportation system efficiency.</p>	<p>a. Coordinate transportation planning with regional land use plans. b. When appropriate, identify and plan for corridor preservation to accommodate future year capacity needs. c. Plan the transportation system to encourage contiguous development consistent with smart growth principles.</p>

3.2. Performance-Based Planning Framework

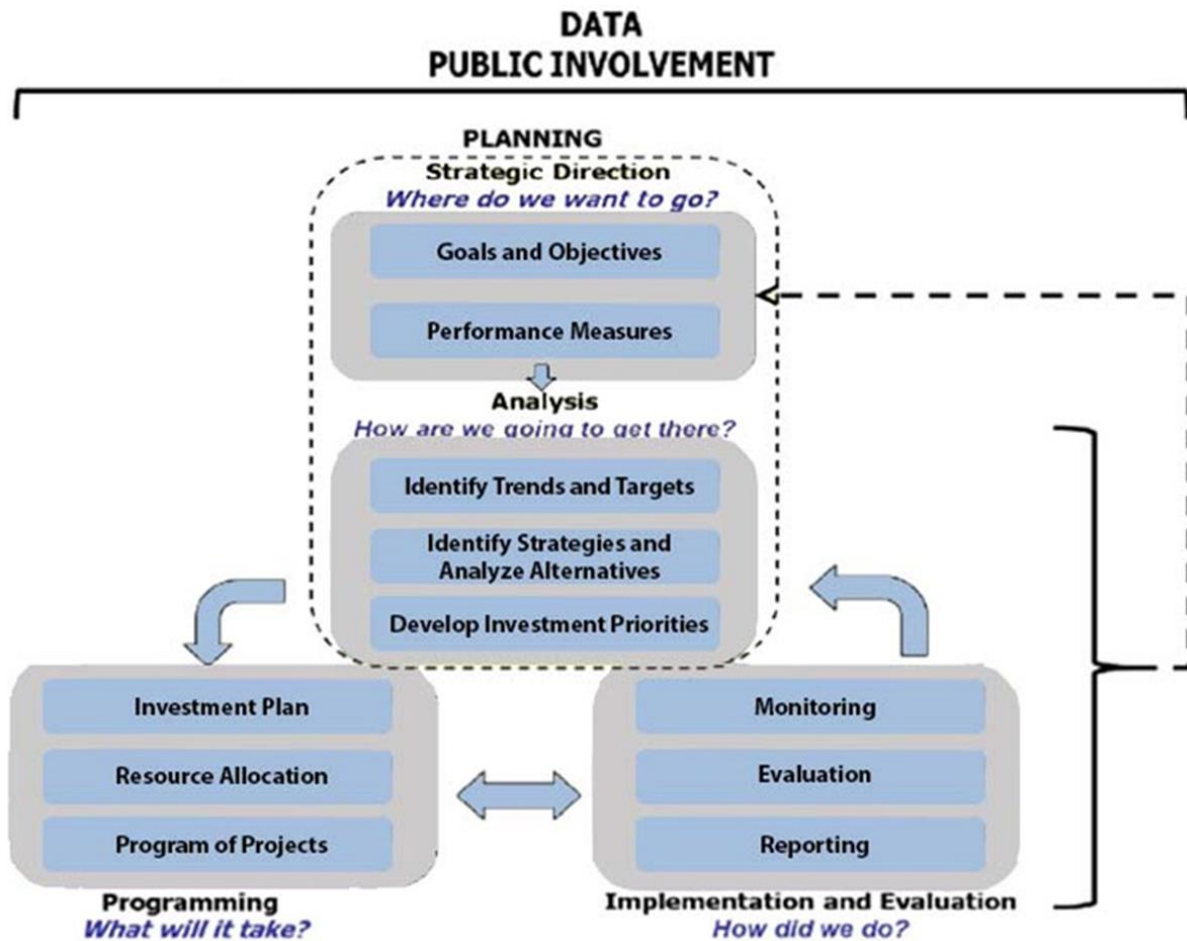
The SLATS 2040 LRTP recognizes the need to move the long range transportation planning activities toward a performance based decision making process consistent with FAST Act (previously MAP-21) performance measures. At the time this LRTP was developed, the FHWA and State DOTs were in the process of establishing performance measure guidelines. Ultimately, MPOs such as SLATS, will need to

incorporate these measures into future LRTP updates, and into other transportation related planning activities such as the Transportation Improvement Program (TIP). The 2040 LRTP begins to establish the foundation for identifying performance measures that will eventually include specific targets/dates. Addressing performance measures and targets will occur as final guidance is identified and implemented.

In recent years, more and more public agencies are using performance measurements to track their progress against defined goals and objectives and are reporting results to internal and external stakeholders and partners. Federal legislation establishes a performance-based federal program, reflecting a national movement toward transportation performance management that promotes performance-based planning practices and data-driven decision-making for both state DOTs and MPOs.

A performance-based planning framework refers to the application of performance management – a strategic approach that uses performance data to support decisions to help achieve desired performance outcomes. Performance-based planning occurs within the context of established transportation planning and programming processes used by agencies to deliver a multimodal transportation system. Carrying forward performance-based planning and programming is meant to be an ongoing process, informed by quality data and public involvement throughout. The process should reflect local needs and priorities. Figure 3-1 displays the key elements of a performance-based transportation plan.

Figure 3-1. Performance-Based Planning Framework



Source: FHWA Performance-based Planning and Programming Guidebook, Page IV.

According to FHWA, transportation performance management is a “strategic approach that uses system information to make investment and policy decisions to achieve national performance goals.” The key elements of the performance-based planning process include:

- National Goals – Seven national goal areas are codified in legislation.
- Performance Measures – USDOT is in the process of establishing a limited set of performance measures with input through the rulemaking process. State DOTs and MPOs are free to adopt additional locally defined performance measures and targets.
- Performance Targets – State DOTs and MPOs set targets through a coordinated process that also includes transit service providers.
- Performance Plans – The performance-based planning process should be carried forward through the project selection process and linked to the fiscally constrained TIP developed at

both the statewide and the metropolitan level. Federal legislation strengthens the link between investment priorities and performance outcomes, as both the Statewide TIP and Metropolitan TIP are now required to describe the anticipated effect of transportation system investments in making progress toward the targets. In other words, the S/TIP should show a connection between the policy direction in the Statewide and the LRTP and the programming decisions in the S/TIP.

- Additional performance plans now required under Federal legislation that are germane to MPOs include: Metropolitan System Performance Report (included as part of the LRTP); Transit Asset Management Plan; and the Congestion Mitigation and Air Quality Improvement Program (CMAQ) Performance Plan.
- Target Achievement – State DOT and MPO planning processes are intended to guide program and project selection to make progress toward the achievement of targets.
- Special Performance Rules – Special rules apply to the performance elements related to safety (high-risk rural roads, older drivers, and pedestrians), Interstate Pavement Condition, and National Highway System Bridge Condition.
- Performance Reporting – State DOTs and MPOs must report to USDOT on progress toward achieving targets and USDOT will assess such progress.

FAST Act identifies seven national goal areas and requires DOTs and MPOs to develop a performance-based approach to support the national goals. As part of this process, USDOT in consultation with state DOTs, MPOs, and other stakeholders will establish performance measures corresponding to the national goals. State DOTs and MPOs are free to identify additional measures, but all statewide transportation plans and LRTP's will need to address the performance measures and targets associated with those measures, at a minimum. Moreover, state DOTs, MPOs, and public transportation service providers are required to establish performance targets and to coordinate development of these targets to ensure consistency. Table 3-2 displays national goals and performance measure assessment areas.

In general, SLATS will monitor current transportation planning solutions stressed at State and Federal levels. A collaborative approach to solving transportation problems has greater potential for success than efforts pursued individually or within a single unit of government.

Table 3-2. National Goals and Performance Measure Assessment Areas

National Goal Area	National Goal	National Performance Measure Assessment Area
1. Safety	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.	Fatalities and serious injuries—both number and rate per vehicle mile traveled—on all public roads, Transit and non-motorized safety
2. Infrastructure Condition	To maintain the highway infrastructure asset system in a state of good repair.	Pavement condition on the Interstate System and on remainder of the NHS Bridge condition on the NHS Transit state of good repair
3. Congestion Reduction	To achieve a significant reduction in congestion on the National Highway System.	Traffic congestion
4. System Reliability	To improve the efficiency of the surface transportation system.	Performance of the Interstate System and the remainder of the NHS
5. Freight Movement and Economic Vitality	To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.	Freight movement on the Interstate System
6. Environmental Sustainability	To enhance the performance of the transportation system while protecting and enhancing the natural environment.	On-road mobile source emissions
7. Reduced Project Delivery Delays	To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.	None/TBD

Chapter 4: Roadways

4.1. Overview

The SLATS region consists of an extensive roadway network that provides local and regional connections within and through the MPA. Major interstates such as I-39/90 run north-south along the eastern half of the MPA connecting to Rockford to the south and Madison to north. Tying into I-39/90 near Milwaukee Road is I-43 as it extends northeast toward the Milwaukee region. The roadway network serves a number of users including significant truck traffic providing for the movement of goods and services within and through the SLATS region. The roadway network facilitates by far the largest movement of people and goods within the region and is an integral part of the region's economic success.

4.2. Functional Classification

Functional classification is the process by which roadways are categorized based on the travel function they serve. The primary system includes all highways designated as Interstate, US Highways, and State routes while the secondary system includes all other roadways which are the jurisdictional responsibility of the county or local municipalities.

The functional classification system is based on the guiding principle that roads serve different purposes and should, therefore be designed accordingly to accommodate different functions. The functional classification system outlined in the LRTP reflects a combined version of the Wisconsin Department of Transportation (WisDOT), the Illinois Department of Transportation (IDOT), and the Federal Highway Administration (FHWA). There are five main classes:



Extension of Inman Parkway at Prairie Avenue

- 1. Local (Residential) Streets** – Local streets are governed by the number of properties having access to them and the frequency and weight of the vehicles. Local streets are not designed to carry traffic that does not originate from or is destined to properties that have direct access to them. From the standpoint of the movement of normal traffic, local streets are typically designed with single lanes. For emergency purposes, most local streets are designed wider, to accommodate fire trucks. Federal funding such as STP funds do not apply to local streets.
- 2. Collectors** – Collector roadways have two primary purposes: (1) collect traffic from the local streets, allow that traffic to proceed at a faster speed, and transmit that traffic to other roads for further travel to another local street and a destination; or (2) accept traffic from arterial roadways (see below) and disburse that traffic to local streets. These roadways may be further categorized into major collectors and minor collectors. Examples of collectors within the SLATS MPA include Hart Road, Colley Road, Elmwood Avenue, portions of McKinley Avenue and Prairie Hill Road, Old River Road and Dorr Road.

3. **Minor Arterials** – Minor arterials provide for high-speed and/or high-volume traffic and are typically used for longer trips than collectors, but shorter trips than interstates. They are typically built and maintained under local jurisdiction rather than State/Federal. Minor arterials often form boundaries between recognized "neighborhoods." All arterials are usually given movement preference over lower-level streets (i.e., crossing traffic will yield or stop, or is grade-separated). Depending on projected traffic volumes and traffic conflicts, direct access from properties may be limited on minor arterials or directed to points where traffic conditions are more appropriate. An example of minor arterials within the SLATS MPA includes portions of Park Avenue, Shopiere Road, Henry Avenue, Stateline Road, Burton Street, Hackett Street, South Bluff, Willowbrook Road, Rockton Road and Hononegah Road.

4. **Principal Arterials** – Principal arterials are designed to carry traffic for long distances within the region or to/from adjacent or nearby regions. They are designed to accommodate higher speed traffic with most intersecting roadways having traffic signals or other traffic control devices. They are often part of the statewide or national transportation networks. Examples of principal arterials within the SLATS MPA include WI-81, US-51, WI-213, IL-2, IL-251, IL-75, Prairie Avenue (in City of Beloit) and Cranston Road.

5. **Interstates or Freeways** – Interstates, or freeways, are the highest classified roadway in the system. Interstates are designed for high-speed and high-volume traffic. As the name implies they are designed for long-distance travel and are typically part of the National Highway System which provides for high speed access to all major regions of the nation. Access to these roadways is strictly controlled and limited to interchanges. These roads are designed with numerous features to accommodate high-speed travel in a safe manner.

A breakdown of mileage by classification is provided in **Error! Not a valid bookmark self-reference..** The functional classification displayed includes local roadways, major/minor collectors, principal/minor arterials, and interstates. The system consists of a number of important routes, including:

- I-39/90 provides interstate access to major metropolitan areas such as Rockford and Chicago to the south and southeast, Madison to the north, and Minneapolis to the northwest.
- I-43 provides interstate access to the northeast and links Milwaukee and Green Bay.
- US-51 provides the northern portion of the MPA in Wisconsin north-south access to Janesville and Madison.

Table 4-1. Functional Classification – SLATS MPA

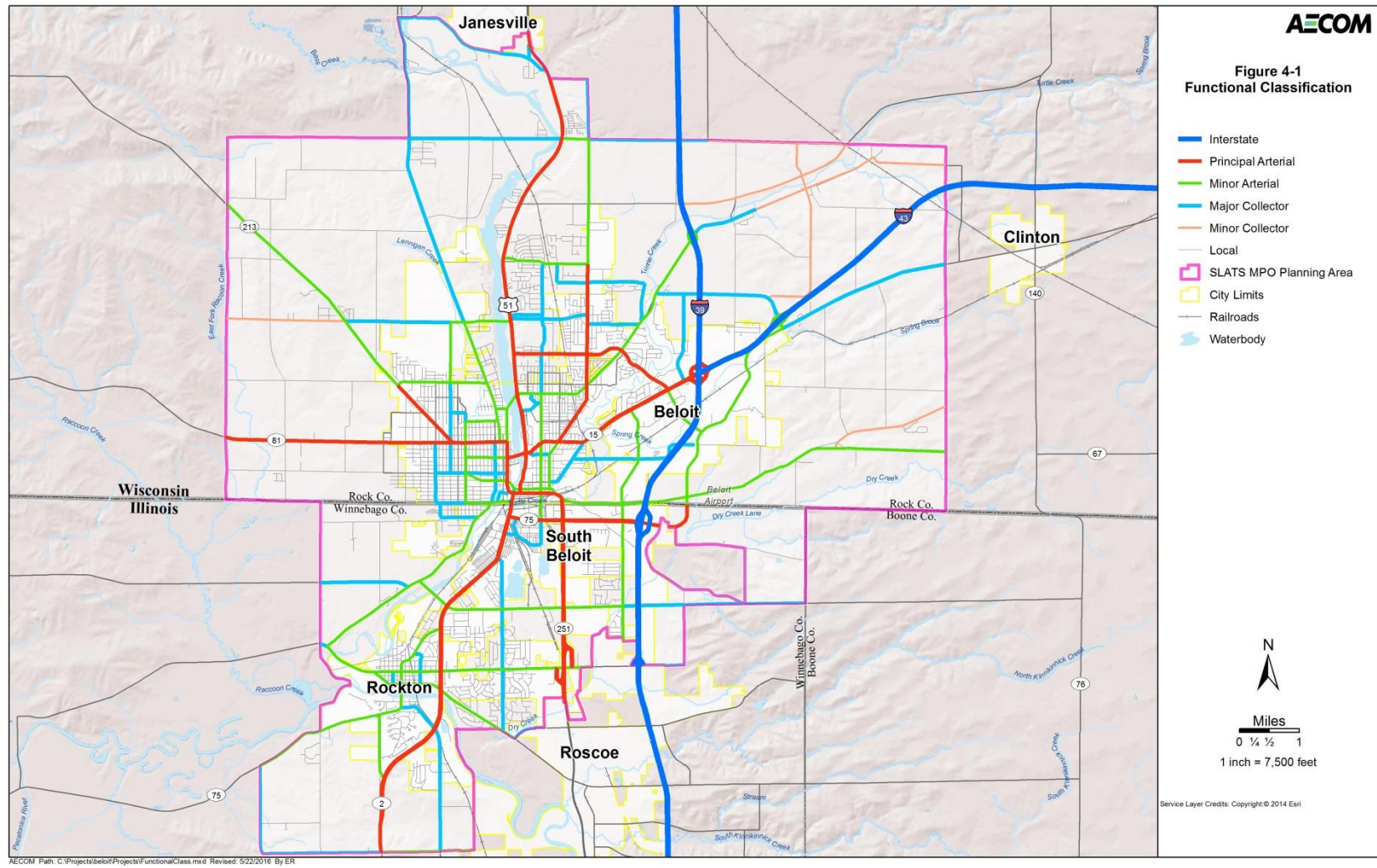
Functional Classification	Miles
Local	381.8
Major Collector	52.0
Minor Collector	65.9
Principal Arterial	57.7
Minor Arterial	65.9
Interstate	30.3
Total	653.5

Source: WisDOT and IDOT, 2015.

- WI-81 provides east-west access through the Wisconsin portion of the MPA connecting the interstates to western Wisconsin.
- WI-67 provides the eastern portion of the MPA east-west access to and from the east and north
- WI-213 provides regional connections from the northwest portion of the MPA to downtown Beloit and IL-2.
- IL- 2 and IL-251 provide regional connections to and from the south.
- IL-75 provides regional connections from the southwest portion of the MPA to I-39/90 and WI-67.

Figure 4-1 displayed the existing roadway functional classification in the SLATS MPA. The last functional classification updates in Wisconsin occurred in 2009 while the last updates in Illinois occurred in 2014. SLATS anticipates that additional functional classification updates on the Wisconsin side will take place in the near future.

Figure 4-1. Functional Classification



4.3. Commute Flows

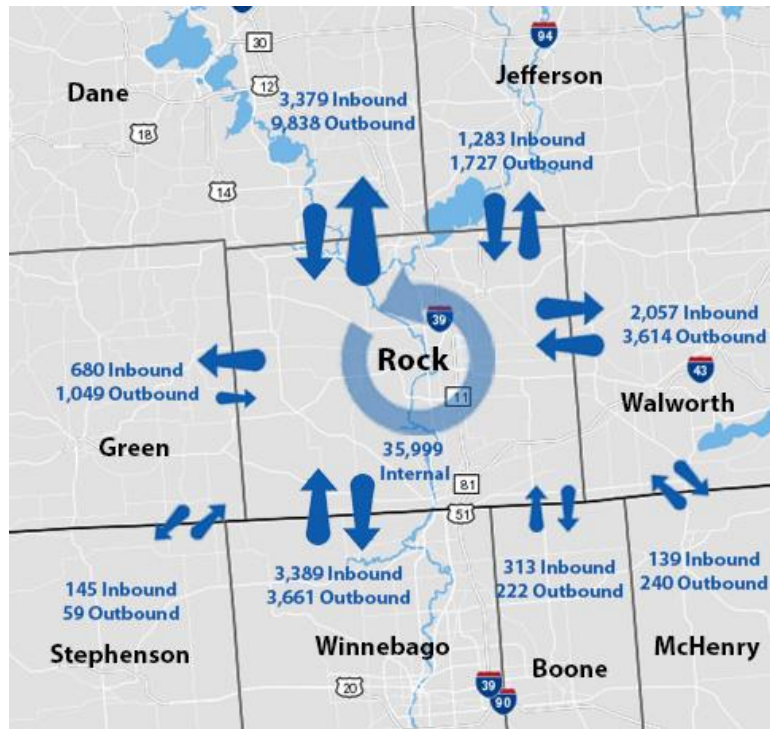
Commute flows in the region provide an indication where residents of the SLATS MPA travel to for work. A county-by-county comparison of commute flows originating in Rock County helps better understand how regional travel patterns impact the roadway network. Commute flows for Rock County, WI were used since this travel data is not available specifically for the defined SLATS MPA (Beloit is the principal population center in SLATS, whereas in Winnebago County, Rockford would largely influence commute flows).

According to the 2010 US Census, work trips that originate and end in Rock County totaled 35,999 (62.5 percent). Work trips that originate in Rock County and end in surrounding counties include 9,838 (14.5 percent) to Dane County, 3,661 (5.4 percent) to Winnebago County, and 3,614 (5.3 percent) to Walworth County. These counties together represent approximately 25 percent of the total work trips that originate in Rock County. The remaining 13 percent are trips destined for other counties.

Work trips that originate outside and travel to Rock County reveal the primary commute patterns are traveling from counties north and south of Rock County. Dane and Winnebago Counties represent approximately 12 percent of the total commuters working in Rock County.

Commuters living to the north include Dane County, 3,379 (5.9 percent) and to the south, Winnebago County accounts for 3,389 (5.9 percent) of the total commuters working in Rock County. A large number of commuters living in Rock County are commuting to Dane County (Madison) to the north or Winnebago County (Rockford) to the south due to the close proximity of large employment centers. Counties to the east and west of Rock County account for a small percent of the commute flow. Figure 4-2 displays 2014 commute flows for the counties adjacent to Rock County.

Figure 4-2. County to County Commute Flow



Source: US Census, LEHD, 2015.

4.4. Travel Characteristics

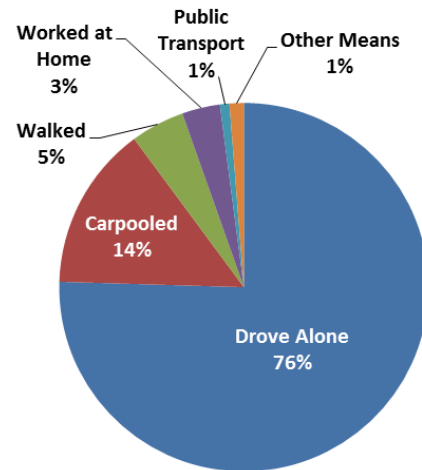
According to the 2010-2014 American Community Survey (ACS) data, almost 90 percent of workers within the City of Beloit commute to work via car, truck, or van with a mean travel time to work averaging 22.5 minutes. Of the almost 90 percent driving, 14 percent of workers carpooled. The next highest mode is walking at five percent, followed by working from home at three percent, and public

transportation at one percent. It is generally assumed the remaining MPA closely reflects the characteristics found within the City of Beloit (again, this data is not specifically available for the defined SLATS MPA). **Error! Reference source not found.** shows means of transportation in the City of Beloit.

Table 4-2. City of Beloit – Means of Transportation to Work (16 Years and Older – Primary Job)

Means of Transportation	Number	Percent
Drove Alone	11,319	75.5%
Carpooled	2,162	14.4%
Walked	707	4.7%
Worked at Home	500	3.3%
Public Transport	124	0.8%
Other Means	187	1.2%
Total	14,999	100.0%

Source: US Census, 2010.



4.5. Traffic Volumes and Congestion

Traffic volumes within the MPA provide useful information in helping to assess and prioritize future infrastructure resources for roadway expansion and/or preservation. Below are selected roadway volumes within the MPA according to WisDOT:

- The highest daily traffic volumes in the MPA are observed on I-39/90. Volumes typically range between 40,000 to 50,000 vehicles per day (VPD).
- I-43 has daily traffic volumes ranging between 14,000 VPD to 18,000 VPD. This is approximately equals 35 percent of the volumes observed along the I-39/90 corridor.
- Prairie Avenue from Shopiere Road to W. Hart Road typically records in excess of 12,000 to 16,000 VPD daily. Peak totals along this stretch are observed near the intersection of Prairie Avenue and Elmwood Avenue.
- WI-81 via White Avenue, Portland Avenue, 4th Street, and E. Liberty Avenue records 10,000 VPD to 16,000 VPD as the primary east-west connection through Downtown Beloit.
- Henry Avenue Bridge records around 13,000 VPD in the City of Beloit.
- North of Cranston Road, US-51 to Janesville ranges from 8,000 VPD to 13,000 VPD near the north MPA boundary.
- Prairie Avenue ranges from 9,000 VPD to 16,000 VPD from Shopiere Road to Philhower Road.
- Cranston Road between WI-81 and US-51 carries between 9,000 VPD to 10,000 VPD while Shopiere Road from Prairie Avenue to I-39/90 carries 5,000 VPD to 7,000 VPD.
- Rockton Road from I-39/90 to Dorr Road records 7,000 to 9,000 VPD daily as vehicles make connections via I-39/90.
- IL-251 (N. 2nd Street) from Gardner Street to the southern MPA boundary carries between 11,000 to 20,000 VPD. This is the primary local corridor connecting South Beloit and Roscoe. Peak traffic volumes are observed near the southern MPA boundary.

- IL-2 from Stateline Road to the southern MPA boundary ranges from 7,000 VPD to over 12,000 VPD. Peak traffic volumes along this corridor are observed south of Downtown Beloit.
- Rural routes, outside of the urbanized area but still within the SLATS MPA, generally carry less than 5,000 VPD.

As expected, higher traffic volumes are exhibited in areas of the MPA with a greater density of residents and employees. In particular, high volume corridors are concentrated in the eastern portion of the MPA as residents and businesses utilize interstate corridor access.

As part of the issues identification process, the project team conducted a public opinion survey. One question asked respondents to indicate their perception of traffic congestion within the SLATS MPA. The survey results indicate the region is generally perceived to have relatively little or no congestion or capacity issues. The majority of survey respondents feel traffic congestion in the Beloit, South Beloit, and Rockton areas is minimal. The only area where respondents indicated a high level of traffic congestion was along I-39/90 and I-43 corridors. Respondents indicated 38 percent of the interstate corridor is severely or somewhat congested. All other areas registered at less than 5 percent highly or severely congested. Figure 4-3 and Table 4-3 provide a breakdown of survey results.

Figure 4-3. Perceived Traffic Congestion (Survey #1 Results)

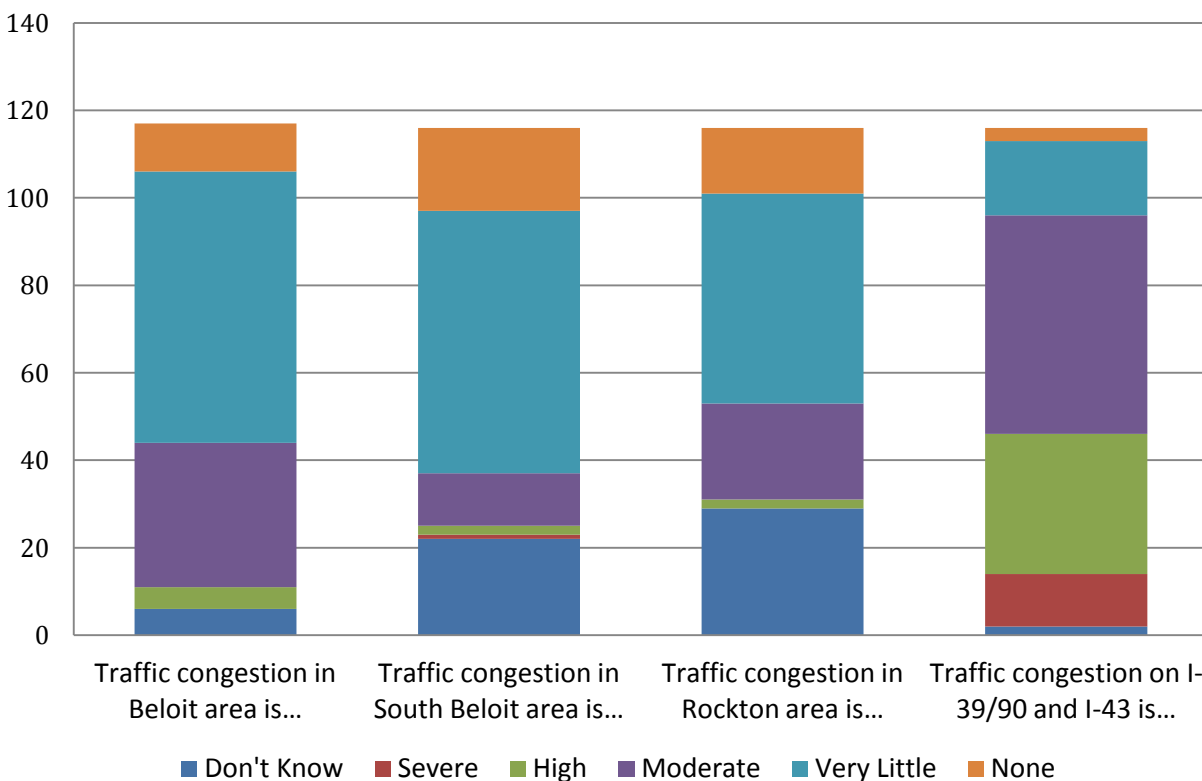


Table 4-3. Perceived Traffic Congestion (Survey #1 Results)

Perceived Congestion Level	Traffic congestion in the Beloit area is...	Traffic congestion in the South Beloit area is...	Traffic congestion in the Rockton area is...	Traffic congestion on I-39/90 and I-43 is...
None	9.4%	16.4%	12.9%	2.6%
Very Little	53.0%	51.7%	41.4%	14.7%
Moderate	28.2%	10.3%	19.0%	43.1%
High	4.3%	1.7%	1.7%	27.6%
Severe	0.0%	0.9%	0.0%	10.3%
Don't Know	5.1%	19.0%	25.0%	1.7%

Source: SLATS LRTP Survey; 2016.

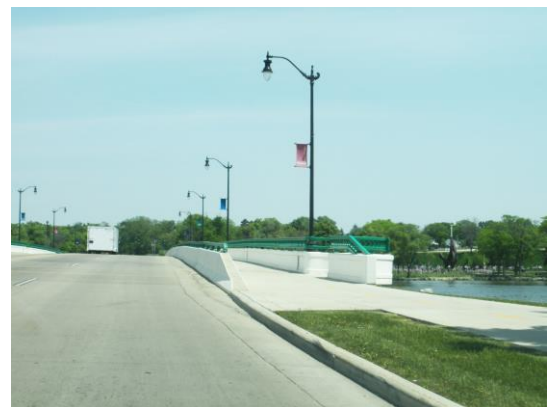
NOTE: The survey results reflect a small sample size and are not a statistically valid survey. The results are provided primarily for informational purposes.

Monitoring daily traffic volume trends and areas of traffic congestion are important indicators that help in allocating scarce roadway resources, including annual roadway maintenance. For roadways experiencing increasing volumes, or traffic congestion, expansion may be an appropriate measure to provide sufficient capacity. Fortunately for the SLATS MPA there are very few capacity issues to address.

4.6. Bridge Conditions

MAP-21, which is continued in FAST Act, placed an increased emphasis on maintaining existing infrastructure assets. As such, it is important for the LRTP to identify bridges that may potentially require improvements in the short to long-term. Local bridge projects are primarily funded through State of Wisconsin and Illinois funding programs in place for bridge funding assistance.

- WisDOT established the Local Bridge Program to help rehabilitate and replace, on a cost-shared basis, the most seriously deteriorating bridges within Wisconsin’s local highway and road systems. According to WisDOT, eligible bridges for rehabilitation funding must have a sufficiency rating of 80 or less and replacement funding on bridges with sufficiency ratings less than 50. Counties are responsible for reviewing and prioritizing eligible bridge projects within the respective county. Federal or State funds cover 80 percent project costs and local funds cover the remaining 20 percent plus any Federal or State non-participating items.
- IDOT has set aside 15 percent of the total STP allotment for rehabilitating and replacing bridges on a roadway with a functional classification of at least a major collector under the STP-Bridge Program. STP-Bridge funds are distributed based on the square footage of deficient bridge deck on county, township, and municipal systems. Rehabilitating and replacing



Henry Avenue Bridge over Rock River

bridges not on federal-aid highways (i.e. located on a minor collector or local road) are funded through the state's STP-Off System Bridge Program. The Illinois Major Bridge Program is a discretionary program for local and state major highway bridges that meet established criteria. All proposed major bridge program projects compete statewide.

Figure 4-4 displays bridge conditions in the SLATS MPA based on bridge integrity ratings. Structurally deficient and/or functionally obsolete terms are used to determine the overall structural integrity of the bridge. According to the Bridge Preservation Guide provided by the FHWA, ratings are based on the following conditions:

- **Structurally Deficient (SD)** – Bridges are considered SD if significant load carrying elements are found to be in poor condition due to deterioration and/or damage, or the adequacy of the waterway opening provided by the bridge is determined to be extremely insufficient to the point of causing overtopping with intolerable traffic interruptions.
- **Functionally Obsolete (FO)** – Bridges are considered FO when the deck geometry, load carrying capacity (comparison of the original design load to the current State legal load), clearance, or approach roadway alignment no longer meet the usual criteria for the system of which it is an integral part. In general, FO means that the bridge was built to standards that are not used today.

Figure 4-4. Bridge Conditions

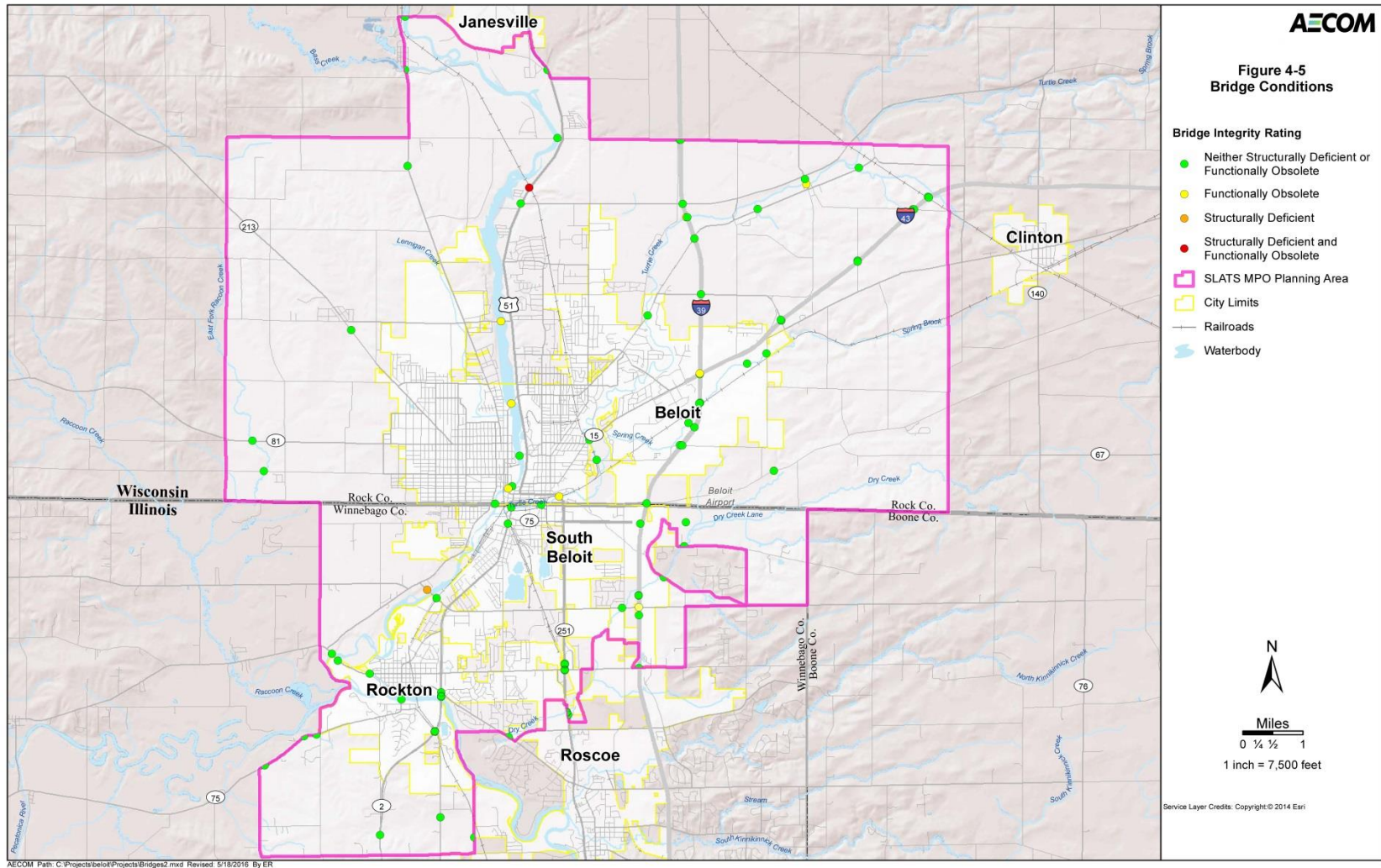


Table 4-4 shows there are 76 rated bridge structures within the SLATS MPA. Of this total, 47 structures are located in Wisconsin and 29 in Illinois. One bridge is considered structurally deficient and functionally obsolete, one is considered structurally deficient, and eight (10.5 percent) are considered functionally obsolete (in total, this represents 13.2 percent of bridge structures in the SLATS MPA). The remaining sixty-six bridges (86.8 percent) are neither structurally deficient nor functionally obsolete.

Table 4-4. Bridge Conditions

Bridge Data		Structurally Deficient and Functionally Obsolete	Structurally Deficient	Functionally Obsolete	Neither Structurally Deficient or Functionally Obsolete	Total Bridge Structures
Wisconsin	Bridge Structures	1	0	7	39	47
	Percent of Total	2.1%	0.0%	14.9%	83.0%	100.0%
Illinois	Bridge Structures	0	1	1	27	29
	Percent of Total	0.0%	3.4%	3.4%	93.1%	100.0%
Total MPO	Bridge Structures	1	1	8	66	76
	Percent of Total	1.3%	1.3%	10.5%	86.8%	100.0%

Source: WisDOT and IDOT, 2015.

According to the Congressional Research Service (CRS), approximately 24 percent of bridge structures in the United States are considered structurally deficient and/or functionally obsolete in 2015. Of this total, about ten percent were classified as structurally deficient and another 14 percent were functionally obsolete. Roughly 13 percent of bridges in the SLATS MPA register as structurally deficient and/or functionally obsolete, comparing favorably to the national average (approximately 11 percent less).

According to the CRS, the passage of the FAST Act through FY2020 provides for an increase of 2.4 percent above the amount authorized under previous legislation. The FAST Act increases the amount of funding that would potentially be available for bridge improvements.

4.7. Pavement Conditions

Pavement condition data was obtained from WisDOT and IDOT. As both WisDOT and IDOT use a different pavement condition rating system, Figure 4-5 reflects a combined pavement condition summary for the SLATS MPA. The following summarizes the rating systems used in Wisconsin and Illinois.

According to WisDOT's Pavement Rating Help Guide, the agency uses a 1-10 scale to determine pavement conditions. The Paser, a software program, ratings for paved asphalt and concrete roads is as follows:

- **(1) FAILED** – Needs total reconstruction.
- **(2) VERY POOR** – Severe deterioration. Needs reconstruction with extensive base repair.
- **(3) POOR** – Needs patching and major overlay or complete recycling.
- **(4) FAIR** – Significant aging and first signs of need for strengthening. Would benefit from recycling or overlay.
- **(5) FAIR** – Surface aging, sound structural condition. Needs sealcoat or nonstructural overlay.
- **(6) GOOD** – Shows sign of aging. Sound structural condition. Could extend with sealcoat.
- **(7) GOOD** – First signs of aging. Maintain with routine crack filling.
- **(8) VERY GOOD** – Recent sealcoat or new road mix. Little or no maintenance required.
- **(9) EXCELLENT** – Recent overlay, like new.
- **(10) EXCELLENT** – New construction.



IL-251 Pavement Conditions

According to IDOT's Bureau of Design and Environment Manual, the agency uses a Condition Rating Survey (CRS) to provide a subjective view of overall pavement distress conditions. Pavement is categorized according to the following definitions:

- **Poor (1.0 ≤ CRS ≤ 4.5)** – The pavement is critically deficient and in need of immediate improvement.
- **Fair (4.6 ≤ CRS ≤ 6.0)** – The pavement is approaching a condition that will likely necessitate a major improvement over the short term.
- **Satisfactory (6.1 ≤ CRS ≤ 7.5)** – The pavement is in acceptable condition (low end) to good condition (high end) and not in need of a major improvement, but minimum level to apply pavement preservation treatments.
- **Excellent (7.6 ≤ CRS ≤ 9.0)** – The pavement is in excellent condition.

Table 4-5 summarizes the pavement conditions within the SLATS MPA for roadways classified as collectors, arterials, and interstates. Only classified roadways with pavement condition data available are included and therefore the total mileage will not match total MPA functional classification mileage. The pavement condition results show that 51.9 percent of roadways within the SLATS MPA are in

excellent or good condition. Generally speaking, the pavement condition results are fairly consistent when comparing the Wisconsin and Illinois side of the MPA. While there is a difference in the percentage of roadways rated as excellent, this could be explained in part by the use of different rating systems. When the good and excellent categories are combined, both the Wisconsin and Illinois side of the MPA had approximately an equal percentage of roadways totaling close to 50 percent. Furthermore, approximately 15 percent of the roadways within the MPA were identified as being in poor condition. According to the USDOT's national average in 2013, 32 percent of roadways were classified in poor or mediocre condition, 17 percent higher than the SLATS MPA average.

Table 4-5. Pavement Condition Ratings

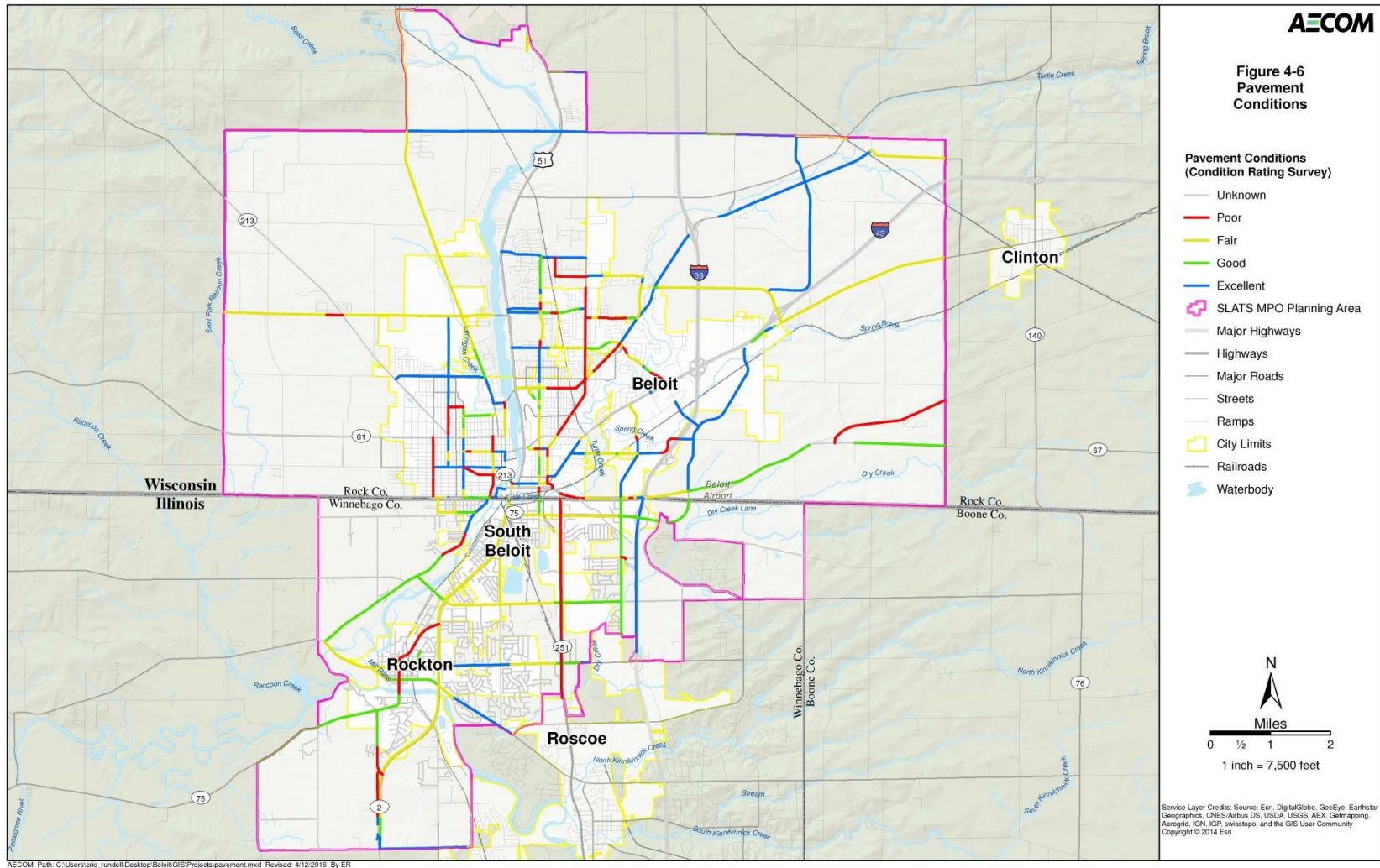
		Poor	Fair	Good	Excellent	Total Miles
Wisconsin portion of the SLATS MPA	Miles	12.7	28.1	8.9	37.1	86.8
	Percent of Total	14.6%	32.4%	10.3%	42.7%	100.0%
Illinois portion of the SLATS MPA	Miles	6.6	14.0	13.6	6.7	41.0
	Percent of Total	16.1%	34.2%	33.2%	16.4%	100.0%
Total SLATS MPA	Miles	19.3	42.1	22.5	43.8	127.8
	Percent of Total	15.1%	33.0%	17.6%	34.3%	100.0%

Source: WisDOT and IDOT; 2015.

Figure 4-5 depicts pavement conditions for the SLATS MPA. It should be noted that this figure only displays roadways that have been rated. In some cases, some roadways do not have data. Furthermore, Wisconsin and Illinois use different pavement conditions ratings and for the purpose of the LRTP, the ratings were combined to arrive at a consistent scale displayed in Figure 4-5.

The majority of excellent pavement ratings are concentrated within the northern and eastern MPA areas on roadways such as Shopiere Road from I-39/90 to Cranston Road, Newark Road from Madison Road to Afton Road, and Gateway Boulevard from I-43 to WI-67, and I-39/90 from State Line Road to Rockton Road. Major roadways considered to be in poor conditions exist primarily in the urbanized areas of the MPA. Poor condition roadway stretches include Henry Avenue, IL-251, Freeport Road from IL-2 to Wagon Wheel Road, IL-75 through Rockton and Prairie Avenue from White Avenue to W. Hart Road. Prairie Avenue is the next STP-U project on the Wisconsin side with Henry Avenue planned for a future cycle. Reconstruction of IL-75 through Rockton is scheduled to be let as early as November 2016.

Figure 4-5. Pavement Condition Ratings



4.8. Intelligent Transportation Systems

The WisDOT and IDOT maintain a regional Intelligent Transportation Systems (ITS) architecture network within the SLATS MPA. An ITS architecture is a framework for the coordinated, targeted deployment of various technologies on and around the transportation network, as well as strategies to optimize their use. These technologies include tools that transportation managers can apply to increase safety, reduce congestion, and enhance traveler convenience. The ITS architecture development process involves a wide range of regional stakeholders, including representatives from counties and municipalities, public safety and emergency services, transit, major employers, and others that manage and/or rely on the region's transportation network.

A number of ITS devices along I-39/90 near Beloit have been installed as part of a temporary construction ITS deployment project. These devices provide communication via a wireless mesh node system. A number of permanent ITS devices will be deployed in the Beloit area, including Digital Message Signs, CCTV cameras, traffic volume recorders, a backbone fiber optic system, and additional miscellaneous devices. These enhancements are part of a project planned to be let in 2019.

WisDOT and IDOT coordination is ongoing as both agencies are exploring options to share ITS infrastructure between states. As appropriate, SLATS coordinates with statewide ITS architecture plans from Wisconsin and Illinois to support planning, design and implementation of transportation improvements within the region.

4.9. Roadway Safety

SLATS, along with Federal, State, and local agencies, place a high priority on providing safe roadways to accommodate the traveling public and the movement of goods. The emphasis on safety is also reflected in FAST Act performance measures which call for a reduction in crashes resulting in fatalities and serious injuries. In fact, in April 2016, the final rule regarding safety performance measures went into effect. Before this rule directly impacts the MPO's, the state DOT's must first take action to establish specific safety related targets. As such, SLATS will continue to monitor the DOT progress and will participate in the DOT planning process to continually improve roadway safety.

Based on the LRTP public opinion survey, the public's perception of roadway safety in the SLATS region is generally positive. Of the total respondents, 45 percent believe roadway safety in the MPA is good or excellent while about nine percent believe roadway safety is poor or very poor. Table 4-6 summarizes state and MPA crashes from 2010 to 2014, the most recent data set available at the time this plan was developed.

Table 4-6. Total Crashes, including Fatalities and Injuries (2010 to 2014)

Location	Total Crashes	Causing Injuries	Total Injuries	Causing Fatalities	Total Fatalities
Wisconsin portion of the SLATS MPA	4,036	1,088	1,475	15	19
Illinois portion of the SLATS MPA	1,220	248	334	3	3
Total SLATS MPA	5,256	1,336	1,809	18	22

Source: WisDOT and IDOT; data collected from 1/1/2010 to 12/31/2014

Within the SLATS MPA, there were 5,256 total crashes recorded between 2010 and 2014. Of this total, 4,036 (76.8 percent) occurred within the Wisconsin portion of the SLATS MPA and 1,220 (23.2 percent) occurred within the Illinois portion. The entire SLATS MPA saw 1,336 crashes that resulted in 1,809 injuries and 18 crashes resulted in 22 fatalities.

Intersections with high crash rates are a particular area of focus when aiming to improve safety. Table 4-7 displays the intersections with the highest crash counts from 2010 to 2014. The intersection of Henry Avenue/Park Avenue registered the highest number of crashes with 17 followed by Cranston Road/Prairie Avenue (14) and Liberty Avenue/Bluff Street (11).

The crash data was further analyzed to identify high crash corridor segments. Corridor segments registering the highest number of crashes from 2010 to 2014 include Prairie Avenue (77), Cranston Road (54), White Avenue (47), Liberty Avenue (40), and Milwaukee Road (40).

It should be noted that a number of intersections and segments with high crash exposure have already been identified, or programmed, for improvements in the TIP (both as fiscally constrained projects, such as Prairie Avenue, and unconstrained projects including Park and Henry). Furthermore, the Cranston Road/US-51 intersection is currently being upgraded and improvements to US-51 will be completed in advance of the I-39/90 reconstruction project. Several of the upcoming reconstructs, including Prairie, Park and Henry, will include designs that strengthen multimodal connections and enhance safety for all transportation users.

Figure 4-6 highlights high-crash corridors and high-crash intersections, and displays the location of fatalities and serious injuries within the MPA.

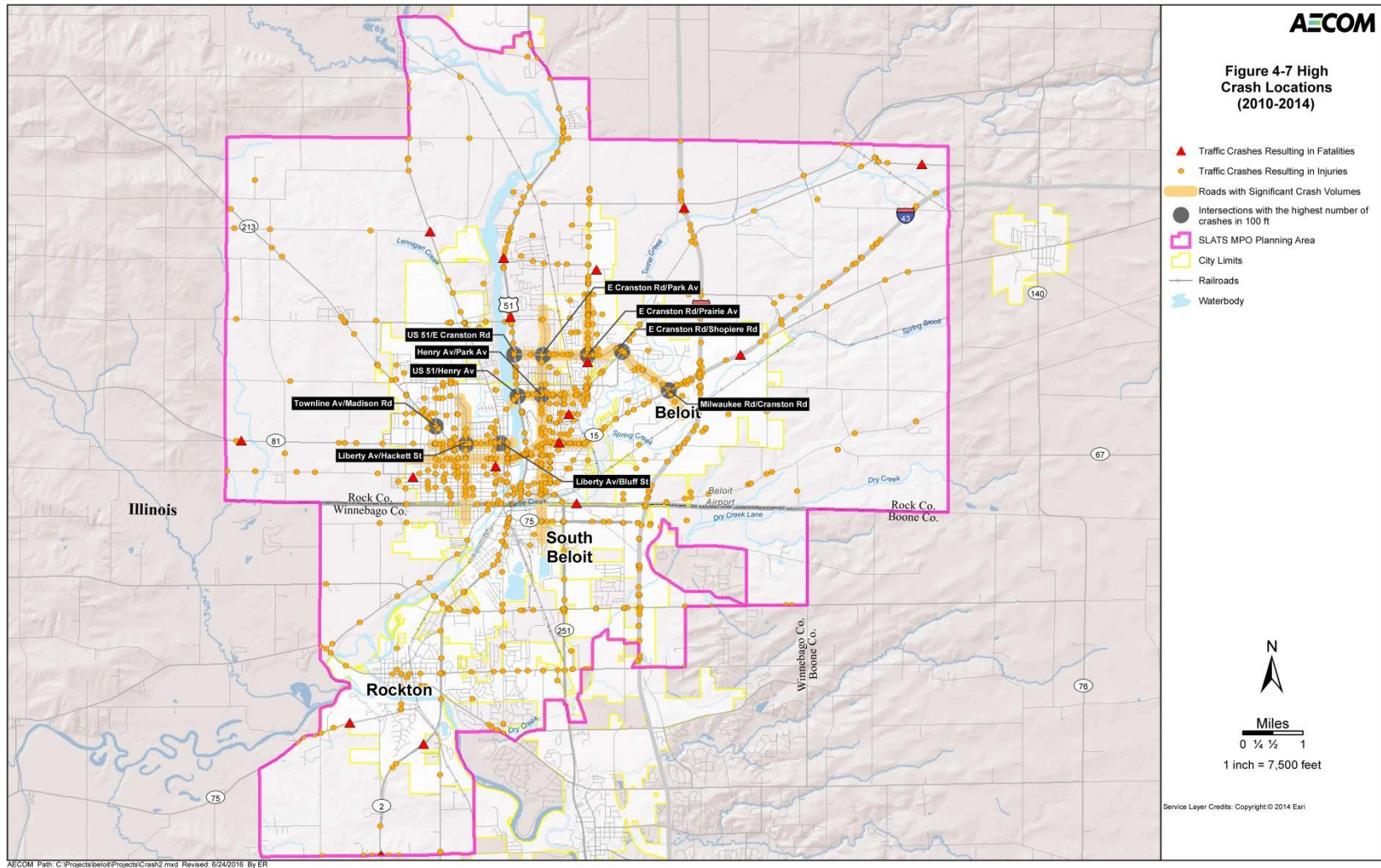
Table 4-7. Intersections with Highest Number of Crashes (2010 to 2014)

Intersections	Crash Count
Henry Av/Park Av	17
E Cranston Rd/Prairie Av	14
Liberty Av/Bluff St	11
US-51/Henry Av	10
US-51/E Cranston Rd	10
Milwaukee Rd/Cranston Rd	10
Townline Av/Madison Rd	9
E Cranston Rd/Park Av	9
E Cranston Rd/Shopiere Rd	9
Liberty Av/Hackett St	8

Source: WisDOT and IDOT, 2010-2014.

NOTE: Crashes within 100 feet of the intersection.

Figure 4-6. High Crash Locations (2010 – 2014)



4.10. Future Roadway Conditions

A number of traffic and planning-related studies have been completed since the last LRTP completed in October 2011. The recommendations from recent, and future studies, will impact the development of the regional roadway network for the next several decades. Forecasting future roadway conditions is helpful in identifying potential congestion, and other traffic operational deficiencies, in the MPA and the following section includes a discussion of issues that could impact future year regional mobility.

4.10.1. Operations & Maintenance

Operations & Maintenance (O&M) activities represent a large portion of current and future year transportation investments. The following list includes projects that will likely be in need of reconstruction within ten to 15 years. These potential O&M projects are located on the functionally classified system (collector or higher) but are not currently included in the TIP. The TIP contains additional projects currently programmed, and other illustrative projects that are fiscally unconstrained. Roadway operations and maintenance is discussed in more detail in section 8.2.2.

4.10.2. Short-Term Improvements

The TIP provides a list of short-term improvements for projects currently programmed from 2016 to 2019. The primary capacity project that will be completed in the short-term is the widening of the I-39/90 corridor from the Wisconsin-Illinois Stateline north to US-12/18 in Dane County. The 45-mile corridor project is broken down into a north, central, and south segment. The south segment, located within SLATS MPA, begins at the Wisconsin-Illinois border and extends north to County O, south of Janesville. According to WisDOT, the interstate will be reconstructed and expanded to six-lanes from the Illinois state line north to WI-11 (Avalon Road). Eight-lanes will continue from WI-11 (Avalon Road) north to WI-26 in Janesville. Six-lanes will continue from WI-26 north to US-12/18. The I-39/90 Expansion Project began in 2015 and is anticipated to be completed by 2022. When complete, this project will eliminate the main capacity issue that is currently present within the SLATS MPA. The eight-lane stretch between Avalon Road and US-14 is planned to begin in 2018 due in large part to a \$40 million FASTLANE grant awarded to WisDOT in Summer 2016. Other short-term projects (currently programmed in the 2016-2019 TIP) include:

- Prairie Avenue (CTH-G) from Huebbe Parkway to Cranston Road: One design that will be considered for this section of Prairie Avenue is converting it from a 4-lane urban principal arterial with a Two-Way Left Turn Lane (TWLTL) to a 2-lane urban principal arterial with TWLTL, similar to the CTH-G project to the north that was completed in 2016.
- Colley Road from Gateway east to City limits reconstruct
- WI-81 WI-11 to Willow Creek Bridge and Paddock Road to Beloit city limit resurface pavement surface and overlay bridge decks
- US-51 at Cranston intersection reconditioning, add left turn lane
- Hart Road from Co-S to Co-X reconstruction
- US-51 from Cranston to WI-11 mill and overlay
- IL-75 (Blackhawk Boulevard) from Rock River to Illinois 2 reconstruction

- IL-2 median crossover bridge over Rock River in Rockton replacement
- Inman Parkway construction from Co-G to Co-S (Rock County lead with City Beloit participation)
- Co-G at Townline Rd Intersection reconstruction (with Janesville MPO)
- Co-G from Huebbe to WI-11 reconstruction
- Park Avenue from Inman to Elmwood reconstruct

Illustrative TIP Projects (Not currently programmed)

- Colley Road from Willowbrook to Gateway reconstruct and Willowbrook Road from State Line to Milwaukee Road reconstruct
- Shopiere Road from Prairie to Cranston reconstruct
- Milwaukee Road from Branigan to Lee Lane reconstruct
- Henry Avenue from Royce to Prairie reconstruct
- IL-2 from Latham to Rockton reconstruction and expansion
- IL-2 from state line south 1,600 feet +/- reconstruct
- Old River Road from Roscoe Road to IL-75 and Roscoe Road from IL-2 to Old River Road reconstruct
- Prairie Hill Road bridge over Rock River replacement
- Bartells Drive from Inman to Huebbe resurface
- Huebbe from Bartells to Prairie resurface

As part of the LRTP development, SLATS also identified a number of future projects to address one or more LRTP goals (see Table 3-1). These projects, along with the currently programmed Prairie Avenue project, were analyzed using the WisDOT travel demand model.

Figure 4-7 displays the potential long-term roadway improvements along with the short-term Prairie Avenue project. Based on the model results and further analysis, it is possible that some projects could potentially be moved into the TIP to be programmed, or to be included as illustrative projects.

4.10.3. Potential Long-Term Improvements

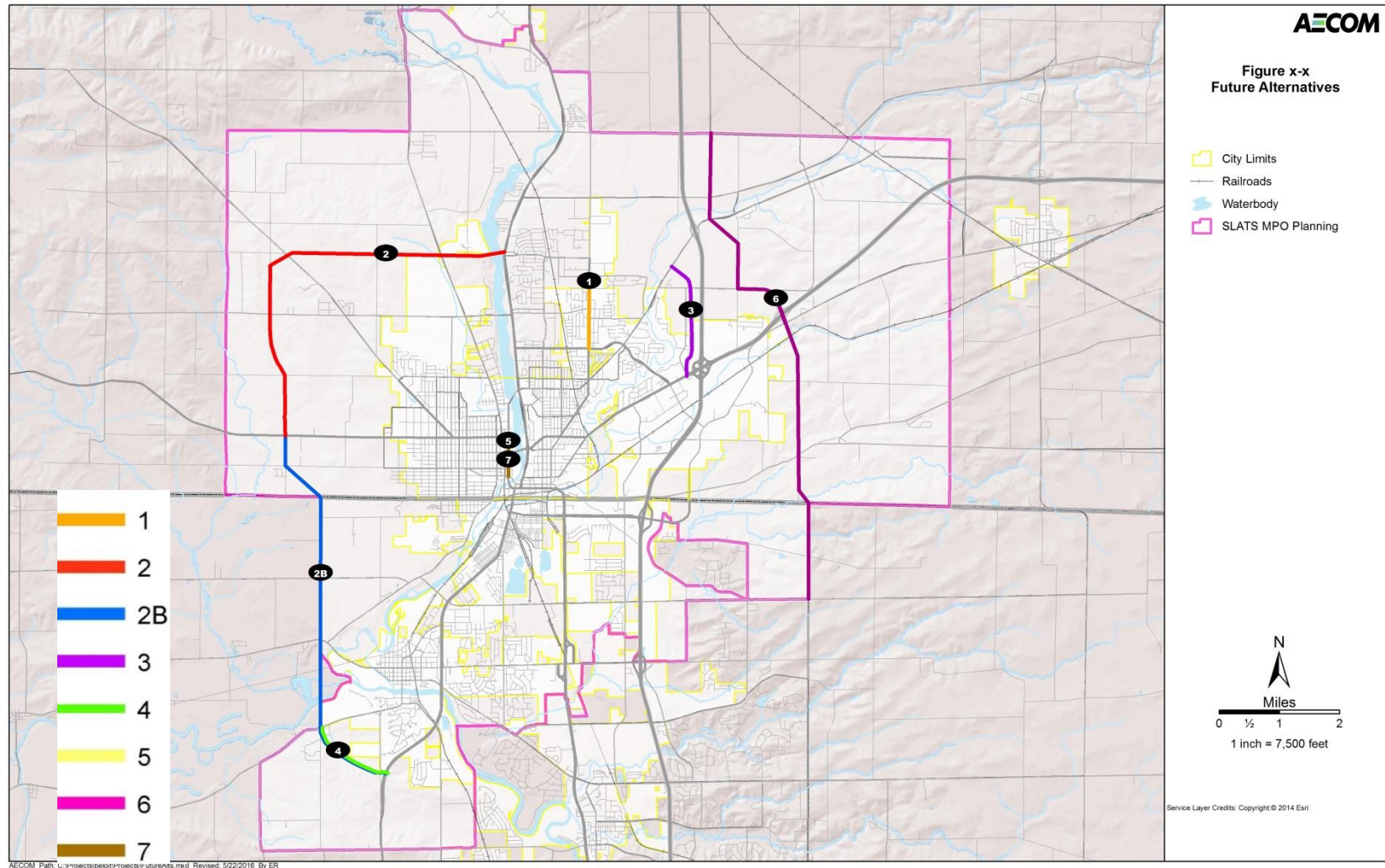
Potential long-term projects look to enhance connectivity in the region, reduce travel times and support economic development. North-south connectivity is relatively strong throughout the MPA, perhaps with the exception of the southwest portion of the MPA. East-west connectivity is less direct and there maybe long-term projects with potential to improve regional truck/freight movements. It should be noted that the long-term projects may not have exact alignments, or connections, identified; however, these projects represent conceptual improvements that could support the SLATS long-term goals and overall vision.

One long-term project identified is the outer loop connection in the western portion of the MPA. Variations of the outer loop have been discussed in previous planning efforts, including previous LRTP's. Potential connections to consider for the west side outer loop include a connection from US-51 to IL-75 (Freeport Road). This could be divided into segments such as to US-51 to WI-81 (Liberty Avenue), WI-81

to IL-75 (Freeport Road), and Freeport Road to IL-2. While not part of the fiscally constrained plan, the 2040 LRTP recognizes the outer loop concept as having potential value in the long-term. SLATS sees value in continuing to reassess the concept further as part of future LRTP updates.

Other potential long-term improvements include a connection from CTH-J at Townline Road to Manchester Road (eventually Elevator Road). Similar to the western loop, this eastern connection enhances local and regional connectivity and potentially pulls a significant amount of local traffic from I-39/90 easing traffic congestion. Each of the modelled segments is discussed in more detail in Section 4.10.4.

Figure 4-7. Potential Future Year Roadway Improvements



4.10.4. Evaluation of Potential Roadway Projects

The WisDOT regional travel demand forecasting model was used to complete a high-level evaluation of potential future year roadway projects. The model results were used to identify preliminary insight into the effectiveness of the potential projects. The modeling task focuses primarily on network connectivity to evaluate potential congestion impacts and travel pattern shifts as most projects are conceptual and are not a final roadway design. The following summarizes some key findings for the respective projects. It should be noted that the projects may not appear in numerical order as some projects have been packaged together for discussion purposes.

Project #1 – Prairie Avenue Road Diet

This project would narrow a segment of Prairie Avenue from 5 lanes to 3 lanes, between Cranston Road and Huebbe Parkway. This improvement is intended to calm traffic and create a more pedestrian-friendly environment. The improvement allows for the application of complete streets principles. The remainder of Prairie Avenue in Beloit and County G north to Janesville is currently one travel lane in each direction with some segments also having a center turn lane (or, TWLTL).

The model results show that there would likely be a slight decrease in the traffic volumes along Prairie Avenue of approximately 1,000 vehicles per day. Approximately 50% of this diverted traffic shifts to US-51. This would tend to suggest that some drivers are currently using Prairie Avenue for through trips as it provides a fast, direct north-south route for travel through the SLATS MPA. Generally speaking, the shifting of these through trips to US-51 is a good result from the road diet as US-51 is a more appropriate roadway to accommodate through travel. Ultimately, this provides more efficient traffic flow, enhances safety for multiple users, and enhances quality of life by reducing cut-through traffic on Prairie Avenue. Finally, the resulting shift in travel patterns appears to be reasonable and there are no significant concerns that would suggest any traffic operational or congestion concerns related to this improvement.

Project #2, #2B and #4 – Western Loop

This potential long-term roadway concept would extend from US-51 in the Town of Beloit (modelled connection at Inman Parkway) to WI-81 (project #2), continuing on to IL-2 (project #2B), and ultimately connecting to IL-75 (project #4). The combination of these roadway segments would form an outer loop connection on the west side of the urbanized area that would enhance north-south connectivity in the SLATS MPA and better accommodate future growth and development. In the near-term, segment #4 could potentially be constructed as a standalone project to help facilitate growth surrounding IL-2 and Freeport Road, as opposed to using IL-75 through downtown Rockton. It is well documented that environmental challenges are present in this area which would require significant detailed analysis and engineering to determine an appropriate solution. To ensure environmental sensitivity, project alignment would not be constructed on wetland areas or other sensitive locations. Ultimately, this project will not be addressed until future transportation needs warrant further analysis.

The model results show that both the full outer loop connection (projects #2, #2B, and #4) and the IL-2 to IL-75 connection (project #4) as a standalone project could benefit traffic flow within the region. No

significant shifts in traffic were observed; however, the potential shifting of traffic patterns would be difficult to identify simply through the use of the regional travel model. Given the complex nature of this conceptual outer loop, more detailed analysis would at some point in the future be required to determine if this project should advance for further consideration as part of future LRTP update.

Project #3 – BT Extension

This project would extend the newly completed CTH-BT at CTH-S (Shopiere Road) to WI-81 (Milwaukee Road) near the I-39/90 interchange. As a stand-alone project, it potentially provides traffic relief on Cranston Road between Shopiere Road and Milwaukee Road. Cranston Road currently functions as the only east-west connection between White Avenue and Hart Road east of I-39/90. Cranston Road is on the National Highway System, is a principle arterial and is a corridor that has a high crash rate. The BT extension could alleviate traffic on Cranston Road as well as reducing local traffic on the interstate between Milwaukee Road and Shopiere Road.

Coupled with western loop projects (#2, #2B, and #4), the BT extension would form a complete loop connection between WI-81 on the west side of Beloit and WI-81 on the east of Beloit. The model results show that this extension has the potential to attract some traffic off the I-39 corridor, suggesting that some traffic in the region is currently using the interstate for local trip purposes. Given that this project strengthens network connectivity, potentially alleviates traffic impacts on nearby local roadways, and draws local trips off of I-39 would suggest that this project be considered for future investment.

Project #5 and #7 – WI-81 Free Flow Movement and 4th Street Road Diet

The combination of projects #5 and #7 would remove traffic signals at 4th Street and Liberty Avenue and curve 4th Street into Liberty Avenue allowing a free flow movement along WI-81 (this is project #5). This could help to relieve current congestion in this area and make truck turning movements more efficient. These improvements could also be implemented in conjunction with Project #7 that would reconfigure 4th Street to one lane in each direction, between Grand Avenue and Liberty Avenue. Similar to the Prairie Avenue road diet, this improvement would be intended to slow traffic and create a more pedestrian-friendly environment. The improvement allows for the application of complete streets principles to improvement the aesthetics for a traditional downtown streetscape. Also, WI-81 is one-lane in each direction from Milwaukee Road through Beloit other than the stretch between Portland Avenue and Liberty. This project could also potentially include closing a portion of 4th Street in front of Beloit Memorial High School to eliminate cut-through traffic on the high school campus and redirect it to 6th Street. The model results showed no significant impacts; however, given the improvements being discussed, it is believed that the combination of these projects would achieve the desired goals of enhancing traffic flow while enhancing safety for all users.

Project #6 – Eastern Connection

This project would create a new north-south connection, east of I-39/90, between CTH-J at Townline Road south to Manchester Road (eventually Elevator Road). The project would support future development within the SLATS MPA, specifically as the area grows east toward the MPA boundary. The development of this corridor would provide for a continuous north-south roadway east of I-39/90 that

would strengthen network connectivity and the overall functional classification system. This is supported by the model results which show this roadway improvement drawing significant volumes off I-39/90, potentially several thousand vehicles. This project should be added to the SLATS illustrative list for future consideration. In large part, the timing of this project will be dictated by the rate of development that occurs in the eastern portion of the MPA.

4.10.5. 2050 Level of Service

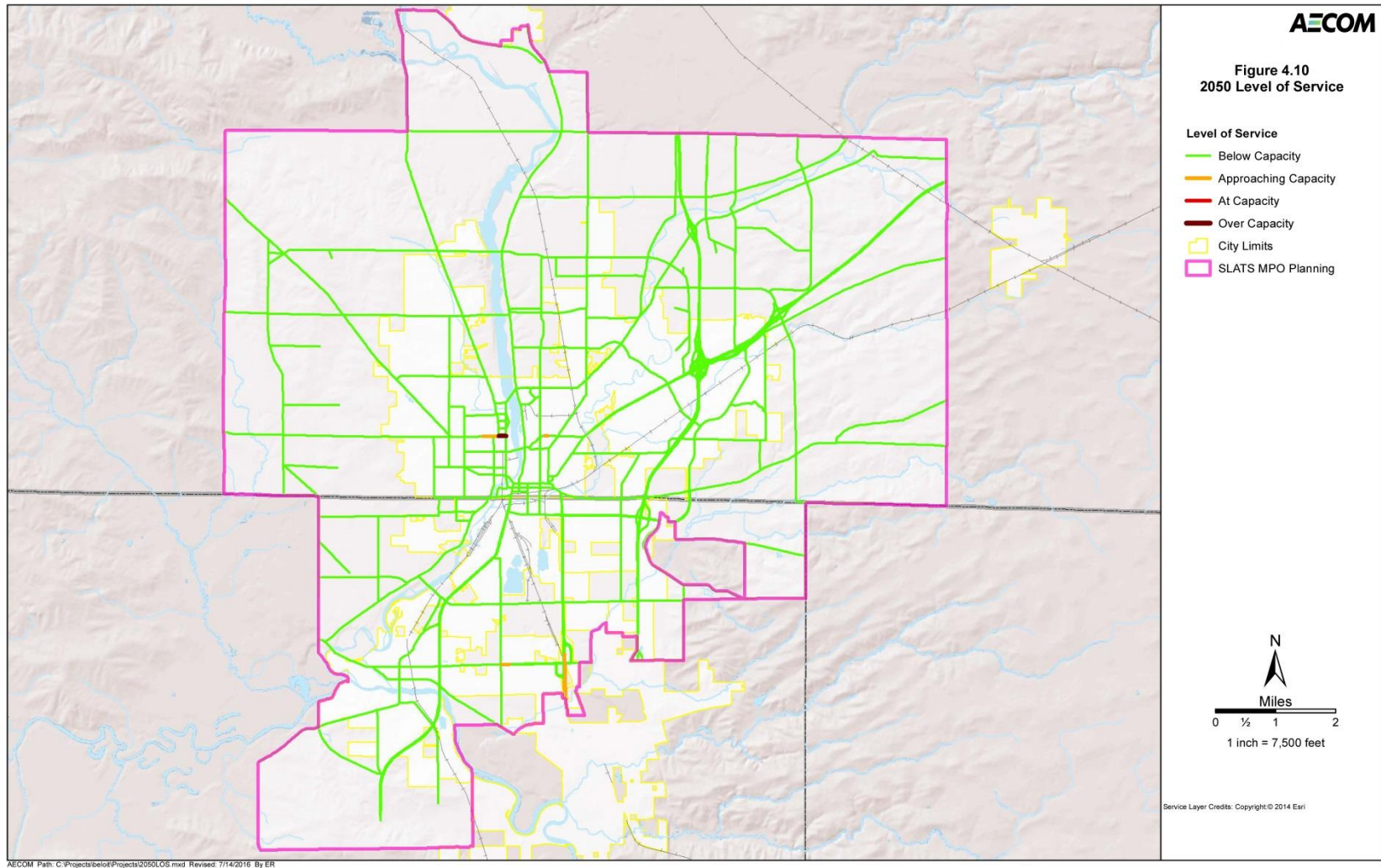
Residential and business development is a driving force in projecting traffic and congestion. High-growth areas such as areas along I-39/90 require particular attention as traffic volumes are likely to increase at a higher rate than other areas of the MPA. Continued growth in adjacent areas, including Janesville and Rockford, could also have significant impacts on future traffic projections and congestion levels in the northern and southern sections of SLATS MPA.

Using land use development as a guiding element, future traffic counts and congestion levels for the SLATS MPA were analyzed using the SLATS regional travel demand forecasting model. This model is maintained by WisDOT and includes a base year of 2010 and future year of 2050. Defining congestion varies geographically throughout the SLATS MPA and is based on a number of factors. Potential future congestion concerns were identified based on a technical analysis and input from local stakeholders. Some model results were previously discussed as they related to the potential roadway improvements. Figure 4-8 displays projected 2050 level of service results which are based on general planning level volume-to-capacity ratios within the SLATS MPA.

The 2050 travel demand forecasting model results show relatively little to no congestion projected within the region. According to the model, small stretches in central Beloit and along IL-251 in the Rockton area are expected to approach capacity by 2050. SLATS should continue to closely monitor traffic patterns in the region as residential and commercial development in the region evolves and potentially creates greater capacity needs.

Recommended roadway improvements, which are part of the fiscally constrained plan through the year 2040, are included in Chapter 8.

Figure 4-8. 2050 Level of Service Results



Chapter 5: Public Transportation

5.1. Local and Regional Transit Service

Public transportation in the SLATS MPA includes one fixed-route provider, the Beloit Transit System (BTS). The BTS operates on the Wisconsin side of the MPA while the Stateline Mass Transit District (SMTD) provides public transportation in the form of curb-to-curb demand response service in the Illinois portion of the SLATS MPA, as well as adjacent areas in Roscoe and Roscoe Township. The BTS coordinates with Janesville Transit System (JTS) to provide a regional express route connecting Beloit and Janesville. The Rockford Mass Transit District (RMTD) provides service just south of the SLATS MPA but there no regional transit connections to the BTS, or SMTD service areas. However, there are private bus carriers that offer some service linking the BTS, JTS and RMTD service areas. Figure 5-1 displays transit services within the MPA and surrounding region.

The BTS service coverage area within the SLATS MPA is intended to maximize user access within the region. BTS provides the most extensive transit coverage within the MPA focusing on urbanized areas within the City of Beloit.

Since its inception on February 4, 2008, SMTD service covers the Illinois side of the MPA reaching the communities of South Beloit, Rockton, Roscoe, Rockton Township and most recently Roscoe Township beginning in 2016.

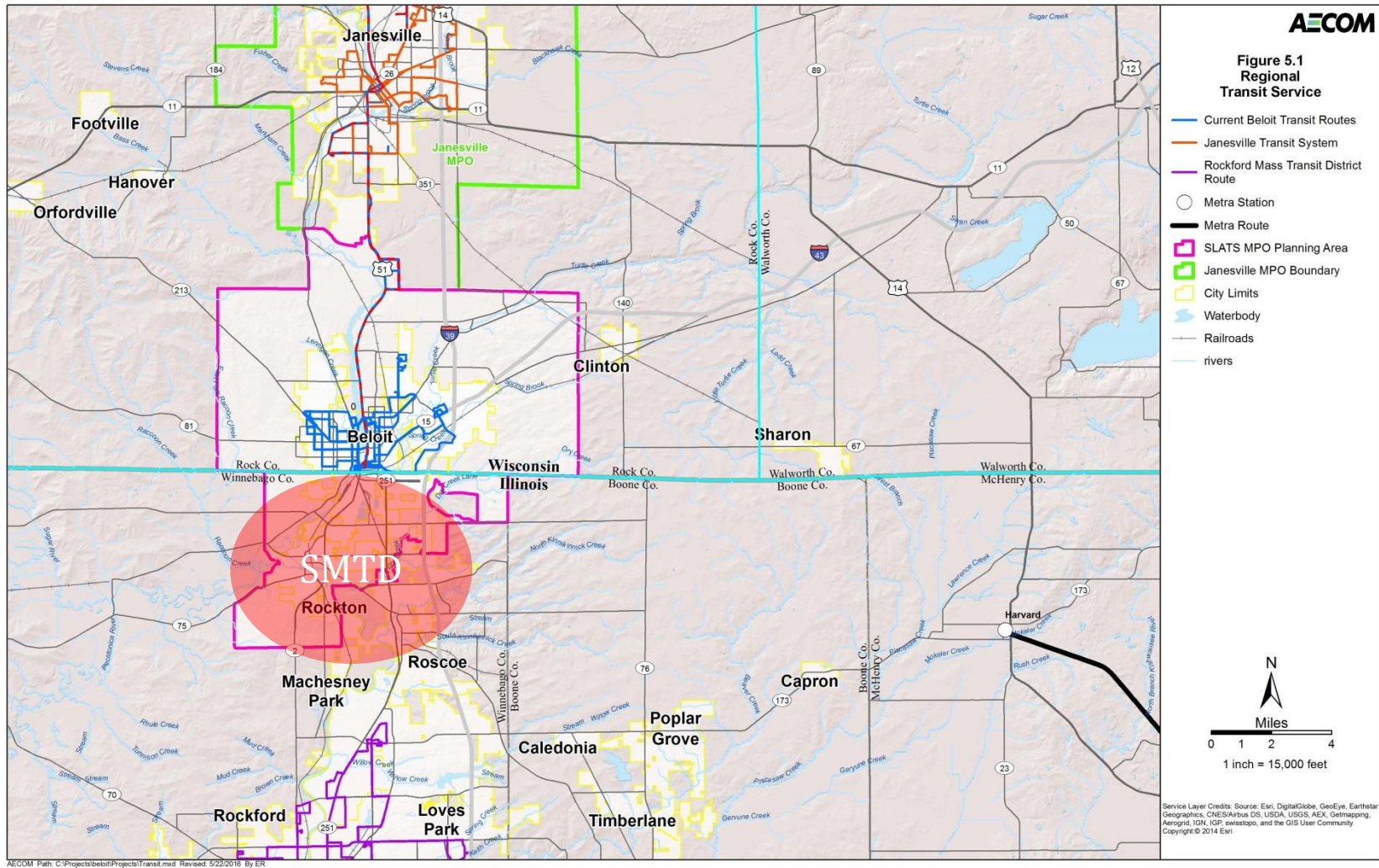


Beloit Transit Route 3 Stop - Beloit Public Library

Long distance service connecting the Stateline Area with other urban areas and regions is provided by Van Galder, a private-for-profit carrier. No commuter rail service is available within the SLATS MPA. The closest commuter rail station is in Harvard, Illinois which provides service along Metra's Union Pacific/Northwest Line to the Chicago metropolitan area.

Paratransit services, providing curb-to-curb or door-to-door demand/response services throughout the region, are provided by a combination of public and private entities. These include private taxi and ambulance companies and entities devoted to providing shared rides, some public and some private. BTS contracts with Rock County Specialized Transit (RCST) to provide paratransit service in the City of Beloit, but RCST also provides paratransit service throughout Rock County.

Figure 5-1. Regional Transit Service

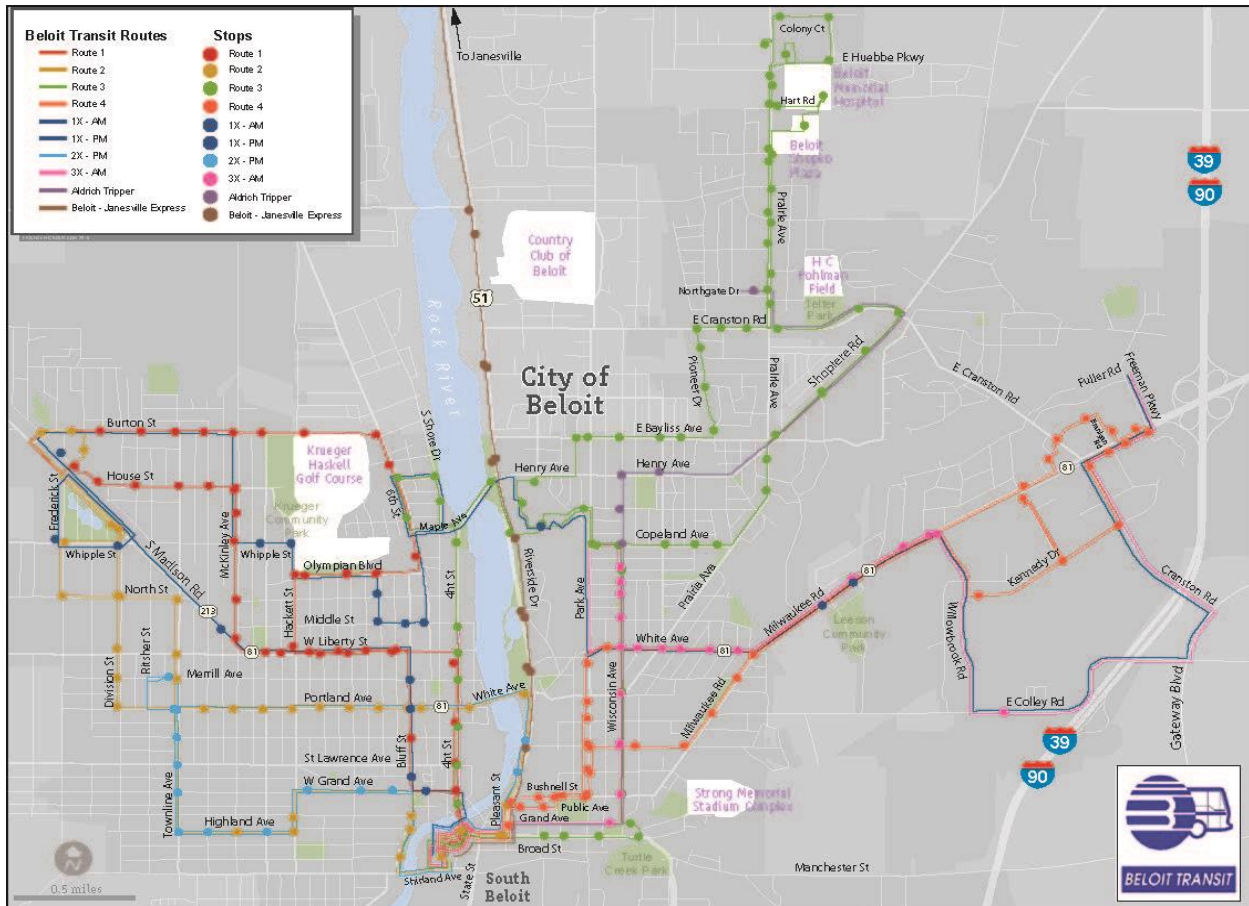


5.2. Beloit Transit Service

The most extensive transit service in the Stateline Area is provided by BTS which operates four primary fixed-routes that traverse the densely populated parts of the Beloit area and serve major employment areas. These routes provide service to residential areas on both the east and west sides of Beloit and to McNeel Junior High, Aldrich Junior High, and Beloit Memorial High School. Weekday service operates on a 12-hour day beginning at 6:00 a.m. Saturday service operates on a 7.5-hour day beginning at 9:00 a.m., and there is no Sunday service.

The Beloit-Janesville Express, or BJE, is a regional service express connection jointly coordinated by BTS and JTS. The service provides 12 weekday round trips between Janesville and Beloit. Destinations served include Blackhawk Technical College, UW-Rock County, Rock County Job Center, Rock County institutions, and other points between the cities. BJE transfers are available to regular city routes in both Beloit and Janesville. Figure 5-2 displays a zoomed in view of the current BTS service coverage, including bus stops. Table 5-1 and Table 5-2 display a summary of the BTS weekday and weekend service schedule by route.

Figure 5-2. BTS Transit Service



Source: Beloit Transit System, February 2015.

Table 5-1. BTS Weekday Service Schedule

Route Number	Service Type	Service Area	Span of Service	Headway (Minutes)		
				AM (6AM-9AM)	Midday (9AM-3PM)	PM (3PM-6PM)
1	Local	Beloit	6:00 AM - 5:55 PM	40	40	40
2	Local	Beloit	6:00 AM - 5:55 PM	40	40	40
3	Local	Beloit	6:00 AM - 5:55 PM	40	40	40
4	Local	Beloit	6:00 AM - 5:55 PM	40	40	40
BJE	Express	Beloit - Janesville	6:00 AM - 6:13 PM	60	60-65	60

Source: Beloit Transit System.

Table 5-2. BTS Weekend Service Schedule

Route Number	Service Type	Service Area	Span of Service	Headway (Minutes)
1	Local	Beloit	9:00 AM - 4:15 PM	80
2	Local	Beloit	9:00 AM - 3:35 PM	80
3	Local	Beloit	9:00 AM - 4:20 PM	80
4	Local	Beloit	9:00 AM - 4:15 PM	40

Source: Beloit Transit System.

Population within the service area is an important factor in determining the most effective route options to maximize BTS ridership. Despite the far eastern side of the City of Beloit having lower population density, major employers along the interstate provide steady ridership potential. Currently, no service exists east of I-39/90 in the Gateway Business Park and no service extensions are planned. Moreover, BTS covers only areas within Wisconsin and because of this, areas in Illinois that are within the SLATS MPA lack fixed-route transit coverage. Densely populated areas, particularly in the Rockton area, hold potential transit demand and opportunities to expand fixed-route coverage. Figure 5-3 displays BTS fixed-route service (blue lines) in relationship to the general SMTD demand response service area.

Table 5-3 provides a total population and employment figure within ¼ mile of BTS service in 2010 and 2050 based on forecasted population and employment projections.

Figure 5-3. BTS and SMTD Transit Service Areas

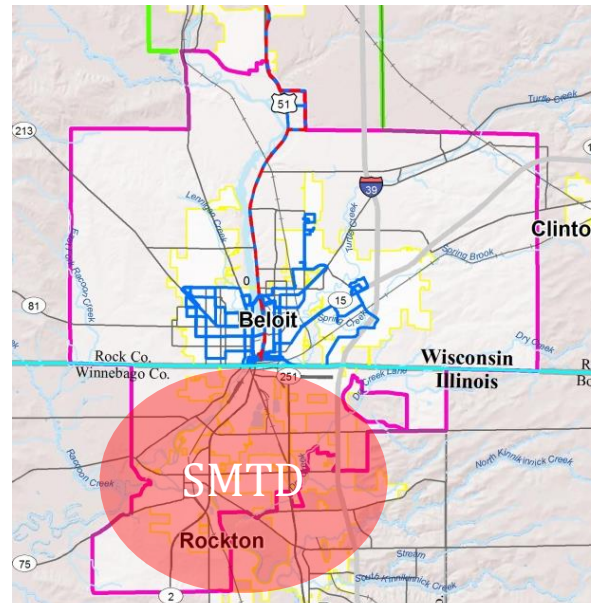


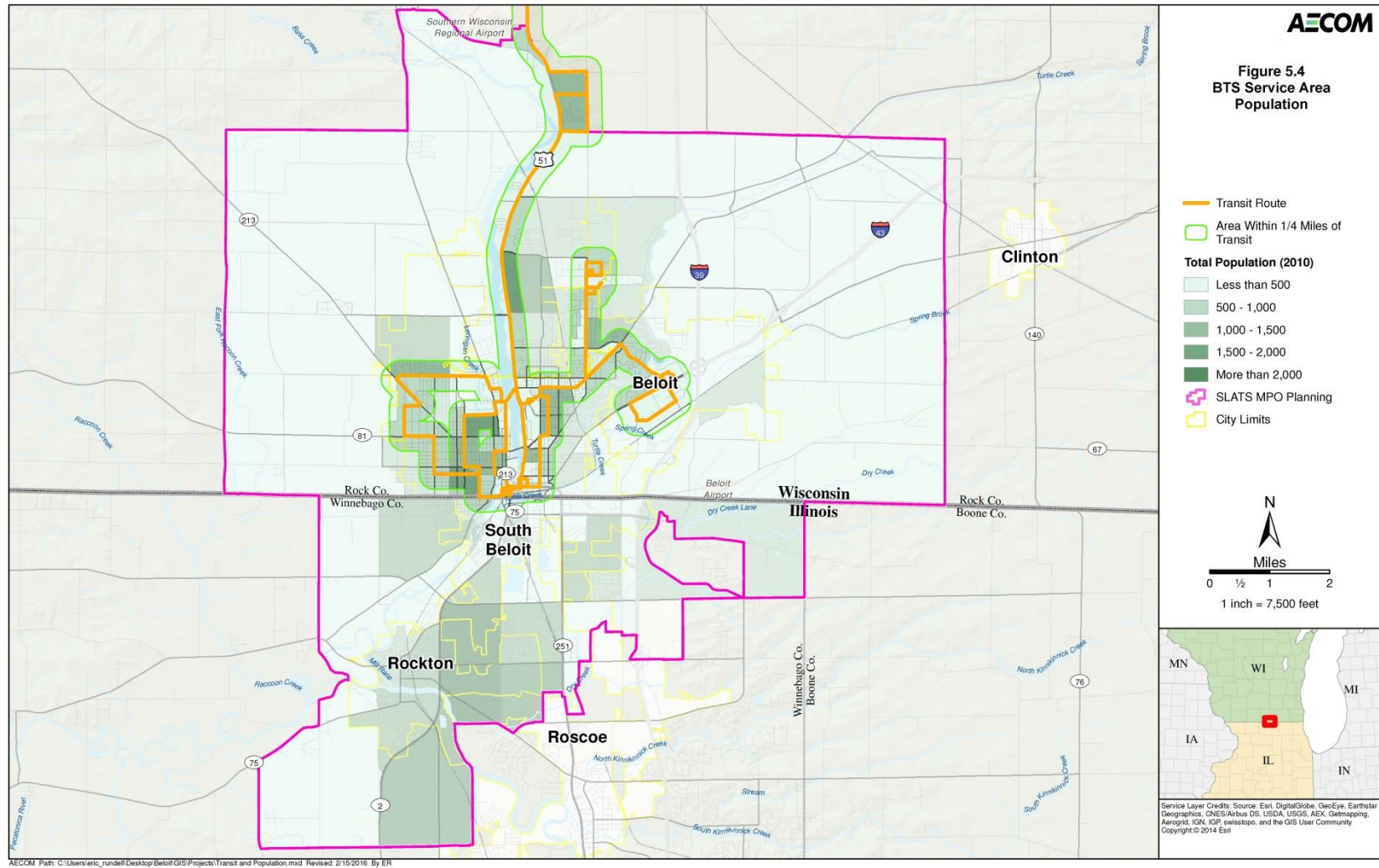
Table 5-3. Population and Employment Within 1/4 Mile of BTS Service

Year	Population	Employment
2010	28,900	12,430
2050	29,974	14,642
Percent Change	3.7	17.8

Source: US Census; AECOM.

Figure 5-4 provides an overview of BTS service area population within one-fourth mile of a transit route. Population density within one-fourth of a mile of a bus route is an effective measure in determining the approximate accessibility of a fixed-route. Based on GIS analysis, the BTS is anticipated to see some growth in employment that falls within the current service area. In total, approximately 2,200 additional employees would be located within the one-fourth mile buffer. In contrast, the service area will only see an estimated increase of 1,000 in population. Generally speaking, this would tend to indicate that population growth is expected to occur beyond the current BTS service area and as such the BTS may need to consider possible route extensions, or additional routes, to expand the service coverage. Furthermore, as previously mentioned, portions of the SMTD demand response service area could potentially support fixed-route service.

Figure 5-4. BTS Service Area with Population



5.2.1. Fares

BTS provides multiple fare options for passengers including discounts for children under six years old, students, older adults, and persons with disabilities. Free transfers are provided within 30-minutes, up to a maximum of three, for one-way trips. Different fare structures apply to the regular urban fixed-routes and commuter services. Table 5-4 summarizes the BTS fare structure.

Table 5-4. Beloit Transit System Fare Structure

Beloit Transit System	Full Fare/Senior-Disabled
Regular Cash Fare	\$1.50 / \$0.75
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
Beloit/Janesville Express (BJE)	Full Fare/Senior-Disabled
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

Source: Beloit Transit System

5.2.2. Fleet Inventory

BTS maintains a fleet of 12 full-sized buses, approximately six of which are in service during the base period and nine during peak times. These buses log over a million annual passenger miles, nearly 300,000 annual vehicle revenue miles, and nearly 20,000 annual vehicle revenue hours of service within the roughly 16 square mile service area encompassing the City of Beloit and vicinity. Table 5-5 provides a summary of the BTS fixed-route fleet.

The Beloit Transit Development Plan (BTDP), completed by Nelson Nygaard in 2015, states that many BTS vehicles are beyond their useful life. In 2013, the study found the average fleet age was 9.2 years, or 8 percent higher than the average among peer systems. Useful vehicle life is typically defined by vehicle age (maximum of 12 years) and mileage (maximum of 500,000). Using these factors, four of the 12 BTS vehicles do not meet industry standards. Given the increased emphasis on performance measures, this asset management indicator will be an important area for transit agencies to monitor and address in both the short-term, and long-term. The BTS and SLATS recognize the need to address this situation and have programmed vehicle replacements in the 2016-2020 TIP.

Table 5-5. Beloit Transit System Fixed-Route Fleet Inventory

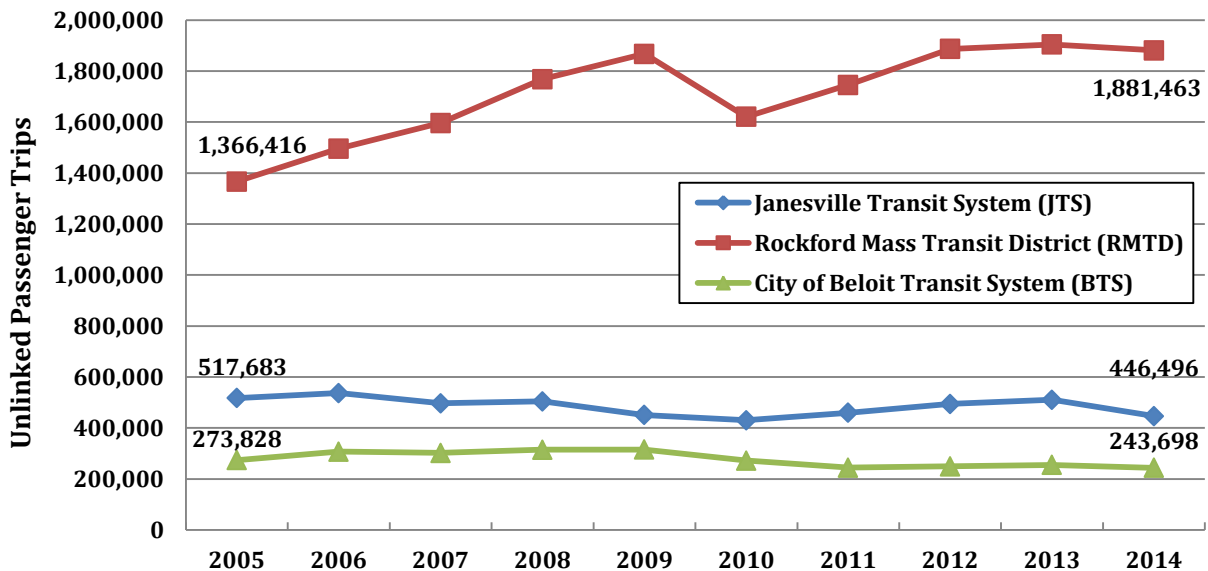
Year	Vehicle ID	Make	Model	Mileage
2002	4325	Gillig	35 foot Low floor	329,732
	4326	Gillig	35 foot Low floor	331,910
	4327	Gillig	35 foot Low floor	357,760
	4328	Gillig	35 foot Low floor	419,934
2006	4333	Gillig	35 foot Low floor	373,182
	4334	Gillig	35 foot Low floor	431,204
2007	4336	Gillig	35 foot Low floor	305,068
	4337	Gillig	35 foot Low floor	339,762
	4338	Gillig	35 foot Low floor	321,446
2011	4341	Gillig	35 foot Low floor	222,511
2014	4342	Gillig	35 foot Low floor	38,826
	4343	Gillig	35 foot Low floor	61,182

Source: *Beloit Transit Development Plan*, Nelson Nygaard, October 2015.

5.2.3. Ridership

Figure 5-5 displays the annual transit ridership from 2005 to 2014 for the BTS, JTS and RMTD. During this time period, the BTS ridership decreased by 30,130, or 11 percent. While this represents a rather significant decline in ridership, recent trends from 2011 to 2014 show ridership has been holding fairly steady. As a comparison, the JTS ridership lost 71,187, or approximately 14 percent of ridership during this same time period while the RMTD gained 515,047, or approximately a 38 percent increase. It should be noted that the BTS and RMTD do not currently have service connections; however, the RMTD numbers suggest the potential for increased transit demand within the region. The SMTD, which is not included in the ridership graphic, provided a total of 11,916 unlinked passenger trips in 2014.

Figure 5-5. Annual Ridership (2005–2014)



Source: National Transit Database (NTD), 2013.

Another important ridership based metric is passengers per revenue hour. This metric helps to understand the overall efficiency of a system, and typically closely follows ridership trends. Looking at BTS, passengers per revenue hour decreased from 15.0 to 12.3 from 2009 to 2013. While this may seem insignificant, this decrease represents a large annual loss in farebox revenue, negatively impacting justification for the current level of service.

5.2.4. Peer Evaluation

Transit performance metrics are a key indicator as to how efficient a transit system is operating. The BTDP included a peer review of five comparable transit operators to see how well the BTS service is performing. Peer group transit operators included Altoona Metro Transit, Battle Creek Transit, Danville Mass Transit, Wausau Area Transit System, and Fond du Lac Area Transit. Table 5-6 summarizes the peer review results.

Table 5-6. Beloit Transit System – Peer Group Performance and Efficiency Measures

Measure	Beloit Transit System	Peer Group Minimum	Peer Group Maximum	Peer Group Average	Beloit Transit (Percent from Average)
Passenger Trips	251,880	153,885	675,175	485,800	-48%
Revenue Hours	20,526	10,266	41,231	26,307	-22%
Revenue Miles	287,809	137,481	548,266	397,704	-28%
Operating Cost per Passenger Trip	\$7.52	\$4.10	\$11.04	\$6.81	11%
Operating Cost per Revenue Hour	\$92.33	\$92.33	\$165.52	\$115.62	-20%
Farebox Recovery	9.9%	9.9%	18.7%	13.5%	-27%

Source: Beloit Transit Development Plan, (NTD 2011 Transit Agency Profiles).

According to the BTDP, the BTS generally measures low among the peer group. In comparison to peer systems, BTS is below average based on passenger trips, revenue hours, revenue miles, fleet size, and the ratio of trips to revenue hours. While BTS does rank as the most efficient in cost per revenue hour, farebox recovery of operating costs registers as the lowest of the selected peer group. The BTDP does note the BTS operates fewer peak vehicles and has fewer revenue miles than most of the peer systems.

5.3. Commuter Rail

The SLATS MPA does not have any commuter rail service within the planning boundary; however, a Metra rail station is located nearby in Harvard, IL. Metra, the commuter rail service connecting to the Chicago Metropolitan area, provides service via the Union Pacific-Northwest (UP-NW) Line. According to the Regional Transportation Authority Mapping and Statistics (RTAMS), average weekday boardings at the Harvard Metra station were 275 in 2014. While origin-based ridership figures are not currently available, it is likely that some residents within the SLATS region are in utilizing Metra service.

The South Central Wisconsin Commuter Transportation Study (SCWCTS) was conducted in 2008 to examine the concept of extending service into the Janesville/Beloit area. The primary motivation behind the study involved boosting economic development ties between the Rock County region and Northeast Illinois by improving commuter rail connections.

According to the SCWCTS, the Steering Committee selected five rail corridors with the greatest ridership potential. These corridors provide several potential combinations to form a regional commuter rail service network depending on ridership projections and other factors. The corridors included:

- Madison-Evansville-Janesville (MEJ)
- Madison-Milton-Janesville (MMJ)
- Janesville-Beloit-Rockford (JBR)
- Janesville-Harvard (JH)
- Beloit-Clinton Jct. (BC)

Based on report findings, it was determined the development of commuter rail should be examined at a future time as transportation conditions in the region continue to evolve. Preservation of these corridor facilities and rights of way is a priority based on potential future use of passenger rail. Local units of government and MPOs, such as SLATS, should consider the preservation of these facilities as they are critical to the potential economic development opportunity in south central Wisconsin and north central Illinois.

5.4. Coordinated Human Services Transportation Plan

The purpose of the Human Services Transportation Plan (HSTP) is to improve the combined efficiency and effectiveness of various transit providers in the region and address gaps in mobility management. Transit systems provide service using Federal, State, and local funding for groups such as low-income, elderly, and persons with disabilities. Different Federal and State agencies provide financial support for operational and/or capital expenses. Gaps in services are identified in order to address appropriate resources. By identifying resources and services critical to the overall well-being of the community, individuals are provided with access to essential services.

SLATS seeks to support and bolster the efforts of all entities working to increase the effectiveness and efficiency of public transportation providers and human service agencies with special transportation needs throughout the MPA.

SLATS participates with the following HSTP committees demonstrating differing approaches to carry out Federally-required activity. The process for each committee best meets the capabilities and needs of the local area; whether it is urban, rural, or a mix of both.

- **Rock County Transportation Coordinating Committee (TCC) representing Rock County, Wisconsin** - The Rock County model is based on methodology recommended by WisDOT.

Transportation services are provided in Wisconsin through a number of programs funded by the state and federal governments in conjunction with local government resources and programs. Transit agencies, county governments, non-profit organizations, and private businesses deliver services to transportation disadvantaged individuals and the general public. Human services transportation coordination seeks to provide more rides to consumers through cooperation, communication, and sharing resources.

- **Region 1 Transportation Committee** - IDOT contracts with the North Central Illinois Council of Governments (NCICG) to prepare plans that create a comprehensive strategy to improve the coordination and cooperation of transportation providers in the rural, non-urban regions statewide. Region 1 covers northwest Illinois including the rural portions of Winnebago County. The purpose is to identify and overcome barriers that cause gaps in access to services in the rural areas. SLATS works closely with SMTD to explore potential opportunities to serve these rural areas outside of the MPA. SLATS also works with SMTD to address gaps and reduce duplication of services within the Illinois portion of the SLATS MPA.

5.5. Americans with Disabilities Act

Section 5310 – Enhanced Mobility of Seniors and Individuals with Disabilities Program, funded by the FTA, is a program designed to improve mobility for seniors and individuals with disabilities by removing transportation barriers and providing transportation services and expanding available mobility options.

Eligible projects include those that are planned, designed, and carried out to meet the special needs of seniors and individuals with disabilities when public transportation is insufficient, inappropriate, or unavailable. It may also be used for public transportation projects that exceed the requirements of the Americans with Disabilities Act of 1990 as amended that improve access to fixed-route service. It can also be used to decrease reliance by individuals with disabilities on complementary paratransit and provide alternatives to public transportation that assist seniors and individuals with disabilities. For a project to be considered eligible for Federal funding, it must be derived, as defined by FTA, from a locally developed HSTP.



Beloit Transit Shelter

In accordance with eligibility requirements, Beloit’s primary transit operator, BTS, is eligible to pursue Federal funding opportunities. Based on findings from the BTDP, a high percentage of BTS bus stops fail to meet ADA accessibility standards. High-priority bus stops are identified for improvement to maximize potential transit users. Enhancement of these high-priority stops may be financially difficult; however, infrastructure improvement opportunities exist by incorporating street and sidewalk improvements within municipal or private construction projects.

5.6. Future Year Conditions

The following section discusses the future year conditions in terms of transit related mobility needs, and potential future year public transportation improvements.

5.6.1. Transit Mobility Needs

While transit represents a relatively small percentage of trips within the SLATS MPA, there are potential opportunities to enhance future year transit operations to provide greater local and regional mobility options. Changing demographic trends, including an aging population, could have significant impacts on the provision of transportation services throughout the region. As the area's population ages, there will be a greater need to provide viable transportation alternatives, including public transportation, for shopping, medical and other trips. Younger adults, typically under the age of 30, have also shown signs of choosing transit over driving. While this trend maybe greater in larger metropolitan areas, it is possible that these travel preferences will carry over to smaller metropolitan areas over the next several decades. Furthermore, given the location of the SLATS MPA in the regional context, the potential transit demand is relatively high to provide services to nearby communities including Janesville, Madison, and Rockford. Future demand also exists for enhanced connections to Metra to provide service to the Chicago metropolitan region.



Beloit Public Library – Transit Stop

5.6.2. Public Transportation Improvements

The current public transportation services within the SLATS MPA provide a solid foundation from which to expand and grow future year public transportation improvements. While there are some obvious gaps in the overall transit system, and challenges to overcome, there are also local and regional opportunities for long-term expansion of public transportation services.

This LRTP sets forth a high-level, conceptual vision for future year transit improvements. Short- to mid-term improvements are likely to focus on extending fixed-route service to growing areas within the SLATS MPA. In particular, the I-39/90 corridor, and areas east, is growing in both employment and population. As such, this area provides a reasonable opportunity for fixed-route transit expansion. There is also potential fixed-route transit demand in the SMTD area, or the Illinois portion of the SLATS MPA. While the bi-state issue creates service and funding challenges, this should not deter SLATS and partner agencies/communities from addressing the need to provide a more comprehensive fixed-route, or deviated fixed-route service, in the current SMTD area, and ultimately providing greater coverage and coordination. Potential opportunities for service expansion in the Illinois portion of the MPA are currently being explored as part of the SMTD Transit Development Plan, which is currently being developed. Findings from this study should be incorporated into future updates of the LRTP.

The unique location of the SLATS MPA, along a fast growing north-south interstate corridor connecting Madison and Rockford, presents additional regional service opportunities. These opportunities are more likely to be implemented as part of mid- to long-term enhancements. However, SLATS and partner agencies can, and should, begin to take steps now to lay the foundation for these long-term investments. Following a strategic investment approach, the key stakeholders in the region can work together to address the current and projected transit demand within the MPA and surrounding region. The following provides a summary of the overall transit vision, including potential short-term to long-term improvements.

- **State of Good Repair**

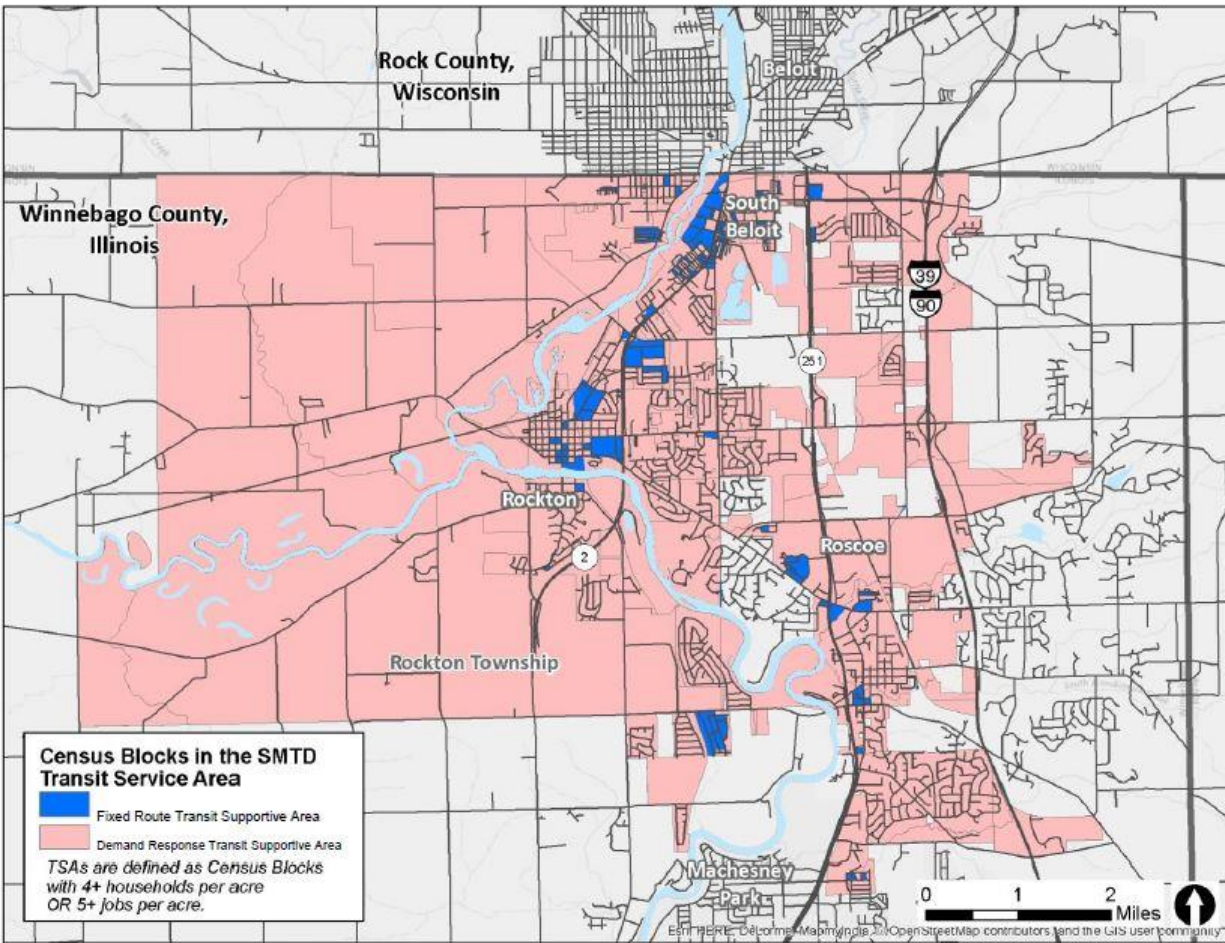
Maintaining existing transit assets in a state of good repair should remain a top priority of transit providers within the region. As FAST Act performance measures are being finalized, there are strong indications that there will be greater focus on maintaining existing assets, such as buses. SLATS supports the overall focus of maintaining, and upgrading, the current transit fleet to provide safe and reliable vehicles, and an enhanced travel experience for riders.

- **Expand Fixed-Route Service Coverage**

Expanding transit service can provide greater ridership opportunity to areas currently lacking fixed-route service. Financial constraint may deter transit agencies in expanding existing service; however, with appropriate planning and communication local route expansion could potentially be a feasible option in the short- to mid-term. In particular, growth along, and east of, the I-39/90 corridor could be ripe for a route extension in the near future. Areas currently served by the SMTD, within the Illinois portion of the SLATS MPA, may also present an opportunity to expand fixed-route or deviated fixed-route transit service. Clearly, the bi-state issue is an obstacle that must be addressed in order to provide seamless coverage, but from a planning perspective the extension of fixed-route service to the southern portion of the MPA is something that should be explored. Coordination with employers and residents throughout the SLATS MPA is critical to expanding fixed-route service and initial service could begin by identifying transfer points that coordinate with current SMTD service. Furthermore, the general public has indicated a desire to support the expansion of fixed-route service, in particular within the current SMTD area.

To operate effectively, transit service requires a minimum level of employment and population density. These measures become even more important in determining if fixed-route transit service is feasible. Preliminary findings from the SMTD TDP study identified areas as fixed-route transit supportive if they had four or more households or five or more jobs per acre. Figure 5-6 displays a few pockets of fixed-route transit supportive areas in the SMTD service area, with most of these found in South Beloit and Rockton. The remaining areas are more likely to be better serviced by demand-responsive transit service; however, SLATS should continue to monitor development within the area to see if some areas become more feasible for fixed-route service.

Figure 5-6. Fixed-Route Transit Supportive Areas



Source: SMTD TDP, SRF Consulting Group, Inc., May 2016.

- **Enhance Regional Service**

From a long-term perspective, it is important for SLATS to develop a long-term transit vision that looks at service expansion beyond the current MPA boundary. From a regional perspective, the Beloit and Janesville areas are currently connected by regional bus service. However, there are opportunities to make this regional service even stronger to ultimately enhance connectivity, mobility and accessibility, support economic development and access to jobs, and to promote alternatives to the automobile to develop a sustainable and environmentally friendly travel option.

While it is possible to currently make trips between the urbanized areas in the region, it is currently very time consuming and inconvenient for a transit-user. As part of a larger transit vision, service from the SLATS MPA could be improved to Janesville and potentially expanded north to Madison. Regional service could also be extended south to connect to Rockford, and potentially to the east to connect to a possible long-term Metra connection in Clinton, WI (extension from Harvard, IL) that would ultimately provide a connection to the Chicago region.

- **Explore a Regional Transportation Authority**

To achieve an effective region-wide transit investment program, SLATS supports the possibility of developing a Regional Transportation Authority (RTA). Establishing a RTA would create a governance structure to coordinate, deliver and administer regional transit services among the various transit agencies and communities within, and beyond, the SLATS MPA. The RTA has an added benefit of potentially reducing the financial burden of transit provision for municipalities. Most importantly, RTAs can provide a locally-sourced and dedicated revenue stream for regional transit that can be used to enhance current transit operations, or to introduce new service to provide greater service options and/or coverage. The second public opinion survey reflected general support to explore this option in greater detail.

While RTAs are allowed in the Illinois, they are currently not allowed in Wisconsin. Previous legislation, from 2009, allowed for the formation of RTA's in Wisconsin in four areas. However, on May 3, 2011 the State's budget committee voted to eliminate RTAs and there is currently little support for state-enabling legislation for RTAs in the Wisconsin State Legislature. Several regions within Wisconsin; however, continue to express a desire for the formation of these governing bodies and SLATS supports these efforts to continue to encourage legislation that would, at a minimum, give regions the opportunity to explore a scenario that would include enacting a RTA structure. Ultimately, SLATS believes that the formation of a RTA may eventually be the best option to advance and expand transit alternatives within the region, and ultimately address the overall transportation goals of the LRTP.

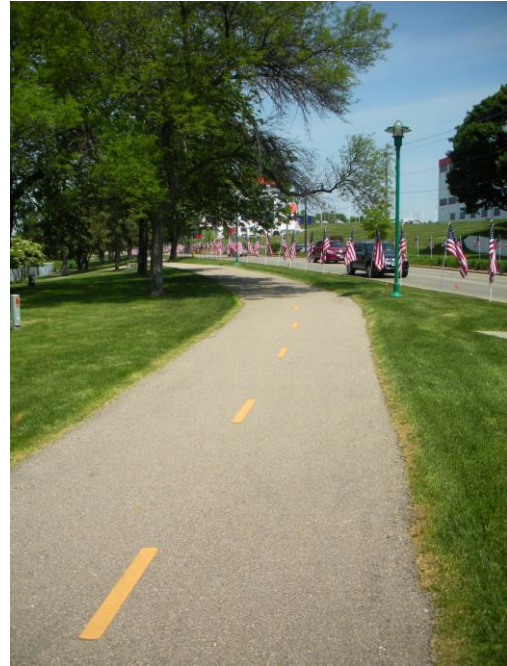
Figure 5-7 displays the conceptual public transportation-related improvements identified for the region.

Chapter 6: Non-Motorized

6.1. Non-Motorized Plans

This chapter summarizes the non-motorized facilities within the SLATS MPA. From young and old, nearly everyone walks at some point of their trip purpose for work, shopping, or other trips. Many bike for recreational purposes or as a primary transportation mode to travel to/from work or other destinations. Non-motorized facilities also support other travel, including connections to local bus stops.

The comprehensive non-motorized plan in the MPA is the Stateline Area Bike and Pedestrian System Plan (BPSP). This plan is the guiding document regarding non-motorized planning in the MPA. The plan was most recently updated and adopted December 31, 2010, and SLATS plans to update this plan in 2017. Once complete, the 2017 plan will be used to update this chapter of the LRTP.



Bicycle and Pedestrian Trail – Riverside Park

The purpose of the BPSP is to:

- Outline a strategy for designing and implementing a safe, convenient, and comprehensive bicycle and pedestrian circulation network in the Stateline Area;
- Propose an area-wide network of bicycle and pedestrian facilities that links important destinations in the Stateline Area and within participating communities (including schools, parks, libraries, public buildings and similar community facilities, and shopping and employment districts);
- Provide bicycle and pedestrian movement system and land development and community design recommendations that will encourage and enable people to ride bicycles or walk, rather than rely solely on motor vehicles for day to day trips;
- Connect the Stateline Area with region-wide facilities such as the Rock and Winnebago County bicycle routes and proposed State trails; and,
- Serve all age groups, bicycling ability levels, pedestrians, and persons with disabilities and special transportation needs. The plan incorporates American’s with Disabilities Act (ADA) and American Association of State Highway and Transportation Officials (AASHTO) design guidelines and standards in order to meet the special non-motorized transportation needs of all residents and visitors.

In addition to the BPSP, SLATS prepares a four-year TIP and Unified Planning Work Program, both of which are updated annually and include non-motorized improvements. Other area bicycle and pedestrian-related plans include:

- The 2014 Stateline Area Bike System Implementation Plan (BSIP) is a supplemental document to the 2010 Stateline Area BPSP providing recommendations for on- and off-road bike facilities proposed within the City of South Beloit, Village of Rockton, Village of Roscoe, and Roscoe Township. According to the report, the City of Beloit, Town of Beloit, Rockton Township, and Town of Turtle are not included in this plan's study area.
- The City of Beloit, City of South Beloit, Village of Rockton, Town of Beloit, Rock County and Winnebago County each have a Comprehensive Plan or Land Resource Management Plan. A sub-component of the City of Beloit's Comprehensive Plan is the Beloit Downtown Redevelopment Plan. The City of Beloit also has a Parks and Open Space Plan.
- Beloit 2020, an organization comprised of business, civic and community leaders that has spearheaded many redevelopment and community investments in the City Center has prepared the City Center Plan, the Rock River Parkway Master Plan and Nature at the Confluence Plan, which complement the downtown and comprehensive plans for Beloit and South Beloit.
- The 2012 Beloit to Janesville Bicycle Route Corridor Plan and Feasibility Study identifies the missing link in the region's bicycle network between the City of Beloit and the City of Janesville in Rock County. The vision for the corridor is to provide a regional bicycling and recreation connection focused on Rock County's natural and cultural heritage.
- The 2014 Illinois Bike Transportation Plan: Transforming Transportation is a multi-year initiative created to integrate planning and programming the State of Illinois' multimodal future. Working with MPOs for input and collaboration, the initiative seeks to achieve key objectives of this plan to establish policy, programming, and network recommendations, as well as develop performance measures and evaluation tools to track and facilitate implementation.
- The Rock River Trail Initiative is a local initiative to establish and support a multi-use trail of recreational, scenic and historic interest and significance. Beginning in 2010, the Rock River Trail is a two-state, 11-county comprehensive effort integrating public-private partnerships and intergovernmental cooperation. Included in this corridor is the SLATS MPA. According to the Rock River Trail website, the vision of the initiative is to promote active participation among diverse groups on and along the river, revitalize and prosper river communities on a clean river for enjoyment of all, and protect natural resources and cultural assets of the Rock River Valley.

While SLATS provides input as a stakeholder of non-motorized facilities, plans are largely driven by local bicycling advocates and/or local communities providing additional detail related to facility and connection improvements.

6.2. SLATS Non-Motorized Facilities

The SLATS MPA has a variety of existing non-motorized facilities consisting of 53 miles of existing trails and pathways. Of this total, 8 miles are off-road dedicated trails. The remaining MPA includes approximately 45 miles of on-street bike lanes. Primary on-street bike lane corridors include Afton Road between Burton Street and the northern MPA boundary, Inman Parkway between US-51 and Prairie Avenue, and CTH-S from Creek Road east.

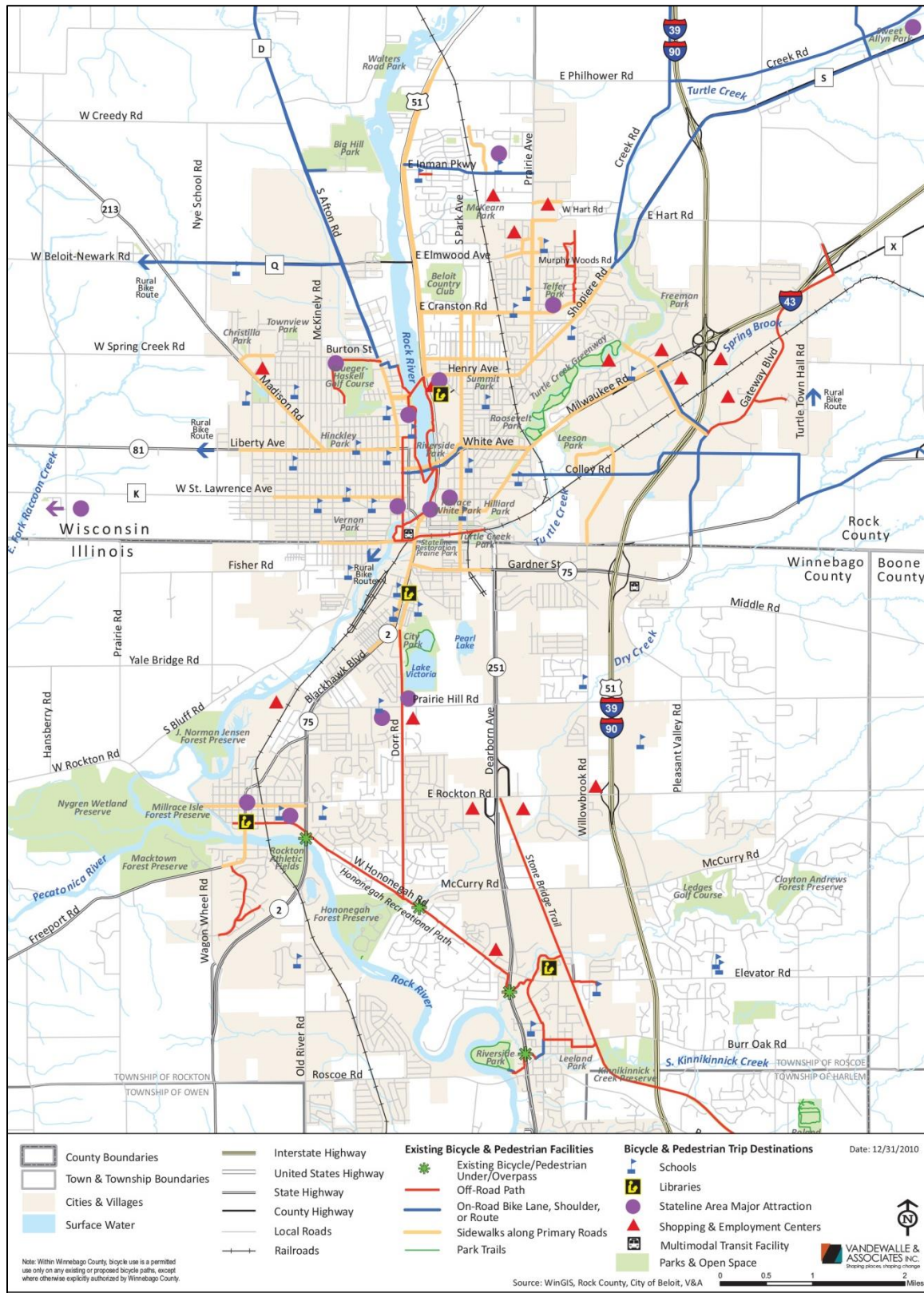
Maintaining and expanding a bicycle and pedestrian network requires the determination of appropriate bikeway choices based on the context of the intended use. As outlined in the current BPSP, primary bicycle and pedestrian facility typology definitions include:

- **Bicycle Lane:** A portion of urban cross-section (curbed) roads that have been designated by striping, signing, and pavement marking for the preferential or exclusive use of bicyclists.
- **Paved Shoulder:** On-street facility on rural cross-section (shoulder and pitch) roads with additional pavement outside of travel lanes for the use of bicyclists separated from the travel lanes by a stripe.
- **Signed Bicycle Route:** A segment of a system of bikeways designated by the jurisdiction having authority with appropriate directional and informational markers, with or without a specific bicycle route number. An on-road route may or may not have a bicycle lane or paved shoulder.
- **Multi-use Paths:** Facility separated from a roadway and intended for multiple non-motorized user types, such as bikes and pedestrians. Paths may be surfaced with asphalt paving or crushed gravel, depending on their function and location. Non-asphalt surfaced paths may also be used by snowmobiles.
- **Sidewalk or Walkway:** Off-street facility intended for pedestrian use only. Surface is general concrete. As used in this Plan, a “sidewalk” is located along a roadway, while a “walkway” is not associated with any roadway.
- **Bike or Pedestrian Over/Underpass:** A bridge above or tunnel below a major roadway that is designed to facilitate bike and pedestrian traffic without an at-grade roadway crossing.

(Definitions are provided by American Association of Highway and Transportation Officials’ (AASHTO) Guide for the Development of Bicycle Facilities and the FHWA’s Selecting Roadway Design Treatments to Accommodate Bicycles.)

Figure 6-1 displays existing bike facilities within the SLATS MPA as well as trip destinations. Displayed are existing trails and greenways based on the 2010 BPSP report. Again, it should be noted that this facilities map will be updated as part of the 2017 non-motorized plan update.

Figure 6-1. Existing Trails and Greenways (Facilities & Destinations)



Source: WinGIS, Rock County, City of Beloit, V&A, 2010.

6.3. Non-Motorized Conditions

The 2010 Stateline Area BPSP and 2014 Stateline Area BSIP provide a comprehensive overview of non-motorized conditions in the SLATS MPA. A priority of both plans is to ensure connections are made with other regional facilities by eliminating barriers, closing gaps, and linking destinations.

6.3.1. Perceived Conditions

Figure 6-2 and Table 6-1 provides public survey results related to areas residents' perception of pedestrian and bicycle facilities. Based on survey results, infrastructure improvements in the Stateline Area would be best suited to provide wide/paved roadway shoulders to accommodate bicyclists and to improve safe intersection/roadway crossings for bicyclists. Each of these survey categories received the most "Poor" or "Very Poor" responses at 39.4 percent of total responses. Well-maintained bicycle trails/paths (off-street) fared well in the survey with 44.7 percent of respondents noting existing conditions are considered "Excellent" or "Good."



Beloit Transit Transfer Facility

Figure 6-2. Survey Results: Perceived Existing Pedestrian and Bicycle Facilities

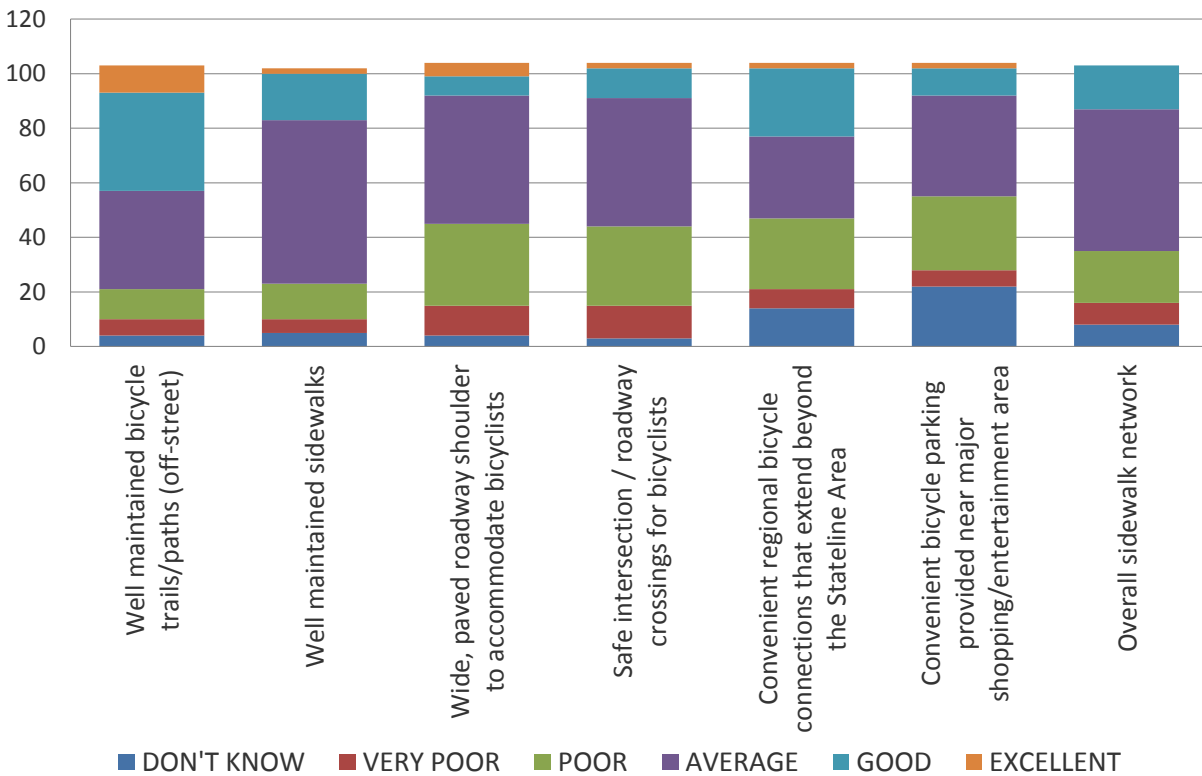


Table 6-1. Survey Results: Perceived Existing Pedestrian and Bicycle Facilities

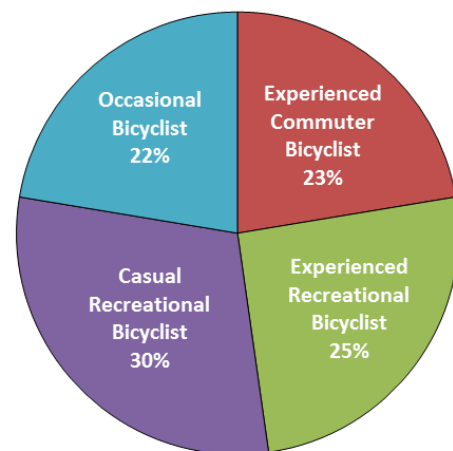
Perceived Existing Pedestrian and Bicycle Facilities	Excellent	Good	Average	Poor	Very Poor	Don't Know
Well maintained bicycle trails/paths (off-street)	9.7%	35.0%	35.0%	10.7%	5.8%	3.9%
Well maintained sidewalks	2.0%	16.7%	58.8%	12.7%	4.9%	4.9%
Wide, paved roadway shoulder to accommodate bicyclists	4.8%	6.7%	45.2%	28.8%	10.6%	3.8%
Safe intersection / roadway crossings for bicyclists	1.9%	10.6%	45.2%	27.9%	11.5%	2.9%
Convenient regional bicycle connections that extend beyond the Stateline Area	1.9%	24.0%	28.8%	25.0%	6.7%	13.5%
Convenient bicycle parking provided near major shopping/entertainment area	1.9%	9.6%	35.6%	26.0%	5.8%	21.2%
Overall sidewalk network	0.0%	15.5%	50.5%	18.4%	7.8%	7.8%

Source: SLATS LRTP Survey; 2016. NOTE: The survey results reflect a small sample size and are not a statistically valid survey. The results are provided primarily for informational purposes.

In planning for non-motorized facilities, it is important to consider all skill levels of bicyclists. Some bicyclists are comfortable traveling along congested or high speed arterials while others prefer dedicated, or separated, bicycle facilities from vehicular traffic. For the non-motorized traveler, any given trip may pose a host of travel challenges far exceeding that of the average motorized vehicle operator. From origin A to destination B, a pedestrian / bicyclist may experience everything from a dedicated pathway with little conflicting traffic to highly-traveled automobile roadways with no shoulders. Facility improvements must plan and design to account for all bicycling skill levels.

According to Figure 6-3, bicycling skill level in the Stateline Area is perceived as evenly distributed as all categories of bicycle skill levels registered between 22 percent and 30 percent. This varying degree of bicycling experience is important as facilities are designed to optimal standards for all users.

Figure 6-3. Survey Results: Perceived Bicycling Skill Level in Stateline Area



Source: SLATS LRTP Survey; 2016. NOTE: The survey results reflect a small sample size and are not a statistically valid survey. The results are provided primarily for informational purposes.

6.3.2. Complete Streets

In recent years, agencies from all levels of government have developed policy and planning tools to ensure road project designs accommodate those who walk and bike. Legislation has provided a platform for implementing standards for design and development known as Complete Streets. The USDOT issued a policy statement accommodating Complete Streets with bicycle and pedestrian support. Design policy changes to implement the Complete Streets Law for Wisconsin and Illinois roadways also took hold. In 2008, the State



Complete Streets Example – Smart Growth America

of Wisconsin adopted State Statutes Section 1918gr. 84.01 (35) stating, “the department shall give due consideration to establishing bikeways and pedestrian ways in all new highway construction and reconstruction projects funded in whole or in part from state funds or federal funds.” According to the WisDOT FDM, “while there is still a statute requiring ‘due consideration’ to providing bicycle and pedestrian accommodations, Administrative Code Trans 75 was repealed as part of the 2015-2017 budget bill Act 55. Designers will notice that the Trans 75 worksheet and exception format has been removed from this procedure. The Trans75 worksheet is no longer required. However the evaluation process, analysis, and criteria those projects have been previously using to determine the omission of facilities has been retained. Projects should continue to use these criteria in evaluations and analyses in giving ‘due consideration’ to establishing bikeways and pedestrian ways. This will assist projects in documenting design decisions in the interim. Some additional design flexibility will be realized through the Trans 75 repeal, and further guidance will be captured in future FDM updates.”

In 2007, the State of Illinois adopted Public Act 095-0665 policy stating, “Bicycle and pedestrian ways shall be given full consideration in the planning and development of transportation facilities, including the incorporation of such ways into State plans and programs.”

According to Smart Growth America, over 730 agencies at local, regional, and state levels have adopted Complete Streets policies. The Complete Streets concept was launched with the intention to “design and operate the entire right of way to enable safe access for all users, regardless of age, ability, or mode of transportation.” Following these principles within transportation projects aims to make the overall street network safer for all users, regardless of transportation mode. Existing road type and right of way will play a major role in determining the appropriate Complete Streets design measure. To incorporate bike lanes, pedestrian areas, or shared lane markings onto roadways will also be based on decisions effecting parking, traffic volumes, and speed limit. In any circumstance, road design standards should be developed above to improve access for all users in a safe and efficient manner.

6.4. Future Greenways and Trails

The following section discusses the future year conditions in terms of future pedestrian and bicycle facility needs and potential future year non-motorized improvements. Non-motorized facilities within the SLATS MPA provide a foundation from which to expand and grow future year network and safety improvements. As potential projects are identified and designated as a priority within the TIP or Capital Budget, Federal and State programs exist to help reduce the local burden of funding non-motorized facility improvements, most notably the Transportation Alternatives Program (TAP). Based on public response during development of this the LRTP and 2010 BPSP findings, priority improvements primarily revolve around eliminating barriers, bridging network gaps, and linking destinations.

- **Eliminating Barriers**

According to the BPSP, barriers in the SLATS MPA include lack of facilities and unsafe facilities. In order for pedestrians and/or bicyclists to access necessary services, facilities and conditions suitable for all users must be present. Typical scenarios where users are unable to safely access destinations include lack of sidewalks or pathways, corridors with high traffic volumes or high rate of speed, natural and infrastructure barriers (rivers, interstates, etc.), narrow right of way, and unsafe pedestrian or bicycle crossings. Areas in the MPA where these scenarios pose significant barriers to pedestrian or bicycling travel include:

- I-39/90
- I-43
- US-51
- WI-81
- WI-213
- IL-2
- IL-75
- IL-251
- Rock River and area creeks
- Freight railway crossings

While some of these barriers have existing facilities crossing over or under, sometimes the existing means for access is not always safe or suitable for pedestrian or bicycling traffic. Grade-separated pedestrian and bicycle crossing are often not provided as making improvements to these crossings can require major infrastructure investment. It is important for the community to invest in these locations by prioritizing where safe access is most needed and cost effective and then budgeting accordingly. Many times, these barriers can best be addressed as part of larger infrastructure projects.

- **Bridging Gaps to Link Destinations**

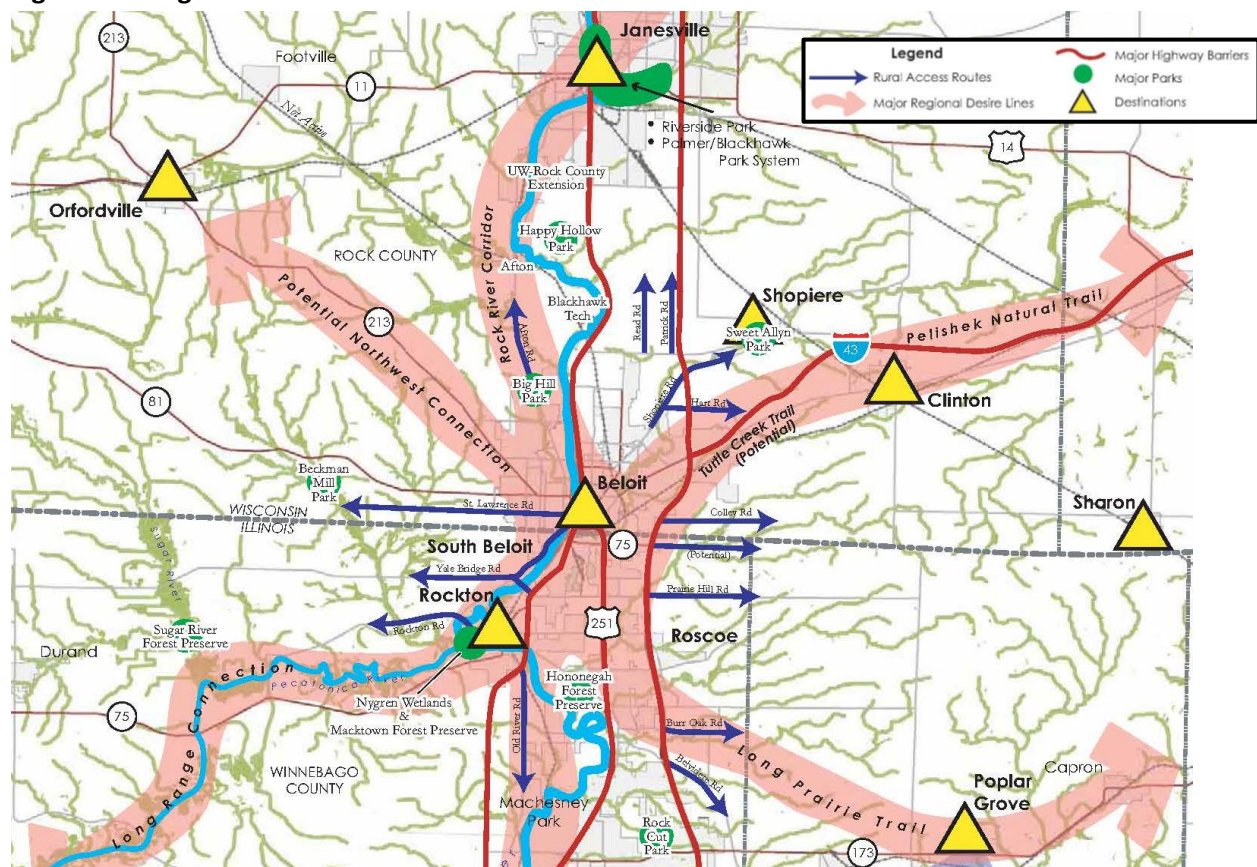
BPSP findings concluded a number of gaps or missing link conditions within the pedestrian and bicycle network exist in the SLATS MPA. Based on results from BPSP and LRTP public activities, the primary concern concluded the “South Beloit Connector” gap as most critical. The link would provide a connection between the northern and southern portions of the Stateline Area. Another gap location noted as a priority throughout the public involvement process included the Rock River corridor and its connection north to Janesville.

Regional destinations to consider when bridging network gaps include improving connections to Janesville (north), Rockford (south), and Clinton (east). Locally, pedestrian and bicycle trip destinations to prioritize connections typically include schools, libraries, attractions, shopping/employment centers, multimodal transit facilities, and parks/open space.

An important concept presented and endorsed through the BPSP is the connection of bike and pedestrian facilities in the Stateline area with similar facilities in the surrounding regions. Such connectivity adds significant recreational value to the bikeway system and is beneficial to the tourism aspects of the area's economy. By linking the trails in the SLATS region with the trails in adjacent regions, such recreational opportunities are greatly enhanced.

The SLATS MPA's regional location presents regional service opportunities. Opportunities are likely to be implemented over a longer time period; however, SLATS and partner agencies can prioritize projects to plan for short-term and long-term improvements. Using the evolving BPSP, key stakeholders in the region can work together to address potential short-term to long-term improvements. Figure 6-4 displays conceptual public transportation-related improvements identified in the BPSP for the region.

Figure 6-4. Regional Connections



Source: WinGIS, Rock County, City of Beloit, V&A, 2010.

Through prioritization and the gradual implementation of projects, the overall non-motorized network can grow while at the same time remaining consistent with the overall network vision. Creatively pairing non-motorized projects with roadway projects can often provide the funding boost necessary to implement projects within the non-motorized network. Prairie Avenue for example offers the ability to implement a road diet that will allow for the addition of on-street bicycle lanes.

Table 6-2 provides a list of potential future bicycle and pedestrian improvements from existing plans, as well as a few additional segments identified during this LRTP update. As the next BPSP is developed, this list can serve as a starting point to help frame the discussion to identify current and future non-motorized priorities that will ultimately be programmed for implementation. Once the BPSP update is complete, this chapter of the LRTP should be updated to reflect the priority improvements.

Table 6-2. Future Bicycle and Pedestrian Improvements

Bicycle/Pedestrian Improvement	Improvement Details
Aldrich Intermediate School Area	Sidewalk Improvements
Broad Street	Bicycle and Pedestrian Improvements
City Center Bicycle Link	Wheeler Ave. from the Turtle Creek Path in Beloit south to Gardner Street, to Lathrop Terrace/Elmwood Avenue., to Roscoe Avenue, to Dorr Road Path
City Park North	City Park to Lathrop Terrace (from east side of park)
Colley Road	Milwaukee Road to Turtle Townhall Road
Cranston Road	Sidewalks where gaps exist, bike improvements entire corridor
Dorr Road/Hononegah Connection	Wilmington Court and Kelley-Myers Park Service Road
Elmwood, Murphy Woods, W. Hart Road	Proposed bike lanes
Gardner Street	Wheeler Avenue to Willowbrook Road
Inman Parkway	Sidewalks from US-51 to Prairie Avenue
Krueger Park to Afton (Village)	Using Shore Drive, Dawson Avenue, Millar Drive, Afton Road, W. Big Hill Road & Big Hill Park, eventually linking to Peace Trail (Janesville)
McCurry Road	Bicycle Improvements
Old River Road	Blackhawk Boulevard to Stephen Mack Middle School
Park Avenue	Cranston Road to Inman Parkway (STP Priority in TIP)
Park Avenue	Turtle Creek Path in Beloit to South Beloit City Park via Lathrop Terrace/Elmwood Avenue, to Roscoe Avenue, to Dorr Road Path
Prairie Avenue	Cranston Road to Huebbe Parkway (STP Programmed Reconstruct in TIP)
Prairie Hill Road Trail	South Beloit Sr. High School to S. Bluff Road and Dorr Road to Willowbrook Middle School
Riverside Drive	Improve pedestrian connections linking into Riverside Drive
Rock River to City Park	Shirland Avenue through Confluence to Charles Street, Elmwood Avenue
Rockton Central Trail	Convert (active) railroad bridge to multi-use path, Macktown Golf Course to IL-75 along River Street and Rockton Athletic Fields parallel to tree line

Bicycle/Pedestrian Improvement	Improvement Details
Rockton Road Path	Macktown Forest Preserve to Dorr Road
Shopiere Road	Prairie Avenue to Cranston Road/ Cranston Road to Murphy Woods Road (portion is STP Priority in TIP)
Stateline Road	Bicycle Improvements
Stone Bridge Trail Extension	State IL-251/Rockton Road (CTH-9) Interchange to the Stateline via Dearborn Avenue/IL-251
Turtle Creek Path	Downtown to Shopiere Road
US-51	Bike and pedestrian improvements north of Henry Avenue including CTH-O intersection
White Avenue	Bicycle Improvements Continuation
Willowbrook Road	Gardner Street to Prairie Hill Road

Chapter 7: Freight and Intermodal Connectivity

7.1. Overview

The SLATS MPA is traversed on a regular basis by large numbers of truck and rail freight movements. A goal of the SLATS LRTP is to develop a transportation network that supports the movement of goods and enhances economic development opportunities within the region. SLATS is committed to on-going efforts to better understand the movement and impacts of freight within the MPA. In addition, there is an increased emphasis placed on enhancing the movement of freight at both the state and national level. The following discusses freight and intermodal connectivity from a national, state and local perspective as it relates to the SLATS MPA.

7.2. National Freight Perspective

On December 4, 2015, President Obama signed into law the Fixing America's Surface Transportation Act, or "FAST Act." This is the first law enacted in over ten years that provides long-term funding certainty for surface transportation, meaning States and local governments can move forward with critical transportation investments. Generally speaking, the FAST Act largely maintains program structures and funding shares between highways and transit; however, the law also establishes new programs to advance critical freight projects. The FAST Act includes a number of provisions focused on ensuring the safe, efficient, and reliable movement of freight including the following:

- Establishes a National Multimodal Freight Policy that includes national goals to guide decision-making.
- Requires the Development of a National Freight Strategic Plan to implement the goals of the new National Multimodal Freight Policy. The National Freight Strategic Plan will address the conditions and performance of the multimodal freight system, identify strategies and best practices to improve intermodal connectivity and performance of the national freight system, and mitigate the impacts of freight movement on communities.
- Creates a new discretionary freight-focused grant program that will invest \$4.5 billion over 5 years. This new program allows States, Metropolitan Planning Organizations (MPOs), local governments, tribal governments, special purpose districts and public authorities (including port authorities), and other parties to apply for funding to complete projects that improve safety and hold the greatest promise to eliminate freight bottlenecks and improve critical freight movements.
- Establishes a National Highway Freight Program. The Act provides \$6.3 billion in formula funds over five years for States to invest in freight projects on the National Highway Freight Network. Up to 10 percent of these funds may be used for intermodal projects.
- Includes new authorities and requirements to improve project delivery and facilitate innovative finance. The FAST Act includes provisions intended to reduce the time it takes to break ground

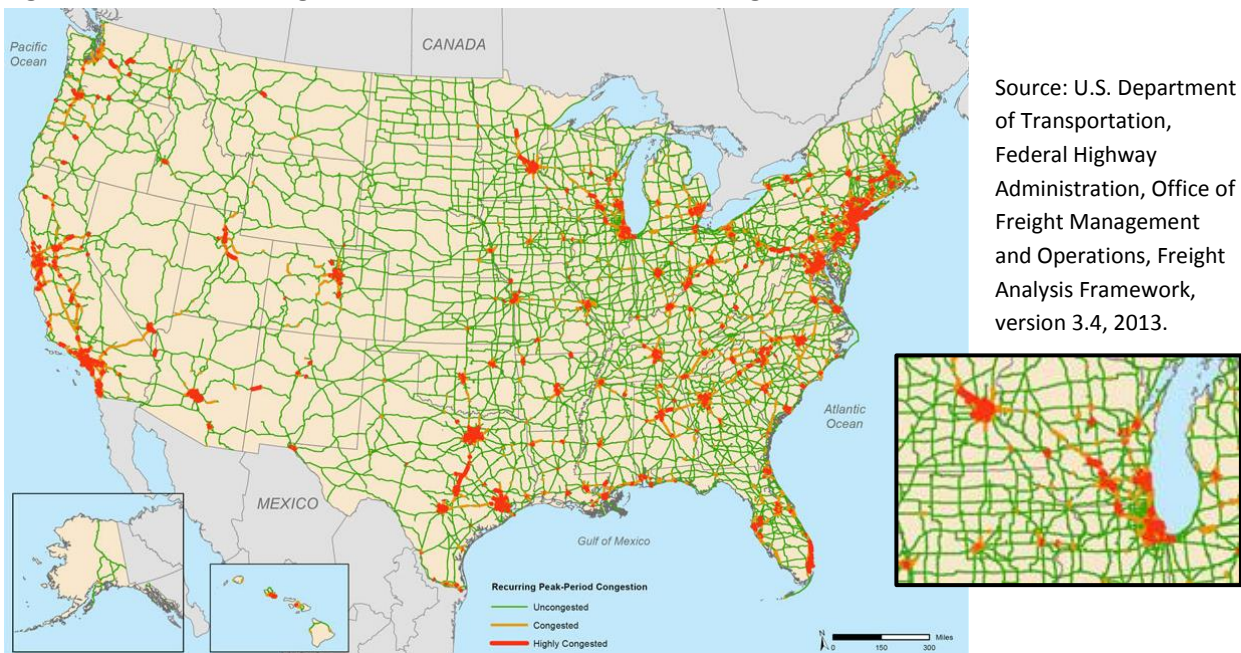
on new freight transportation projects, including by promoting best contracting practices and innovating financing and funding opportunities and by reducing uncertainty and delays with respect to environmental reviews and permitting.

- Collects performance measures for leading U.S. maritime ports. The FAST Act requires the Bureau of Transportation Statistics (BTS) to collect and annually report performance measures for the nation's top 25 ports, as measured by three methods (total tonnage, containers, and dry bulk tonnage).

From a national perspective, the SLATS MPA is located in close proximity to the Chicago region, the nation's busiest inland port in the Country. This proximity presents both opportunities and challenges. As an opportunity, the proximity to the Chicago region means that companies and industries are likely to want to locate near regional freight assets to leverage the economic advantages, accessibility and transportation infrastructure. However, these opportunities can present challenges such as finding ways to accommodate freight movements so they don't negatively impact safety, traffic flow, and overall quality of life.

Figure 7-1 displays recurring peak period congestion along major freight corridors across the country. Highly congested segments are generally defined as stop-and-go conditions with volume/service flow ratios greater than 0.95. Congested segments have reduced traffic speeds with volume/service flow ratios between 0.75 and 0.95. According to FHWA, volume is the actual peak hour flow rate in vehicles per hour while service flow is defined as the maximum hourly rate of flow at which vehicles can travel under prevailing roadway conditions. A zoomed-in view of the SLATS MPA and surrounding region shows a high level of congested segments.

Figure 7-1. National Freight Corridors – 2010 Peak Period Congestion



Given the anticipated growth in freight in the SLATS MPA area, the National Highway System (NHS) is an important designation to monitor in the region. As shown in Figure 7-2, several corridors are classified within the NHS. In the SLATS MPA, this includes facilities such as I-39/90, I-43, US-51, IL-75, and IL-213. One local example is Cranston Road between US-51 and WI-81. This is unusual considering Cranston Road tends to function as a local facility as opposed to a regional, NHS classified corridor. Given the necessary requirements of a NHS classified road, this segment of Cranston Road may need to be revisited as NHS designation does not seem appropriate.

Figure 7-2. National Highway System



7.3. State Freight Perspective

Federal legislation requires state DOTs to establish freight advisory committees consisting of public and private freight stakeholders. State DOTs are also encouraged to develop comprehensive plans for freight related planning and investment. Wisconsin and Illinois have completed statewide freight studies. The following summarizes the state plans as they relate to the SLATS region.

7.3.1. State of Wisconsin

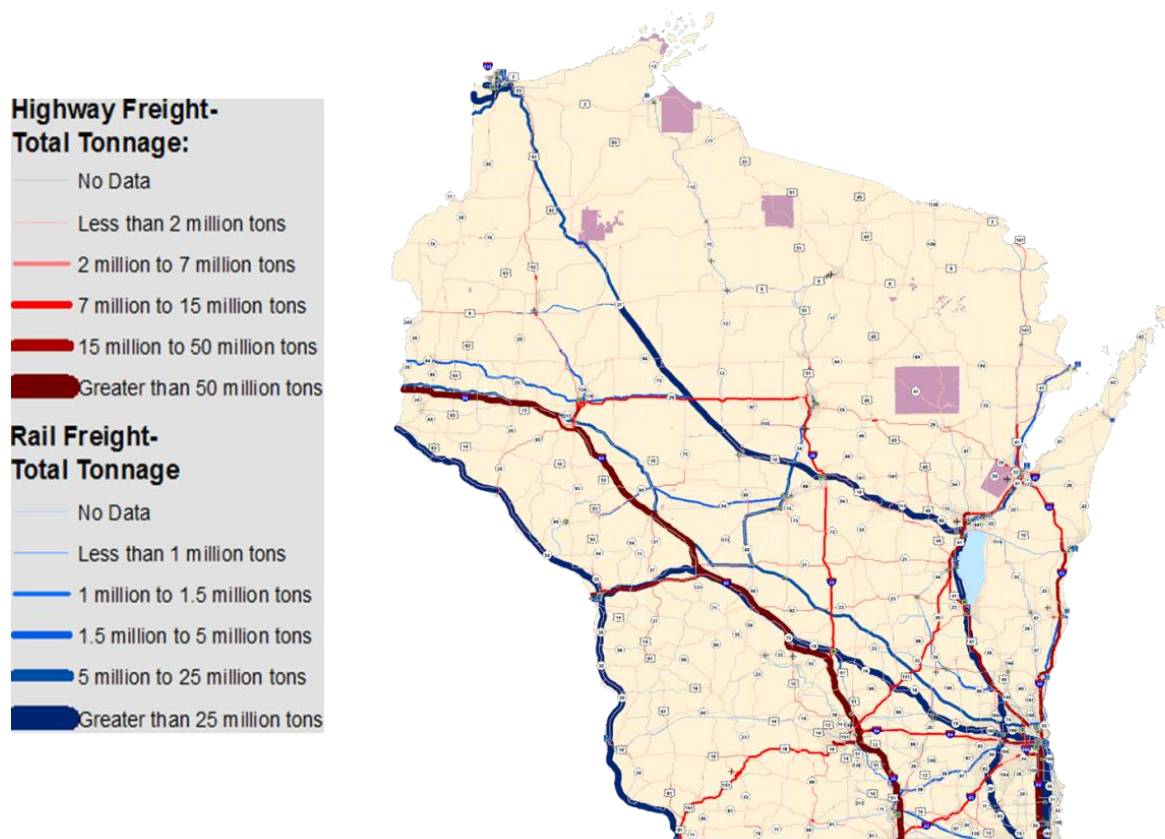
WisDOT's State Freight Plan Development began in early 2015 and is scheduled for completion by December 2016. Once complete, the key findings and recommendations should be reviewed to determine the potential impact on the SLATS MPA. Preliminary key elements of the plan, as outlined by WisDOT, include:

- Linking transportation investments to economic development activities
- Placing Wisconsin within a national and global context
- Engaging and reflecting the interests of a wide array of freight stakeholders
- Focusing on Implementation, from planning to project development to programming
- Developing performance measures and management

As a top priority for WisDOT, the State Freight Plan aims to provide a vision for multimodal freight transportation by enhancing freight mobility in Wisconsin and helping position the state to be competitive in the global marketplace by ensuring critical connections to national freight systems remain, or become, efficient. The SLATS region, as indicated by the LRTP goals, supports this vision.

Figure 7-3 displays highway and rail freight tonnage by corridor in Wisconsin. The I-39/90 corridor is by far the main truck route through the SLATS region, and is a corridor that will likely continue to grow over time. The expansion of the I-39/90 mainline through the SLATS MPA is currently programmed in the 2016-2020 TIP with construction phases continuing into 2022. This will provide much needed congestion relief resulting in more efficient freight movement.

Figure 7-3. Wisconsin Freight Tonnage by Corridor



Source: State Freight Plan, WisDOT, April 2016.

7.3.2. State of Illinois

The Illinois Freight Mobility Plan was completed in December 2012 and summarizes key freight areas such as freight traffic, freight tonnage by mode and freight commodities. According to the report, the plan identifies a number of opportunities and challenges for the Illinois freight transportation system. The 2012 Illinois State Rail Plan addresses rail freight, carrier surfaces, Amtrak services, intercity high-speed rail services, and urban rail commuter services. The state's overall rail transportation system was

inventoried during the development of the Plan, and individual profiles presented on all major rail service providers. The Plan identifies anticipated trends, needs, and issues that will affect rail service and demand over the next two or three decades. The Plan provides a long-range investment program framework for meeting the various needs of rail passengers and freight services within the state. Some of the key elements are addressed in the following section.

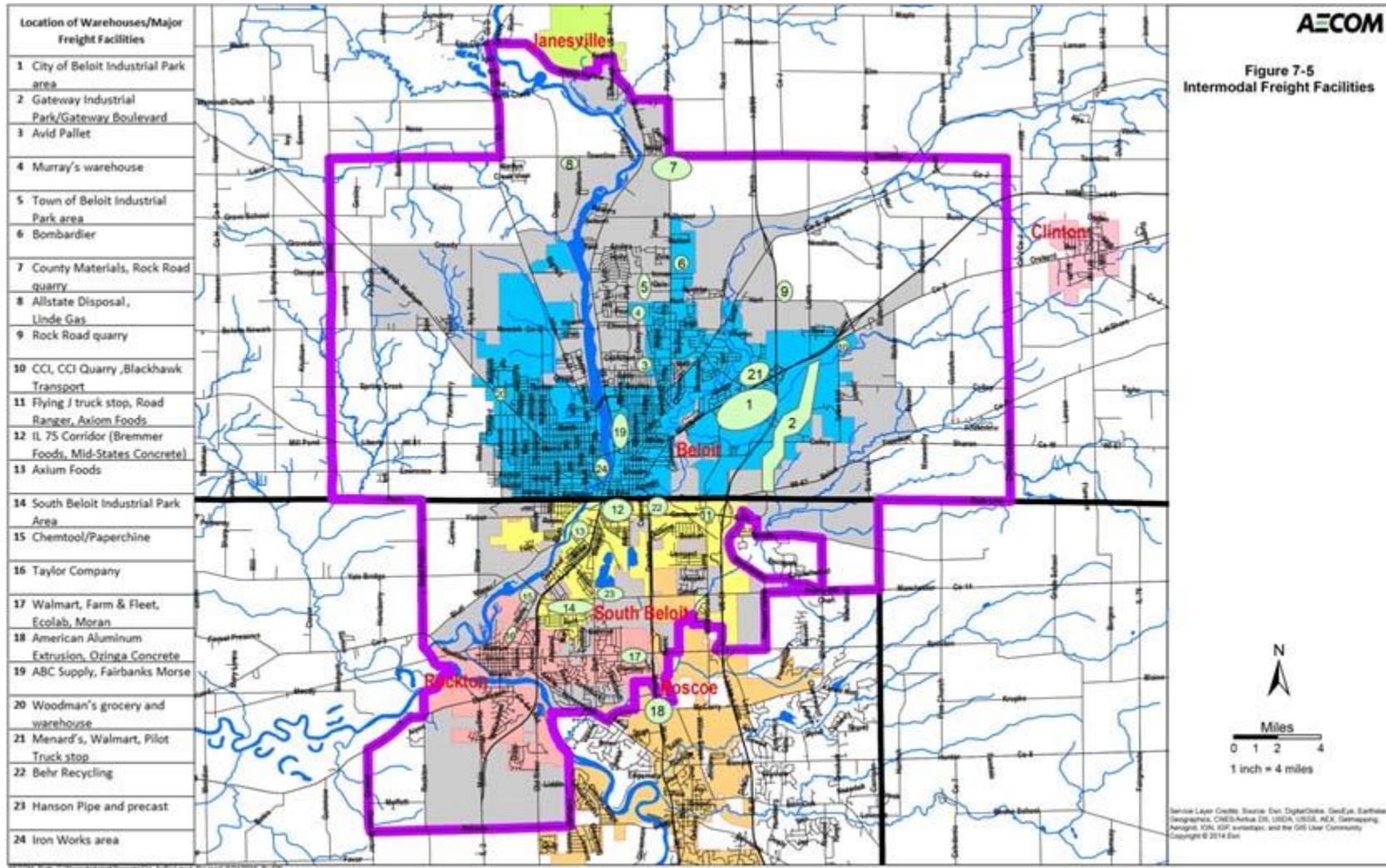
7.4. SLATS Regional Freight Facilities

The SLATS MPA sits in close proximity to the busiest inland port in the Country, the Chicago region. Illinois is second in rail intermodal traffic, a vital component of U.S. global trade, and its total tonnage by all modes is the highest for states that are not located on a seacoast. As such, the SLATS MPA is impacted by local, regional and national truck and rail freight activity that originates, or passes through, the MPA. While the MPA includes truck and rail activity, truck activity has the greatest impact on the SLATS transportation network. I-39/90 traverses the SLATS region in a north-south direction and this interstate corridor carries significant truck traffic. Plans to widen the I-39/90 corridor through the SLATS MPA will provide congestion relief. I-43 and WI-81 provides east-west freight connections within and through the MPA. Rail lines in the region exist within the eastern half of the MPA and connect Beloit to Janesville to the north, Rockford and Chicago to the south, and Milwaukee to the northeast. Figure 7-4 displays regional freight facilities in relation to the SLATS MPA, while Figure 7-5 displays major freight generators within the MPA.

Several significant freight facilities are present just south of the Wisconsin border in Illinois. The Chicago Rockford International (RFD) Airport is located approximately 30 miles south of Beloit. The RFD has in recent years invested heavily in infrastructure to increase cargo capabilities and the airport is capable of supporting two 747-8 operations and when completed the facility will be able to accommodate ten B747 with eight aircraft directly adjacent to the air cargo facilities.

Located approximately 50 miles south of Beloit, Union Pacific's Rochelle Global III Intermodal Terminal serves as a critical interchange hub and loading/unloading terminal for rail intermodal shipments moving through western Iowa and Wisconsin. This facility provides Union Pacific the capacity to improve and expedite operations for current shipments, as well as room for expansion to meet future demand for projected growth in intermodal activity. The relatively close proximity to the SLATS MPA makes this intermodal facility an important component of the region's freight assets and is a primary origin or destination for several trucks that travel through the SLATS MPA.

Figure 7-5. Freight-Generating Industrial Facilities



7.5. Truck Routes

Wisconsin and Illinois are required to designate a truck route system on which heavier and larger trucks are allowed to travel on area roadways. Local roadway authorities may also designate Class II or Class III highways within and under their jurisdiction. The government agency controlling the truck route designates the class of the roadway. In Wisconsin, there are two classes of weight limitations:

- **Class A:** The gross weight imposed on the highway by any one wheel or multiple wheels supporting one end of an axle may not exceed 11,000 pounds and the gross weight imposed on the highway by the wheels of any one axle may not exceed 20,000 pounds.
- **Class B:** No person, without a permit, may operate on a Class B highway with any vehicle or combination of vehicles on the highway exceeding 60 percent of the weights authorized within the designated route.

In Illinois, there are three classes of truck routes:

- **Class I:** Limited access divided highways;
- **Class II:** Non-interstates with same weight and size restrictions; and,
- **Class III:** Permits 80,000 pounds but further limits vehicle width and total length.

Truck freight issues within the SLATS MPA are a regional issue and require comprehensive solutions. Typically, minimal delays occur within the Beloit region compared to other congested areas in surrounding metropolitan regions. Growth in freight has sometimes caused issues concerning truck and automobile traffic mixing which can potentially lead to safety concerns. This can also lead to general roadway infrastructure deficiencies since local truck routes and access points cannot adequately accommodate the growth in truck volumes. Furthermore, the mix of passenger cars and trucks creates inefficiencies in the movement of goods and services throughout the region. This trend can become costly as an increased rate of roadway infrastructure deterioration requires increased financial resources to preserve local roadway infrastructure.

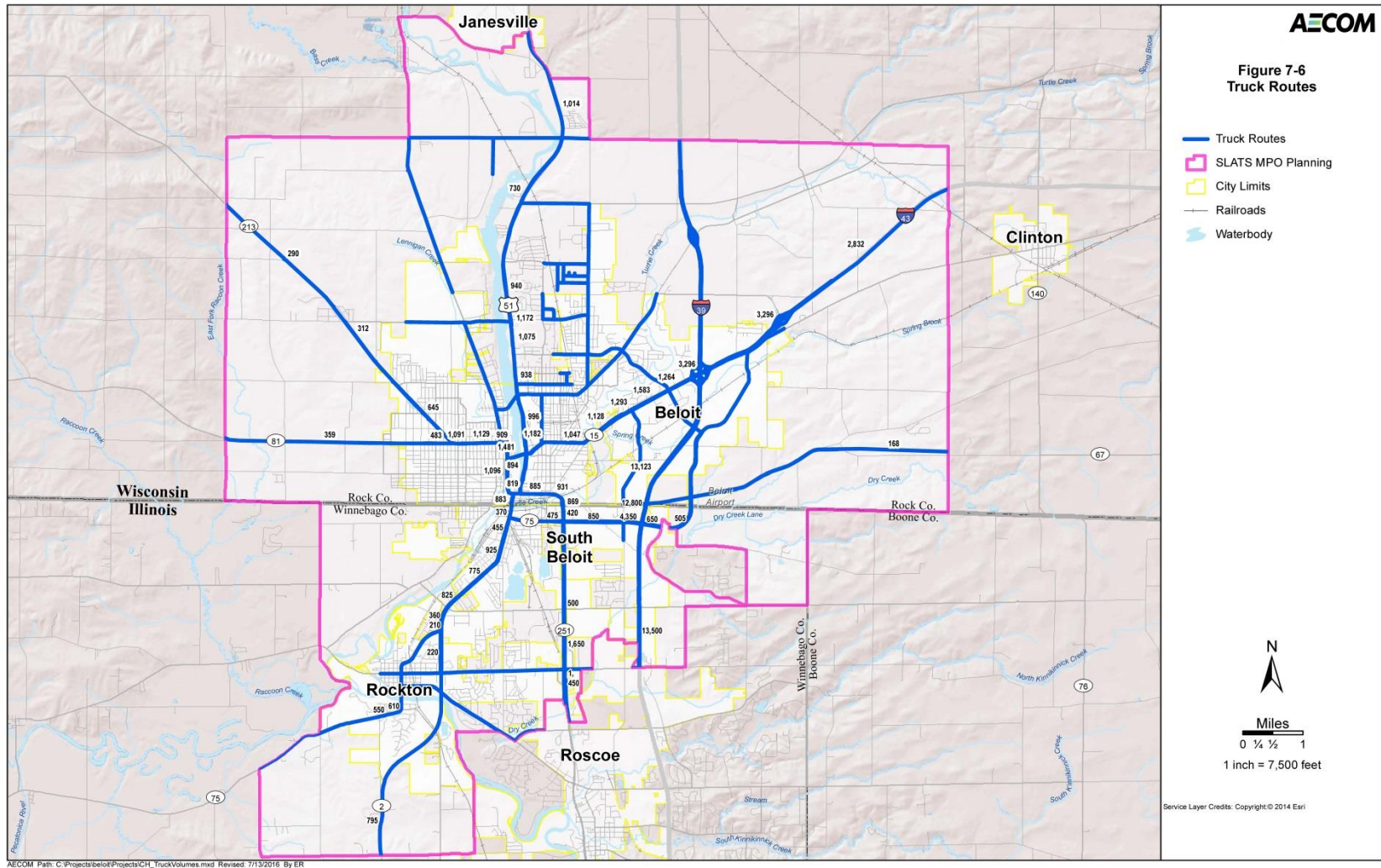
The Stateline community seeks to contain heavy trucks to certain routes for three purposes:

1. To withstand the weight of heavy trucks, roadways (and bridges) must be expensively designed and constructed. It is simply not financially feasible to design all roadways to these standards.
2. For a variety of environmental and safety reasons, it is undesirable to allow trucks free movement throughout the community. Albeit, heavy trucks or vehicles must, at some time, use nearly every street or road within the Stateline Area. Examples are buses, school buses, garbage trucks, moving vans, fire trucks, and agricultural vehicles. However, it is prudent to limit the longer-distance, through movements of heavy vehicles to a limited number of roadways.
3. Many Stateline roadways simply cannot safely accommodate large or heavyweight vehicles. Short turning radii, low overpasses, steep grades, narrow widths, overhanging trees and a variety of other factors make large vehicle passage impossible or unsafe.

Figure 7-6 provides designated truck routes within the SLATS MPA. Based on the figure, several gaps between designated truck route segments exist. Increased coordination among stakeholders is necessary to ensure truck routes are designated appropriately. A reevaluation of freight corridors as they relate to the individual and collective needs of freight stakeholders will help to improve designated freight connectivity and routing within the SLATS MPA.

Truck volumes are concentrated on the I-39/90 corridor where truck volumes typically range from 12,000 to 16,000 HCV per day. I-43 draws roughly 3,000 to 5,000 HCV per day. Higher truck volumes also exist on local truck routes such as Shopiere Road (500 to 1,000 HCV), WI-81 (1,000 to 2,000 HCV), IL 2/75 (500 to 1,000), and IL-251 (1,000 to 2,000) as these corridors provide access between local businesses and I-39/90 and 43.

Figure 7-6. Truck Routes



7.6. Freight Rail

The freight rail network in SLATS MPA facilitates movement into and out of the region via two Class I railways. Canadian Pacific (CP) and Union Pacific (UP) both operate within the MPA. CP provides a freight rail connection to Janesville to the north and Rockford to the south. UP provides a freight rail connection to Janesville to the north and the Chicago region to the southeast.

Figure 7-7. Conceptual GLBT Alignment



Source: Surface Transportation Board, GLBR, July 2016.

One conceptual freight rail improvement, that would impact the SLATS regional transportation network, is the Great Lakes Basin Rail project. The Great Lakes Basin Transportation, Inc. (GLBT) is looking to conduct a study to evaluate the feasibility of constructing a proposed Class I rail line to create more efficient options to route trains around Chicago. The Class I railroads would include: BNSF Railway Company, Union Pacific Railroad Company, Canadian National Railway Company, Norfolk Southern Railway Company, Canadian Pacific Railway Company, and CSX Transportation, Inc. The regional railroad is the Wisconsin and Southern Railroad LLC. The GLBT states that the proposed rail line would provide an alternative route for freight traffic not destined for or originating in Chicago to bypass the existing congested Chicago terminal area and add capacity to accommodate existing and anticipated future growth while avoiding major population centers. Figure 7-7 displays the GLBT concept in relation to the SLATS MPA.

The GLBT anticipates that the rail line could be used by unit commodity trains and mixed carload and intermodal trains that do not require transport to the Chicago terminal area for sorting or delivery. According to preliminary estimates by the GLBT, transit times through the Chicago area, which currently

can take up to 30 hours to complete, would be reduced to less than 8 hours depending on the specific interchange points and applicable speed restrictions on the rail line. The expected congestion relief would benefit the Chicago region, but the SLATS region would also likely stand to benefit from the close proximity to the proposed rail line. Figure 7-8 displays a closer view of the region in proximity to the proposed GLBT line, which runs just west and north of Beloit.

Finally, it should be noted that this concept is in the early planning/conceptual stages and has faced opposition from a number of stakeholders, including Rock County. In addition to the uncertainty of the alignment and future rail operations, the construction of the rail line could have adverse impacts on agricultural land within the MPA. SLATS will continue to monitor the project to evaluate potential impacts on the region's transportation network, and more specifically freight movements within and through the MPA.

Figure 7-8. Conceptual GLBT Alignment (Local)



Source: Surface Transportation Board, GLBT, July 2016.

7.7. Airports

Southern Wisconsin Regional Airport (SWRA) and Beloit Airport are located within the immediate vicinity of the SLATS MPA. SWRA is located just north of the MPA boundary on US-51 and is in close proximity to I-39/90. Serving the region since the late 1940's, the airport is owned and operated by Rock County. The 1,400 acre property consists of three runways; two serving as the primary and one as the secondary approach. According to the airport, each year SWRA provides support to accommodate over 50,000 landing/take-off operations and the movement of one-half million pounds of freight. In total, 94 aircraft are based at the airport among a number of T-Hangars and aviation development sites. Beloit Airport is located in southeastern portion of the MPA boundary and is in close proximity to I-39/90. The privately-owned airport includes one runway with a few support hangars.

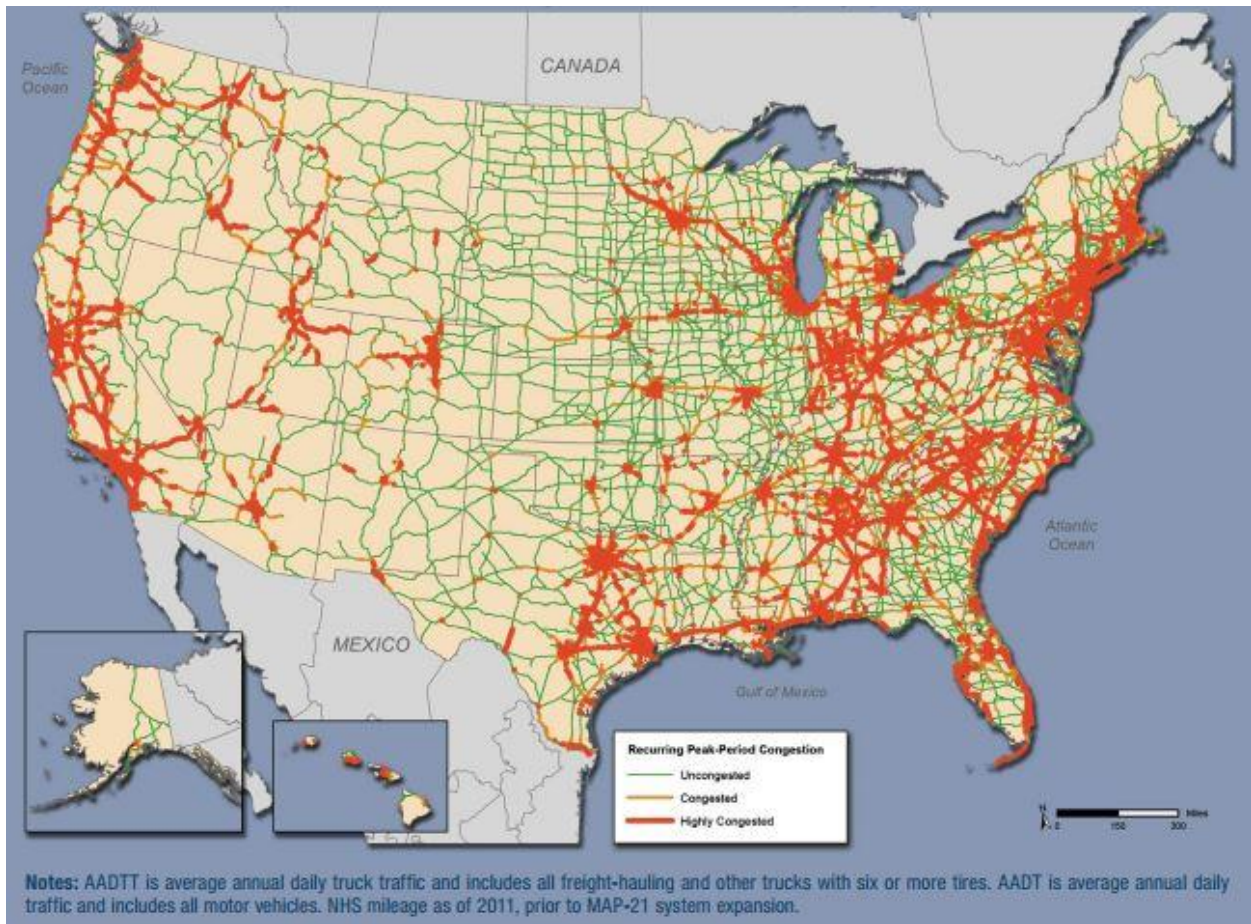
There are no commercial flights available out of SWRA or Beloit Airport. Typically, flights are for business or recreational purposes. Most of the current airway passengers from the SLATS region travel to Rockford-Chicago International Airport, Dane County Regional Airport, O'Hare International Airport, Chicago Midway International Airport or General Mitchell International Airport.

Major airports in proximity to the SLATS region effect regional freight patterns. Rockford-Chicago International Airport and Union Pacific Global III in Rochelle, IL generate a large amount of the freight traffic. This regional effect to the south acts a magnet for surrounding regional freight traffic. As a major connection from the north, the I-39/90 and I-43 corridors experience increased freight traffic as make carriers make intermodal connections with these facilities.

7.8. Future Freight Projections

Freight, and specifically the movement of freight by trucks, continues to be a primary concern within the SLATS MPA. The I-39/90 corridor will continue to be the primary freight corridor within the region, and is expected to have added capacity in next five years. While this capacity enhancement will address short-term needs, according to FHWA, truck and passenger vehicle traffic is expected to increase areas of recurring peak-period congestion to 34 percent of the National Highway System (NHS) in 2040 compared with 10 percent in 2011. Figure 7-9 shows the overall peak period congestion on the NHS in 2040. The SLATS region is located along a heavily congested corridor that extends from the Minneapolis, MN region to Chicago, IL and areas east.

Figure 7-9. Peak Period Congestion on the National Highway System (2040)



Source: U.S. DOT, FHWA, Office of Freight Management and Operations, Freight Analysis Framework, version 3.4, 2013.

The US Department of Transportation's (USDOT) Bureau of Transportation Statistics (BTS) and the FHWA also released 30-year freight projections. Using 2045 as a horizon year, total freight for all modes – air, vessel, pipeline, rail, and trucks – is projected to reach 25 billion tons with an increased value of \$37 trillion nationwide. Impacts of this massive growth are felt in Illinois and Wisconsin as freight trends continue to expand. Based on respective freight plans, both Wisconsin and Illinois place a high priority on enhancing freight connectivity and recognize how important freight is to the economic health of a region.



Downtown Truck Traffic (4th Street)

Based on the results of forecasted freight congestion, the SLATS MPA must plan long-term to accommodate increased truck volumes. As a major freight corridor between the Chicago and Minneapolis metropolitan areas, State DOT's in coordination with the SLATS MPA must monitor ongoing freight trends to minimize congestion, increase freight efficiency and provide safe and reliable roadways.

The SLATS MPA must also work closely with the DOT, both Wisconsin and Illinois, to define data gaps related to freight movements in the region. Specifically, while it is generally known that trucks do not have a direct, convenient east-west connection through the MPA, the origin-destination data to support this conclusion is lacking. Furthermore, with the increased focus on freight from a national perspective, and the focus on performance measures, it will be important for the SLATS MPA to work to obtain better freight data collection. This is an effort that SLATS places a high priority on and intends to pursue further in the next few years.

Chapter 8: Recommended Plan and Implementation

This chapter outlines the recommended plan and implementation steps for the 2040 LRTP. It includes the identification of priority improvements and fiscally constrained projects, as well as a discussion of items that will help move the projects and plan forward toward implementation.

8.1. Fiscally Constrained Requirement

According to the USDOT, fiscal constraint has remained a key component of transportation plan and program development since enactment of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991. A Final Rule on statewide and metropolitan transportation planning and programming processes were published in the Federal Register became effective March 16, 2007. FAST Act planning regulations require MPOs to consider financial implications of their planning efforts as part of the LRTP. Specific provisions in the law regarding the financial plan state the following requirements:

- Development of a financial plan that demonstrates how the adopted transportation plan can be implemented.
- Development of funding estimates that will be available to support LRTP implementation, including all necessary financial resources from public and private sources.
- State recommendations on pursuing additional financing strategies to fund projects and programs included in the LRTP.
- Account for all projects and strategies for which federal, state, local, or private funds could be used for financing and use an inflation rate to reflect multi-year costs and revenues.

Funding for SLATS transportation maintenance and improvement projects come from a variety of Federal, State, local, and private sources. The Federal government is the primary source of funding for transportation systems in the United States. They are apportioned back to the states on a formula basis. The primary source of revenue at the federal and state levels includes motor fuel taxes (MFT), vehicle registration fees, special motor carrier fees, parking fees, and toll fees. Revenue at the county and municipal levels is primarily based on MFT, property taxes, sales taxes, and special assessments. Private sector funding comes from developers and business associations through impact fees, right-of-way donations, and cost sharing.

According to the USDOT, historic authorizations of Federal funds distributed by formula can be used to approximate the future transportation funding that would be available through the planning horizon. Historic funding and STPU authorizations were used as the primary basis to forecast revenues and cost estimations out to the SLATS LRTP horizon year of 2040.

Generally speaking, a LRTP is considered to be fiscally constrained when reasonable funding sources are available to cover the proposed transportation projects at the year of expenditure (YOE, or the year the project is expected to be constructed). Projects with no known funding sources may still be included in the LRTP but only as illustrative projects. Both the SLATS LRTP, and TIP, includes illustrative projects which help define future year issues, and help establish a long-range vision. Projects identified as part of

the illustrative list does not mean that all the projects will eventually be constructed. The illustrative list is beneficial in helping SLATS identify important issues and potential long-term transportation investments, many of which may not be needed until beyond the 2040 planning horizon. In identifying illustrative projects, it strengthens regional planning as future developments, land use decisions and transportation investments can be evaluated to determine if there are any negative impacts that might prevent a project from proceeding in the future.

The LRTP is intended to be reviewed on a regular basis, and at a minimum needs to be updated every five years. By doing so, it provides SLATS the opportunity to confirm that the fiscally constrained projects and the illustrative projects continue to reflect the overall vision and top priorities. If not, SLATS will modify the project lists accordingly to reflect changing transportation needs. For example, SLATS intends to update the area's non-motorized plan in 2017 and when complete, these findings will be updated in the LRTP to better reflect non-motorized priorities within the SLATS MPA.

8.2. Financial Analysis Results

The following summarizes the LRTP financial analysis, or more specifically the identification of the fiscally constrained projects that will be included as part of the 2040 LRTP. The fiscal constraint analysis is applied to the roadway and transit projects to identify reasonably anticipated funding levels that will be available to implement future year projects, or investments. The funding projections are based on historic SLATS federal funding and are compared to high-level planning level cost estimates to determine which projects could potentially be programmed through the year 2040. The following sections discuss the roadways and transit financial analysis within the SLATS MPA.

8.2.1. Roadways

An overall analysis of the SLATS MPA roadway network identified no immediate concerns or network deficiencies. The WisDOT travel demand forecasting model results also showed relatively minor future year concerns in terms of traffic projections and capacity issues. Overall, the primary areas of focus that should continue to be explored are ways to better accommodate regional truck traffic and ways to better accommodate all travel modes and users (i.e., complete streets principles) throughout the region.

Projects, and conceptual roadway improvements, from previous planning efforts were used as a starting point to identify potential projects for the fiscal constraint analysis. These projects were discussed with staff and committee members and continue to support the overall long-term vision of the region, and address the LRTP goals. Several of the projects considered for the LRTP analysis were already included as part of the illustrative list of TIP projects. Other projects were identified through the LRTP planning effort, some of which were evaluated using the WisDOT travel demand forecasting model. Figure 8-1 displays the fiscally constrained analysis. Table 8-1 summarizes the fiscally constrained projects, along with the anticipated year for programming the projects in the TIP. Following this figure and table is further discussion of the fiscal constraint analysis.

Figure 8-1. Fiscally Constrained Roadway Projects

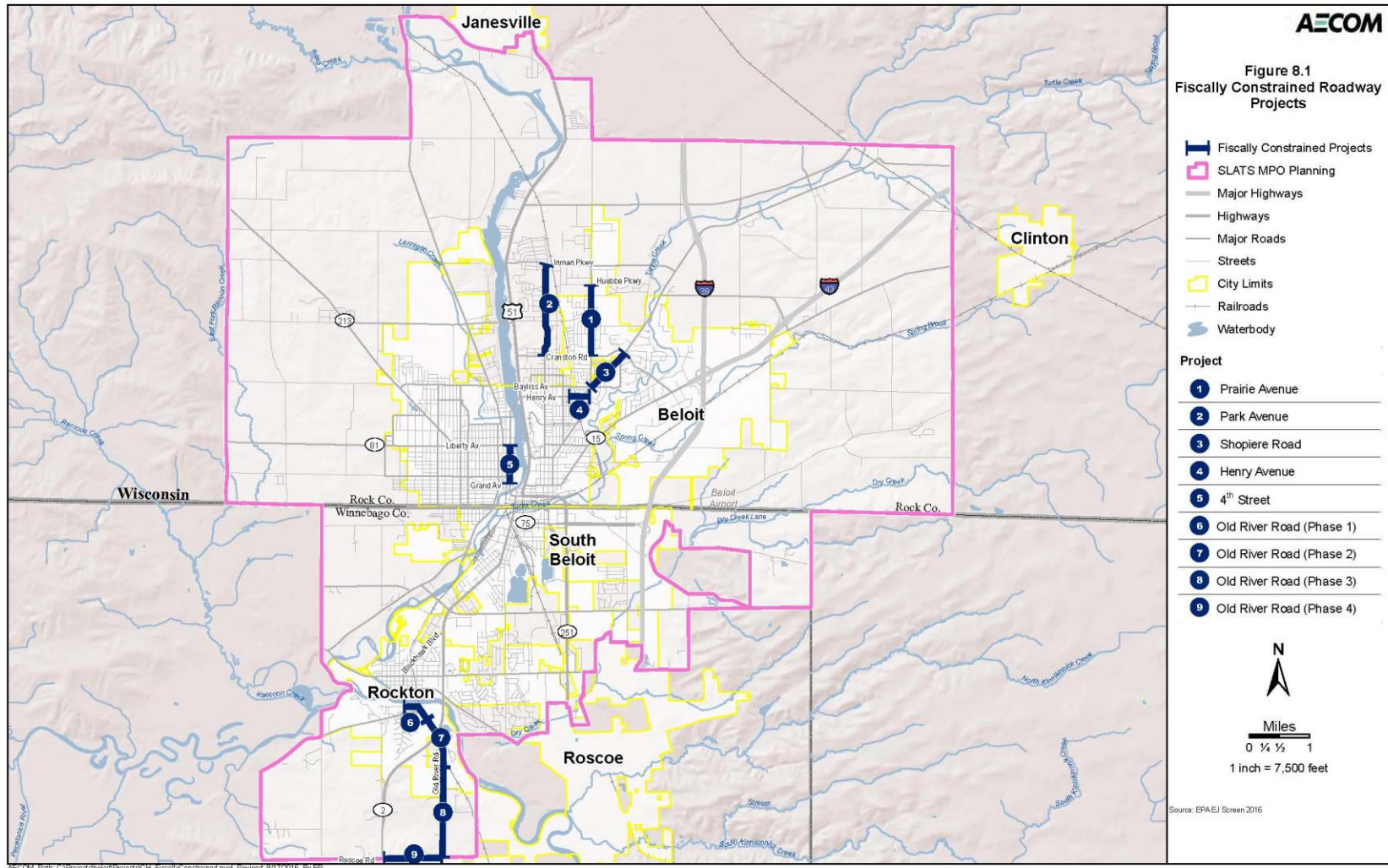


Table 8-1. Summary of Anticipated Fiscally Constrained Projects

Wisconsin Projects			Illinois Projects		
Project Reference	Approximate Program Year	Notes	Project Reference	Approximate Program Year	Notes
(1) Prairie Avenue	2018	Currently programmed in the SLATS TIP.	(6) Old River Road (Phase 1) **	2020	From approximately Ferry Street to IL 75.
(2) Park Avenue (Phase 1) *	2022	Estimate Phase 1 to cover approximately 60% of project construction.	(7) Old River Road (Phase 2) **	2024	From approximately River Hills Parkway to Rockton Athletic Fields.
(2) Park Avenue (Phase 2) *	2025	Phase 2 covers the remaining 40% of project construction.	(8) Old River Road (Phase 3) **	2028	From approximately Roscoe Road to River Hills Parkway.
(3) Shopiere Road (Phase 1) *	2029	Estimate Phase 1 to cover approximately 75% of project construction.	(9) Old River Road (Phase 4) **	2034	Roscoe Road, from approximately IL 2 to Old River Road.
(3) Shopiere Road (Phase 2) *	2031	Phase 2 covers the remaining 25% of project construction.			
(4) Henry Avenue	2033	n/a			
(5) 4 th Street	2036	Combined improvement of 4 th Street between Liberty Avenue and Grand Avenue.			

* Phasing for Park Avenue and Shopiere Road are estimated for the fiscal constraint analysis.

** Phasing for Old River Road is based on cost estimates/phasing prepared in September 2015.

NOTE: All anticipated YOE is based on historical SLATS funding and is subject to change. Furthermore, the projects utilize high level planning cost estimates and are subject to change based upon detailed project design and cost estimates.

The fiscal constraint analysis requires funds for Wisconsin and Illinois be used within the respective state. Currently, SLATS receives approximately \$380,099 per year for the Wisconsin portion of the MPA that can be used for capital improvements. This funding is generally set through 2022 and the fiscal constraint analysis assumes no annual increase in SLATS revenues until 2023 when a 2% annual increase is applied. For consistency, this methodology was applied to the Illinois funds for which SLATS currently receive approximately \$155,000 per year for capital improvements. Both Wisconsin and Illinois portions of the SLATS MPA start with a fund balance. As of 2016, there is a balance of \$380,099 on the Wisconsin side and \$132,398 on the Illinois side.

Table 8-2 and Table 8-3 summarize the projected revenues and expenditures for the Wisconsin and Illinois portions of the SLATS MPA. These tables include year of expenditure (YOE) cost estimates, which assumes an annual inflation rate (2% to 3%) to reflect increasing construction costs. Projects assume an 80/20 split (Federal/local) for Wisconsin projects and approximately a 70/30 split for Illinois projects. Table 8-4 and Table 8-5 provide additional project details along with the estimated YOE project cost.

Table 8-2. Wisconsin Projected Funding and Expenditures – Fiscally Constrained Roadway Projects

Project Funding	Federal Source	Other Local Source(s)	Available Funding	Projects							Project Cost	Remaining Balance
				Prairie Avenue	Park Avenue (Phase 1)	Park Avenue (Phase 2)	Shopiere Road (Phase 1)	Shopiere Road (Phase 2)	Henry Avenue	4th Street (Future Alternative Projects)		
2016	\$ 760,198		\$ 760,198								\$ -	\$ 760,198
2017	\$ 1,140,297		\$ 1,140,297								\$ -	\$ 1,140,297
2018	\$ 1,900,497	\$ 486,003	\$ 2,386,500	\$ 2,386,500							\$ 2,386,500	\$ -
2019	\$ 380,099		\$ 380,099								\$ -	\$ 380,099
2020	\$ 760,198		\$ 760,198								\$ -	\$ 760,198
2021	\$ 1,140,297		\$ 1,140,297								\$ -	\$ 1,140,297
2022	\$ 1,520,396	\$ 380,000	\$ 1,900,396		\$ 1,900,396						\$ 1,900,396	\$ -
2023	\$ 387,701		\$ 387,701								\$ -	\$ 387,701
2024	\$ 783,156		\$ 783,156								\$ -	\$ 783,156
2025	\$ 1,186,520	\$ 242,007	\$ 1,428,527			\$ 1,210,034					\$ 1,210,034	\$ 218,492
2026	\$ 629,924		\$ 629,924								\$ -	\$ 629,924
2027	\$ 1,049,584		\$ 1,049,584								\$ -	\$ 1,049,584
2028	\$ 1,477,637		\$ 1,477,637								\$ -	\$ 1,477,637
2029	\$ 1,914,251	\$ 475,000	\$ 2,389,251				\$ 2,389,251				\$ 2,389,251	\$ -
2030	\$ 445,347		\$ 445,347								\$ -	\$ 445,347
2031	\$ 899,600	\$ 132,711	\$ 1,032,311					\$ 663,555			\$ 663,555	\$ 368,756
2032	\$ 832,095		\$ 832,095								\$ -	\$ 832,095
2033	\$ 1,304,700	\$ 325,000	\$ 1,629,700						\$ 1,540,266		\$ 1,540,266	\$ 89,435
2034	\$ 571,492		\$ 571,492								\$ -	\$ 571,492
2035	\$ 1,063,191		\$ 1,063,191								\$ -	\$ 1,063,191
2036	\$ 1,564,723	\$ 297,189	\$ 1,861,913							\$ 1,485,947	\$ 1,485,947	\$ 375,965
2037	\$ 887,528		\$ 887,528								\$ -	\$ 887,528
2038	\$ 1,409,323		\$ 1,409,323								\$ -	\$ 1,409,323
2039	\$ 1,941,553		\$ 1,941,553								\$ -	\$ 1,941,553
2040	\$ 2,484,428		\$ 2,484,428								\$ -	\$ 2,484,428

Note: Park Avenue Phases 1 and 2 funding are split between forecasted construction years.

Inflation Rate 2016: 2.0%

2016 Funding Balance: \$380,099

Table 8-3. Illinois Projected Funding and Expenditures – Fiscally Constrained Roadway Projects

Project Funding	Federal Source	Other Local Source(s)	Available Funding	Projects				Project Cost	Remaining Balance
				Old River Road (Phase 1)	Old River Road (Phase 2)	Old River Road (Phase 3)	Old River Road (Phase 4)		
2016	\$ 287,398		\$ 287,398					\$ -	\$ 287,398
2017	\$ 442,398		\$ 442,398					\$ -	\$ 442,398
2018	\$ 597,398		\$ 597,398					\$ -	\$ 597,398
2019	\$ 752,398		\$ 752,398					\$ -	\$ 752,398
2020	\$ 907,398	\$ 418,727	\$ 1,326,125	\$ 1,326,125				\$ 1,326,125	\$ -
2021	\$ 155,000		\$ 155,000					\$ -	\$ 155,000
2022	\$ 310,000		\$ 310,000					\$ -	\$ 310,000
2023	\$ 468,100		\$ 468,100					\$ -	\$ 468,100
2024	\$ 629,362	\$ 290,058	\$ 919,420		\$ 919,420			\$ 919,420	\$ -
2025	\$ 164,487		\$ 164,487					\$ -	\$ 164,487
2026	\$ 332,264		\$ 332,264					\$ -	\$ 332,264
2027	\$ 503,397		\$ 503,397					\$ -	\$ 503,397
2028	\$ 677,952	\$ 237,739	\$ 915,691			\$ 819,789		\$ 819,789	\$ 95,902
2029	\$ 273,948		\$ 273,948					\$ -	\$ 273,948
2030	\$ 455,555		\$ 455,555					\$ -	\$ 455,555
2031	\$ 640,795		\$ 640,795					\$ -	\$ 640,795
2032	\$ 829,739		\$ 829,739					\$ -	\$ 829,739
2033	\$ 1,022,462		\$ 1,022,462					\$ -	\$ 1,022,462
2034	\$ 1,219,039	\$ 465,903	\$ 1,684,942				\$ 1,684,942	\$ 1,684,942	\$ -
2035	\$ 200,509		\$ 200,509					\$ -	\$ 200,509
2036	\$ 405,028		\$ 405,028					\$ -	\$ 405,028
2037	\$ 613,638		\$ 613,638					\$ -	\$ 613,638
2038	\$ 826,420		\$ 826,420					\$ -	\$ 826,420
2039	\$ 1,043,457		\$ 1,043,457					\$ -	\$ 1,043,457
2040	\$ 1,264,835		\$ 1,264,835					\$ -	\$ 1,264,835

Inflation Rate 2016: 3.0%
 2016 Funding Balance: \$132,398

Table 8-4. Projected Fiscally Constrained Project Cost Estimations for Wisconsin

ID No.	Roadway	Starting Terminus	Ending Terminus	Improvements	Improvement Length (In Miles)	Cost Estimate (2016)	Programmed Construction Year	Construction Year Cost Estimate
1	Prairie Avenue	Huebbe Parkway	Cranston Road	Reconstruction to incorporate Complete Street elements.	1.19	\$ 2,386,500	2019	\$ 2,532,573
2	Park Avenue (Phases 1 & 2)	Cranston Road	Inman Parkway	Reconstruction including curb, gutter and sidewalk infrastructure. Extent of scope for phases to be determined.	1.58	\$ 2,700,000	2023	\$ 3,101,451
3	Shopiere Road (Phases 1 & 2)	Prairie Avenue	Cranston Road	Reconstruction. Extent of scope for phases to be determined.	0.82	\$ 2,340,000	2028	\$ 2,967,686
4	Henry Avenue	Prairie Avenue	Royce Avenue	Reconstruction to increase multimodalism. Improving roadway, bike and pedestrian flow.	0.41	\$ 1,100,000	2030	\$ 1,451,427
5	4th Street (Future Alternative Projects 7 and 5)	Grand Avenue	Liberty Avenue	Reconfigure 4th Street to one lane in each direction between Grand Avenue and Liberty Avenue. Remove the signals at Fourth Street and Liberty Avenue and curve Fourth Street into Liberty Avenue allowing free flow movement along WI-81.	0.67	\$ 1,000,000	2032	\$ 1,372,786

Table 8-5. Projected Fiscally Constrained Project Cost Estimations for Illinois

ID No.	Roadway	Starting Terminus	Ending Terminus	Improvements	Improvement Length (In Miles)	Cost Estimate (2018)	Programmed Construction Year	Construction Year Cost Estimate
1	Old River Road (Phase 1)	IL-75	North Limit to RAF Intersection	Russell Street to be reconstructed with C&G and storm sewer Detour work on Ferry St. and River St. Resurfacing and paved shoulder from Ferry St. to Rockton Athletic Fields (RAF).	0.40	\$ 1,250,000	2020	\$ 1,353,040
2	Old River Road (Phase 2)	North Limit to RAF Intersection	River Hills Parkway	Painted channelization through 3 subdivision intersections and at the RAF. Paved shoulder from University Parkway to RAF. About 3,180 feet of painted channelization. Some culvert work.	1.25	\$ 770,000	2023	\$ 884,488
3	Old River Road (Phase 3)	River Hills Parkway	North Limit of Roscoe Road intersection	Resurfacing, aggregate shoulder work, removal and replacement/ relocation of gutterculvert repair, new guardrail installation.	1.10	\$ 610,000	2026	\$ 743,587
4	Old River Road (Phase 4)	North Limit of Roscoe Road intersection	End of IDOT Construction on IL-2	Resurfacing, aggregate shoulder work, and intersection with Old River Road. Roscoe Road work included with Old River Road to provide connection to an existing truck route for TARP funding.	1.16	\$ 1,050,000	2031	\$ 1,413,162

Note: Old River Road project base year begins in 2018. Inflation Rates: Wisconsin is 2 percent; Illinois is 3 percent.

8.2.2. Operations and Maintenance

Table 8-6 provides a breakdown of the typical annual operations and maintenance (O&M) expenses by municipalities within the SLATS MPA. As of 2016, the average annual maintenance expenses were approximately \$2,225,000. Of this total, the City of Beloit accounts for roughly half of the standard O&M activities and expenditures. The table below displays the projected annual O&M expenditures as five-year bands, the estimate for analyzing O&M costs includes a 2 percent inflation rate through 2040 as SLATS expects maintenance costs are likely to continue to increase. In total, approximately \$71 million, adjusted for inflation, will be spent through 2040 to maintain the roadway network.

Table 8-6. Roadway Operations and Maintenance Forecast

O&M Forecast	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040
O&M (Municipal)	\$ 11,578,989	\$ 12,784,140	\$ 14,114,723	\$ 15,583,795	\$ 17,205,769

The following is a list of roadway projects not currently in TIP (programmed or illustrative) on the functionally classified system (collector or higher) that will likely be in need of reconstruction within 10-15 years. These projects are based on field observation in May 2016. This is not intended to be an exhaustive nor static list. The TIP contains additional projects currently programmed and illustrative.

Some of the projects listed below are in need of immediate attention, perhaps even more so than some projects currently in the TIP. Note that most have a pavement condition or roughness index rated fair or poor. Some are rated somewhat higher because of a recent overlay, but many of those show reflective cracking and so it is anticipated their condition will continue to rapidly deteriorate. Also note that pavement condition and roughness are only a couple of factors used to determine which segments were included. Other factors included cross section, curb condition, shoulder condition, width as a function of classification, volumes, overall use and function (also whether is easily accommodates additional modes), surface material and regular maintenance to name a few.

- Colley Road from Willowbrook west to city limits in the Town of Turtle/Beloit, particularly the “S” curve near I-39/90
- Creek Road, Huebbe Parkway and in particular Murphy Woods Road in Beloit/Town of Turtle
- East Grand Avenue in Beloit particularly from Wisconsin Avenue to Broad Street
- Madison Road from Townline Avenue to Burton Street in Beloit
- Fourth Street from West Grand Avenue to Liberty Avenue in Beloit
- WI-81 from Fourth Street west to the city limits In Beloit
- Milwaukee Road from Lee Lane to bridge over Turtle Creek in Beloit
- Manchester Street from Manchester Road to Dearborn Street in Beloit
- Cranston Road from Prairie Avenue to US-51 in Beloit/Town of Beloit
- Elmwood Avenue from US-51 to Park Avenue in the Town of Beloit
- US-51 in Town of Beloit
- Newark Road bridge repairs over Rock River in the Town of Beloit
- Townline Road from Rood Avenue to Liberty Avenue in South Beloit/Beloit, particularly in Beloit

- Park Avenue from Broad Street to the state line in Beloit and S. Park Avenue from Gardner to Montgomery Avenue in South Beloit
- Gardner Street from IL-251 to IL-2 in South Beloit
- Eastern Avenue in South Beloit
- Rood Avenue from S. Moore to Townline Avenue in South Beloit
- IL-251 in Rockton/South Beloit
- Rockton Road from S. Bluff to Rock River in Rockton
- Center Street from Rockton Road to Mechanic Street in Rockton
- Salem Street from Union Street to Adams Street in Rockton

8.2.3. Illustrative Projects (Unconstrained Vision)

Figure 8-2 displays the illustrative projects. Illustrative projects represent projects for which funding has not been identified, or for projects that are more conceptual and likely not needed before 2040 (such as an outer loop connection). These projects remain as illustrative projects, as shown with the fiscally constrained projects, to help convey a long-term transportation vision for the SLATS MPA.

The outer loop concept, on the west side of the MPA, could potentially benefit long-term growth and help support future year development. With increases in growth anticipated through the year 2040, SLATS will continue to monitor development trends within the region to determine if additional analysis of this facility is warranted. The combination of roadway segments that form an outer loop connection could enhance north-south connectivity and strengthen the overall functional classification system within the region. However, it is well documented that environmental challenges are present along the southern portion of the outer loop which would require significant detailed analysis and engineering to determine an appropriate solution to avoid wetland areas or other sensitive locations. Ultimately, this project will not be addressed until future transportation needs warrant further analysis. SLATS will reevaluate the outer loop concept as part of the next LRTP update to address future growth requirements and to determine if this corridor should be evaluated further. Finally, it is important to stress that the outer loop concept, as displayed in the unconstrained vision, does not represent a final alignment. The alignment is only shown as a conceptual improvement for planning purposes.

The CTH-BT extension, and the eastern connector are projects that would enhance connectivity on the east side of the SLATS MPA. CTH-BT would provide an additional north-south connection west of I-39/90 and would improve local traffic flow. The WisDOT model results show that this facility could potentially pull some local traffic off I-39/90. The eastern loop project, which would be located east of I-39/90 would also provide an important north-south connection. This project would also pull local traffic off I-39/90 and help develop the roadway functional classification east of the interstate. This project is seen as longer-term project with timing likely driven by the rate of development as it grows east and northeast along the I-43 corridor.

8.2.4. Transit

Transit service relies on consistent, secure funding sources and sufficient revenue to support the continuing operation and potential improvements of public transportation services. As of 2016, BTS currently receives \$2,048,122 annually and SMTD receives \$823,974 annually in revenue from the Urbanized Area Formula Funding program (49 U.S.C. 5307). This Federal, State and local transit funding is the primary mechanism to drive funding for BTS and SMTD’s operations, capital improvements and labor. Based on funding trends forecasted within the 2016-2020 TIP, Table 8-7 summarizes transit revenue forecasted to a horizon year of 2040.

Table 8-7. Transit Revenue Forecast

O&M Forecast	Beloit Transit System				Stateline Mass Transit District			
	Federal	State	Local	Total	Federal	State	Local	Total
2016	\$ 630,049	\$ 489,488	\$ 880,849	\$2,000,386	\$ 303,754	\$ 442,970	\$ 77,250	\$ 823,974
2017	\$ 636,349	\$ 491,214	\$ 918,831	\$2,046,395	\$ 306,792	\$ 487,267	\$ 77,250	\$ 871,309
2018	\$ 642,713	\$ 510,785	\$ 939,964	\$2,093,462	\$ 309,859	\$ 535,994	\$ 77,250	\$ 923,103
2019	\$ 649,140	\$ 530,888	\$ 961,584	\$2,141,612	\$ 312,958	\$ 589,593	\$ 77,250	\$ 979,801
2020	\$ 655,632	\$ 551,537	\$ 983,700	\$2,190,869	\$ 316,088	\$ 648,552	\$ 77,250	\$1,041,890
2021	\$ 662,188	\$ 572,746	\$1,006,325	\$2,241,259	\$ 319,249	\$ 713,408	\$ 77,250	\$1,109,906
2022	\$ 668,810	\$ 594,527	\$1,029,471	\$2,292,808	\$ 322,441	\$ 784,748	\$ 77,250	\$1,184,439
2023	\$ 675,498	\$ 616,896	\$1,053,148	\$2,345,542	\$ 325,665	\$ 863,223	\$ 77,250	\$1,266,139
2024	\$ 682,253	\$ 639,866	\$1,077,371	\$2,399,490	\$ 328,922	\$ 949,546	\$ 77,250	\$1,355,718
2025	\$ 689,075	\$ 663,452	\$1,102,150	\$2,454,678	\$ 332,211	\$1,044,500	\$ 77,250	\$1,453,961
2026	\$ 695,966	\$ 687,670	\$1,127,500	\$2,511,135	\$ 335,533	\$1,148,950	\$ 77,250	\$1,561,733
2027	\$ 702,926	\$ 712,534	\$1,153,432	\$2,568,892	\$ 338,889	\$1,263,845	\$ 77,250	\$1,679,984
2028	\$ 709,955	\$ 738,060	\$1,179,961	\$2,627,976	\$ 342,278	\$1,390,230	\$ 77,250	\$1,809,757
2029	\$ 717,055	\$ 764,265	\$1,207,100	\$2,688,420	\$ 345,700	\$1,529,253	\$ 77,250	\$1,952,203
2030	\$ 724,225	\$ 791,164	\$1,234,864	\$2,750,253	\$ 349,157	\$1,682,178	\$ 77,250	\$2,108,585
2031	\$ 731,467	\$ 818,776	\$1,263,266	\$2,813,509	\$ 352,649	\$1,850,396	\$ 77,250	\$2,280,295
2032	\$ 738,782	\$ 847,117	\$1,292,321	\$2,878,220	\$ 356,175	\$2,035,435	\$ 77,250	\$2,468,861
2033	\$ 746,170	\$ 876,205	\$1,322,044	\$2,944,419	\$ 359,737	\$2,238,979	\$ 77,250	\$2,675,966
2034	\$ 753,632	\$ 906,058	\$1,352,451	\$3,012,140	\$ 363,335	\$2,462,877	\$ 77,250	\$2,903,461
2035	\$ 761,168	\$ 936,694	\$1,383,557	\$3,081,420	\$ 366,968	\$2,709,164	\$ 77,250	\$3,153,382
2036	\$ 768,780	\$ 968,134	\$1,415,379	\$3,152,292	\$ 370,638	\$2,980,081	\$ 77,250	\$3,427,968
2037	\$ 776,467	\$1,000,395	\$1,447,933	\$3,224,795	\$ 374,344	\$3,278,089	\$ 77,250	\$3,729,683
2038	\$ 784,232	\$1,033,498	\$1,481,235	\$3,298,965	\$ 378,087	\$3,605,898	\$ 77,250	\$4,061,235
2039	\$ 792,074	\$1,067,463	\$1,515,304	\$3,374,842	\$ 381,868	\$3,966,487	\$ 77,250	\$4,425,606
2040	\$ 799,995	\$1,102,312	\$1,550,156	\$3,452,463	\$ 385,687	\$4,363,136	\$ 77,250	\$4,826,073

Inflation Rate: 1.0%;
WisDOT Inflation Rate: 2.3%

Typically, transit analysis is based on the assumption that revenues and expenditures must balance on an annual basis. If the transit agency costs exceed revenues than service changes, such as eliminating routes or reducing hours of service, must be implemented to reduce costs to a sustainable service level.

Capital improvements must also factor into the transit financial analysis. In many cases, the primary fiscal challenge for a transit agency is addressing the long-term capital needs. The major component of capital asset management deals primarily with fleet maintenance and overall vehicle replacement schedule. Allocating sufficient funds to replace aging vehicles is usually a fiscal challenge to transit operators.

The typical useful life of a transit vehicle (bus) is considered to be 12 years, or 500,000 miles. Many transit agencies across the country struggle finding sufficient funding to replace vehicles according to this schedule. Currently, four of the 12 BTS vehicles exceed these threshold(s). Table 8-8 represents current capital costs associated with a BTS and SMTD fleet replacement schedule based on the 2016-2020 TIP.

Table 8-8. Transit Capital Improvements – Vehicle Replacement (2016-2020)

Capital Forecast (Vehicle Replacement)	2016	2017	2018	2019	2020
BTS					
Vehicles Replaced	1		3		
Federal	\$ 354,800		\$ 1,181,600		
Local	\$ 88,700		\$ 295,400		
Total	\$ 443,500	\$ -	\$ 1,477,000	\$ -	\$ -
SMTD					
Vehicles Replaced	1		1	1	
Federal	\$ 352,300	\$ 72,600	\$ 350,000	\$ 350,000	
Total	\$ 352,300	\$ 72,600	\$ 350,000	\$ 350,000	\$ -
Total (BTS/SMTD)	\$ 795,800	\$ 72,600	\$ 1,827,000	\$ 350,000	

Source: 2016-2020 Transportation Improvement Program

Note: SMTD FY2017 reflects expenditures related to bus-related equipment.

Based on the TIP, a vehicle replacement schedule can be forecasted to determine future fleet expenditures. Using 2016-2020 vehicle assumptions and applying a 2 percent inflation rate annually beyond the TIP years of 2016-2020, BTS and SMTD vehicle schedules can be forecasted. Table 8-9 represents BTS and SMTD forecasted fleet replacement schedule to the LRTP horizon year of 2040.

Table 8-9. Transit Capital Improvements – Vehicle Replacement (2016-2040)

Capital Forecast (Vehicle Replacement)	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040
BTS					
Vehicles Replaced	4	4	4	4	4
Federal	\$ 1,536,400	\$ 1,567,128	\$ 1,598,471	\$ 1,630,440	\$ 1,663,049
Local	\$ 384,100	\$ 391,782	\$ 399,618	\$ 407,610	\$ 415,762
Total	\$ 1,920,500	\$ 1,958,910	\$ 1,998,088	\$ 2,038,050	\$ 2,078,811
SMTD					
Vehicles Replaced	3	3	3	3	3
Federal	\$ 1,124,900	\$ 1,147,398	\$ 1,170,346	\$ 1,193,753	\$ 1,217,628
Total	\$ 1,124,900	\$ 1,147,398	\$ 1,170,346	\$ 1,193,753	\$ 1,217,628
Total (BTS/SMTD)	\$ 3,045,400	\$ 3,106,308	\$ 3,168,434	\$ 3,231,803	\$ 3,296,439

Based on the current vehicle replacement schedule, BTS will need to spend an average of roughly \$2.0 million every five years and SMTD will need to spend an average of roughly \$1.2 million every five years to keep pace with the their fleet replacement schedule. This may be a challenge given the historical capital expenditures that have been spent on vehicle replacements.

If the BTS wants to eventually expand service, or add new routes, this will impact the overall cost projections. Other projects that could impact the overall transit operations would be the extension of fixed-route service to connect to Rockford, or into the current SMTD area. However, as previously stated, this currently has some logistic challenges given the bi-state issues.

8.2.5. Non-Motorized

SLATS will be conducting a detailed bicycle planning study in 2017 which will include an updated list of project priorities and cost estimates. SLATS will utilize the findings of this study to update the non-motorize section of the LRTP.

8.3. Funding Sources

8.3.1. Federal Funding Sources

FAST Act has consolidated dozens of programs into a smaller list of seven core formula programs, listed below:

- National Highway Performance Program (NHPP)
- Surface Transportation Program (STP)
- Highway Safety Improvement Program (HSIP)
- Railway-Highway Crossings (set aside from HSIP)
- Metropolitan Planning (MP)
- Transportation Alternatives (TA)

Four Federal programs organized under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) are listed below:

- **Highway Bridge Program (HBP)** - HBP Funds are provided to replace or rehabilitate structurally deficient bridges on the transportation network for the safe and expeditious transportation of the general public. The funds are allotted to State districts based on a formula involving the square footage of eligible bridges. Local governments are required to provide a 20 percent match.
- **Surface Transportation Urban (STU)** - This category is for transportation needs within urbanized areas with populations less than 200,000 and greater than 5,000. Funding is 80 percent Federal and 20 percent State and local. STU money is allotted to MPOs for transportation projects such as road construction, reconstruction, and bridge rehabilitation. Ten percent of all STU funds must be used for safety projects, which can be used for rail crossing improvements, signals, and other accident-reducing methods of transportation improvements.
- **Surface Transportation Rural (STR)** - This category is for transportation needs outside urbanized areas with populations less than 200,000 and greater than 5,000. Funding is 80 percent federal and 20 percent state and local. STR money is made available for transportation projects such as road construction, reconstruction and bridge rehabilitation in rural areas.
- **Surface Transportation Enhancements (STE)** - Ten percent of STU funding is available for enhancements such as: bike and pedestrian facilities, preservation of historic sites, scenic beautification, and other transportation related projects. The MPO must submit a letter stating their support of the project, identification of funding, and ensuring the project is consistent with the long range transportation plan.

Under FAST Act, the HBP is now covered under the NHPP, while the STU, STR, and STE programs are now covered under the new STP program. However, the activities and reserved uses described in the bullet points above are still applicable under the new program structure.

There are several other federal funding sources that SLATS may qualify for to receive additional funding based on the specific conditions of individual projects. Moreover, Federal programs offer more flexibility for states to allocate more or less funding for any one specific program to meet the unique needs of that state's transportation system. Specifically, states can to move up to 50 percent of funds between programs (with some restrictions).

The STP and TA programs are particularly flexible with respect to eligible activities and projects. To name a few examples, these funds may be used as capital funding for public transportation capital improvements, carpool and vanpool projects, fringe and corridor parking facilities, bicycle and

pedestrian facilities, and intercity or intra-city bus terminals and bus facilities. These funds can also be used for surface transportation planning activities, wetland mitigation, transit research and development, and environmental analysis. Other eligible projects under STP include transit safety improvements and most transportation control measures.

8.3.2. State Funding Sources

State of Wisconsin (WisDOT) and Illinois (IDOT) funding are administered by the State DOT's. The following are among the most common forms of funding:

- **Motor Fuel Tax (MFT)**
 - In Wisconsin, the MFT and vehicle registration fee are the primary state revenue sources for transportation. The gas tax is Wisconsin's largest source of transportation funding making up 52 percent of state transportation revenues and approximately 30 percent of total transportation revenues. The state currently collects 32.9 cents per gallon, of which 30.9 cents goes to directly the Transportation Fund.
 - In Illinois, the MFT is collected on each gallon of gas that is purchased. The State of Illinois levies a tax of 19.0 cents per gallon of gasoline and 21.5 cents per gallon of diesel fuel for operating motor vehicles and boats. The tax is included in the selling price so the motor fuel tax is always paid by the purchaser. The tax is collected by the Department of Revenue and distributed to local governments. To qualify for funding, municipalities must be incorporated. Municipalities receive their funding based on population. Counties receive their allotment based on total vehicles registered to the county. Townships must levy a 0.08 percent road and bridge tax to be eligible to receive the money. Township allocations are based on total township road mileage.
- **Truck Access Routes** - Truck access routes have a special funding category available for designated truck routes which may receive up to \$30,000 per lane-mile and \$15,000 per intersection for the improvement of access.
- **Illinois Commerce Commission (ICC)** - The ICC provides special funding for rail crossing improvements that are at grade with a street. This funding can be used for new rail crossings or upgrading existing rail crossings.
- **Economic Development Funds** - Economic Development funds may be used for transportation projects if the new or improved facility will increase employment. This program can be used for industrial, commercial, and recreational projects if the project is necessary.

Likewise there are numerous other funding sources that may be available. This LRTP did not take into account funds which cannot be reasonably expected to be available for the general maintenance of existing infrastructure or construction of new roads or trails. The available funding sources also do not take into account all funds that may be received by a particular entity in any given year. For example,

some communities use all of the MFT funding for maintenance, while others use it for what they classify as “new construction.” This LRTP requires less reliance on funding sources that cannot be reasonably expected to be available.

8.4. Implementation

The following are general issues that would support the overall LRTP implementation and strengthen regional planning efforts within the SLATS MPA. SLATS should consider, or address, these items following the adoption of the LRTP to determine what, if any, changes should be incorporated as part of the next LRTP update, or during intermediate planning activities.

- 1. Expand the SLATS Metropolitan Planning Area (MPA) Boundary** – several future year issues, primarily dealing with regional transit service and freight/passenger rail, raise the potential for the need to expand the SLATS MPA boundary. Currently, the eastern boundary of the MPA stops approximately 5 to 7 miles west of the Rock-Walworth County line. In developing the LRTP, it was determined that some of the long-term mobility and transportation needs could potentially extend beyond the current MPA boundary. Furthermore, the extension of the MPA boundary east to the Walworth County line would eliminate the gap between the SLATS MPA and the Southeastern Wisconsin Regional Planning Commission (SEWRPC) MPA which begins at the Walworth County line. In addition to transit and freight issues, the expanded MPA boundary would be beneficial to consider when SLATS undertakes a bicycle plan update as there could be opportunities to connect to a much larger regional and statewide bicycle trail network.

Another item that SLATS should continue to monitor is the impact of the Notice of Proposed Rulemaking (NPRM) regarding *Metropolitan Planning Organization Coordination and Planning Area Reform* which was issued on June 27, 2016. The FHWA and FTA have proposed revisions to the transportation planning regulations to promote more effective regional planning by States and MPOs. The goal of the proposed revisions is to result in unified planning products for each urbanized area (UZA). While a final rule will not be available prior to the LRTP approval, SLATS will continue to monitor the potential impacts related to this proposed reform. Like many mid-size MPO’s across the country, SLATS has concerns about the potential impacts this proposed rule could have on future regional and local transportation decisions and investments. To a large extent, the final rule on this matter will dictate future MPA boundary matters, including the potential expansion of the SLATS MPA.

- 2. On-going Coordination with WisDOT and IDOT to Develop Performance Measures** – beginning with MAP-21, and continuing on with FAST Act, there has been a movement to develop performance measures that will be used to evaluate progress toward implementing a region’s vision. At the time this LRTP was developed, the state DOT’s were in the process of defining performance measures which would eventually be coordinated with MPO’s who would also adopt performance measures consistent with the DOT’s. As such, SLATS should continue to monitor on-going activity related to the development of performance measures and as appropriate coordinate with the respective DOT’s to develop consistent measures. Furthermore,

given the bi-state nature of the SLATS MPA, it is important that consistent measures be developed between the two state DOT's.

- 3. Clean-up Existing Data Sets and Identify Future Data Needs** – the development of the 2040 LRTP highlighted several existing gaps, or deficiencies, with existing and future year data sets. Seeing how greater emphasis will be placed on performance measures, and the actual need to use data to “measure” success, will require SLATS to use more accurate data sets. Following the adoption of the LRTP, SLATS should review their existing data sets, and identify a plan to better obtain and maintain data for the SLATS MPA. Seeing how the state DOT's will be supporting performance measures with data collection efforts, SLATS will be proactive in reaching out to the respective DOT's to discuss data collection issues.
- 4. Amend the LRTP to include the Updated Bicycle Plan** – SLATS intends to update the regional bicycle plan beginning in 2017. When this planning effort is complete, SLATS should incorporate the bicycle plan recommendations into the 2040 LRTP. Given the fact that this planning effort would be happening in 2017, there was not a lot of effort dedicated to updating the non-motorized planning element of the LRTP, seeing how a comprehensive study would soon follow the adoption of the LRTP. SLATS intends to amend the LRTP accordingly to include the updated bicycle plan recommendations once they become available.
- 5. Focus on Corridor Preservation** – the LRTP fiscally unconstrained vision includes a conceptual roadway connection that would result in an outer loop that would connect the west and north side of the MPA to existing roadways to the south and east. Ultimately, the concept would result in a comprehensive and connected roadway network that would strengthen the functional classification, and the overall regional connectivity within the MPA. This concept has been previously discussed as parts of other long range planning efforts and was considered during this LRTP development. The LRTP recognizes that this type of improvement is currently not needed; however, SLATS believes it is in the best interest of the region to continue to keep this project as part of the unconstrained vision. This should not be misconstrued to mean that SLATS supports the construction of the outer loop, instead it means that SLATS acknowledges the potential benefits that this type of project could offer and as such it is important to consider this concept as part of a broader transportation and land use coordination discussion. Ultimately, SLATS will place a higher level of scrutiny on projects that could potentially conflict with a future outer loop, or similar connections.

- 6. Focus on Improving Freight Efficiencies** – the projected growth in regional and national freight movement place the SLATS MPA in a unique position. As stated in chapter 7, there are several freight assets in close proximity to the SLATS MPA and as such the area stands to potentially benefit from an economic development standpoint. However, if truck and rail are not adequately accommodated, growing freight movements could negatively impact traffic operations, safety for the traveling public, and quality of life.

SLATS is committed to improving freight efficiencies within the region. This effort should begin with a review of the current truck route network within the MPA. As previously stated in this plan, there are opportunities to enhance overall truck route connectivity by reducing gaps and making the network more consistent across jurisdictional boundaries. To support this effort, SLATS might consider conducting a license plate trace survey that would provide information about current truck patterns within the MPA. Finally, consistent with implementation issue #5, SLATS should continue to evaluate the feasibility of the outer loop concept in future LRTP updates. The outer loop could potentially, at some point in the future, provide a viable truck route alternative that could help alleviate the negative aspects of heavy truck traffic within the region.

Chapter 9: Environmental Justice and Environmental Mitigation Analysis

The Federal Highway Administration (FHWA) and the Federal Transit Authority (FTA) have set forth requirements for compliance with Title VI provisions of the Civil Rights Act of 1964. The purpose provide recipients of Federal funding with guidance and instructions necessary to carry out U.S. Department of Transportation (USDOT) Title VI regulations (49 CFR part 21) and to integrate into their programs and activities with considerations expressed in the USDOT’s “Policy Guidance Concerning Recipient’s Responsibilities to Limited English Proficient (“LEP”) Persons (70FR 74087, December 14, 2005).” FHWA and FTA require environmental justice considerations in compliance with Title VI of the Civil Rights Act (42 U.S.C. 2000-1) states “No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program, or activity receiving Federal financial assistance.”

The Executive Order on Environmental Justice further amplifies Title VI by providing that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”

FHWA and FTA establish policy guidelines that focus on the following:

- **Inclusion** - Ensure that all communities that could potentially be affected by the transportation decision making process have the opportunity to participate and be represented.
- **Guarantee of Benefits** - Prevent the denial, reduction, or significant delay of the receipt of benefits to minority and low-income populations.

Environmental Justice (EJ) analysis evaluates the location of the recommended transportation improvements in relation to EJ populations. EJ populations, including minority and low income populations, are defined within the SLATS MPA using 2010 U.S. Census tract data.

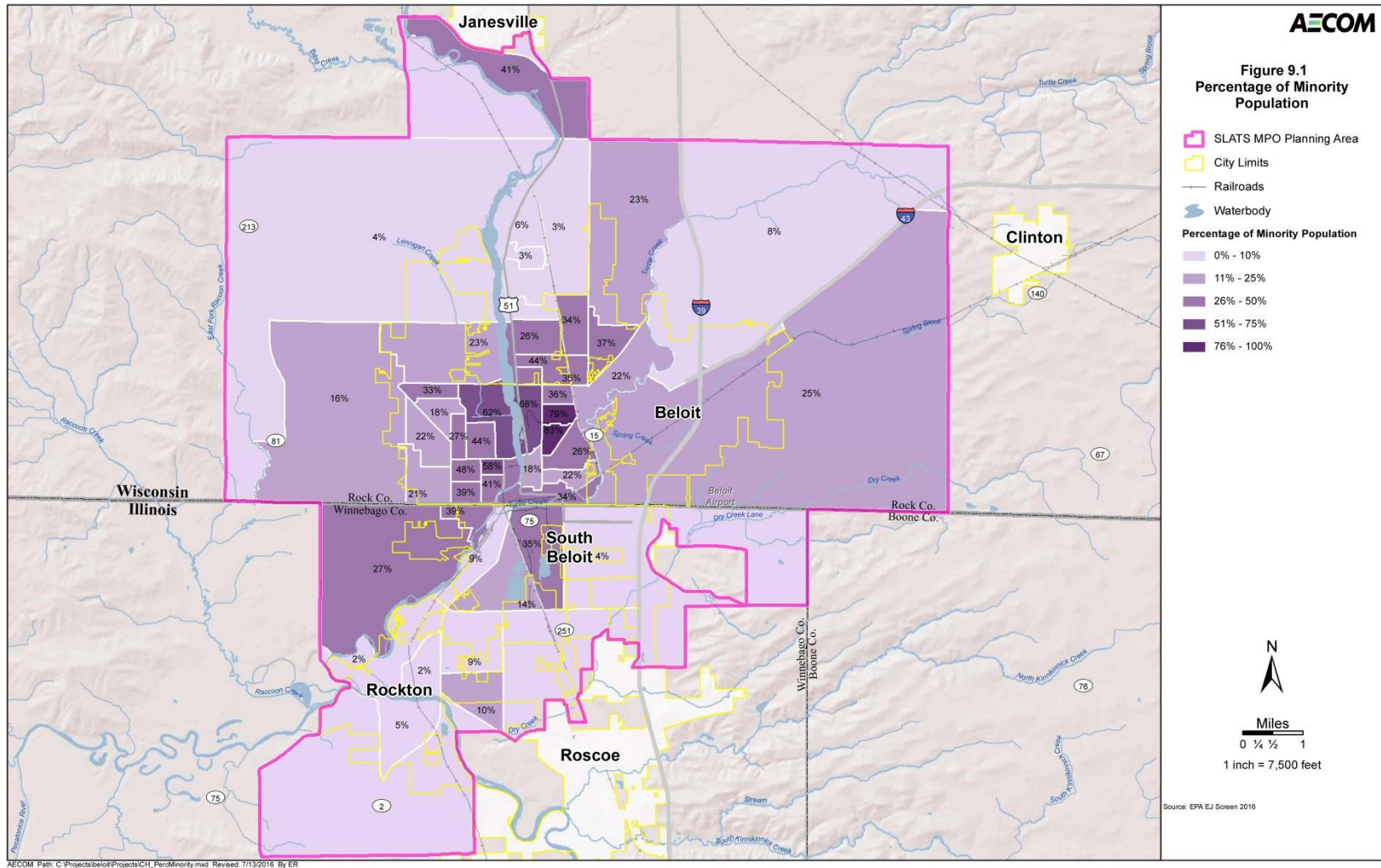
9.1. Environmental Justice Analysis

9.1.1. Minority Population

Minority population is defined as any identifiable group of minority persons who live in geographic proximity. Additionally, minority populations can include geographically dispersed or transient persons who would be similarly affected by a proposed transportation improvement. Minority persons include those who are American Indian, Alaska Native, Asian, Black or African American, Hispanic or Latino, and Native Hawaiian and other Pacific Islander.

According to Figure 9-1, minority population in the SLATS MPA are concentrated within the City of Beloit census tracts. Areas in northern Beloit along the Rock River typically display 50 percent or higher minority population. The two census tracts within Henry Avenue (north), Park Avenue (west), White Avenue (south), and Prairie Avenue (east) display the highest percentage of minorities within the MPA at over 75 percent.

Figure 9-1. Percentage of Minority Population



9.1.2. Low-Income Population

Low-income populations were defined by the median household income. For the purpose of this analysis, low-income is defined as the number or percent of a block group's population in households where the household income is less than or equal to twice the federal poverty level. Consistent with federal planning guidelines, the use of the median household income provides greater coverage to identify potential groups which might be adversely affected by the transportation improvements.

As shown in Figure 9-2, low-income population within the SLATS MPA is concentrated in the central areas of the Cities of Beloit and South Beloit, with census tracts commonly registering at more than 50 percent low-income population. At 77 percent of the population, the census tract with the highest percentage of low-income residents is in South Beloit. The borders surrounding this census tract include Stateline Road (north), IL 2/railroad tracks (west), Prairie Hill Road (south), and IL-251 (east).

9.1.3. EJ Analysis for Fiscally Constrained Projects

Figure 9-4 and Figure 9-5 display fiscally constrained projects in relation to minority and low-income areas within the SLATS MPA. Table 9-1 provides a summary of minority and low income populations within a one-half mile buffer of the fiscally constrained projects.

Table 9-1. Minority and Low Income Populations within ½ Mile of Fiscally Constrained Projects

Project	Minority Population	Percent of Total Population	Low Income Population	Percent of Total Population	Total Population
(1)-Prairie Avenue	794	33.5%	1,032	43.6%	2,367
(2)-Park Avenue	213	14.8%	435	30.2%	1,443
(3)-Shopiere Road	775	31.0%	940	37.7%	2,496
(4)-Henry Avenue	645	39.4%	848	51.8%	1,638
(5)-4 th Street	1,355	42.2%	2,076	64.7%	3,208
(6)-Old River Road (Phase 1)	36	4.0%	298	32.7%	912
(7)-Old River Road (Phase 2)	29	4.3%	170	25.3%	670
(8)-Old River Road (Phase 3)	20	7.7%	45	16.8%	267
(9)-Old River Road (Phase 4)	21	8.5%	51	20.6%	249

Source: AECOM, GIS

Generally speaking, all of the fiscally constrained projects on the Wisconsin portion of the SLATS MPA are located in EJ areas with high percentages of low income and minority populations. With the exception of Park Avenue, the remaining projects in Wisconsin fall within areas that are greater than 31 percent minority population. All of the Wisconsin projects fall within low income areas that are greater than 30 percent. In fact, the 4th Street project falls within an area that is estimated to be nearly 65 percent low income (45 percent minority population). In the case of Prairie Avenue and 4th Street, these projects would include road diets that would slow traffic and potentially provide for the accommodation of on-street bicycle lanes. The road diets also help make these roadway facilities more pedestrian friendly, and ultimate help enhance overall quality of life.

The Illinois fiscally constrained project, Old River Road consisting of four phases, falls within an area with relatively low minority population ranging between approximately 4 percent and 8 percent. These projects fall into areas of low income ranging between approximately 17 percent and 33 percent.

The MPA's minority population, including the Hispanic population, represents 25.2 percent of the total SLATS MPA population. The minority population within the buffer area of the Wisconsin fiscally constrained projects, with the exception of Park Avenue, exceeds the total minority population for the MPA. The Illinois fiscally constrained projects fall within areas that have a lower percent of minority population as compared to the overall MPA minority population percentage. Overall, the fiscally constrained projects total over \$16.3 million dollars of investment (based on YOE cost estimates) through the year 2040 for the SLATS MPA. Of this total, nearly 60 percent is being invested in projects that are located within areas of the MPA that have a minority population percentage that exceeds the

total minority population for the entire SLATS MPA. In general, this analysis demonstrates that the SLATS transportation investments do not have an adverse impact on the SLATS minority population. In fact, the proposed fiscally constrained transportation projects generally have complete street elements that enhance non-motorized connectivity and improve accessibility to public transportation facilities. As such, these improvements will have a positive impact on the EJ populations by enhancing access to alternative transportation modes. Figure 9-3 provides project expenditures by state in areas where the minority population percentage is greater than total minimum population percentage for the MPA.

Figure 9-3. Project Expenditures in Minority Areas by State

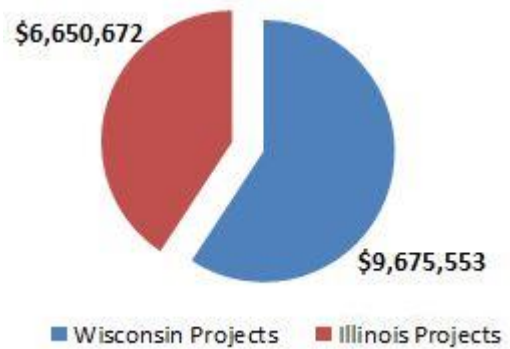


Figure 9-4. Minority Areas with Fiscally Constrained Projects

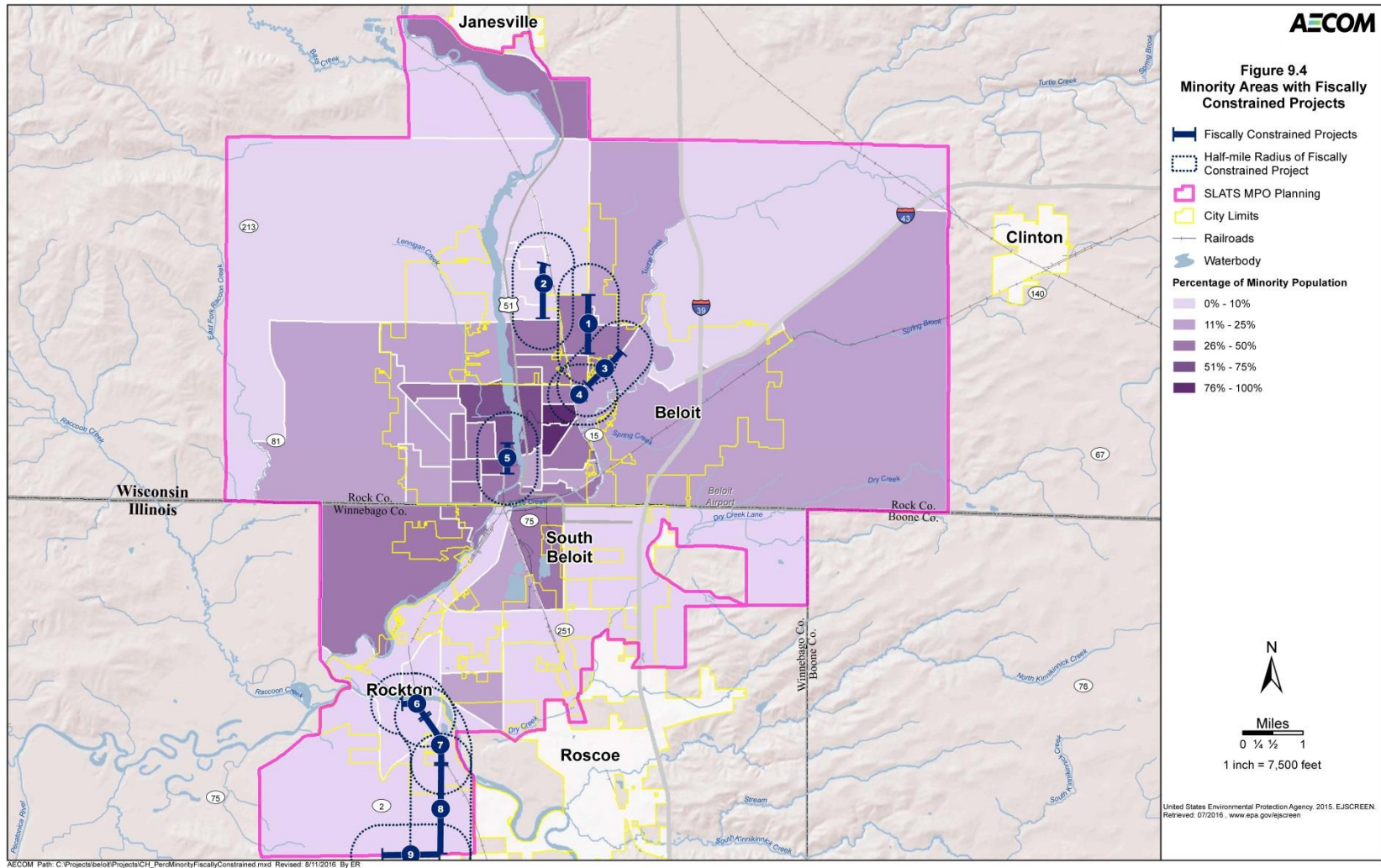
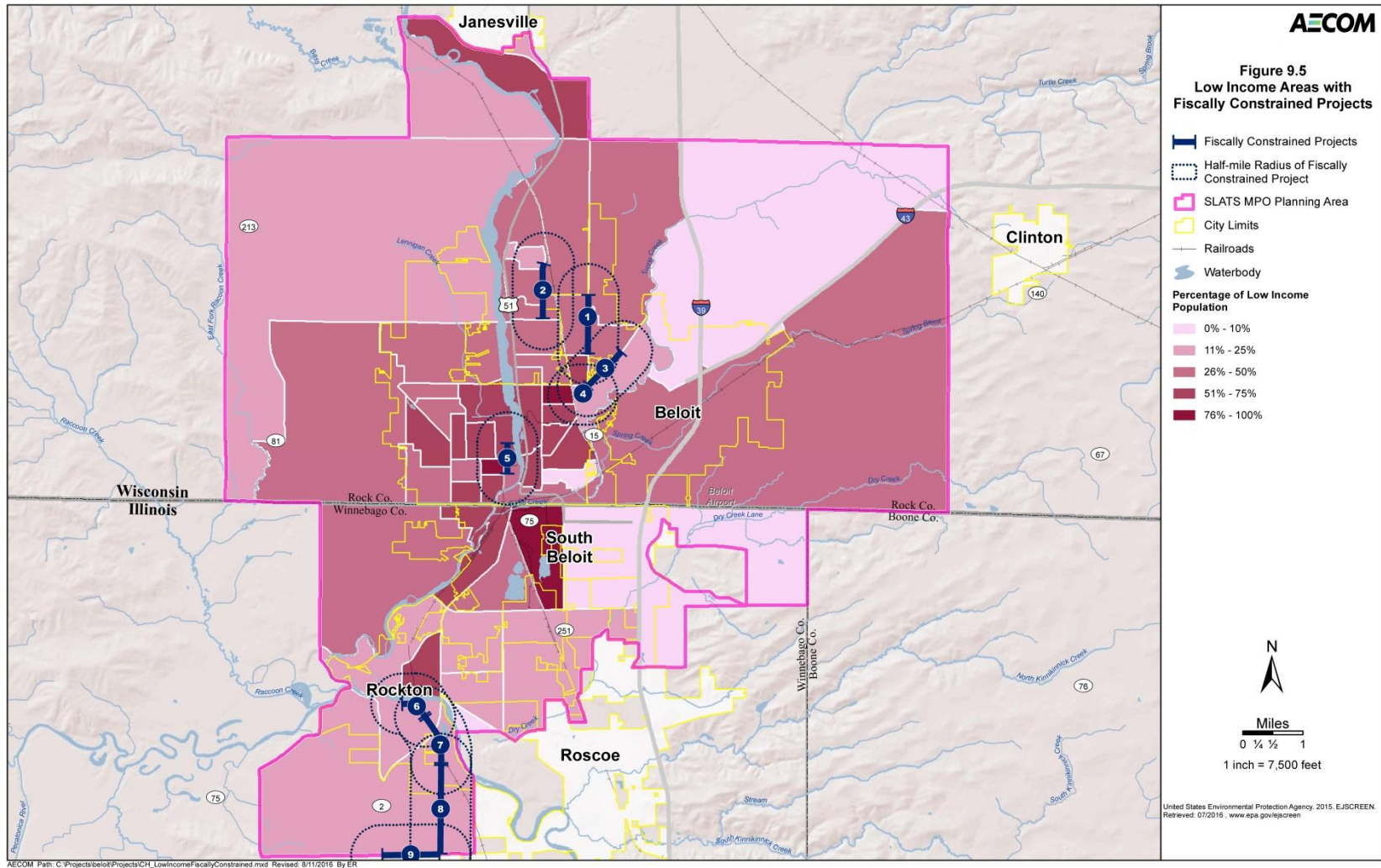


Figure 9-5. Low Income Areas with Fiscally Constrained Projects



9.2. Environmental Mitigation

The Federal government, through FAST Act and the mandates of various departments and bureaus, requires that environmental impacts and mitigation be an integral part of the planning processes, which includes the LRTP. WisDOT and IDOT administers all projects receiving federal funds, whether under state or local jurisdiction and ensures that projects adhere to all applicable state and federal environmental laws. Since most transportation projects require a plan to address environmental impacts, State DOTs and SLATS will continue to incorporate environmental mitigation policies and strategies from planning and conceptual design through construction. SLATS will continue to foster positive relationships with environmental groups, government agencies and the public at large when discussing infrastructure projects and has worked to make it part of the transportation planning process. A list of social services groups and environmental agencies that were contacted as part of this LRTP update is available in Appendix C.

Figure 9-6 displays fiscally constrained projects overlaid over environmental natural resources. The natural resources include wetlands, floodplains, special floodways, and other water features. Table 9-2 provides environmental mitigation areas within one-half mile of each fiscally constrained project.

Table 9-2. Environmental Mitigation Areas within ½ Mile of Fiscally Constrained Projects

Project	Total Acres	Wetlands (Acres)	Percent Wetlands	100 Year Floodplains (Yes/No)	Special Floodway (Yes/No)	Outstanding Resource Waters (Miles)
(1)-Prairie Avenue	1,145	0	0.0%	No	No	0.0
(2)-Park Avenue	1,104	2	0.2%	No	No	0.0
(3)-Shopiere Road	1,026	78	7.6%	Yes	Yes	1.1
(4)-Henry Avenue	602	74	12.3%	Yes	Yes	1.1
(5)-4 th Street	843	101	11.9%	Yes	Yes	0.0
(6)-Old River Road (Phase 1)	821	131	16.0%	Yes	Yes	0.0
(7)-Old River Road (Phase 2)	1,050	150	14.3%	Yes	Yes	0.0
(8)-Old River Road (Phase 3)	1,463	64	4.4%	Yes	Yes	0.0
(9)-Old River Road (Phase 4)	1,132	29	2.5%	Yes	No	0.0

Source: United States Environmental Protection Agency. 2015. EJSSCREEN.

Generally speaking, the LRTP environmental mitigation analysis is intended to provide a high-level assessment of possible environmental issues that could arise as a result of the fiscally constrained projects. It is not intended to be a detailed mitigation plan. Overall, nearly all of the fiscally constrained projects would impact some wetland or floodplain areas within the SLATS MPA. The two exceptions are Prairie Avenue and Park Avenue which would not impact any of the identified environmental features. Of the remaining seven projects, all would potentially fall within the one-half mile buffer of the projects. However, it is anticipated that the majority of projects would not have any significant environmental impacts. The two fiscally constrained projects that could potentially need further analysis to identify potential impacts are the 4th Street project (on the Wisconsin side of the SLATS MPA) and the northern segment of the Old River Road Project (phase 1) which would fall on the Illinois side of the SLATS MPA.

9.3. Security

A natural hazards mitigation objective fulfills federal planning requirements for mitigation funding programs and provides the SLATS MPA and its associated municipalities with an organized approach for reducing the impacts of natural hazards on people and property. The plan specifically addresses eight major natural hazards, listed below by propensity to cause property damage:

- Overbank flooding
- Local drainage issues
- Tornadoes
- Earthquakes
- Winter storms
- Thunderstorms
- Drought / heat
- Wildfire

The vulnerability assessment component of the plan discovered that while tornadoes are the most destructive, winter storms are consistently more disruptive on a regular basis and costly to local governments than the other hazards. Communities within the MPA along the Pecatonica River and Turtle Creek are considered to be most affected by overbank flooding. In Wisconsin, these communities include the City of Beloit and the Town of Beloit. In Illinois, affected areas include the City of South Beloit and the Village of Rockton. Repetitive flood losses also occur, but almost exclusively along the Rock River. Given the potential for flooding in these areas, facility improvements such as increasing roadway or trail elevation and designing for appropriate drainage will help to reduce the impact of flooding.

In terms of how the goals and strategies of this plan affect the transportation system of the Beloit MPA, emergency response contingency plans play the biggest role. The region should factor in considerations such as bridges and roadways within floodplains, as well as evacuation routes in the event of a major disaster.



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