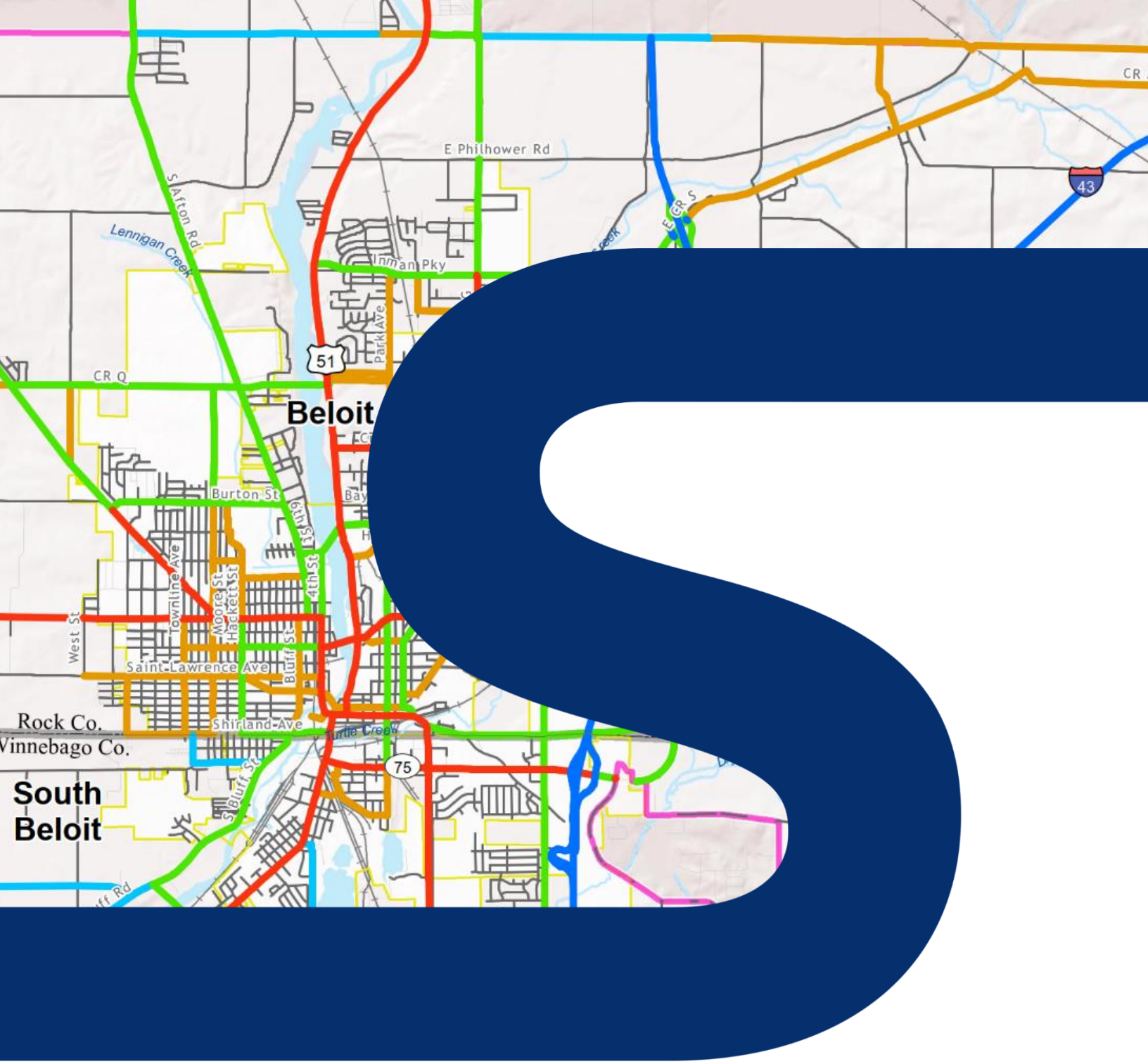


2045 Long Range Transportation Plan

October 2021

Appendix D – Existing and Future Year Conditions

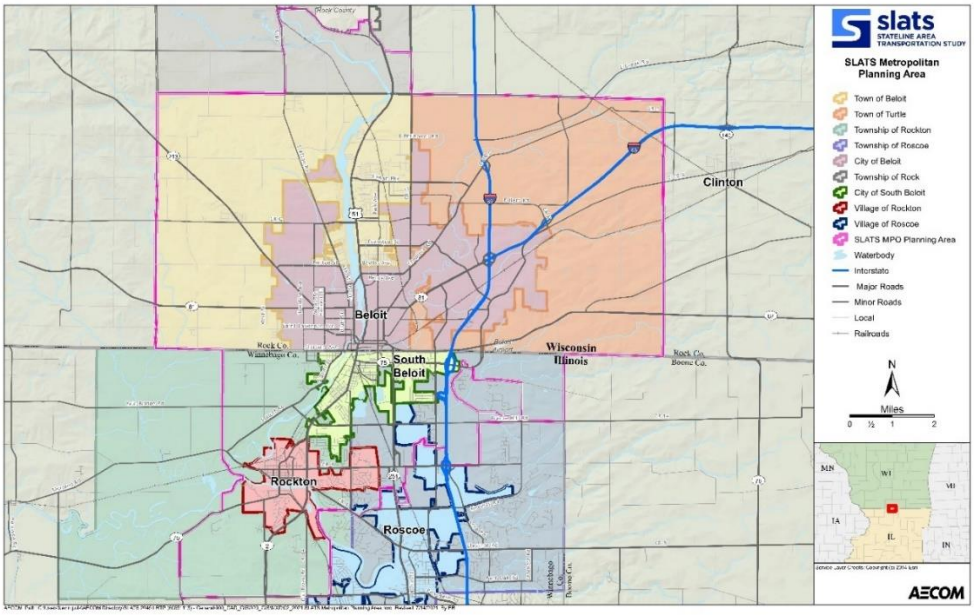
slats
STATELINE AREA
TRANSPORTATION STUDY

Appendix D

Existing and Future Year Conditions

This appendix summarizes the existing and future year (2045) conditions for the SLATS multimodal transportation network. It begins with an overview of the regional travel patterns/characteristics and continues with a summary of current conditions for roadways, freight, public transportation, and active transportation within the SLATS Metropolitan Planning Area (MPA). Year 2045 conditions are also discussed in terms of the travel demand model results. **Figure 1** provides an overview of the SLATS MPA.

FIGURE 1. STATELINE AREA TRANSPORTATION STUDY – METROPOLITAN PLANNING AREA



Area Travel Patterns/Characteristics

The following provides an overview of commute flows, mode choice, and mean travel time for workers living within the SLATS MPA.

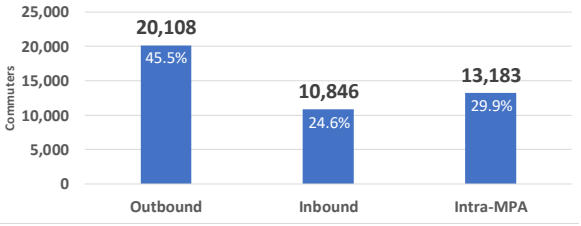
Commute Flows

The predominant mode of travel for SLATS area residents is drive alone. Commute flows in the region provide an indication of where residents of the SLATS MPA travel to for work. A comparison of commute flows originating in or destined for the county subdivisions that overlap the MPA boundary helps better understand how regional travel patterns impact the roadway network. It is important to note that this data reflects pre-pandemic travel patterns.

According to recent Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES) data from the US Census, work trips that originate and/or end in the approximate MPA

totaled 44,137.[1] As displayed in **Figure 2**, among these work trips, 25 percent are inbound (i.e., workers residing outside the MPA but working within), 46 percent are outbound, and 30 percent are intra-MPA (i.e., locations where home and work are both inside the approximate MPA boundary).

FIGURE 2. SLATS MPA COMMUTERS BY DIRECTION

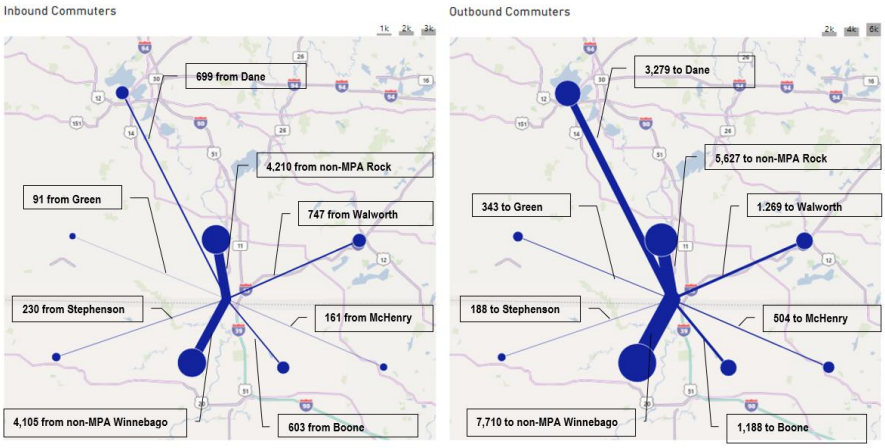


Source: LODES 2018, All Jobs. Estimated MPA includes the following County Subdivisions: Beloit city, Beloit town, Rock town, and Turtle town in Wisconsin; Rockton and Roscoe townships in Illinois.

An illustration of the inbound and outbound commutes is provided in **Figure 3**. The largest share of inbound and outbound commuters travel to/from the areas of Rock and Winnebago Counties that are not within the MPA, such as Janesville and Rockford. The non-MPA areas of Rock County attract/generate about 30 percent to 40 percent of the inbound and outbound commuters. Similarly, the non-MPA areas of Winnebago attract/generate about 40 percent of the inbound and outbound commuters.

The next tier of commute origins includes Walworth, Dane, and Boone Counties, each sending about 600 to 700 commuters to the SLATS MPA. In the opposite direction, the most common outbound commute destination is Dane County (about 3,300 commute trips), followed by Walworth and Boone counties with over 1,000 commute trips.

FIGURE 3. INBOUND AND OUTBOUND COMMUTER FLOWS (MPA TO/FROM ADJACENT COUNTIES)



Source: LODES 2018, All Jobs. Estimated MPA includes the following County Subdivisions: Beloit city, Beloit town, Rock town, and Turtle town in Wisconsin; Rockton and Roscoe townships in Illinois.

[1] Only travel flows with adjacent counties (Rock, Winnebago, Dane, Walworth, McHenry, Boone, Stephenson, Green) are included in these totals.

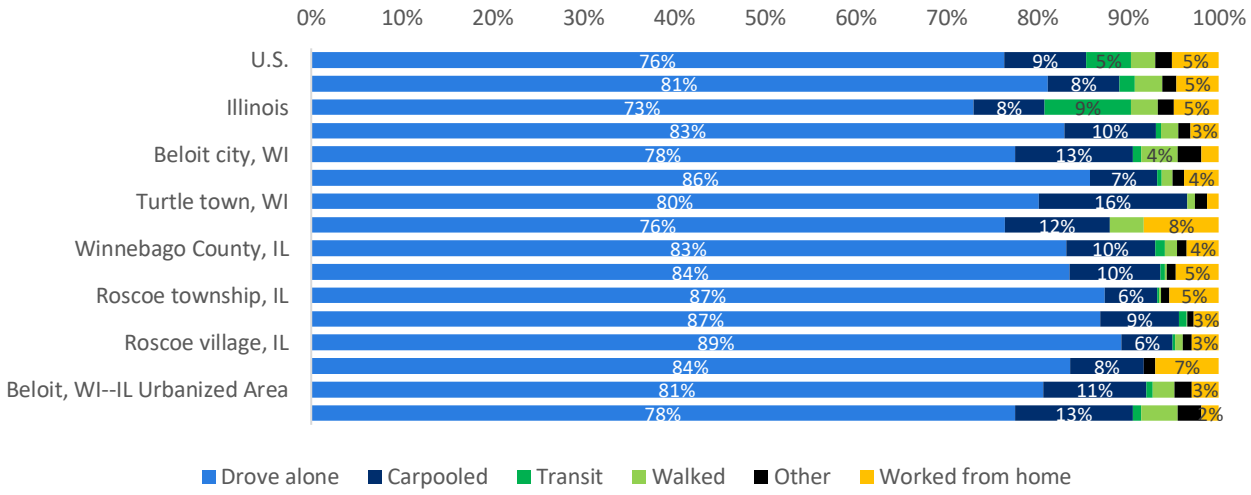
Mode Choice

The predominant mode of travel to work for SLATS area residents is drive alone. With the exception of the City of Beloit, the other portions of the SLATS MPA exceed the Wisconsin statewide average of 81 percent for drive alone. According to recent ACS data (2015-2019), about 91 percent of workers residing in the City of Beloit commute to work via car, truck, or van. Of these auto commuters, 78 percent drove alone, and 13 percent carpooled. The drive-alone rate in Beloit is lower than the Rock and Winnebago County averages due to a higher share of workers carpooling or walking to work. The municipalities of South Beloit, Roscoe, and Rockton have much higher shares of drive alone commuting, between 84 percent and 89 percent. The breakdown by mode and location is displayed in **Figure 4** and summarized in **Table 1**.

Four percent of Beloit commuters walked to work—a mode choice enabled by denser development patterns within the city limits. For rural parts of the MPA, walking is typically not a feasible option, and even in the other municipalities, typically less than one percent walk to work.

Typically, about two to four percent of workers in the MPA work from home, and one percent or fewer ride transit. It is important to note that this data reflects pre-pandemic travel patterns.

FIGURE 4. MEANS OF TRANSPORTATION TO WORK (PERCENT OF TOTAL)



Source: Table DP03, ACS 2015-2019 (5-year estimates).

TABLE 1. MEANS OF TRANSPORTATION TO WORK

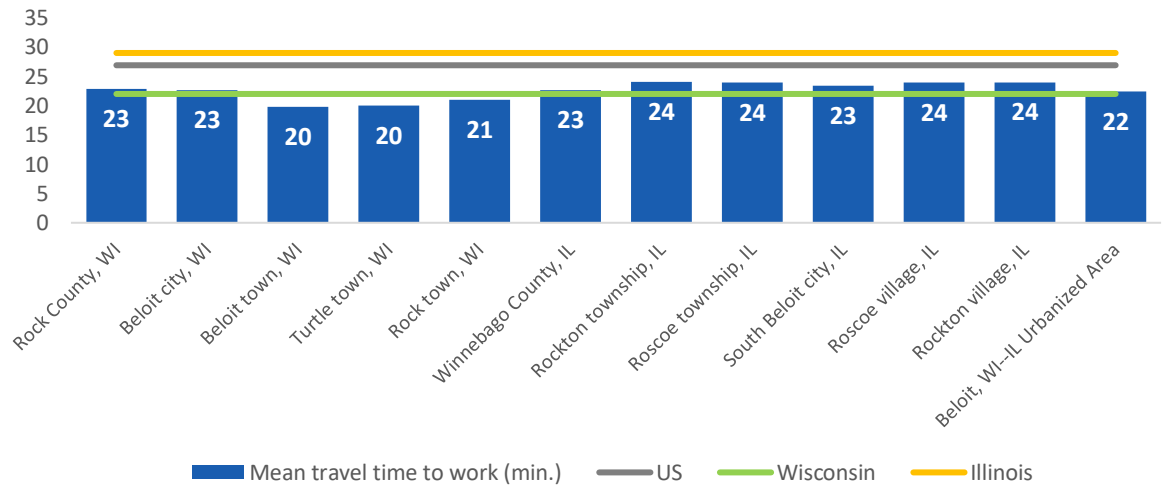
	Drove alone	Car-pooled	Transit	Walked	Other	Worked from home
Rock County, WI	**65,109**	**7,866**	**449**	**1,504**	**1,044**	**2,471**
Beloit city, WI	*11,954*	*2,006*	*137*	*624*	*396*	*300*
Beloit town, WI	*3,153*	*273*	*17*	*45*	*46*	*141*
Turtle town, WI	*1,095*	*223*	*0*	*12*	*18*	*18*
Rock town, WI	*978*	*148*	*0*	*48*	*0*	*106*
Winnebago County, IL	**108,383**	**12,778**	**1,449**	**1,717**	**1,405**	**4,591**
Rockton township, IL	*6,165*	*739*	*32*	*19*	*70*	*352*
Roscoe township, IL	*8,596*	*566*	*22*	*21*	*91*	*536*
South Beloit city, IL	*3,101*	*307*	*32*	*1*	*25*	*100*
Roscoe village, IL	*4,957*	*317*	*12*	*49*	*54*	*167*
Rockton village, IL	*3,152*	*306*	*0*	*0*	*48*	*265*
Beloit, WI--IL Urbanized Area	**22,407**	**3,160**	**186**	**671**	**525**	**838**

Source: Table DP03, ACS 2015-2019 (5-year estimates).

Mean Travel Time

Data on the mean travel time among commuters traveling to work is provided in **Figure 5**. Most areas within the MPA have an average travel time of about 22 to 24 minutes, similar to the Wisconsin average of 23 minutes. These travel times are somewhat shorter than the Illinois or nation-wide averages of 29 minutes and 27 minutes, respectively.

FIGURE 5. MEAN TRAVEL TIME TO WORK



Source: Table DP03, ACS 2015-2019 (5-year estimates).

Roadways

The SLATS region includes an extensive roadway network that provides local and regional connections within and through the MPA. I-39/90 is a major north-south interstate along the eastern portion of the MPA, connecting Rockford to the south and Janesville and Madison to north. I-43 connects to I-39/90 near Milwaukee Road and continues northeast to Milwaukee. The roadway network serves multiple users, including facilitating the movement of heavy truck traffic. The movement of goods and services

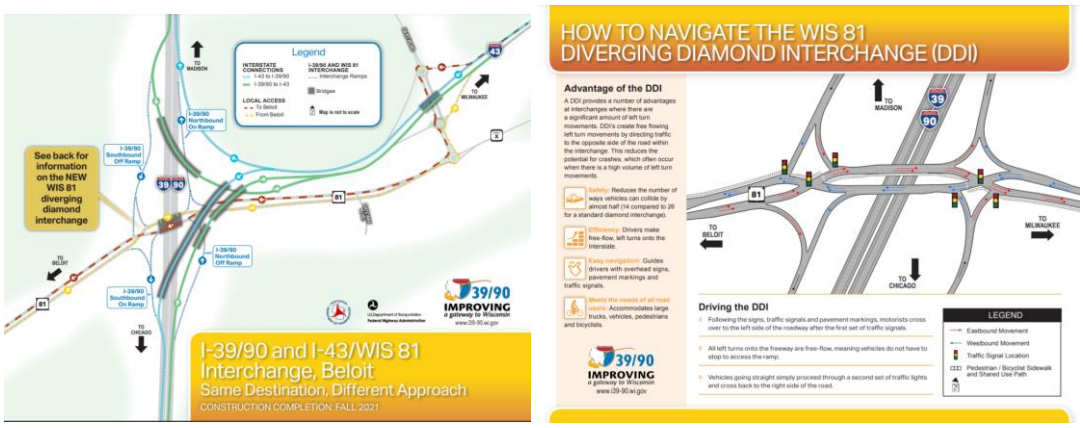
within and through the SLATS region is an integral part of the region's economic success and is discussed further in the freight section.

Recent Roadway Improvements

Near the completion of the SLATS 2040 LRTP in Fall 2016, CTH BT, an extension of Inman Parkway, between Prairie Avenue and Shopiere Road, opened to the traveling public. This roadway helped enhance east-west connectivity to support on-going development in the northern portion of the MPA.

During this approximately same time period, WisDOT was in the process of completing a reconstruction and widening of the I-39/90 mainline through the SLATS MPA. At the time of the SLATS 2045 LRTP development, WisDOT was in the process of completing the reconstruction of the I-39/90 and I-43/WIS 81 interchange (Exit 185) in Beloit. The interchange will accommodate mainline flyover ramps and a new Diverging Diamond Interchange (DDI). The flyover ramps will provide free-flow, direct access from one Interstate to the other, and the DDI will facilitate the movement of traffic between I-39/90 and WIS 81. **Figure 6** displays the DDI that is anticipated to be completed by Fall 2021.

FIGURE 6. I-39/90 AND I-43/WIS 81DIVERGING DIAMOND INTERCHANGE



Source: https://projects.511wi.gov/i-39-90/wp-content/uploads/sites/145/I39-90_I43WIS81navigation.pdf

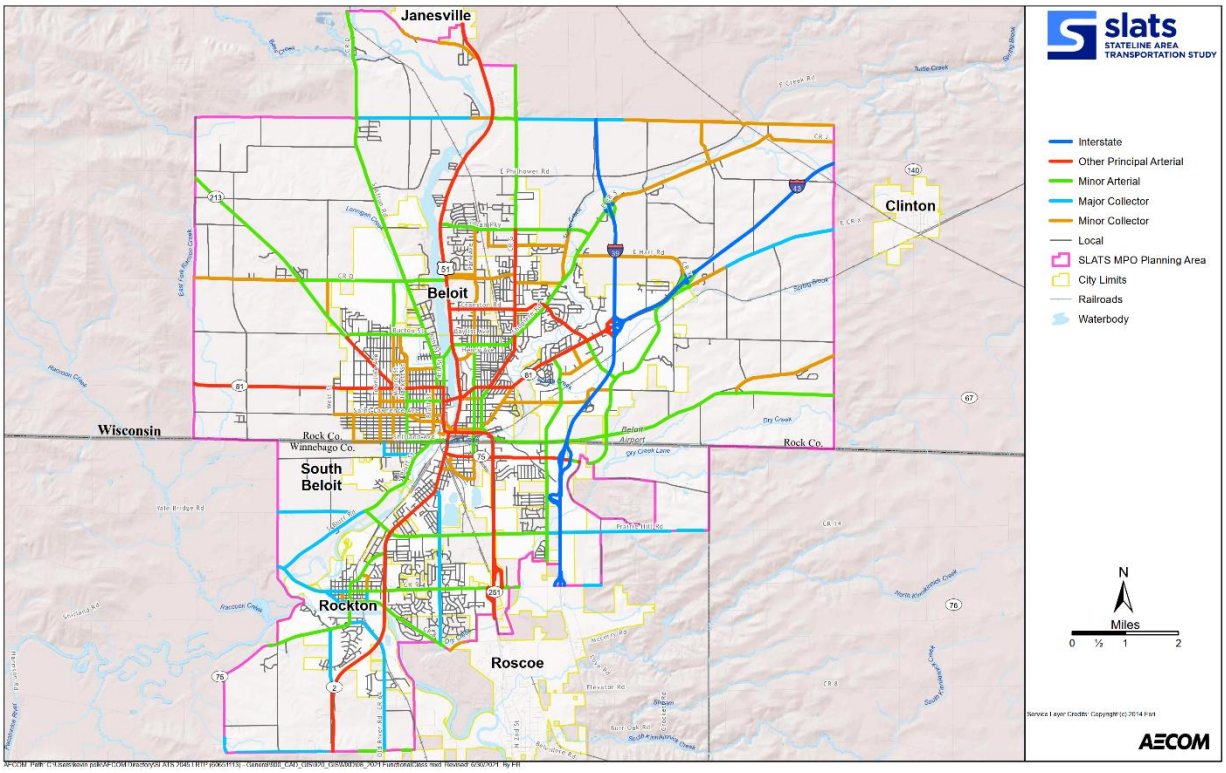
Functional Classification

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, United States (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 SLATS functional classification system is displayed in **Figure 6** and a breakdown of mileage by classification is summarized in **Table 2**.

The last functional classification updates in Wisconsin occurred in August 2019, while the last updates in Illinois occurred in June 2021. The most recent Illinois updates included the following:

- **Shirland Avenue**, from Frederick Street to Townline Road (Local to Major Collector) – addresses continuity with Wisconsin.
- **Stateline Road**, from Manchester Road to E. of Willowbrook Road (Local to Minor Arterial) - addresses continuity with Wisconsin.
- **I-75**, From I-90 NB Ramps to Wisconsin State Line (Other Arterial to Minor Arterial) – addresses low AADT of 3,050 to 4,350.

FIGURE 7. FUNCTIONAL CLASSIFICATION SYSTEM



Source: WisDOT and IDOT (2021).

TABLE 2. FUNCTIONAL CLASSIFICATION (CENTERLINE MILES)

	Wisconsin Portion		Illinois Portion		SLATS MPA	
Functional Classification	**Miles**	**%**	**Miles**	**%**	**Miles**	**%**
Interstate	24.3	3.4%	6.3	3.3%	30.5	3.4%
Other Principal Arterial	39.9	5.5%	14.6	7.7%	54.5	6.0%
Minor Arterial	85.2	11.8%	19.8	10.5%	105.0	11.6%
Major Collector	10.8	1.5%	21.7	11.5%	32.5	3.6%
Minor Collector	80.4	11.2%	2.8	1.5%	83.2	9.2%
Local Road or Street	479.4	66.6%	123.5	65.5%	602.9	66.4%
Total	719.9		188.7		908.6	

Source: Centerline miles calculated using GIS analysis of the functionally classified roads within the SLATS MPA (2021).

Functional Classification Defined

The functional classification system is based on Federal Highway Administration (FHWA) principles and is carried out by the individual states. Generally speaking, roadways are intended to serve different purposes and therefore should be designed accordingly to accommodate different functions. The functional classification system categories vary slightly by state and as such the SLATS MPA classification map reflects a combination of the Wisconsin Department of Transportation (WisDOT) and the Illinois Department of Transportation (IDOT) functional classification system. **Table 3** summarizes the categories and local examples.

TABLE 3. FUNCTIONAL CLASSIFICATION CATEGORIES

Functional Classification Category	SLATS MPA Example
Interstates are the highest classification and are designed and constructed with mobility and long-distance travel in mind. The Interstate System provides limited access, divided highways offering high levels of mobility while linking the major urban areas of the United States. Roadways in this category are officially designated by the Secretary of Transportation, and all routes are part the Dwight D. Eisenhower National System of Interstate and Defense Highways.	- I-39/90 provides access to major metropolitan areas including Rockford and Chicago to the south and southeast, Madison to the north, and Minneapolis to the northwest. - I-43 provides access to the northeast toward Milwaukee, and continuing north to Green Bay.
Other Principal Arterials serve major centers of metropolitan areas, provide a high degree of mobility and can also provide mobility through rural areas. Unlike their access-controlled counterparts, abutting land uses can be served directly. Forms of access include driveways to specific parcels and at-grade intersections with other roadways.	- US-51 provides the northern portion of the MPA in Wisconsin north-south access to Janesville and Madison. - 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.
Minor Arterials provide service for trips of moderate length, serve geographic areas that are smaller than their higher Arterial counterparts and offer connectivity to the higher Arterial system. In an urban context, they interconnect and augment the higher Arterial system, provide intra-community continuity and may carry local bus routes. In rural settings, Minor Arterials should be identified and spaced at intervals consistent with population density, so that all developed areas are within a reasonable distance of a higher level Arterial. Additionally, Minor Arterials in rural areas are typically designed to provide relatively high overall travel speeds, with minimum interference to through movement.	- Portions of Park Avenue, Shopiere Road, Henry Avenue, Inman Parkway, Stateline Road, Burton Street, Hackett Street, South Bluff, Willowbrook Road, Rockton Road, and Hononegah Road.
Collectors serve a critical role in the roadway network by gathering traffic from Local Roads and funneling them to the Arterial network. Within the context of functional classification, Collectors are broken down into two categories: Major Collectors and Minor Collectors. Until recently, this division was considered only in the rural environment. Currently, all Collectors, regardless of whether they are within a rural area or an urban area, may be sub-stratified into major and minor categories. The distinctions between Major Collectors and Minor Collectors are often subtle. Generally, Major Collector routes are longer in length; have lower connecting driveway densities; have higher speed limits; are spaced at greater intervals; have higher annual average traffic volumes; and may have more travel lanes than their Minor Collector counterparts. Careful consideration should be given to these factors when assigning a Major or Minor Collector designation. In rural areas, AADT and spacing may be the most significant designation factors. Since Major Collectors offer more mobility and Minor Collectors offer more access, it is beneficial to reexamine these two fundamental concepts of functional classification.	- Hart Road, Colley Road, Elmwood Avenue, portions of McKinley Avenue and Prairie Hill Road, Old River Road and Dorr Road.
Local Roads account for the largest percentage of all roadways in terms of mileage. They are not intended for use in long distance travel, except at the origin or destination end of the trip, due to their provision of direct access to abutting land. Bus routes generally do not run on Local Roads. They are often designed to discourage through traffic. As public roads, they should be accessible for public use throughout the year. Local Roads are often classified by default. In other words, once all Arterial and Collector roadways have been identified, all remaining roadways are classified as Local Roads.	- All neighborhood or residential streets.

Source: FHWA (https://www.fhwa.dot.gov/planning%20/processes/statewide/related/highway_functional_classifications/section03.cfm#Toc336872980)

Daily Traffic Volumes

The highest daily traffic volumes, or Average Annual Daily Traffic (AADT), are observed east of the Rock River, and along I-39/90. The highest daily traffic volume (53,100) in the SLATS MPA is on the Illinois portion of the MPA on I-39/90, between Rockton Road and Gardner Street. Daily volumes remain at or over 45,000 AADT for the remaining portions of the I-39/90 corridor within the MPA, including the segment just north of the WIS 81 which has an AADT of approximately 47,500.

Daily traffic volumes drop fairly significantly when looking at facilities beyond I-39/90. The next highest observed daily volume is on I-43, just east of I-39/90. This segment has an AADT of 17,300. WIS 81 (Milwaukee Road) has the next highest volumes ranging between approximately 13,000 AADT and 15,200 AADT. Higher volumes are also observed on Cranston Road, between WIS 81 and Shopiere Road, with an AADT approaching 13,000. Portland Avenue, an east-west river crossing, carries close to 13,400.

Figure 8 displays current AADT volumes within the SLATS MPA. **Table 4** summarizes the location of the top 20 AADTs within the SLATS MPA and **Figure 9** shows the sharp drop-off in volumes from the I-39/90 facility.

FIGURE 8. AVERAGE ANNUAL DAILY TRAFFIC (AADT) VOLUMES

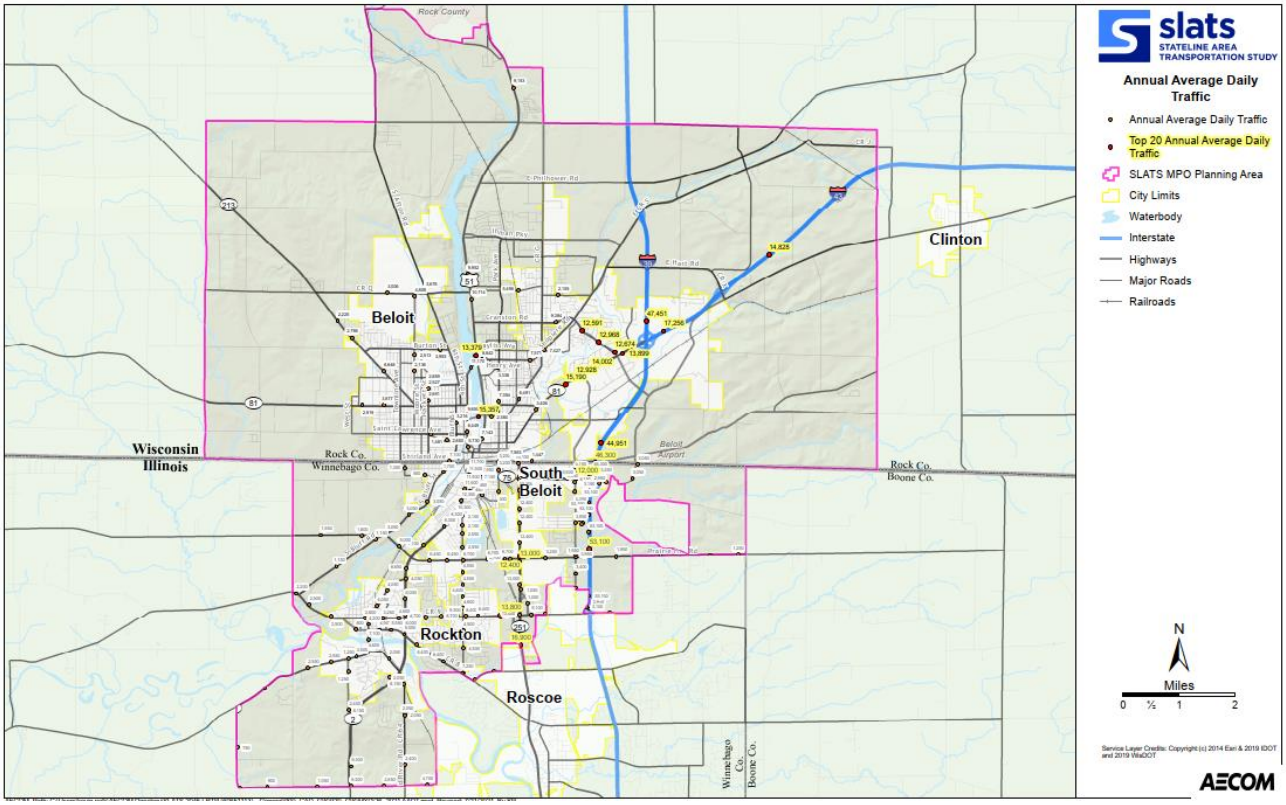
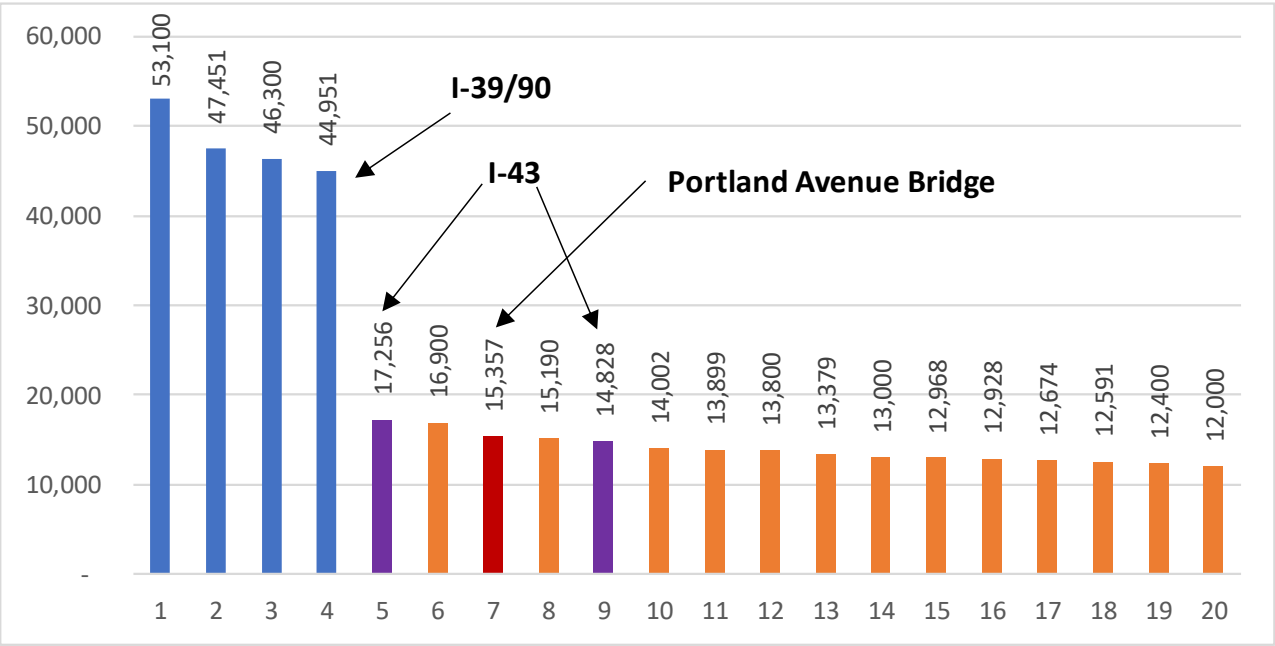


TABLE 4. TOP 20 AADTS WITHIN THE SLATS MPA

Rank	Location	AADT	State
1	I-39/90 (Jane Addams Memorial Tollway) - north of Prairie Hill Road	53,100	IL
2	I-39/I-90 - between I-43 & Hart Road	47,451	WI
3	I-39/90 (Jane Addams Memorial Tollway) - north of Gardner Street	46,300	IL
4	I-39/I-90 - north of the State line	44,951	WI
5	I-43 - between I-39/90 AND CTH X	17,256	WI
6	IL 251 - at the southern boundary of the SLATS MPA	16,900	IL
7	WIS 81 - Portland Avenue bridge	15,357	WI
8	WIS 81 - between Ridge and Hickory	15,190	WI
9	I-43 - east of CTH X	14,828	WI
10	WIS 81 (Milwaukee Road) - east of Morgan Terr	14,002	WI
11	WIS 81 (Milwaukee Road) - east of Cranston	13,899	WI
12	Rockton Road - west of IL 251	13,800	IL
13	US 51 (Riverside) - between Henry and Bayliss	13,379	WI
14	IL 251 - north of Prairie Hill Road	13,000	IL
15	Cranston Road - between Collingswood and Ridge	12,968	WI
16	WIS 81 (Milwaukee Road) - between Indian Road and Morgan Terr	12,928	WI
17	Cranston Road - between Oxford and Cobblestone	12,674	WI
18	Cranston Road - between CTH S and Austin	12,591	WI
19	IL 251 - south of Prairie Hill Road	12,400	IL
20	Gardner Street - east of Willowbrook	12,000	IL

Source: 2019 WisDOT an IDOT Traffic Counts.

FIGURE 9. TOP 20 AADTS WITHIN THE SLATS MPA (SEE TABLE 4 FOR COUNT LOCATIONS)



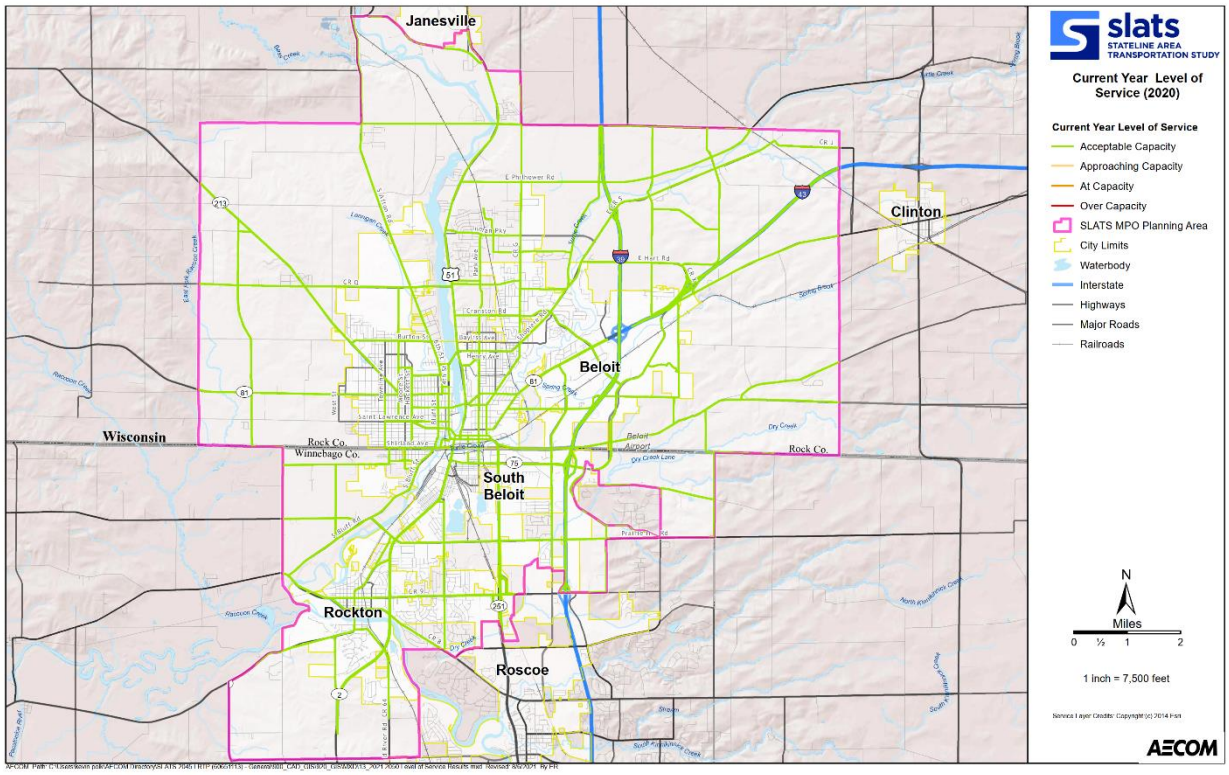
Existing Traffic Congestion

SLATS coordinates with the WisDOT traffic modeling staff to analyze existing and future year traffic conditions using the regional travel demand forecasting model. This model includes Rock County, WI, as well as the Illinois portion of the SLATS MPA. As part of the 2045 LRTP update, WisDOT provided model results for base year (2020) conditions. This model information, along with AADTs, were used to identify potential traffic congestion within the SLATS MPA. For the LRTP analysis, the primary focus is on identifying areas of traffic congestion that experience extended periods of delay, or what might be called reoccurring congestion. The current year conditions are modeled using the demographic data (population and employment). Traffic congestion is discussed further in the following sections.

Model Results

The base year (2020) model results show relatively little to no congestion within the MPA. This is not surprising as the daily traffic volumes within the MPA, as previously discussed, are generally below 17,000 for the local roadway network (non-interstate, and specifically the I-39/90 corridor). As previously discussed, the interstate facilities within the MPA have been recently upgraded and have sufficient capacity to carry the observed daily volumes. **Figure 10** displays the model results (level of service) for the 2020 conditions. One area worth noting is along White Avenue (Woodward Avenue to Milwaukee Road, mostly east of Prairie Avenue) where the model appears to be under-assigning traffic a little on based on actual traffic count data. The traffic volumes along this segment are close to reaching LOS D, which from a long-range planning perspective are considered acceptable.

FIGURE 10. YEAR 2020 TRAFFIC CONGESTION



Intersection and Traffic Operations

In addition to analyzing the model results, it is also important to consider how well traffic is operating at intersections throughout MPA. Often, traffic congestion is most commonly observed during the a.m. and/or p.m. peak hours when people are traveling to, or returning from, work.[2] One corridor in particular that has been identified as a potential congestion concern, by stakeholders and the public alike, is Milwaukee Road and White Avenue. This corridor facilitates an important connection between the I-39/90 corridor and downtown Beloit, including the Portland Avenue river crossing. In addition to some of the highest AADT's in the MPA, this corridor also carries a high amount of daily truck traffic (truck traffic is also discussed in more detail in the Freight section). Daily traffic volumes along Milwaukee/White do not currently reach a level that would suggest there is potential traffic congestion; however, as noted in the model discussion, a segment of White Avenue (Woodward Avenue to Milwaukee Road, mostly east of Prairie Avenue) is approaching LOS D. As such, this is an area that should be monitored for potential future year capacity or other operational improvements.

On a related topic, the MPA has limited river crossings which creates challenges from a network connectivity standpoint, and potential capacity concern. While daily bridge volumes to not currently raise capacity concerns, traffic volumes during the peak hours may be considered heavy. Based on public comments and concerns raised by stakeholders, trucks traveling through the downtown have some difficulty completing left-turns at intersections in the downtown area which could be perceived as a capacity, or congestion, issue. The bridge crossings in particular should continue to be closely monitored for any potential operational issues. Furthermore, it is also important to consider potential impacts on other travel modes, especially pedestrians and bicyclists who could be particularly impacted by high traffic volumes.

Finally, another potential area of traffic congestion concern in the MPA is along Gardner Street (IL 75), west of I-39/90. This corridor has an AADT of 12,000 of which 3,700, or nearly 31%, are trucks. Additionally, the interchange area is frequently congested, some of which could potentially be addressed by improved signal coordination. This area is discussed further as part of the freight section.

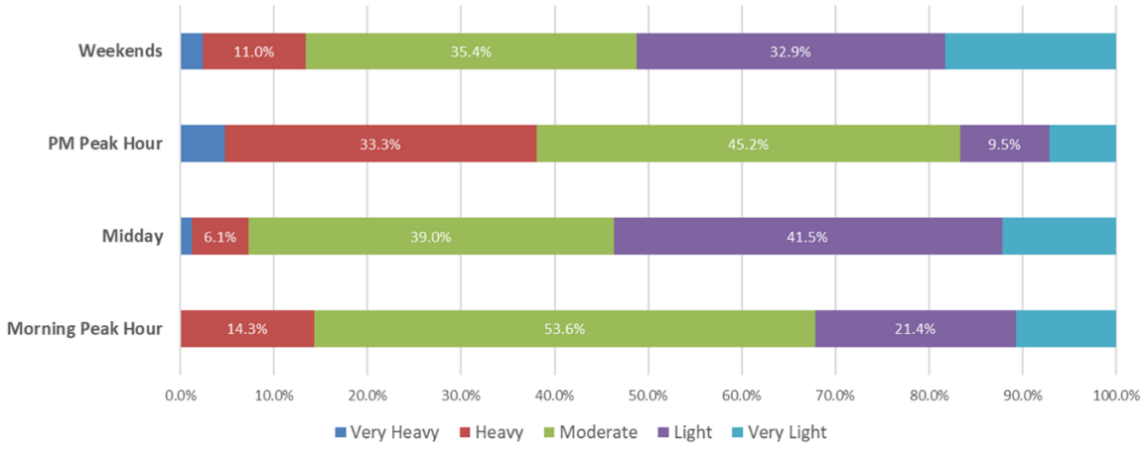
Stakeholder and Public Perception

Another way to analyze traffic congestion is to take the pulse of stakeholders and the general public. The SLATS 2045 LRTP community survey #1 asked respondents to indicate their perception of traffic congestion within the MPA. Based on approximately 100 survey responses, traffic congestion does not appear to be a significant concern to area residents. This is further supported by stakeholder outreach efforts that highlighted concerns related to high travel speeds, and reckless driving as opposed to any significant concerns related to traffic congestion.

[2] It should be noted that COVID-19 altered travel patterns during the pandemic, most significantly resulting in the majority of area residents switching to a work at home situation. While traffic patterns have started to return to pre-pandemic conditions, there are still many long-term impacts that need to be monitored. For example, the number of work from home employees is likely to remain high

With regard to the survey responses, the pm peak hour was one time period where approximately 33% of respondents indicate that congestion is "heavy." Overall fewer than five percent of survey respondents indicated that traffic congestion in the SLATS MPA is "very heavy," which would likely correspond to reoccurring traffic congestion, or better described as stop-and-go traffic conditions. It is also worth noting that the 2045 LRTP results reflect similar responses recorded in the 2040 LRTP. The one area of concern during the 2040 LRTP that was identified was congestion along the I-39/90 corridor; however, that issue has been addressed by recent interstate capacity and interchange improvements. **Figure 11** displays the perceived level of traffic congestion within the MPA.

FIGURE 11. PERCEIVED TRAFFIC CONGESTION (BY TIME OF DAY)



Source: SLATS 2045 LRTP Survey #1 – March/April 2021.

Roadway Safety

SLATS places great importance on providing a safe roadway network that accommodates the traveling public and facilities the efficient movement of goods. This is reflected in the SLATS 2045 LRTP goals and objectives which emphasize the need for roadways to be safe and accessible for all transportation users. Furthermore, SLATS supports WisDOT and IDOT efforts to reduce crashes that result in fatalities and serious injuries. This is consistent with target setting as part of FAST Act performance measures, and in efforts to reduce crashes as included in the respective state Highway Safety Improvement Programs (HSIP). **Table 5** summarizes recent crash data for the SLATS MPA. Data for 2020 was not included as a complete dataset was not available, and to avoid any significant changes due to the COVID-19 impact on travel patterns.

NOTE: See **Appendix G** for additional information regarding safety performance measures.

TABLE 5. TOTAL CRASHES, BY SEVERITY (2017 TO 2019)

	MPO Area	Fatalities (K)	Serious Injury (A)	Minor Injury (B)	Possible Injury(C)	PDO	Total
2017	Wisconsin	2	30	141	216	919	1,308
	Illinois	1	8	34	34	200	277
	Subtotal	3	38	175	250	1,119	1,585
2018	Wisconsin	8	40	187	184	1,007	1,426
	Illinois	2	19	33	41	224	319
	Subtotal	10	59	220	225	1,231	1,745
2019	Wisconsin	5	33	168	156	965	1,327
	Illinois	1	8	37	25	211	282
	Subtotal	6	41	205	181	1,176	1,609
2017 to 2019	Wisconsin	15	103	496	556	2,891	4,061
	Illinois	4	35	104	100	635	878
	Total	19	138	600	656	3,526	4,939

Source: WisDOT and IDOT Crash Data, 2017 to 2019.

A review of the data shows that approximately 82% of crashes occur within the Wisconsin portion of the SLATS MPA. In total, there were 19 fatalities during this three-year period, and 138 serious injuries. These crash types combined represent approximately 3% of all crashes within the MPA. **Figure 12** displays high crash location within the SLATS MPA. **Table 6** summarizes the crash severity for the high crash locations.

FIGURE 12. HIGH CRASH LOCATIONS

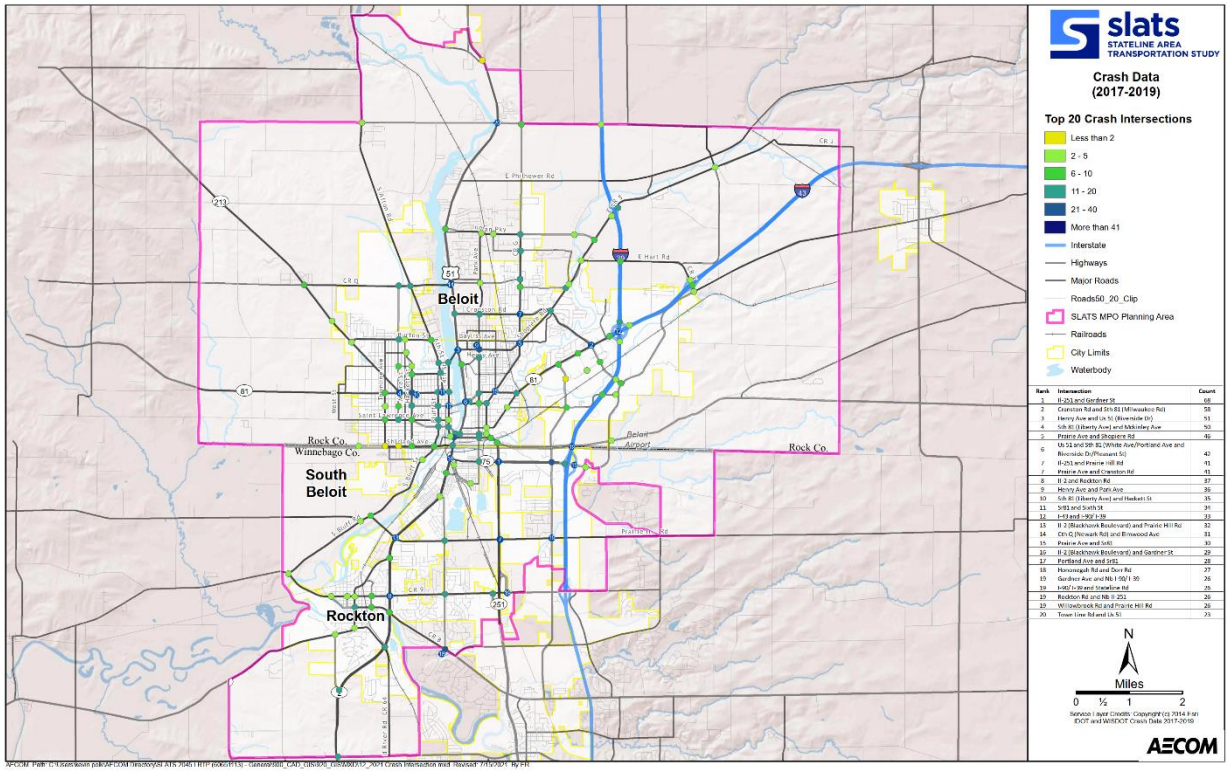


TABLE 6. HIGH CRASH LOCATIONS (2017 TO 2019)

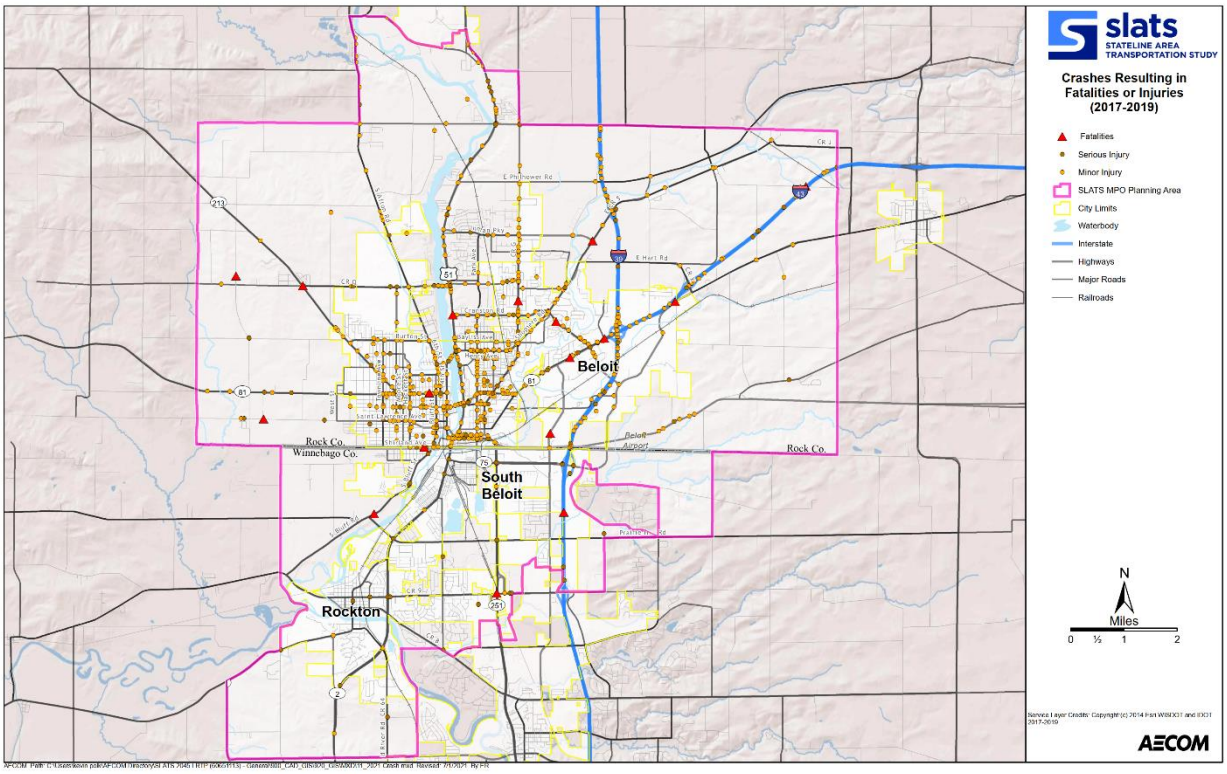
Rank	Intersection	Total Crashes	Fatalities	Serious Injury	Minor Injury	PDO
1	IL-251 and Gardner St	68	0	4	37	45
2	Cranston Rd and Sth 81 (Milwaukee Rd)	58	0	1	11	49
3	Henry Ave and US 51 (Riverside Dr)	51	0	1	23	40
4	STH 81 (Liberty Ave) and Mckinley Ave	50	0	1	16	36
5	Prairie Ave and Shopiere Rd	46	0	0	22	31
6	US 51 and STH 81 (White/Portland and Riverside / Pleasant)	42	0	1	8	33
7	IL-251 and Prairie HIll Rd	41	0	2	9	32
7	Prairie Ave and Cranston Rd	41	0	0	13	30
8	IL-2 and Rockton Rd	37	0	4	12	25
9	Henry Ave and Park Ave	36	0	0	22	20
10	Sth 81 (Liberty Ave) and Hackett St	35	0	0	14	24
11	SR 81 and Sixth St	34	0	1	6	29
12	I-43 and I-90/ I-39	33	0	0	7	27
13	IL-2 (Blackhawk Boulevard) and Prairie HIll Rd	32	0	2	16	20
14	Cth Q (Newark Rd) and Elmwood Ave	31	0	1	11	22
15	Prairie Ave and Sr81	30	0	1	3	27
16	IL-2 (Blackhawk Boulevard) and Gardner St	29	0	1	9	21
17	Portland Ave and Sr81	28	0	0	15	18
18	Hononegah Rd and Dorr Rd	27	0	1	4	22
19	Gardner Ave and Nb I-90/ I-39	26	0	4	8	20
19	I-90/ I-39 and Stateline Rd	26	0	0	9	18
19	Rockton Rd and Nb IL-251	26	0	0	8	20
19	Willowbrook Rd and Prairie Hill Rd	26	0	0	14	13
20	Town Line Rd and Us 51	23	0	2	13	13

Source: WisDOT and IDOT Crash Data, 2017 to 2019.

NOTE: GIS analysis used a 300-foot buffer around intersections to identify high crash locations.

As mentioned, FAST Act places particular emphasis on reducing crashes that result in fatalities and serious injuries. **Figure 13** identifies the location of fatal and serious injury crashes that occurred within the SLATS MPA between 2017 and 2019. This figure also displays the location of minor injuries. Minor injury crashes are provided to help analyze trends and to potentially address areas of concern before the number of crashes increase, or crash severity becomes worse. Additional analysis is provided by crash severity following this figure.

FIGURE 13. FATAL AND SERIOUS INJURY CRASH LOCATIONS



Fatalities

When reviewing the location of fatalities, the following was observed.

- There were three fatalities scattered in the western portion of the MPA, outside of the urbanized area.
- Three fatalities were observed in the vicinity of the I-39/90 and I-43 interchange, including two on WIS 81. Two fatalities were observed along segments of Cranston Road, with another fatality on Prairie just north of Cranston.
- There was a fatality that occurred on Willowbrook Road, just north of the state line. There was also a minor injury crash that occurred near at the state line. It is worth noting these two incidents as Willowbrook Road will become the primary corridor to access the future casino (plans to improve this corridor have been identified but they should be a high priority, on both the Wisconsin and Illinois sides of the MPA).

Serious and Minor Injuries

When reviewing the location of serious and minor injuries, the following was observed.

- There was a high concentration of crashes, resulting in serious and minor injuries, near all of the river crossings in the Wisconsin portion of the MPA.
- Broad Street, and Grand Avenue, between the river and Park Avenue, have a high concentration of crashes resulting in serious and minor injuries.
- White Avenue, and transitioning across the river along Portland Avenue, has a high concentration of crashes resulting in serious and minor injuries. There were four serious injuries observed between Prairie Avenue and Pleasant Street (US 51).

- Liberty Avenue (WIS 81), between 4th Street, and Townline Avenue, has a high concentration of crashes resulting in minor injuries. There was one serious injury observed near the intersection of 5th Street. There was also a fatality observed just west of 6th Street. This location is of particular note given the proximity to Beloit Memorial High School.

As a final observation, the project team was somewhat surprised to see the high concentration of serious injuries, and minor injuries, occurring near downtown Beloit. Generally speaking, given the nature of a downtown area, it was initially anticipated that there would be slower travel speeds and fewer serious and minor injury crashes. The project team used this information to help inform on-going discussions with area stakeholders, in particular the safety stakeholder group. The results of this stakeholder meeting confirmed that the data was accurate, and several stakeholders identified traveling at high rates of speed and reckless driving as particular concerns that contribute to the high concentration of crashes. Results from the online issues mapping also highlighted some potential contributing factors. For example, there were some comments regarding the difficulty of making turning movements the intersection of Broad Street and Park Avenue. Other comments referenced the high travel speeds, which supported information provided by local law enforcement officials.

Issues Identified by the Public

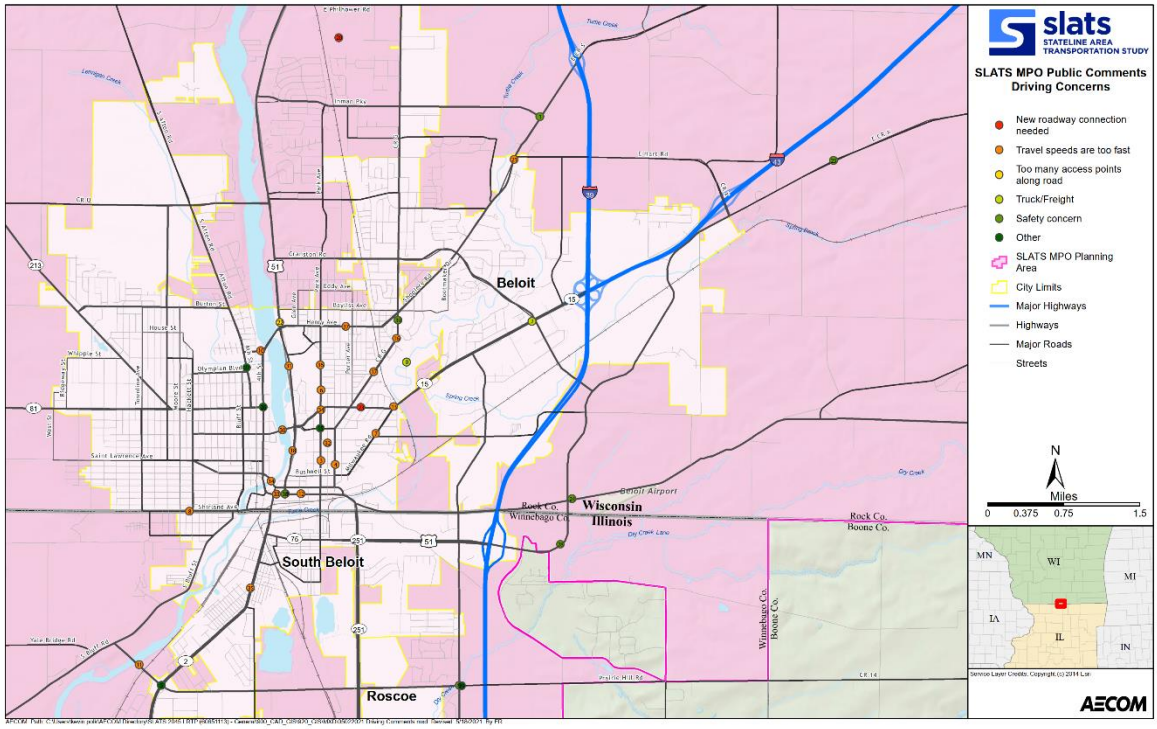
The online mapping tool recorded the location of potential roadway concerns within the SLATS MPA. In total, 39 individuals identified existing concerns, and/or potential improvements, related to driving/roadways within the region. **Figure 14** displays the driving/roadway areas of concern as identified through the online mapping tool. Additional details from the online mapping is provided in **Appendix A**.

High travel speeds were identified in a number of locations within the SLATS MPA. In particular, respondents indicated concerns about high speeds near schools/parks. High travel speeds in the downtown area were also identified, with Broad Street being one street identified. The Rock River crossings were also identified as areas with high travel speeds. Beyond safety concerns, survey respondents indicated that speeding negatively impacts quality of life, in particular related to loud traffic from trucks and other motorists. These concerns were confirmed by local law enforcement who participated in the Safety Stakeholder meeting. Law enforcement officers added that reckless driving has been a significant concern within the MPA in recent months.

Truck traffic was another concern. A few respondents identified specific locations of concern. WIS 81 was identified as traversing through residential neighborhoods and trucks were a concern from a high speed and congestion perspective. Some respondents also identified concerns regarding trucks traveling through the downtown area, ultimately negatively impacting quality of life. Additional comments identified concerns regarding the need to improve intersection operations and traffic signal timings. Some suggested that roundabouts be considered as potential improvements. Willowbrook and Prairie Hill in Illinois, and Inman Parkway and Shopiere in Wisconsin were two locations identified. Some respondents suggested that the region needs to shift roadway improvements/priorities to better accommodate pedestrian and bike safety, while at the same time helping reduce vehicular travel speeds and creating safer environments for all roadway users.

Finally, it is worth noting that none of the mapping comments identified any significant concerns regarding traffic congestion within the MPA. This information is helpful in confirming the technical analysis and modeling results which show relatively little congestion issues currently within the MPA.

FIGURE 14. DRIVING/ROADWAY CONCERNS (AS IDENTIFIED BY THE PUBLIC)



Intelligent Transportation Systems

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 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 network.

A number of ITS devices have been installed along the I-39/90 corridor as part of recent interstate reconstruction project. These include Digital Message Signs, CCTV cameras, traffic volume recorders, a backbone fiber optic system, and additional miscellaneous devices. 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.

On a local level, ITS applications could be used to improve technology, such as smart traffic signals and enhanced signal coordination. ITS applications can also be used for signal preemption, which can help

emergency responders (faster response time, and safer) and public works departments (for example, used to aid with snow removal). These are not widely used in the area but could be in the future.

Public Transportation

Public transportation in the region represents a relatively small percentage of commute trips to work; however, it provides a valuable service for many area residents who do not own or have access to a car. It is also an important transportation mode for younger individuals who may not have a driver's license, access to a vehicle, or prefer not to drive.

There are two transit systems – the Beloit Transit System (BTS) and the Stateline Mass Transit District (SMTD) – that primarily serve the Stateline region.[3] Most of the higher-density areas in Beloit are served by BTS fixed-route buses, while those in South Beloit are served by SMTD on-demand buses. In fact, approximately 50 percent of SMTD's total rides occurred in South Beloit, with an additional 24 percent in Rockton and 16 percent in Roscoe. Together, these core urban areas accounted for 90 percent of total ridership in 2018. Within the MPA, there are also complementary systems that provide transit and transportation services to other communities.

Beloit Transit System

BTS is the municipal transit service of the City of Beloit. BTS offers local fixed-route service mostly within the City, as well as the Beloit-Janesville Express (BJE), which provides express service between Beloit and Janesville, in partnership with the Janesville Transit System. BTS also operates complementary paratransit service and will deviate up to three-quarters of a mile from a fixed-route for registered paratransit riders. Prior to COVID-19, SLATS developed a Transit Plan[4] to assess area transit needs and to develop a set of service recommendations. The Transit Plan identified the following transit gaps in the MPA:

1. **Geographic Gap** – Lack of service around the Gateway Business Park along the I-39/90 corridor beyond the span of the Red route. Gap where the Blue route fails to serve the entirety of the transit-supportive area on Beloit's west side.
2. **Temporal Gap** – Lack of availability of service during specific hours when customers need to travel.
3. **Quality-of-Service Gap** – Lack of frequency, long travel times and inefficient trips, challenging transfers, and other characteristics that make the service less useful for customers.

The recommendations contained in the Transit Plan focused on changes to fixed-route service to improve service connectivity and frequency to low-income and minority areas in central Beloit, while adding service connectivity to the Gateway area, the Town of Beloit, and other parts of the region that are currently unserved. The proposed service changes covered three areas: coordinating service to neighboring communities, accommodating employment centers, and addressing weaknesses of the current system.

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[3] COVID-19 Note: The coronavirus pandemic has created many uncertainties and has significantly impacted current and near-term ridership. Transit agencies have had to alter their service plans in light of COVID-19. To what degree service levels will be restored as well as longer-term ridership impacts created by the pandemic are unknown at this time.

[4] Stateline Area Transportation Study Transit Plan Final Report (May 2020)

Since completion of the Transit Plan, BTS now operates six fixed local bus routes Monday through Friday as of October 2020 and provides on-demand service for all fixed routes on Saturdays except the BJE. **Figure 15** shows the BTS (and SMTD) ridership totals from 2016 to 2020. **Figure 16** displays the BTS current service (as of July 2021) within the MPA.

Stateline Mass Transit District

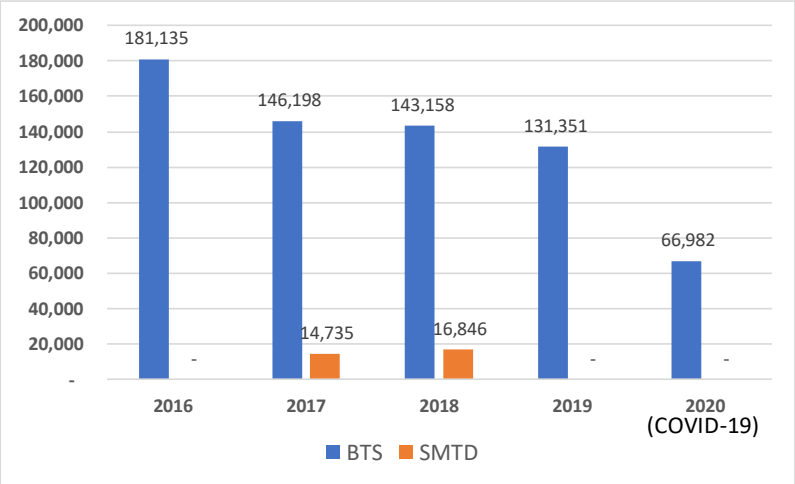
SMTD is the other primary transit service provider in the MPA. SMTD is a demand-response system that serves the Illinois portion of the region, including South Beloit, Rockton, and Roscoe, as well as Rockton Township and Roscoe Township. In order to facilitate regional travel, SMTD provides transfer connections to BTS fixed-route service at the Beloit Transfer Center and to the Rockford Mass Transit District (RMTD) in Machesney Park, as well as special service stops to businesses along the Highway 173 corridor.

Other transportation service providers include the RMTD, which serves Rockford, IL and surrounding communities with predominantly fixed-route service. Two RMTD routes provide a connection to the SMTD service area at the Machesney Park Target transfer point. **Figure 17** displays the regional public transit network throughout the bi-state planning area, including portions of Rock County, WI and Winnebago County, IL.

Rock County Transit

The Rock County Council on Aging also operates Rock County Transit, which provides demand-response transportation services anywhere within Rock County to individuals age 55 and older, regardless of health, and to any individual with a disability, regardless of age. The Medical Transportation Management (MTM) is the non-emergency medical transportation (NEMT) manager for the state of Wisconsin, which arranges transportation for eligible Medicaid and BadgerCare Plus members throughout the state to qualifying medical appointments. Finally, intercity bus providers in the greater Rockford – Beloit – Janesville region include Greyhound Bus Lines (Rockford only), Burlington Trailways (Rockford only), and Van Galder Bus Lines (Rockford, South Beloit, and Janesville).

FIGURE 15. BTS AND SMTD RIDERSHIP (2016 – 2020)



Source: BTS, SMTD.

FIGURE 16. BELOIT TRANSIT SERVICE (FIXED-ROUTE SERVICE)

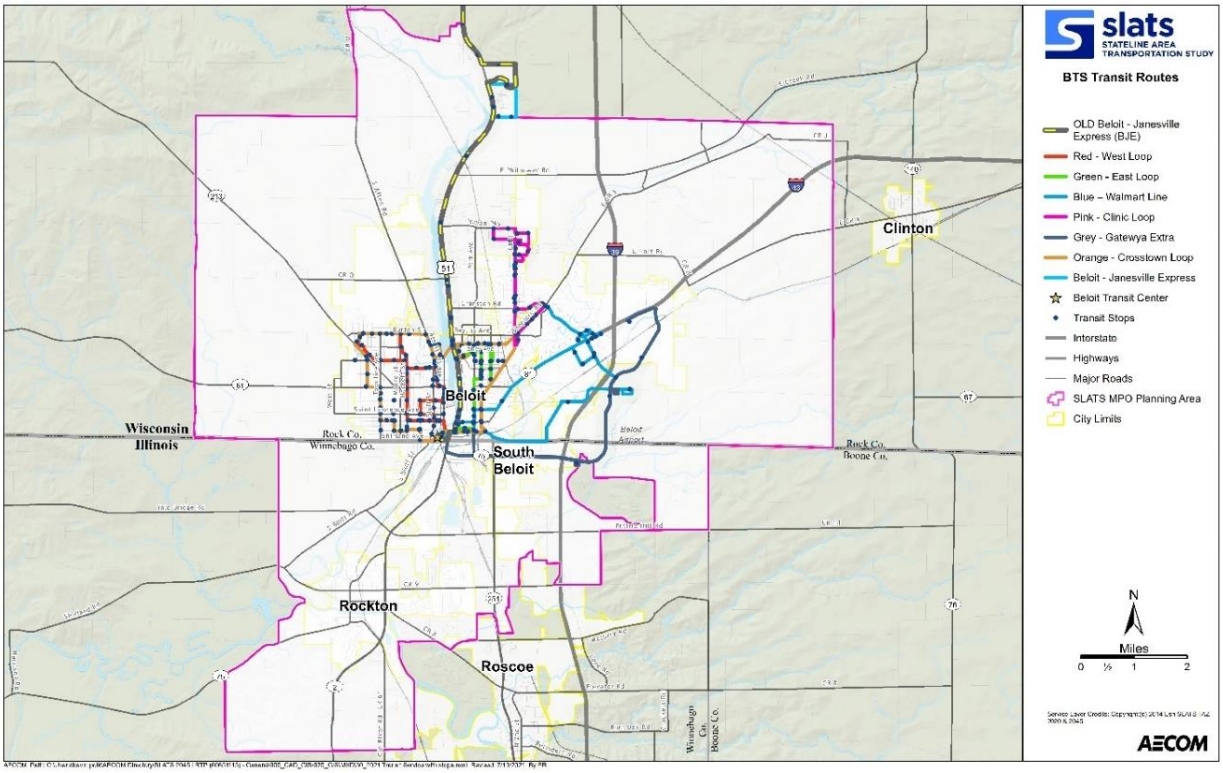
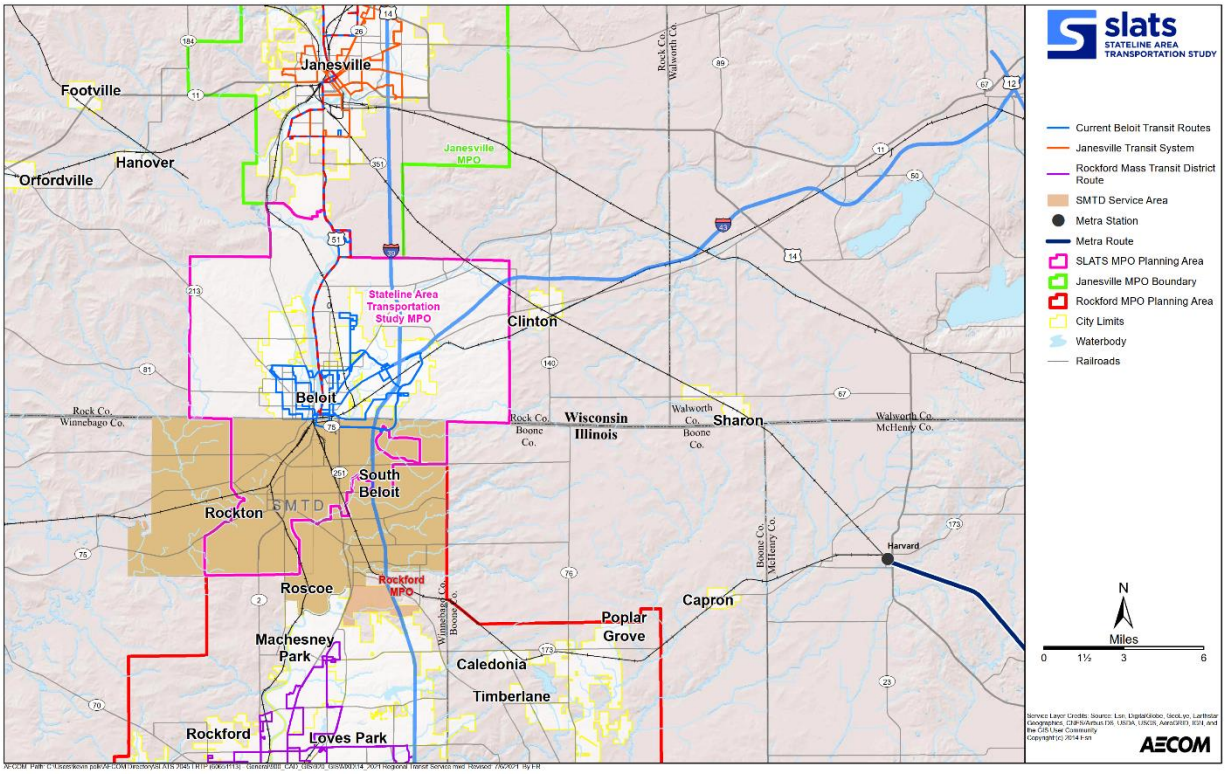


FIGURE 17. REGIONAL TRANSIT SERVICE



Intercity Services

Intercity services include bus and passenger rail. Intercity bus service typically carries passengers significant distances between different cities, towns, or other populated areas. Unlike a fixed-route transit bus service, which has frequent stops throughout a city, an intercity bus service generally has a single stop at one location in or near a city and travels long distances without stopping. Intercity passenger rail covers longer distances than commuter or regional trains, and typically operates on a limited-stop basis.

Van Galder Bus Company provides intercity express bus service for southern Wisconsin and northern Illinois to O'Hare Airport and Downtown Chicago. Stop locations are listed in **Table 7**. Van Galder also operates Amtrak Thruway Bus Service, using these same stops (with the exception of O'Hare Airport). The Thruway program extends the reach of Amtrak service to communities without rail service and offers a wider selection of destinations. Amtrak Thruway service includes guaranteed connections to Amtrak trains, through-ticketing, and reservations. Based on Amtrak's current schedule (August 2021), there are eight daily stops in South Beloit (http://cwrr.com/Amtrak/mw_thrwy.html#CHMA).

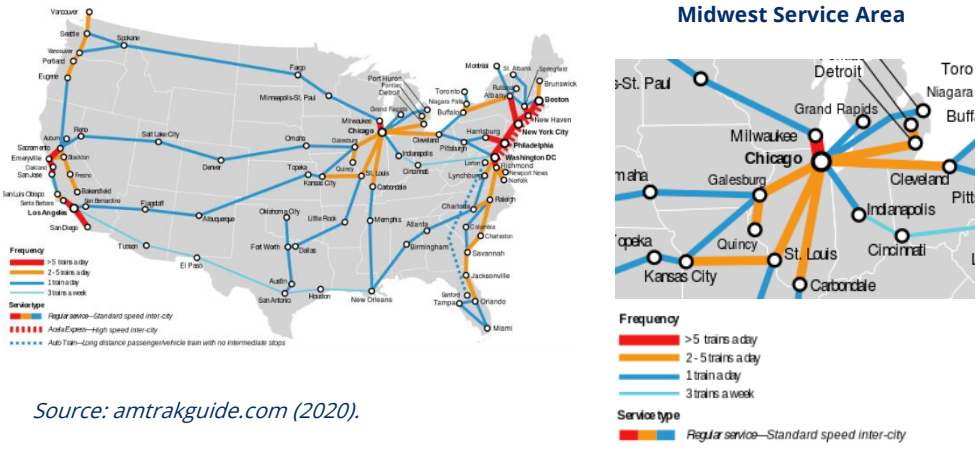
TABLE 7. VAN GALDER BUS SERVICE STOPS

Stop	Location	Park-n-Ride
University of Wisconsin-Madison	Gordon Center, 250 N. Lake St.	No
Dutch Mill Park-n-Ride, Madison	Highway 51 & Broadway	Yes
Van Galder Janesville Terminal	I-90 & U 14 (Humes Road)	Yes
FasMart, South Beloit	I-90 & IL 75	Yes
Van Galder Rockford Terminal	I-90 & State Street (Business US 20)	Yes
O'Hare International Airport	Departure Level of Terminals 1/2/3/5	No
Chicago Union Station	225 South Canal	No

Source: Van Galder Bus Service, 2020.

With the exception of the Chicago metropolitan area, no passenger rail service currently operates in the Madison-Janesville-Beloit-Rockford corridor. The 2019 Rebuild Illinois Capital Plan provides funding to restore intercity passenger rail service between Rockford and Chicago. In fall 2020, IDOT hired an engineering firm to oversee design and implementation of the project. The proposed plan includes operating trains along the Metra MDW line between Chicago and Elgin and then along the UP Belvidere Subdivision to Rockford. Coordination with UP has been initiated to identify infrastructure requirements for the service. IDOT is currently considering contracting with Amtrak or Metra to operate the service. Current Amtrak service is shown in **Figure 18**.

FIGURE 18. AMTRAK SERVICE



Source: amtrakguide.com (2020).

SLATS Regional Passenger Rail Study

In February 2021, SLATS completed the SLATS Passenger Rail Study. Since early 2000, SLATS has explored the possibility of extending passenger rail service to the region as part of studies in 2002 and 2008. As more than a decade has passed since the last study, and in preparation for the 2045 LRTP update, SLATS determined that it was an appropriate time to revisit the feasibility of extending passenger/intercity and/or commuter rail to the Stateline Area (it should be noted that this decision was made pre-COVID-19).

The closest rail service to SLATS is the Metra station located in Harvard, IL which provides commuter service along the Union Pacific-Northwest (UP-NW) line. IDOT has also advanced plans to restore intercity passenger rail service between Rockford and Chicago. Primary factors in studying passenger rail service to the Stateline Area is the potential benefits associated with improving workforce mobility, supporting economic development, expanding alternative travel options, reducing roadway congestion, and encouraging compact development patterns.

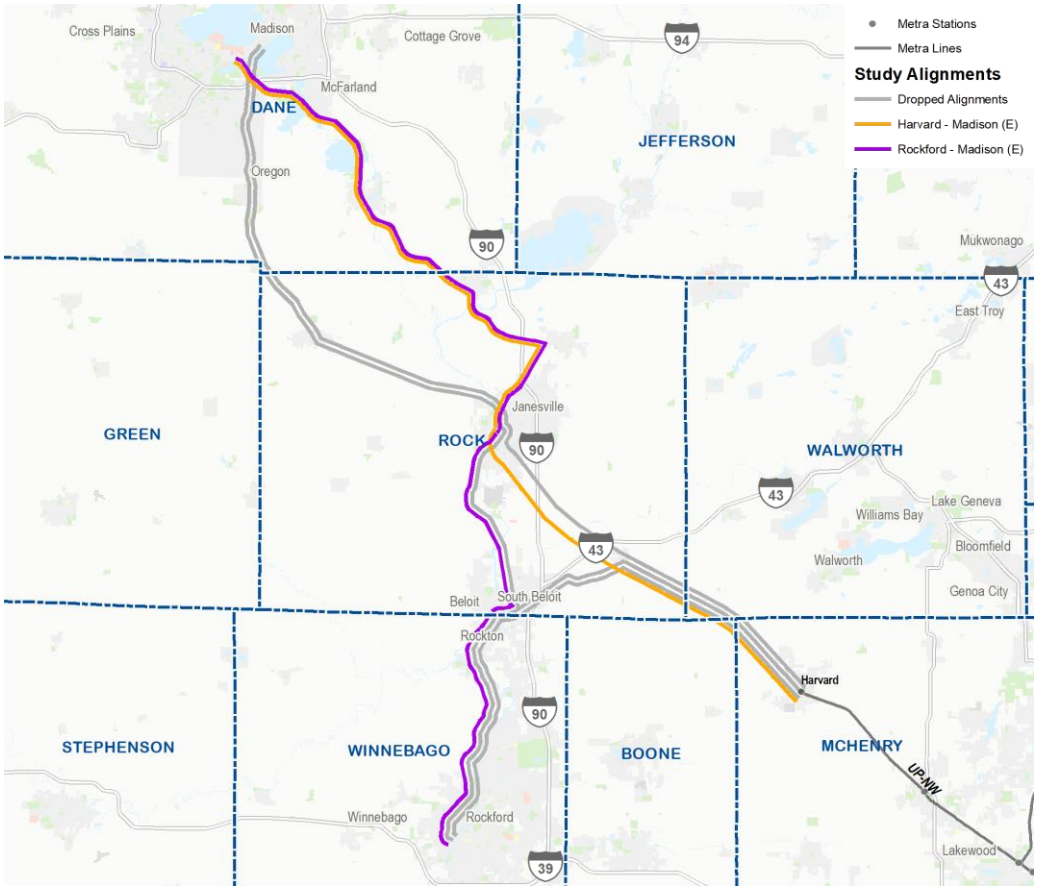
Data on commuter origins, destinations, and travel modes were gathered from the Census Transportation Planning Products (CTPP) using the most current five-year estimates (2012-2016). This data was combined with year 2050 regional population and employment projections to evaluate ridership potential at a high level of analysis. A progressive screening process was used to evaluate previously identified rail alignments and five viable study corridors. These included an extension of the Metra UP-NW to Beloit, an extension of rail service from Harvard to Madison (no direct connection to Beloit), and a new rail service connecting Rockford to Madison (with service through Beloit). The alternatives to Madison included two route variations between Janesville and Madison.

The Harvard-Beloit extension showed very low ridership potential and was dropped from consideration. The remaining four alignments showed ridership that ranged from approximately 850 to 2,150 passenger trips per day. The higher end of this range was found to be comparable to some existing passenger rail operations nationally, although these systems generally have the lowest levels of ridership and cost-effectiveness among all commuter rail systems. Ultimately, two potential alignments were identified for as corridor that would warrant further consideration (see **Figure 18**).

While all stations along the potentially viable rail alignments contribute to the overall demand for each route, the single most important source of demand appeared to be from the concentration of jobs in proximity to a potential Madison station. In conclusion, additional analysis would be required to identify the most appropriate passenger rail alignment option within the region. Some important factors for consideration include:

- Implementation will require the active involvement of all major governmental units affected, including the states (Wisconsin and Illinois), counties, local governments, other MPOs, and other regional stakeholders.
- The willingness of railroad owners to consider hosting a passenger rail service.
- Existing and future rail network capacity for passenger and freight needs.
- Alignment capital cost, including any right-of-way needs for stations and other supportive infrastructure (e.g., track/signal upgrades, rolling stock, yards, maintenance facilities).
- An identified funding source to sustain the ongoing operational and maintenance of the service.

FIGURE 19. PASSENGER RAIL ALIGNMENTS TO ADVANCE FOR FURTHER STUDY



Source: SLATS Passenger Rail Study, February 2021.

Issues Identified by the Public

The online mapping tool recorded the location of potential public transportation concerns within the SLATS MPA. In total, 27 individuals identified existing concerns, and/or potential improvements, related to transit service within the region. **Figure 20** displays the areas of concern as identified through the online mapping tool. Additional details are included in **Appendix A**.

In general, the comments focused on a desire to enhance regional connections. Rockford was mentioned a few times as some desire more direct service. One respondent suggested an express route, similar to the Beloit-Janesville Express service. Rockton, although serviced by SMTD, was mentioned a few times as wanting enhanced service. While not directly stated, it appears this is reference to wanting a regular fixed-route transit service that would connect to the broader Beloit area. One response suggested a special game day express service for Beloit Snappers games, although no further details were provided regarding the location of this service. Finally, some respondents stated a desire to have better coordinated service within the region, including the ability to purchase monthly, or annual, transit passes.

FIGURE 20. PUBLIC TRANSPORTATION CONCERNS (AS IDENTIFIED BY THE PUBLIC)

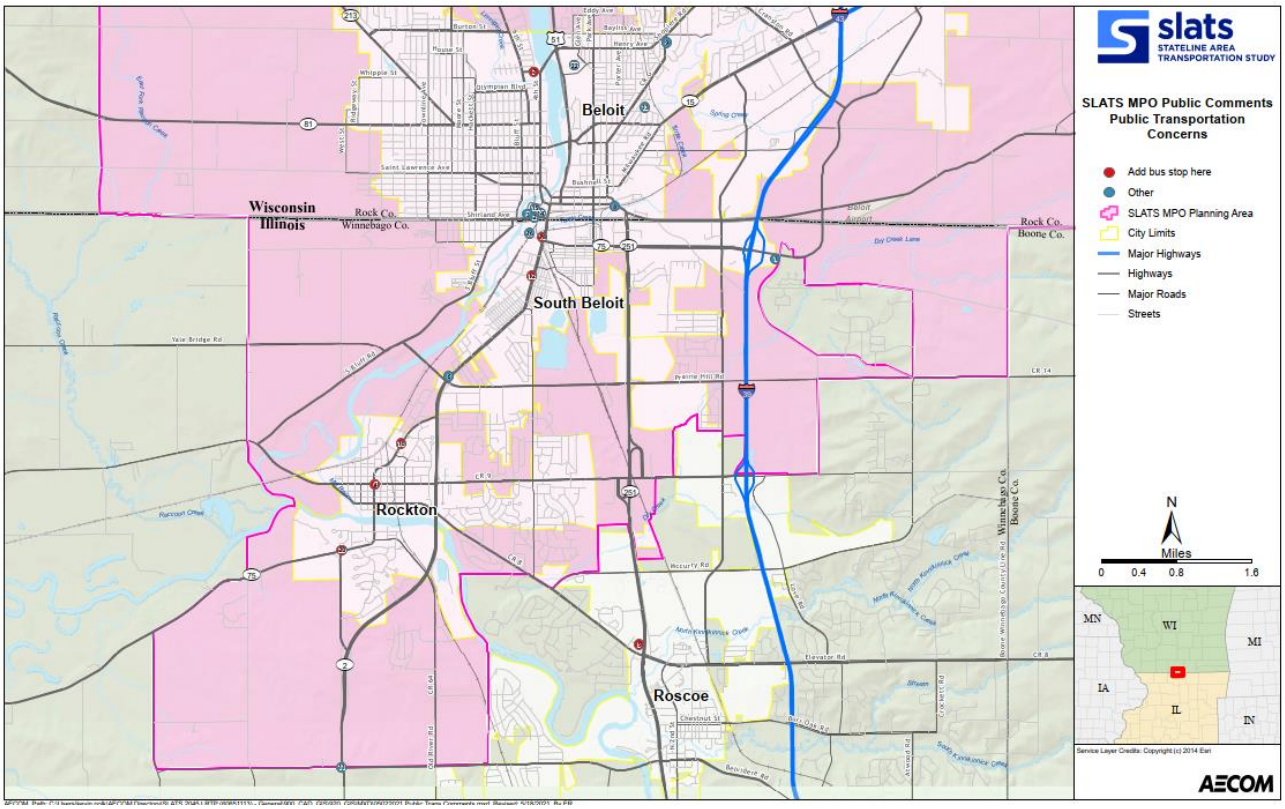
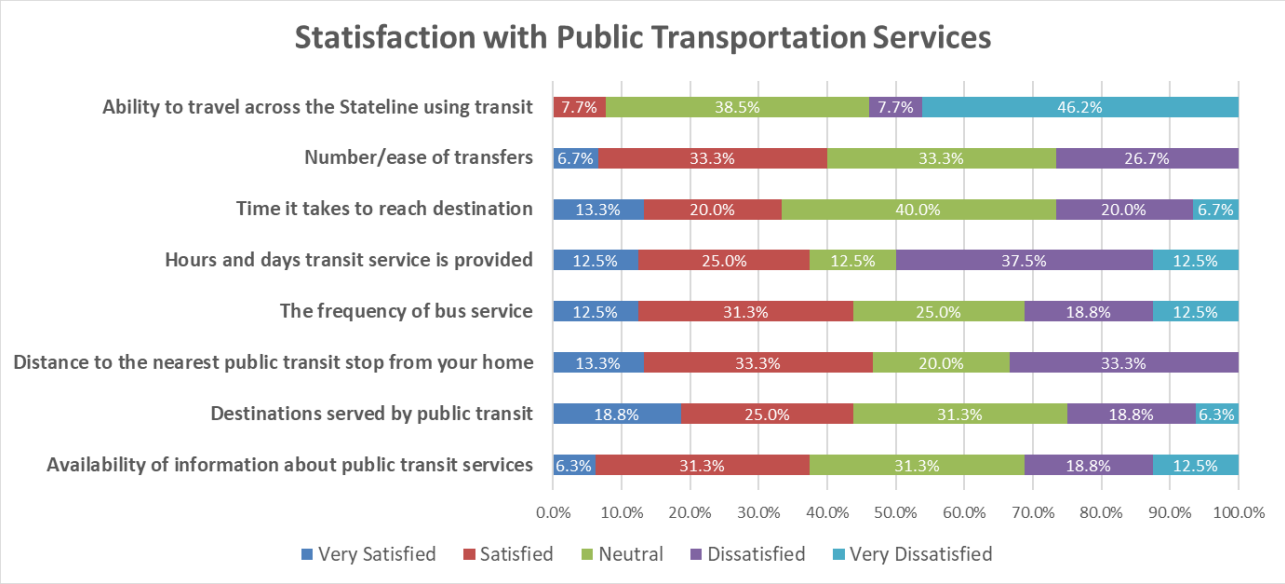


Figure 21 shows the perception of public transportation services within the SLATS MPA. This was a survey question that was include as part of the first community survey, 54% of survey respondents indicated that they are 'dissatisfied' or 'very dissatisfied' with the ability to travel between Wisconsin and Illinois using public transportation. 50% are 'dissatisfied' or 'very dissatisfied' with the hours/days of service.

FIGURE 21. PERCEPTION OF PUBLIC TRANSPORTATION SERVICES



Transit Vehicle Inventory

For additional information regarding the current BTS and SMTD fleet, see **Appendix F**. This appendix includes a discussion of transit operations and maintenance needs through the LRTP horizon year 2045.

Bicycle and Pedestrian

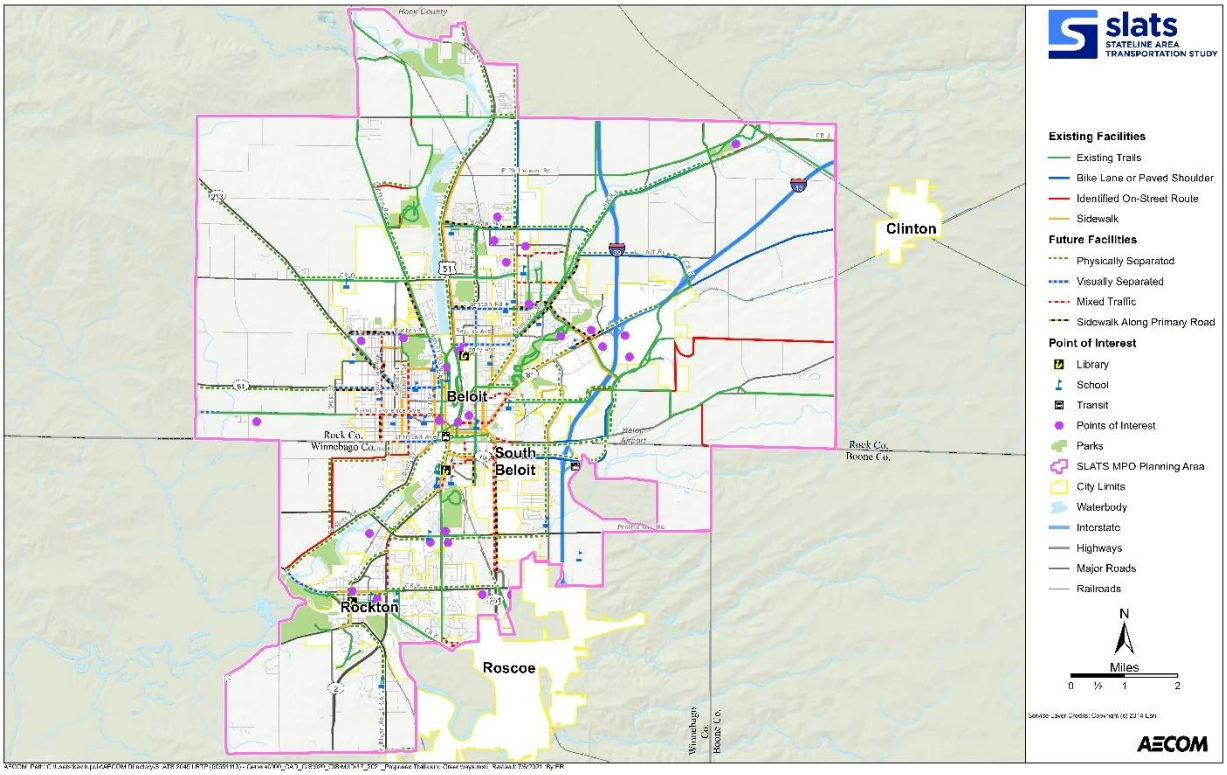
The SLATS 2017 Pedestrian and Bicycle System Plan Update (Pedestrian and Bicycle Plan) provides a roadmap for a more connected bicycle and pedestrian network, with a focus on regional connections to be constructed by local agencies and organizations. The Pedestrian and Bicycle Plan includes an existing conditions assessment. Some of the key findings from the analysis are summarized as follows:

- Beloit has historically acted as the region's center. Downtown Beloit, South Beloit, and Rockton, as well as Rock Township at the northern end of the SLATS Region, are important areas to connect through regional walking and bicycling routes.
- The region lacks east-west connectivity. There is also a desire to improve north-south connections into downtown Beloit and the riverfront.
- Residents desire places to walk and bike that feel like the riverfront: comfortable, separated from traffic, and scenic. They look for connections to the river as well as comfortable routes in their home communities.
- Equity is a key issue for the plan. Areas of high socioeconomic need must be included in system planning efforts.
- In Wisconsin, areas with the highest demand for walking and bicycling correlate with areas of high levels of socioeconomic need. The correlation is not as pronounced on the Illinois side of the study area.
- Streets perceived as high-stress routes in urban areas have multiple lanes and high traffic speeds. High stress routes in rural areas lack space to separate people walking and bicycling from people driving at high speeds.
- Low-stress areas are primarily located in residential neighborhoods. However, residents must cross busy roads to reach important destinations.
- Pedestrian crashes occur mainly at intersections of busy streets (i.e., arterials and collectors).
- Bicycle crashes occur mainly at intersections of busy streets that lack bicycle specific infrastructure, such as bike lanes. West Beloit is one exception. Many crashes in this area occurred on streets with low posted speed limits and low traffic volumes.
- The majority of bicycle and pedestrian crashes in the region resulted in injury.

To address these needs, the Pedestrian and Bicycle Plan recommended various infrastructure treatments to support walking and biking as follows. A map of the existing bicycle network as well as future facilities as envisioned in the Pedestrian and Bicycle Plan is shown in **Figure 22**.

- Mixed Traffic (bike route, shared roadway)
- Visually Separated (bike lane, paved shoulder)
- Physically Separated (trail, sidepath, separated bike lane)
- Regional Sidewalk (along primary roads, i.e. regional arterial, or collector)

FIGURE 22. SLATS EXISTING AND PLANNED BICYCLE NETWORK



Bicycle and Pedestrian Safety

Table 8 summarizes the bicycle and pedestrian related crashes within the SLATS MPA between 2017 and 2019. In total, there were ten bicycle related crashes and 17 pedestrian related crashes (NOTE: these are reported crashes). Four of the ten bicycle related crashes resulted in a fatality or serious injury while eight of the 17 pedestrian related crashes resulted in a fatality or serious injury. As discussed earlier in the roadway section, SLATS is committed to developing a multimodal transportation system that reduces fatalities and serious injuries, and helps WisDOT and IDOT toward achieving established performance measures and targets (see **Appendix G** for more details).

TABLE 8. BICYCLE AND PEDESTRIAN RELATED CRASHES, BY SEVERITY (2017 TO 2019)

	SLATS MPA	Cyclist	Pedestrian	Fatal or Serious Injury Crashes	
				Bicycle Related	Pedestrian Related
2017	Wisconsin	2	3	2	2
	Illinois	1	1	-	-
	Subtotal	3	4	2	2
2018	Wisconsin	2	6	2	2
	Illinois	1	1	-	1
	Subtotal	3	7	2	3
2019	Wisconsin	3	6	-	2
	Illinois	1	-	-	1
	Subtotal	4	6	-	3
2016 to 2019	Wisconsin	7	15	4	6
	Illinois	3	2	-	2
	Subtotal	10	17	4	8

Source: 2019 WisDOT an IDOT Traffic Counts.

Opportunities and Challenges

Education, outreach, and encouragement strategies are key to enhancing walking and bicycling and the infrastructure. The Pedestrian and Bicycle Plan recommends a number of these types of strategies to support the creation of more walkable and bicycle-friendly regional connections including:

- Create Bicycle and Pedestrian Coordinator Position – This position would serve as point person for bicycle and pedestrian policy, planning, project development, design, construction, maintenance, and related matters.
- Bicycle Friendly Communities – The League of American Bicyclist offers a certification for communities that improve conditions for recreational and transportation related bicycling.
- Implement Bike and Walk to School Days at Regional Schools – The bike/ped coordinator can serve as the regional manager with the schools themselves being responsible for planning and executing the events at their school.
- Provide Schools with an In-school Curriculum for Safe Walking and Biking – The League of American Bicyclists has a variety of educational materials for children of all ages. For the SLATS Region, good focus ages are 7, 10 and 15 (2nd, 5th, and 10th Grades).
- Conduct Outreach at New Infrastructure – Providing context and education for any new facility can be enhanced by allowing the public to answer questions face to face about that facility.
- Review the Network Bike Map on a Regular Schedule – The SLATS Region might not require a yearly update but reviewing it on a yearly basis will help keep the map current with the network as both are updated.
- Regional Count Program – Count programs use automated equipment or short-term volunteers to collect data. A regional bicycle and pedestrian count program would help the region benchmark existing bicycling and walking levels, understand regional crash trends, and help communities be more competitive for grant funding opportunities.
- Review of Existing Walking and Biking Policies – Each community in the SLATS Region has its own approach and/or policy position when it comes to bicycling and pedestrian rights as well as the rights and duties of road users. Individual communities will have to modify their municipal code to accommodate any infrastructure changes and will need to assess their vehicle codes to account for changing roadway behavior.
- Stage Bike Rodeos, Community Bike Rides, Open Streets – Events highlighting biking in the region will help promote the current state of infrastructure and safety

Issues Identified by the Public

The online mapping tool recorded the location of bicycle and pedestrian concerns within the SLATS MPA. In total, 76 individuals identified bicycle concerns, and 44 identified walking/pedestrian concerns. Some of the comments included potential improvements. **Figure 23** displays the bicycle areas of concern as identified through the online mapping tool. **Figure 24** displays the walking areas of concern.

Bicycling Comments

In general, the bicycle comments mirror priorities identified in the recent Bicycle plan. Respondents expressed a desire to complete a link for Peace Trail off road path from Big Hill Park into City of Beloit, and stakeholder meetings identified work to identify a connection to Big Hill Park as a top priority.

Another area that was highlighted was a desire to connect the Rockton Road bike path to Stone Bridge Trail. The path ends by Walmart, but some would like to see this extended to NorthPointe Health & Wellness Campus. Another comment identified the need to connect the new ABC Supply Stadium in Beloit to the Nature at the Confluence in South Beloit. This was also mentioned during stakeholder meetings.

Comments also focused on enhancing safety for bicyclists, and pedestrians. Adding a bike trail along Milwaukee Road from White Ave to Fruzen Middle School was identified as part of the online mapping and represents a priority project in the Bicycle plan. Several roadways throughout the MPA were mentioned for possible road diets, again consistent with the current Bicycle Plan. The Willowbrook corridor was also identified as an area that should be given special attention, especially with the casino complex opening in a few years. Other comments focused on the need to better maintain bicycle facilities, and some mentioned specific roadways in need of repair (i.e., potholes, poor pavement, etc.) that should be improved to better, and more safely, accommodate bicycle travel. Cranston and Elmwood were both identified as important roadways to address.

Comments from the stakeholder meetings also reflect several of the online mapping issues. One comment, which expanded upon an online mapping comment, was related to bicycle travel along Blackhawk Boulevard (IL 2). It was mentioned that it is difficult to bike along this corridor and it will be important to secure funds for bicycle facilities to be incorporated into the planned roadway reconstruction (IDOT is currently studying this corridor). A complete list of comments received is included in **Appendix A**. This includes comments from the community surveys, online mapping, and stakeholder meetings.

Walking/Pedestrian Comments

With regard to walking (pedestrians), the comments generally reflect a desire to improve overall safety. Several comments identified the need to improve intersection crossings and some identified locations where sidewalks do not exist. In particular, several locations near schools were identified as concerns due to a lack of nearby sidewalks, or gaps in the sidewalk network. On area that was identified with no sidewalks was along IL 251. This was of particular concern given the high travel speeds along this corridor.

As part of the stakeholder meetings, some individuals discussed the challenges of safely accessing areas in downtown Beloit. In general, concerns regarding east-west connectivity, and crossing the river, were of high importance. Improving connections to schools was another important concern. Finally, some mentioned the need to better enforce keeping bikes off of sidewalks to enhance pedestrian safety. This was also a concern identified in the online mapping. Additional comments are included in **Appendix A**.

FIGURE 23. BICYCLE CONCERNS (AS IDENTIFIED BY THE PUBLIC)

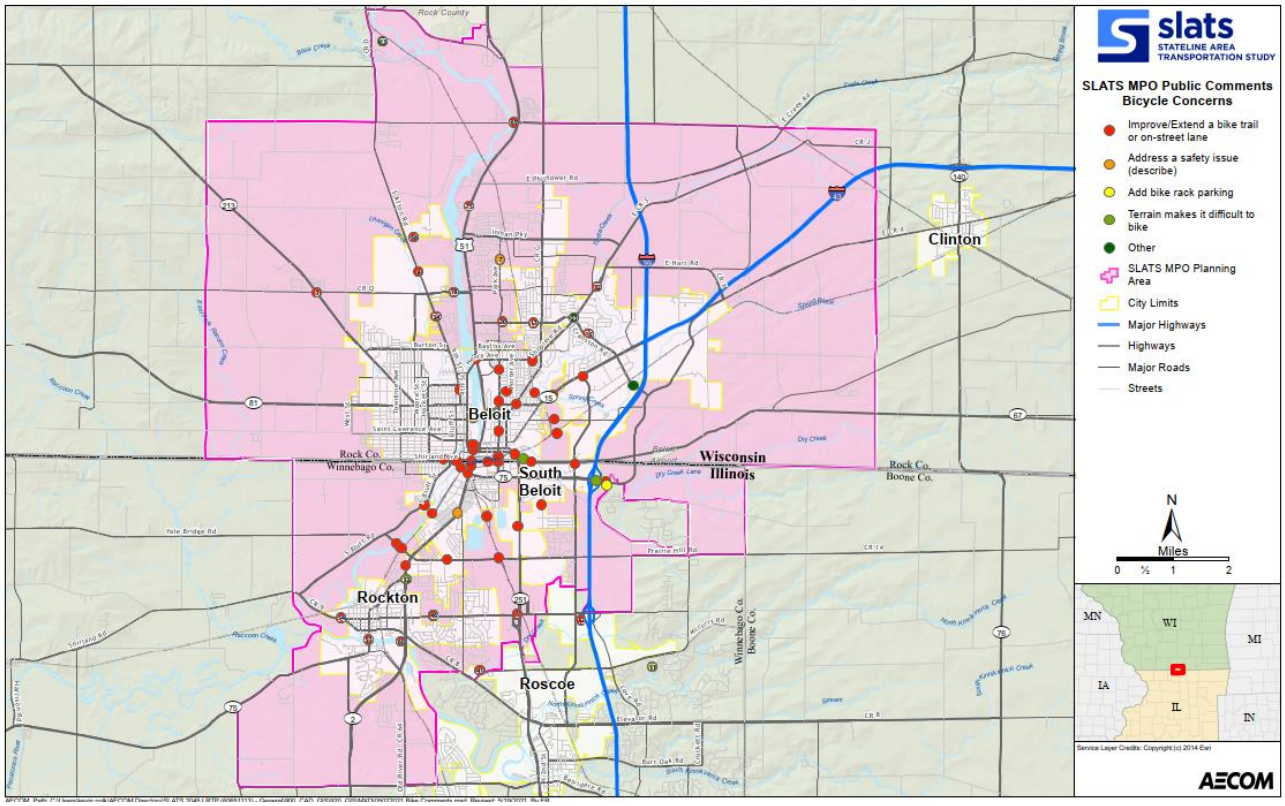
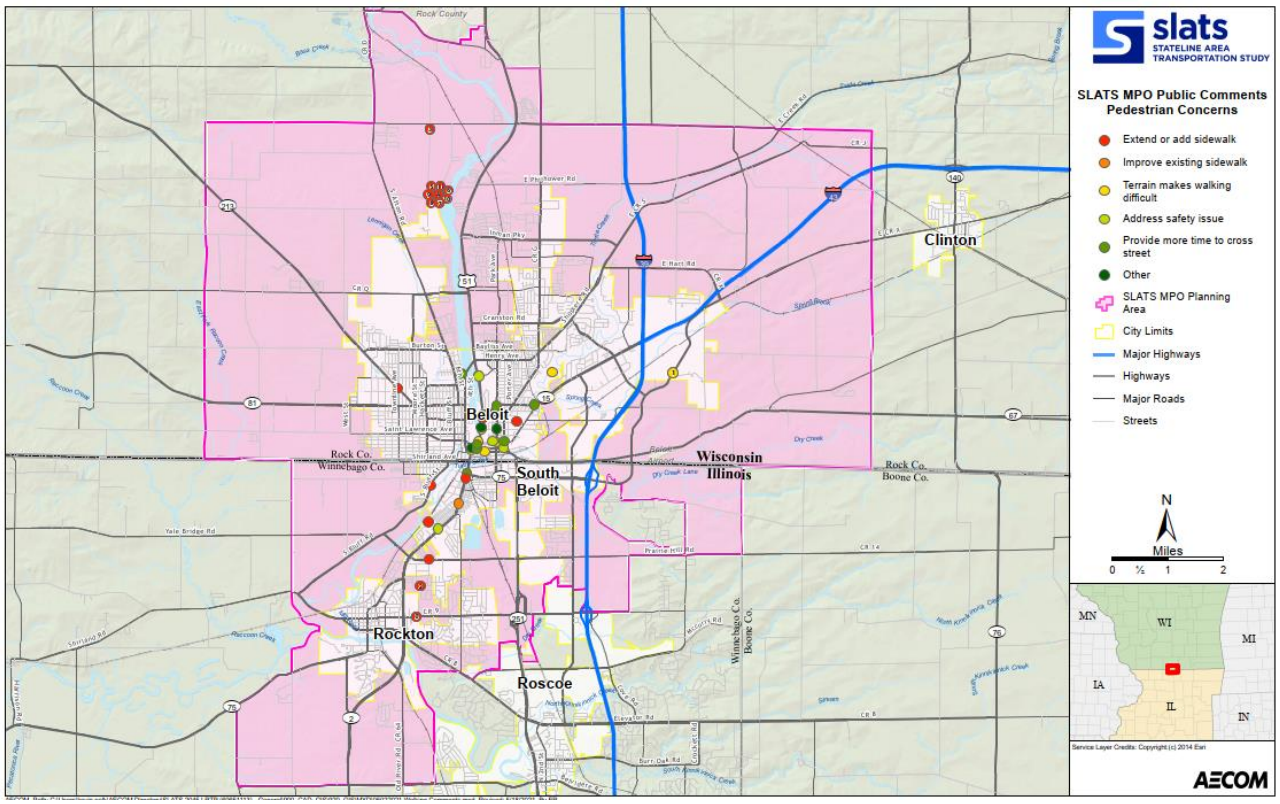


FIGURE 24. PEDESTRIAN CONCERNS (AS IDENTIFIED BY THE PUBLIC)



Freight

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 byall 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. The I-39/90 corridor widening that occurred in recent years has provided much needed congestion relief to facilitate reliable travel times.

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 25** highlights regional freight facilities, or freight assets, in relationship to the SLATS MPA. **Figure 26** also highlights some of the major employers within the SLATS MPA, several of which are key players in the freight industry, including the recent additional of Amazon.

FIGURE 25. REGIONAL FREIGHT FACILITIES/ASSETS

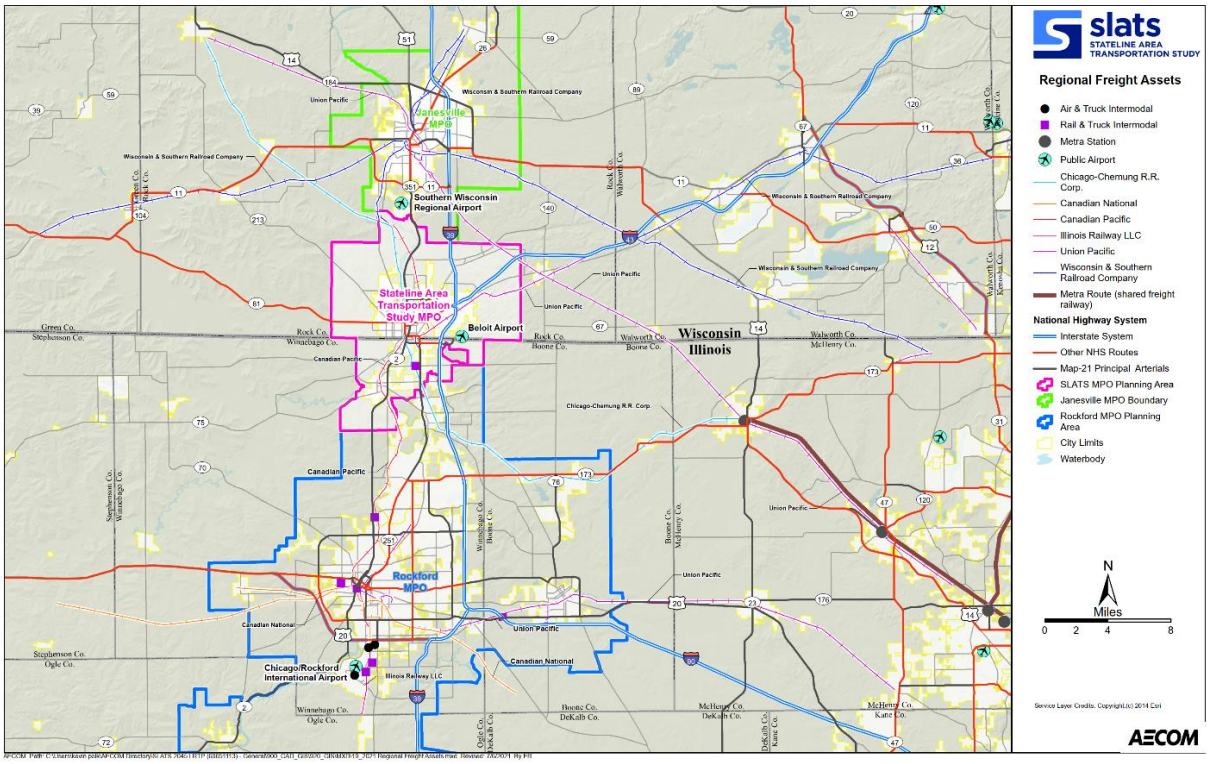
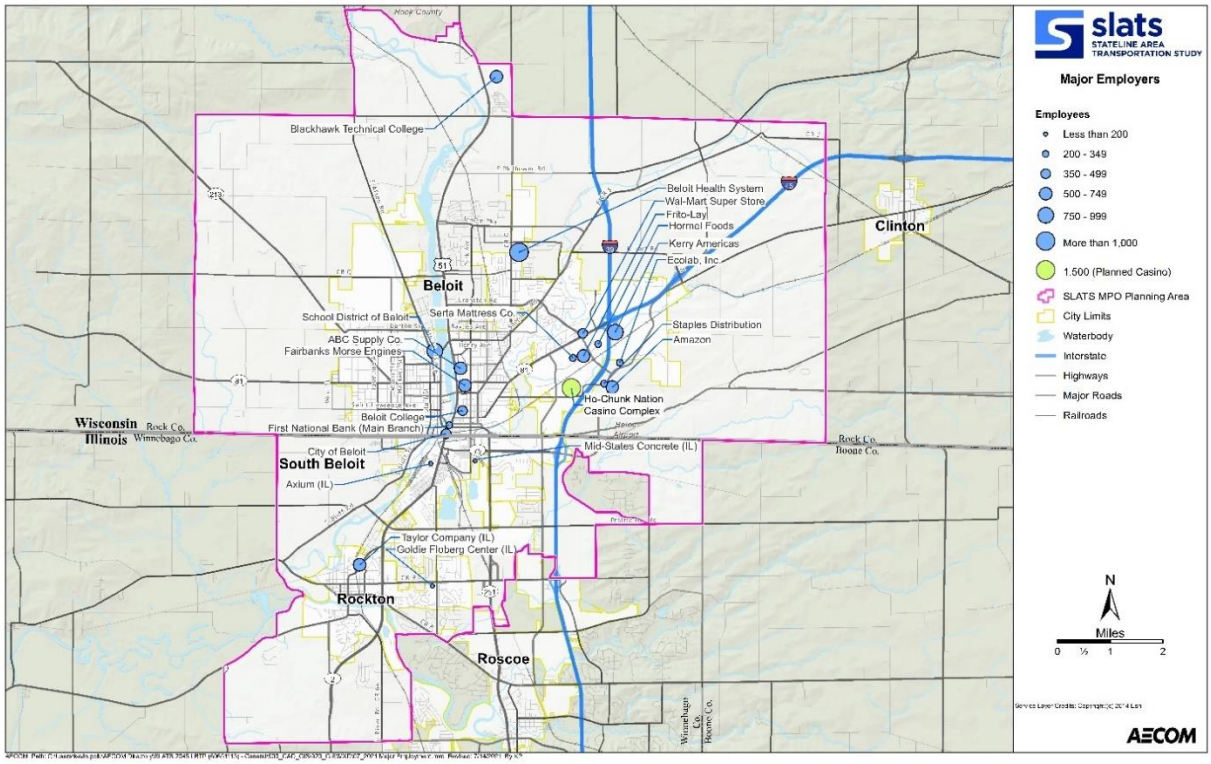


FIGURE 26. REGIONAL FREIGHT FACILITIES/ASSETS



National Freight Perspective

The Fixing America's Surface Transportation Act (FAST Act) established 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

Changes in the production, purchasing, and consumption habits of consumers have changed the way freight carriers operate. In the past, manufacturers maintained large inventories in warehouses. Today, most goods are produced based on consumer demand and delivered just-in-time (JIT) for the next phase of production or consumption. This strategy seeks to minimize inventory investment by scheduling delivery of raw material or components to the point where they are needed, at the precise time they are required. Therefore, trucks (as well as rail cars and ship containers) have become "mobile warehouses" residing on the transportation system. JIT shipping practices have created a greater reliance on a transportation system that provides predictable travel times, but have also made supply chains more vulnerable to disruptions by suppliers or along transportation routes.

In addition, E-commerce continues to grow at a rapid pace, which was further spurred on over the past year (during the COVID-19 pandemic). E-commerce is shifting freight distribution towards more point-to-point shipments from warehouses to homes which is resulting in more short trips in urban areas via parcel trucks. In addition, some companies now rely on individuals who drive their personal vehicles to deliver goods.

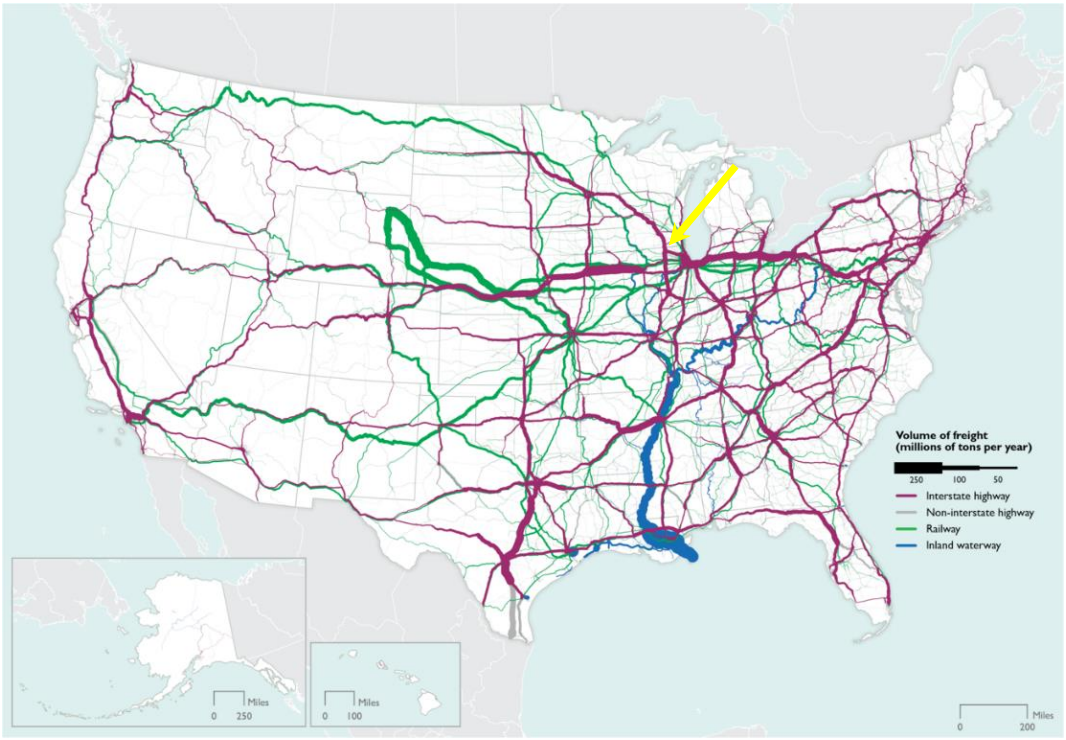
To meet the increasing consumer demands for quicker product delivery, nationwide distribution centers are likely to become smaller, but there will be more of them and they will be located closer to major metropolitan areas. This was the case when Amazon located a distribution center within the SLATS MPA. High-quality access to interstate system, along with sufficient roadway capacity and reliable travel times, makes the SLATS region an ideal location for companies to access major markets, including Chicago and Milwaukee.

Increasingly, companies are demanding efficient, reliable, and safe systems to transport merchandise on a predictable timetable, and to ensure employees can access job opportunities. Distribution centers that are smaller in size and larger in number will allow for precise delivery schedules. There will continue to be

significant pressure on shippers and goods receivers to lower inventory costs. Retailers and manufacturers will continue to streamline their processes, dropping smaller amounts at more frequent intervals at stores and factories. Future year (2045) freight conditions are discussed toward the end of this document.

Finally, **Figure 27** displays freight flows (highway, rail, and waterways) across the US. As shown by the arrow, the SLATS MPA is located at a major east-west/north-south location within the larger freight network. As such, the SLATS MPA is likely to continue to attract business that are needing access to a quality transportation infrastructure.

FIGURE 27. FREIGHT FLOWS BY HIGHWAY, RAILWAY, AND WATERWAY (2017)



Source: Highway: U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, version 4.5, 2019. Rail: USDOT, Federal Railroad Administration, 2019. Inland Waterways: U.S. Army Corps of Engineers, Institute of Water Resources, Annual Vessel Operating Activity and Lock Performance Monitoring System data, 2018.

WisDOT State Freight Plan

Enhancing freight mobility is a top priority for WisDOT. The State Freight Plan (SFP) provides a vision for multimodal freight transportation and positions the state to remain competitive in the global marketplace. The SFP was approved by the U.S. Department of Transportation on March 19, 2018.

Key elements of the plan include:

- Links transportation investments to economic development activities
- Places Wisconsin within a national and global context
- Engages and reflects the interests of a wide array of freight stakeholders
- Guides implementation – from planning to project development to programming
- Provides performance measures and management

As documented in the plan, Wisconsin freight tonnage is forecast to increase 74 percent across all transportation modes from 2013 to 2040, with the economic value of this freight increasing more than 134 percent. Over one billion tons of freight is estimated to move statewide in 2040 with an approximate value nearly $1.5 trillion. Given SLATS proximity to Chicago, it is likely that the region will continue to be an attractive location for businesses and distribution facilities to locate.

IDOT State Freight Plan

The 2017 Illinois State Freight Plan was developed in accordance with freight plan guidelines established in FAST Act. Over 1 billion tons of freight, valued at nearly $3 trillion, was moved to, from, or within Illinois in 2014. Ogle County, with the Union Pacific Global III terminal at Rochelle, had an estimated origination and termination tonnages of 0.6 and 0.3 million tons, respectively in 2014. However, in 2019 it was announced that Union Pacific Railroad would close the Global III ramp intermodal operation.

The airport in Rockford (Chicago Rockford International Airport), which is a regional air hub for the United Parcel Service (UPS), is second to O'Hare in Illinois in both total inbound and outbound air cargo for air freight statewide, with 5.6 percent of inbound tonnage and 8.6 percent of outbound tonnage. The UPS regional air hub influence is reflected in the belly and freighter percentages at the Rockford Airport.[5] The belly percentages for both inbound and outbound are virtually nonexistent, indicating that this airport is serving mostly freight cargo.

SLATS MPA 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 region compared to other congested areas in surrounding

[5] There are generally two options for goods to be shipped via airfreight: transportation via passenger aircraft (belly freight/lower deck) or via cargo only aircraft (freighter/main deck).

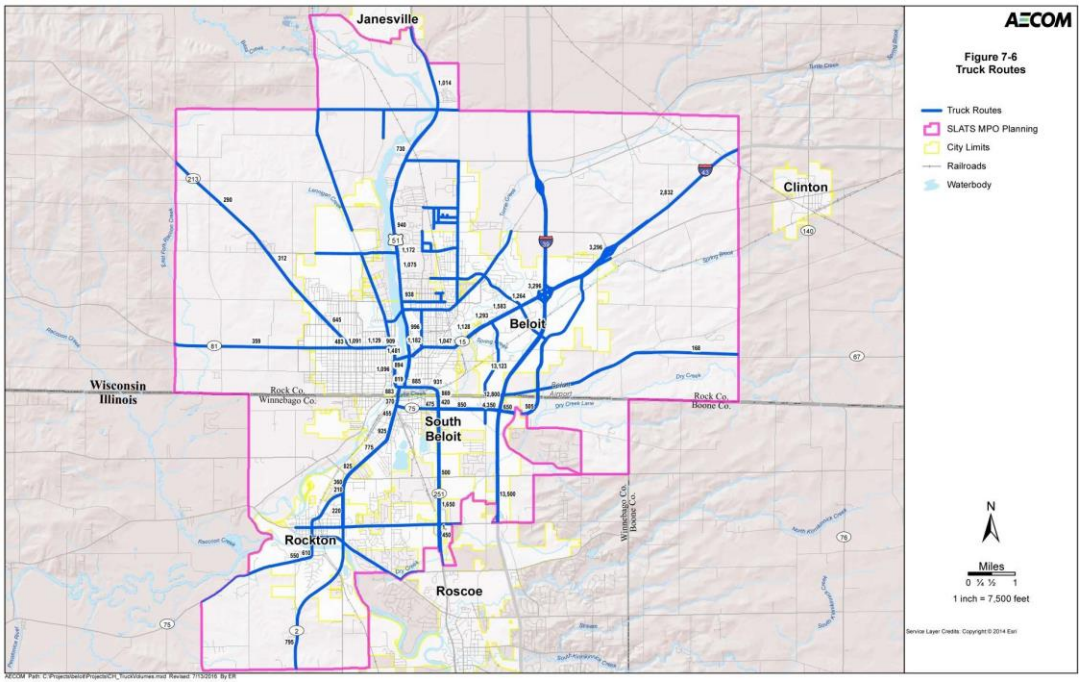
metropolitan regions. Growth in freight has sometimes caused issues concerning truck and automobile traffic mixing which can potentially lead to safety concerns. This can also lead to general roadway infrastructure deficiencies since local truck routes and access points cannot adequately accommodate 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 designedand 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, garbagetrucks, 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 28 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 may help address potential conflicts on the local roadway network. This should also be a primary consideration when identifying and prioritizing future roadway projects/investments.

FIGURE 28. TRUCK ROUTES



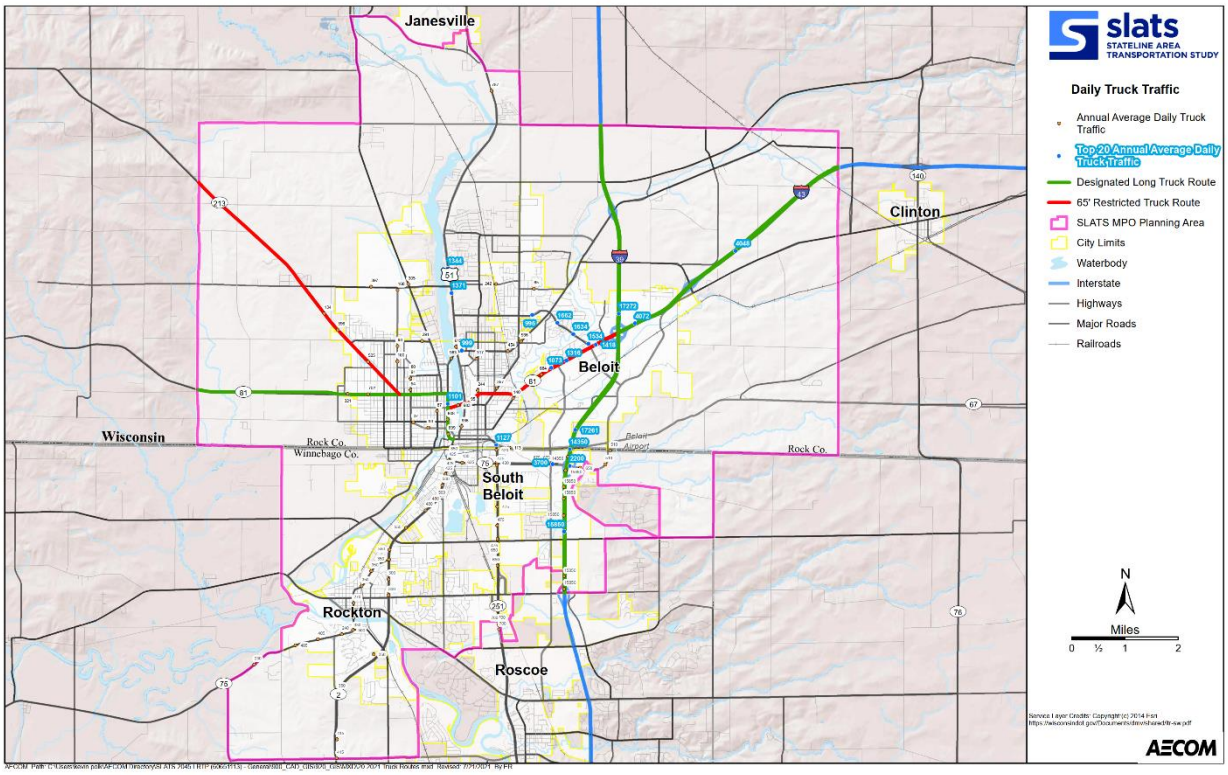
Daily Truck Traffic Volumes within the SLATS MPA

The highest daily truck traffic volumes are on I-39/90, north of the Wisconsin-Illinois state line. Truck volumes on the Wisconsin portion of I-39/90 average 17,300 trucks per day. Truck volumes on I-39/90, just north of WIS 81, represent 36% of the AADT. Closer to the state line, truck volumes on I-39/90 represent 38% of the AADT. On the Illinois side, daily truck volumes on I-39/90 approach 15,900, representing 30% of the AADT. Daily truck volumes on I-43, east of I-39/90, reach 4,100, or nearly 24% of the AADT.

The highest non-interstate daily truck volumes are observed along Gardner Street (IL 75). West of I-39/90, daily truck volumes reach 3,700 or nearly 31% of the 12,000 AADT. East of I-39/90, daily truck volumes reach 2,200, or 27% of the 8,150 AADT. Gardner Street is discussed further in the next section.

Limited river crossings in the SLATS MPA result in trucks traveling through the downtown area. The Henry Avenue and Portland Avenue bridges each carry approximately 1,000 trucks per day. WIS 81 (Milwaukee Road) is another heavily traveled corridor with truck volumes ranging between 1,100 and 1,500, from I-39/90 to just west of Willowbrook Road. It should be noted that the completion of the I-39/90 and I-43 interchange may alter truck patterns and could potentially reduce some truck traffic that might temporarily have used alternate routes, including local roadways, during construction. It will be important to monitor truck volumes, and truck patterns, following the completion of the interchange to determine the long-term impacts on the SLATS roadway network. **Figure 29** displays current daily truck volumes in the SLATS MPA.

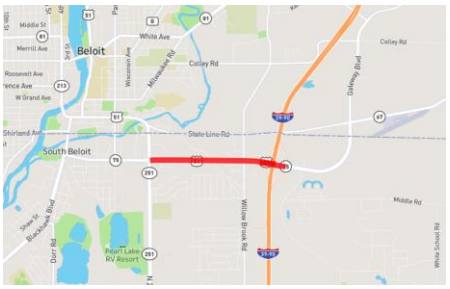
FIGURE 29. AVERAGE DAILY TRUCK VOLUMES



Freight Bottleneck

A recent statewide IDOT Truck Bottleneck study identified one segment within the SLATS MPA. Gardner Street, between I-39/90 and IL 251, ranked 17th for the Urban Other category.[6] As such, this segment is considered to be one of the most severe freight bottlenecks in the state. **Figure 30** shows the segment between I-39/90 and IL 251 in South Beloit.

FIGURE 30. GARDNER STREET BOTTLENECK (SOUTH BELOIT)



This segment of Gardner Street carries 3,700 trucks, or nearly 31% of the 12,000 AADT, west of I-39/90. East of I-39/90, daily truck volumes reach 2,200, or 27% of the 8,150 AADT. The bottleneck study further found this segment to have an 84% unreliability metric, a secondary congestion measure used for the analysis. The average travel speed on the corridor was also calculated at 21.0 mph, compared to the free flow speed which was reported as 40.6 mph.

While this bottleneck does not show up in the travel demand forecasting results as far as a capacity concern, the heavy truck traffic is likely a contributing factor to operational issues, and potentially perceived congestion concerns. A main concern along Garner Street is the two truck stop generators located at IL 75 and Willowbrook Road. Currently, there are geometric issues with Willowbrook Road from the north truck stop entrance/exit (north side of IL 75) through to the south truck stop entrance/exit (south side of IL 75) spanning the intersection. On the north side of IL 75 in particular, trucks frequently complete their right-turn into the truck stop from the through travel lane, avoiding using the designated right-turn lane, or additional shoulder width that is present. The painted median in this area of Gardner Street is also frequently used by trucks and cars alike to travel south. Furthermore, another operational concern in this area is related to current traffic signal timing, and/or a lack of signal coordination at the exit/entrance ramps to/from IL 75 to I-39/90, and IL 75 and Willowbrook Road. Based on local feedback, it is not unusual for a motorist to experience delays when traveling this corridor, including having to stop at all three intersections.

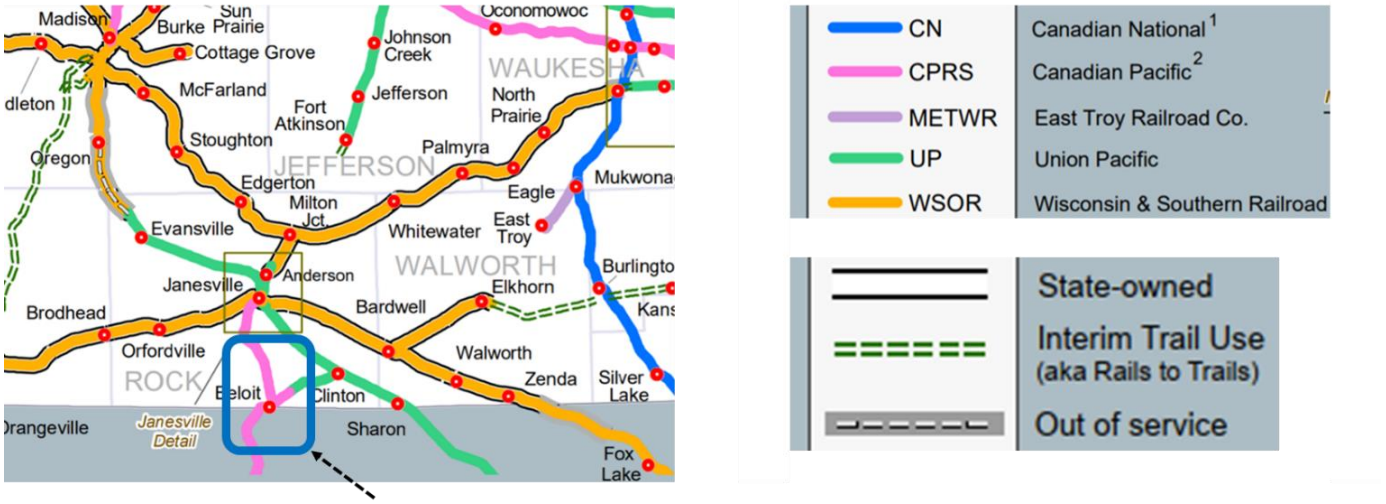
A few additional items worth noting as it relates to the Gardner Street truck bottleneck. First, there is a precast concrete manufacturer located west of IL 251 which could be a contributing factor, particularly when traveling eastbound toward I-39/90. Additionally, the City of South Beloit has previously noted that truck traffic is evident along the entire IL 75 corridor through town so the potential bottleneck, or perceived congestion and/or operational concerns, may extend further west toward Blackhawk Boulevard.

[6] The study reviewed approximately 180 locations and identified the top 25 locations in three categories: Urban Chicago, Urban Other, and Rural.

Rail

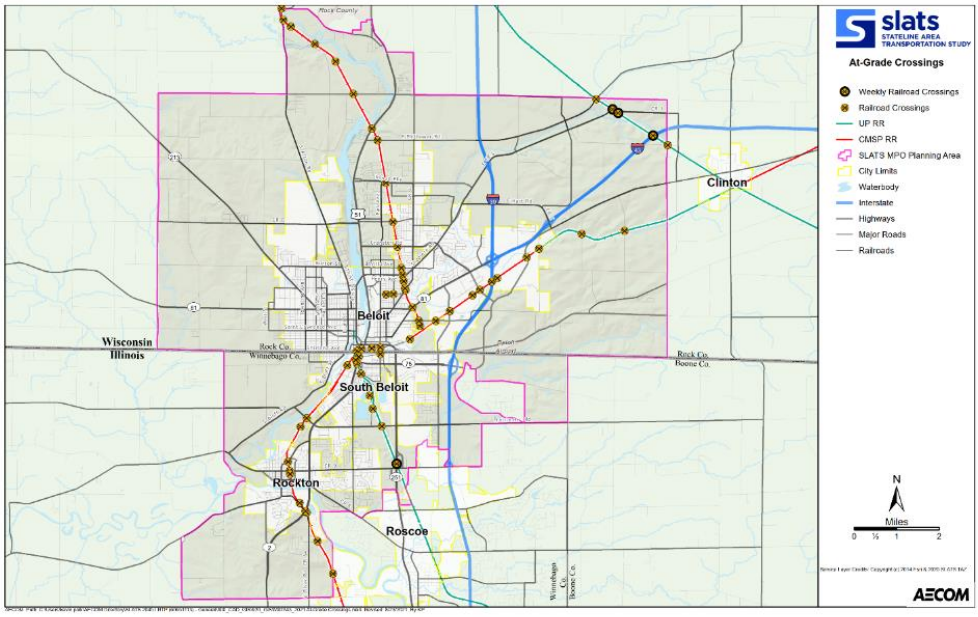
The freight rail network in SLATS MPA facilitates movement into and out of the region via two Class I railways. Canadian Pacific (CP) and Union Pacific (UP) both operate within the MPA. CP provides a freight rail connection to Janesville to the north and Rockford to the south. UP provides a freight rail connection to Janesville to the north and the Chicago region to the southeast. Generally speaking, the rail movements within the SLATS region are fairly minimal as other rail corridors are primarily used to access the Chicago rail network. **Figure 31** shows the regional rail network. **Figure 32** shows the at-grade rail crossing locations within the SLATS MPA.

FIGURE 31. REGIONAL RAIL OPERATIONS



Source: WisDOT 2021 State Rail Map.

FIGURE 32. AT-GRADE RAIL CROSSINGS



Aviation

The Southern Wisconsin Regional Airport and Beloit Airport are located within the immediate vicinity of the SLATS MPA (previously displayed in **Figure 25**). The Southern Wisconsin Regional Airport (KJVL) is located in the City of Janesville, just a few minutes off of the I-39/ I-90 and STH 11 Interchange. The Airport is approximately 60 miles southwest of Milwaukee, 90 miles northwest of Chicago, 30 miles north of Rockford and 40 miles south of Madison.

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, there are over 50,000 landing/take-off operations and the movement of one-half million pounds of freight annually. The airport includes a FAA maintained on-site control tower in addition to accommodating T-Hangars, corporate aviation, and air cargo development sites.

The Beloit Airport, designated as 44C by the FAA, 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 at approximately 3,300 feet and with a few support hangars. As of June 2020, there were 51 aircraft based at the airport and for the 12-month period ending in May 2019 there were 19,630 aircraft operations.

There are no commercial flights available out of Southern Wisconsin Regional Airport or Beloit Airport. 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 for general aviation purposes.

Future Year Conditions

The SLATS LRTP has a horizon year of the 2045. As previously documented in this planning process, the region is expected to see continued growth in population and employment (See **Appendix C** for details on demographic trends and projections). The following discusses some of the anticipated future year conditions as it relates to the roadway and freight network. This section also includes a high-level discussion of emerging technology, which is likely to impact future transportation infrastructure and the delivery of mobility services.

Regional Travel Demand Modeling

SLATS coordinates with the WisDOT traffic modeling staff to analyze future year traffic conditions using the regional travel demand forecasting model that include Rock County, and the Illinois portion of the SLATS MPA. As part of the 2045 LRTP update, WisDOT provided model results for a base year (2020) condition, as well as year 2050 model results for an existing plus committed (E+C) transportation network.[7] For the purpose of this LRTP update, the year 2050 model results are assumed to reflect year 2045 conditions to be consistent with the LRTP horizon year. Furthermore, future year conditions were modeled consistent with the projected population and employment socioeconomic data which was reviewed by SLATS and provided to WisDOT.

The travel demand modeling process can determine level-of-service (LOS) for streets within the planning area by considering modeled volume, the number of lanes, cross section, area type, signalization, and the functional classification of the road. LOS is a traffic flow measure describing conditions experienced by travelers and is one of the key indicators used to understand transportation system performance and to identify deficiencies in the roadway network. The ADT thresholds are based on the Transportation Research Board's (TRB) Highway Capacity Manual 6th Edition (HCM6) capacity calculations. High level descriptions of the amount of congestion a traveler can expect in each LOS value is described in **Table 9**.

LOS Thresholds indicate the maximum desirable LOS, or congestion level, by roadway type in both rural and urban areas. The threshold system recognizes that the level of desirable congestion changes with a population's size and a roadway's functional classification. The ADT thresholds are based on hourly directional thresholds developed using HCM6 capacity equations that are expanded to ADTs using WisDOT-developed equations. Representative input assumptions are made for each ADT class for both hourly threshold development and ADT expansion to facilitate generating LOS results for the SLATS MPA.

[7] An existing plus committed, or E+C network, includes projects that the MPO knows will be completed by the horizon year.

TABLE 9. CONGESTION LEVELS FOR EACH LOS VALUE

	LOS	Description
Best ↓ Worst	A	**Not congested**. Free flow - Users unaffected by one another. Free to maneuver and select desired speed. High level of comfort.
	B	**Not congested**. Stable flow – Users notice the presence of other drivers. Free to select desired speed, but slight decrease in maneuverability. Comfort slightly less, due to increased presence of other drivers.
	C	**Minimal congestion**. Stable to beginning of high-density flow - Other drivers affect your speed and force you to maneuver carefully. Comfort begins to decline noticeably. Point where other drivers begin to significantly impact your driving.
	D	**Moderate congestion**. High-density, stable flow - Speed and maneuvering are severely restricted. Comfort level is poor. Point where a minimal increase in traffic will cause problems.
	E	**Severe congestion**. Operating at or near capacity level. All speeds are reduced to a uniform low value. Maneuvering is very difficult. Comfort level are extremely poor, driver frustration levels are generally high. Point where small increases in traffic or minor problems in the traffic stream will cause backups.
	F	**Extreme congestion**. Forced or break-down flow. Characterized by stop and go traffic. Created when the amount of traffic approaching a point is greater than the capacity that can pass that point.

Source: WisDOT Model Documentation.

Future Year Model Scenarios

The project team coordinated with the WisDOT staff to model future year conditions. Based on current conditions, and the 2020 baseline model results, the project team was starting from the perspective that the SLATS MPA has relatively little to no traffic congestion (reoccurring, or extended, congestion that happens on a daily basis). As such, this allowed the project team to evaluate the capacity impacts for a wide-range of potential future year scenarios (see **Figure 33**).

Consistent with complete streets principles, and the Pedestrian and Bicycle Plan, several projects were identified for possible inclusion of bike accommodations. Some projects involve restriping two-lane roads with excessively wide lanes or extra space, other projects include converting four-lane roadways to three-lanes, and a few projects involve reconstruction (such as Elmwood and Townline). These projects are coded in orange.

Additional roadway improvements were also categorized into two tiers, the first being projects that focus primarily on needs within the existing urbanized area (identified in green). Generally speaking, these are projects that would most likely be candidates for the priorities through the LRTP horizon year 2045. A second tier of projects, identified in blue, are potential projects that could address long-term needs beyond the 2045 planning horizon. These projects primarily address potential network connectivity issues and were not modeled for as part of the 2045 LRTP analysis. While not modeled, identifying these projects helps

inform other transportation project development, future land use decisions, and future development decisions.

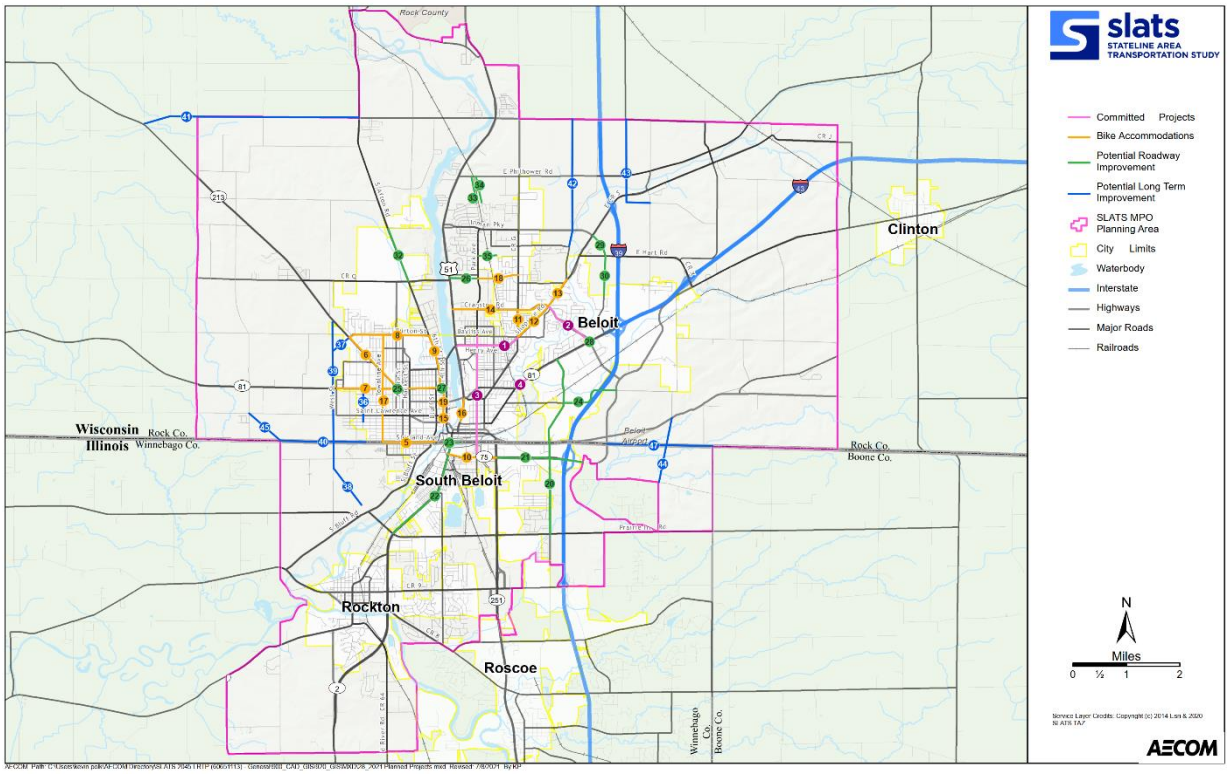
Once again, it is important to note that just because a potential project is included on this map does not mean that SLATS will construct it. Several factors are taken into consideration and projects that eventually end up in construction require additional detailed study, engineering, and design.

The future year projects/scenarios that were evaluated to identify potential capacity concerns included:

1. Existing Plus Committed (E+C) Baseline Run (Scenario 1)
2. Complete Streets Analysis (Bike accommodations) – (Scenarios 1 + 2)
3. Potential Additional Roadway Improvements – (Scenarios 1 + 3)
4. Combined Scenario (Complete Streets and Potential Roadway Improvements) – (Scenarios 1 + 2 + 3)

The LOS results for the 2050 traffic conditions for all four scenarios showed no significant capacity concerns (**Figures 34 to 37** display the model results). As previously mentioned with the existing conditions analysis, one area worth noting is that the model appears to be under-assigning traffic a little on White Avenue (Woodward Avenue to Milwaukee Road, mostly east of Prairie Avenue). Based on counts, this corridor is very close to reaching LOS D and this corridor should continue to be monitored for potential future LOS concerns as well. The following summarizes the projects that were coded in each model run.

FIGURE 33. POTENTIAL ROADWAY/FREIGHT PROJECTS



*Note it was not necessary to model all corridors in Figure 33 (and noted below). Projects that involved roadway capacity changes were modelled. Others that add bike facilities without capacity changes are not

modelled but are also shown. Lastly, potential long term improvements and connections have been identified for future planning purposes only. They are not included in the model.

Existing Plus Committed (E+C) Baseline Run

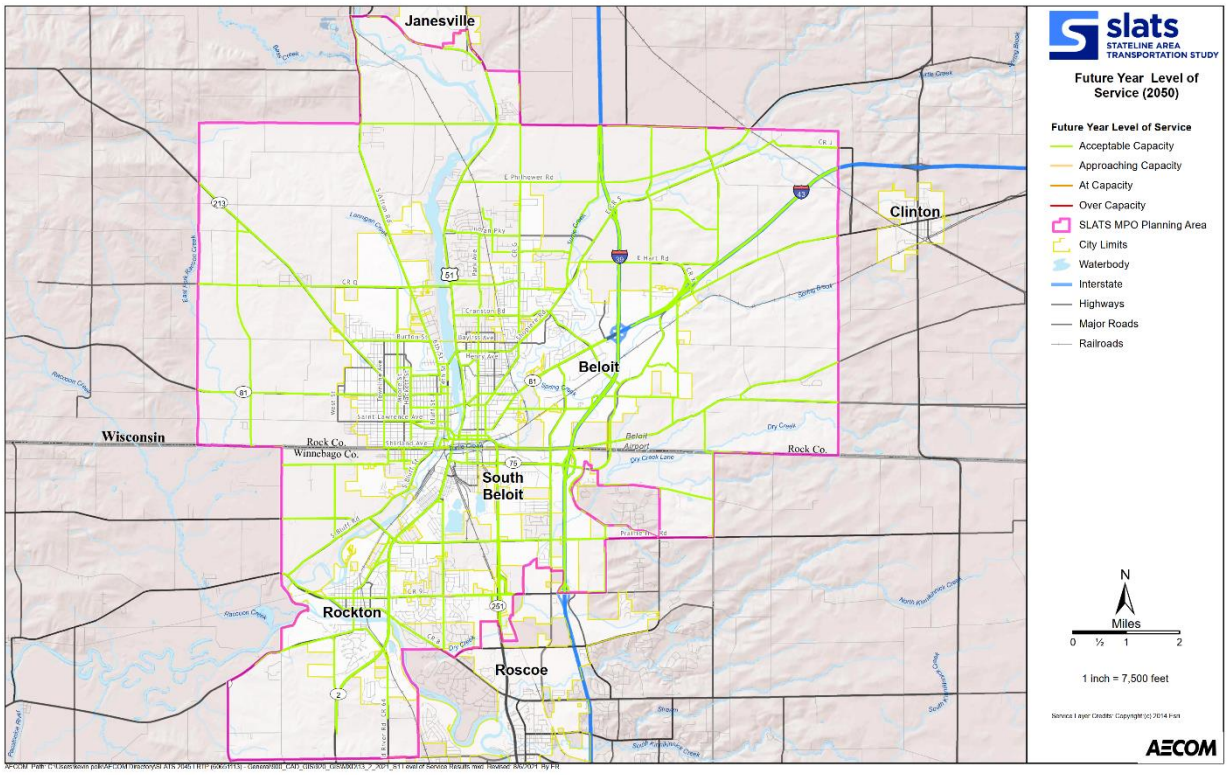
The E+C future year baseline run represents projects that are happening within the next few years and as such will be part of the SLATS future transportation network. The following projects were included:

1. **Henry from US 51 to Prairie** – 4 to 2 lanes with bike lanes and some parking lanes
   - US 51 to Royce in 2021
   - Royce to Prairie to be completed in 2023
2. **Cranston from Shopiere to Milwaukee** - 4 to 2 lanes with bike lanes and painted median
   - Committed project for 2021
3. **Park from Broad to north to Bayliss (and Broad south to Ingersol* with South Beloit) –** Some sections are currently 2, some are 4. All sections evaluated for 2 lanes with bike lanes and some parking lanes. See additional note* below.
4. **Milwaukee Road from Leeson Park to White Avenue** - 4 to 2 lane conversion with a TWLTL and bike lanes from Lesson Park to the railroad, and left turn only and bike lanes from railroad to curve at White Avenue
   - Committed for 2022 (for purposes of the model)

*The plan for Park was to go all the way to Gardner, but that will require a full intersection study and upgrades since it is a State Highway (IL-75). As such South Beloit is stopping short for the time being and connecting south of Gardner via local roads). The Park Avenue portion with Beloit is planned for late summer/fall 2021. The South Beloit portion that continues south of Gardner via local roads is also planned for completion in fall 2021.

Based on this model run, **Figure 34** shows that no capacity concerns are anticipated.

FIGURE 34. PROJECTED YEAR 2050 TRAFFIC CONGESTION (SCENARIO 1)



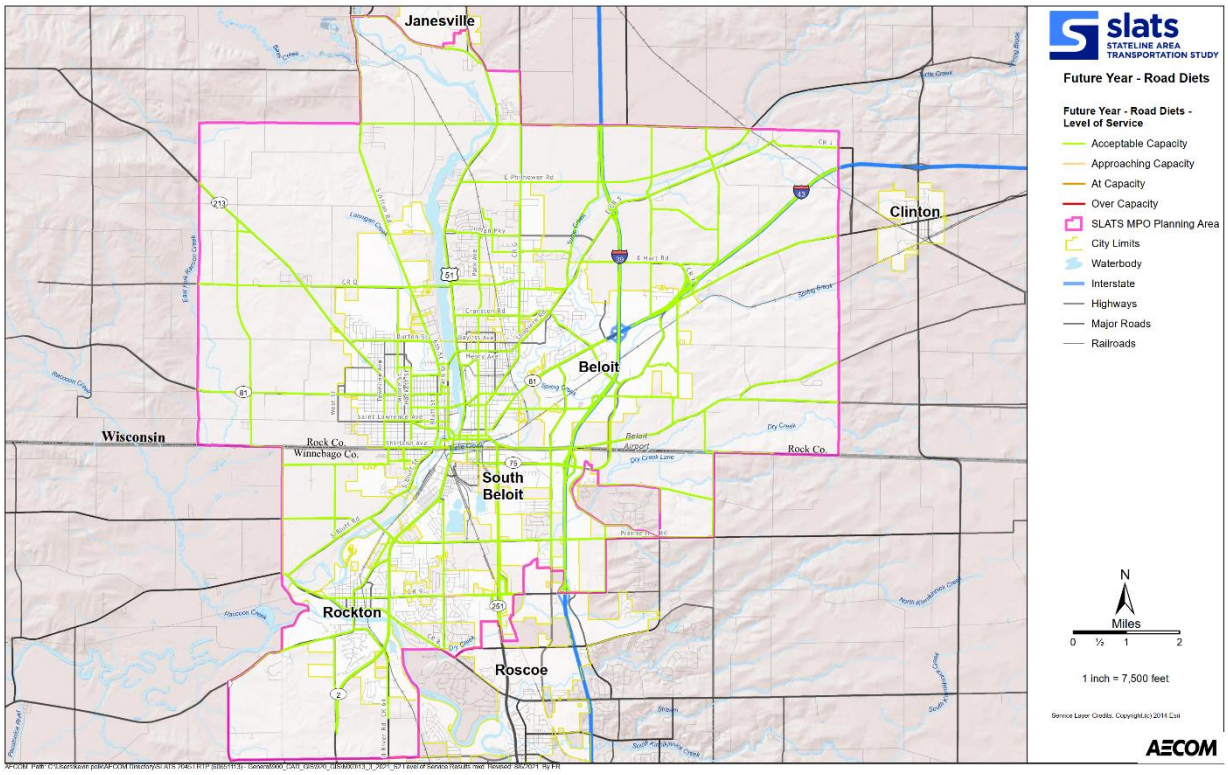
Complete Streets Analysis (Bike Accommodations) – (Scenarios 1 + 2)

Scenario 2, which also includes the Scenario 1 projects, represents projects within the SLATS MPA that could potentially include on-street bike accommodations. These roadway projects are not currently programmed and some of the improvements could involve reducing the number of travel lanes (for example, going from four-lanes to two or three-lanes). In addition, some of the projects could require additional street width which might require a reconstruction. Furthermore, the projects that were identified for this scenario are consistent with the SLATS Pedestrian and Bicycle Plan recommendations. It should be noted that the purpose of this modeling exercise is to evaluate the potential capacity concerns and further analysis would be required of all of these projects before any project would advance to design and construction. It is also important to state that the project descriptions, or potential improvements, could also change based on further evaluation and study. The following projects were included in Scenario 2:

5. **Shirland (Bluff to Townline)** – Eastern limits dependent on stadium. – Modelled to identify potential capacity issues if reconfigured. This could allow space for bike lanes.
6. **Madison (Liberty to Burton)** - Modelled to identify potential capacity issues if reconfigured west of Townline Ave. This could allow space for bike lanes. East of Townline is not 4 lanes currently, but there is space for 2 lanes and bike lanes.
7. **Liberty (West to Fifth)** - Not specifically 4 lanes currently, but there is space for 2 lanes and bike lanes
    - Not run in the model since it is two lanes
8. **Burton (Madison to Sixth)** - Not specifically 4 lanes currently, but there is space for 2 lanes and bike lanes
    - Not run in the model since it is two lanes
9. **Sixth (Liberty to Burton – Burton to Newark has existing bike lanes)** - Modelled to identify potential capacity issues if reconfigured. This could allow space for bike lanes from Liberty to Olympian. North of Olympian is not specifically4 lanes currently, but there is space for 2 lanes and bike lanes
    - Striping stops at Olympian
10. **Gardner** (Park (or potentially 251) to Blackhawk) – Modelled to identify potential capacity issues if reconfigured. This could allow space for bike lanes and potentially a raised median.
11. **Prairie** (Shopiere to Cranston) - Not 4 lanes currently, but there is space for 2 lanes and bike lanes and some parking lanes
    - Not run in the model since it is two lanes
12. **Shopiere** (Prairie to Cranston) - Not 4 lanes currently, but there is space for 2 lanes and bike lanes and some parking lanes
    - Not run in the model since it is two lanes
13. **Shopiere** (Cranston to Murphy Woods) – Modelled to identify potential capacity issues if reconfigured. This could allow space for bike lanes.
14. **Cranston** (Shopiere to 51)- Modelled to identify potential capacity issues if reconfigured. This could allow space for bike lanes.
15. **Fourth** (W. Grand to Liberty) – Modelled to identify potential capacity issues if reconfigured north of St. Lawrence. This could allow space for bike lanes. South of St. Lawrence is currently 2 lanes and some parking.
16. **Pleasant** (White to Bushnell or Public) – Modelled to identify potential capacity issues if reconfigured. This is less to add bike lanes since paths exist on the west side of this corridor, but more to calm traffic and improve aesthetics, potentially with a raised median
17. **Townline** (Shirland to Burton) – From Shirland to St Lawrence a reconstruct to add curb and gutter (other than between Jackson and W. Grand) could be considered. This could allow space for bike lanes. For the remaining segment, reconstruction is not necessarily needed. From St. Lawrence to Liberty, sharrows may suffice because of width constraints. Liberty to Whipple bike lanes may fit. From Whipple to Burton, sharrows may suffice because of width constraints.
    - Not run in the model since it is two lanes
18. **Elmwood** (Park to Prairie, or Murphy Woods) – Future reconstruct could be planned to allow space for bike lanes. A reconfiguration from Murphy Woods to Prairie could fit in current cross section.
    - Not run in the model since it is two lanes
19. **Portland** (Fifth to Third) – Some reconfiguration through existing corridor maintaining intersection capacity may allow for bike lanes to connect to Fifth Street path and Portland Avenue Bridge improving east-west connectivity of the bike system.
    - Not run in the model since it is two lanes

Based on this model run, **Figure 35** shows that no capacity concerns are anticipated when the scenario 2 projects are analyzed.

FIGURE 35. PROJECTED YEAR 2050 TRAFFIC CONGESTION (SCENARIO 2)



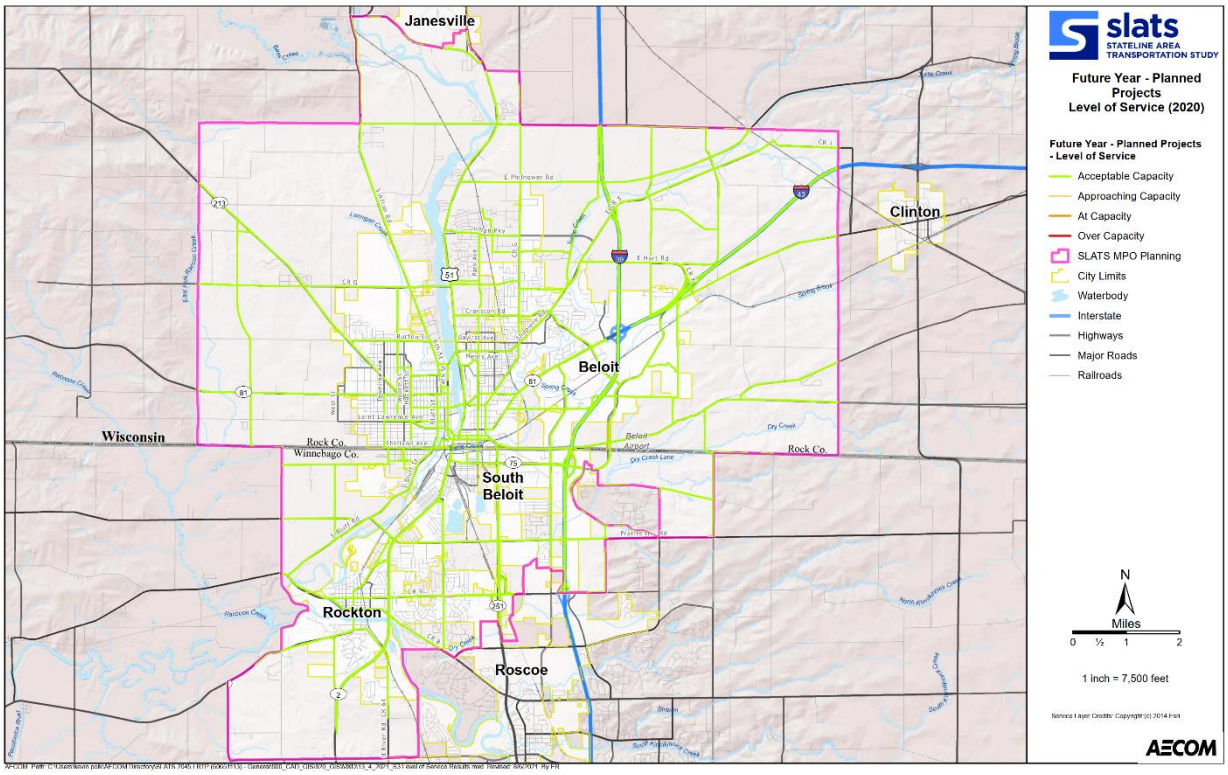
Potential Additional Roadway Improvements (Scenarios 1 + 3)

Scenario 3, which also includes the Scenario 1 projects, represents potential additional roadway projects that might be needed within the SLATS MPA. These roadway projects are not currently programmed, but some of the projects have been/are being studied and will move forward (for example, projects related to the casino (Willowbrook and Colley), Illinois 2/75, and the Madison Road/Liberty Avenue intersection). Note that the project details may change or in some cases are yet to be determined. The following projects were included in Scenario 3:

20. **Willowbrook (Milwaukee to Prairie Hill)** – roadway improvements currently being planned as part of the casino development.
    - 4 lane expansion (undivided) from Milwaukee to Gardner (IL 75)
        - Roundabouts (existing stop signs) – State Line, casino entrance, Colley
        - Add signals at Milwaukee and Willowbrook
21. **Gardner (IL 75) (I-39/90 to IL 251)** – related to the IDOT truck bottleneck study and future development
    - No changes modeled at this time.
22. **Blackhawk (IL 2/75) (Stateline to Prairie Hill Road)** – currently in PE1 by IDOT, and a corridor study has been completed.
    - No changes modeled at this time.
23. **Shirland to Colby extension** - part of the same corridor study noted above for Blackhawk
    - Colby would be a collector roadway.
24. **Colley (Willowbrook to Gateway)** – currently being planned as part of the casino development.
    - 4 lane expansion undivided
25. **Madison Road at Liberty** Intersection improvement that WisDOT is contemplating the future
    - Not modelled at this time.
26. **Elmwood/CTH Q and US 51**
27. **Fourth and Liberty** – additional study required
    - Intersection improvement so this was not modeled.
28. **Milwaukee Road** frontage south frontage road closure (part of the Cranston Road corridor study)
    - Frontage road not included in model
29. **BT Extension** to Hart Road
30. **Winchester** to Hart Extension
31. Project removed from map
32. **Sidepath along Afton Road** Newark to Big Hill Park
    - Not modeled but included in analysis to show planned network connectivity
33. **Park Avenue** extension to Philhower
34. **Bartells Drive** extension to Philhower
35. **West Hart** extension

Based on this model run, **Figure 36** shows that no capacity concerns are anticipated when the scenario 3 projects are analyzed.

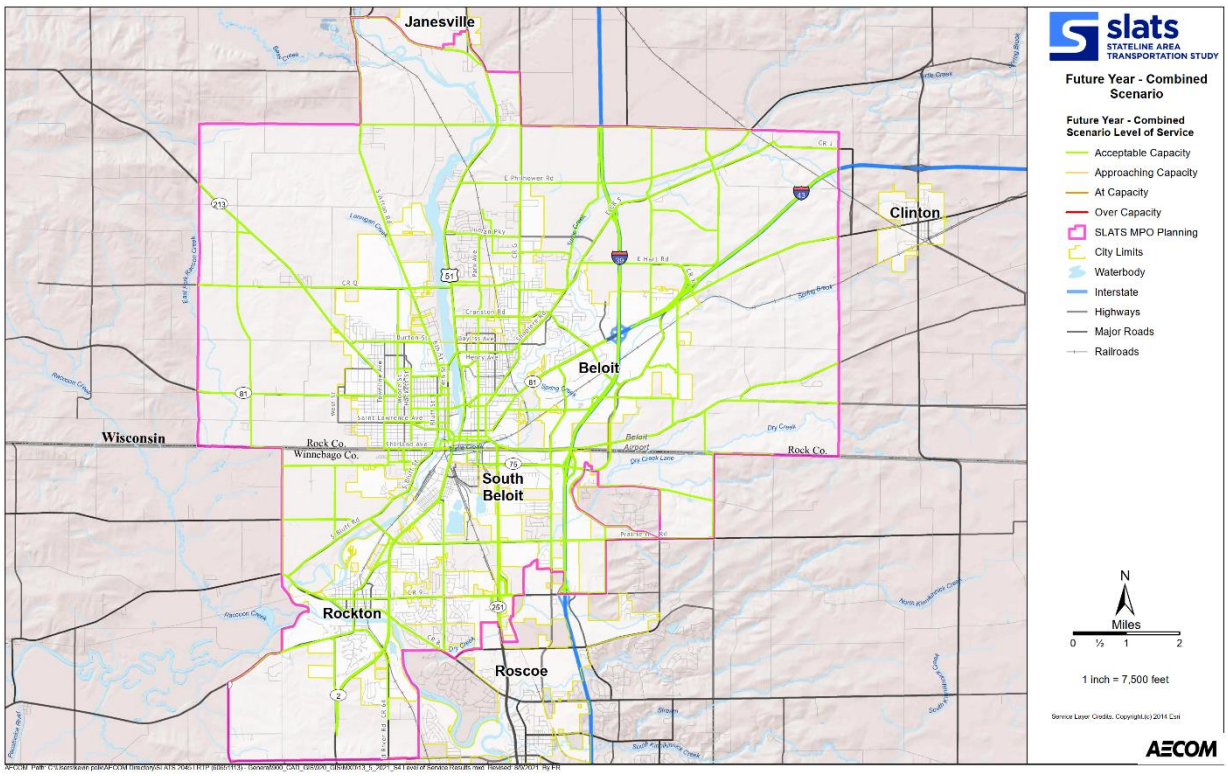
FIGURE 36. PROJECTED YEAR 2050 TRAFFIC CONGESTION (SCENARIO 3)



Combined Scenario (Complete Streets and Potential Roadway Improvements) – (Scenarios 1 + 2 + 3)

Scenario 4, which includes the Scenario 1, 2 and 3 projects, represents a scenario where all the projects would be completed by the year 2045. In reality this is unlikely to happen, but this was evaluated to identify potential capacity concerns. **Figure 37** shows that there are no significant capacity issues identified. One small segment of Rockton Road shows up as at-capacity, but this is not something at this point in time that SLATS needs to be concerned about. This is most likely caused by some trips shifting around with the proposed improvements, but again, is not something that rises to a level of concern. Again, this scenario reflects an exaggerated future to test the potential shifts in traffic patterns and potential future year capacity issues. The concepts/projects coded in scenario 4 do not reflect any planned or programmed projects through the horizon year 2045.

FIGURE 37. PROJECTED YEAR 2050 TRAFFIC CONGESTION (SCENARIO 4)

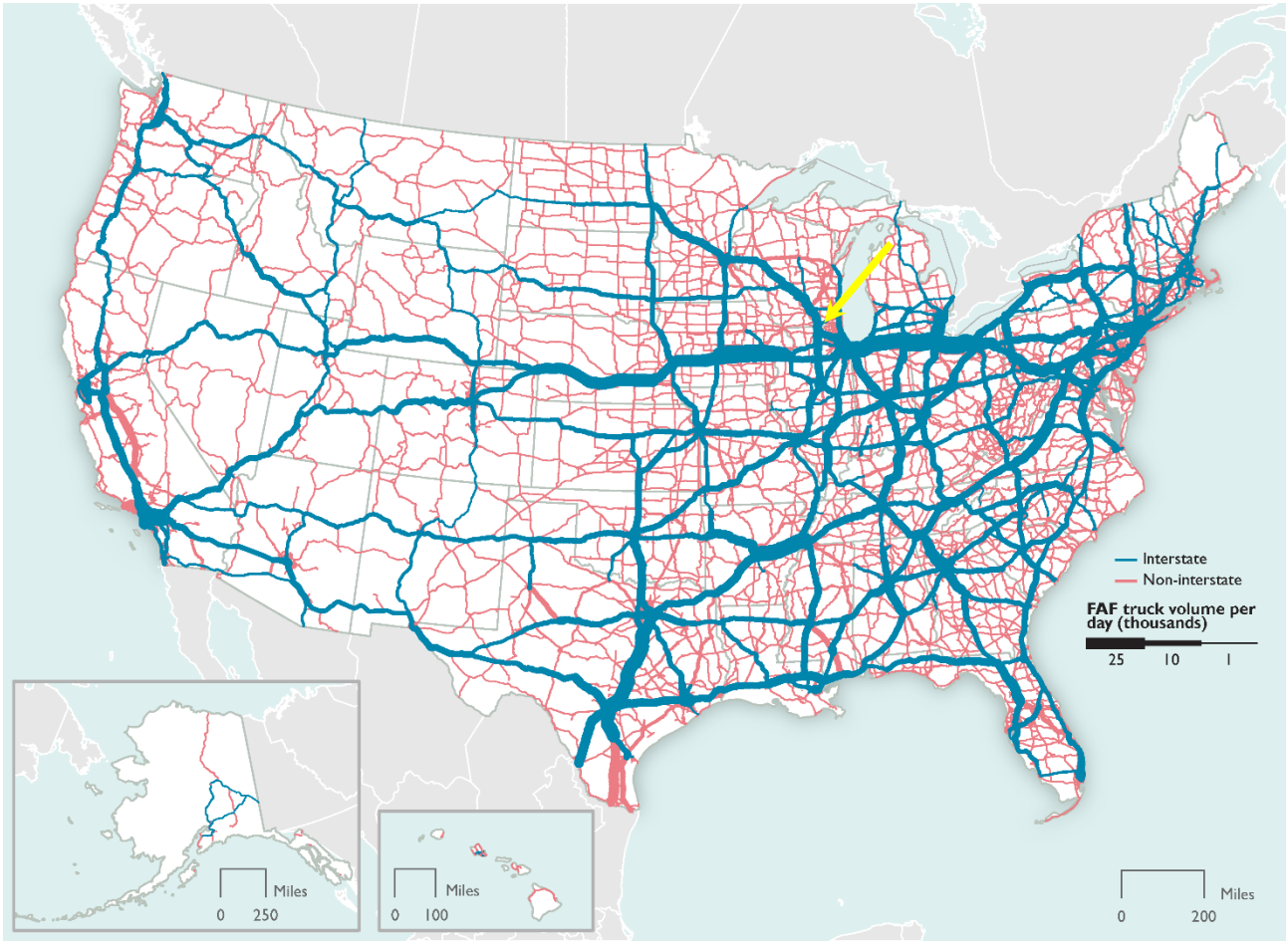


Freight Projections

Freight, and specifically the movement of freight by trucks, continues to be a primary focus within the SLATS MPA. The I-39/90 corridor will continue to be the primary freight corridor within the region and a major north-south connection that facilities the movement of goods throughout the Midwest. In looking to the year 2045, the FHWA Freight Analysis Framework (FAF) was used to evaluate the potential impacts on the SLATS MPA. **Figures 38 to 41** display freight related projections to the year 2045. Generally speaking, these figures show the SLATS MPA can expect to see increases in truck traffic over the next two decades.

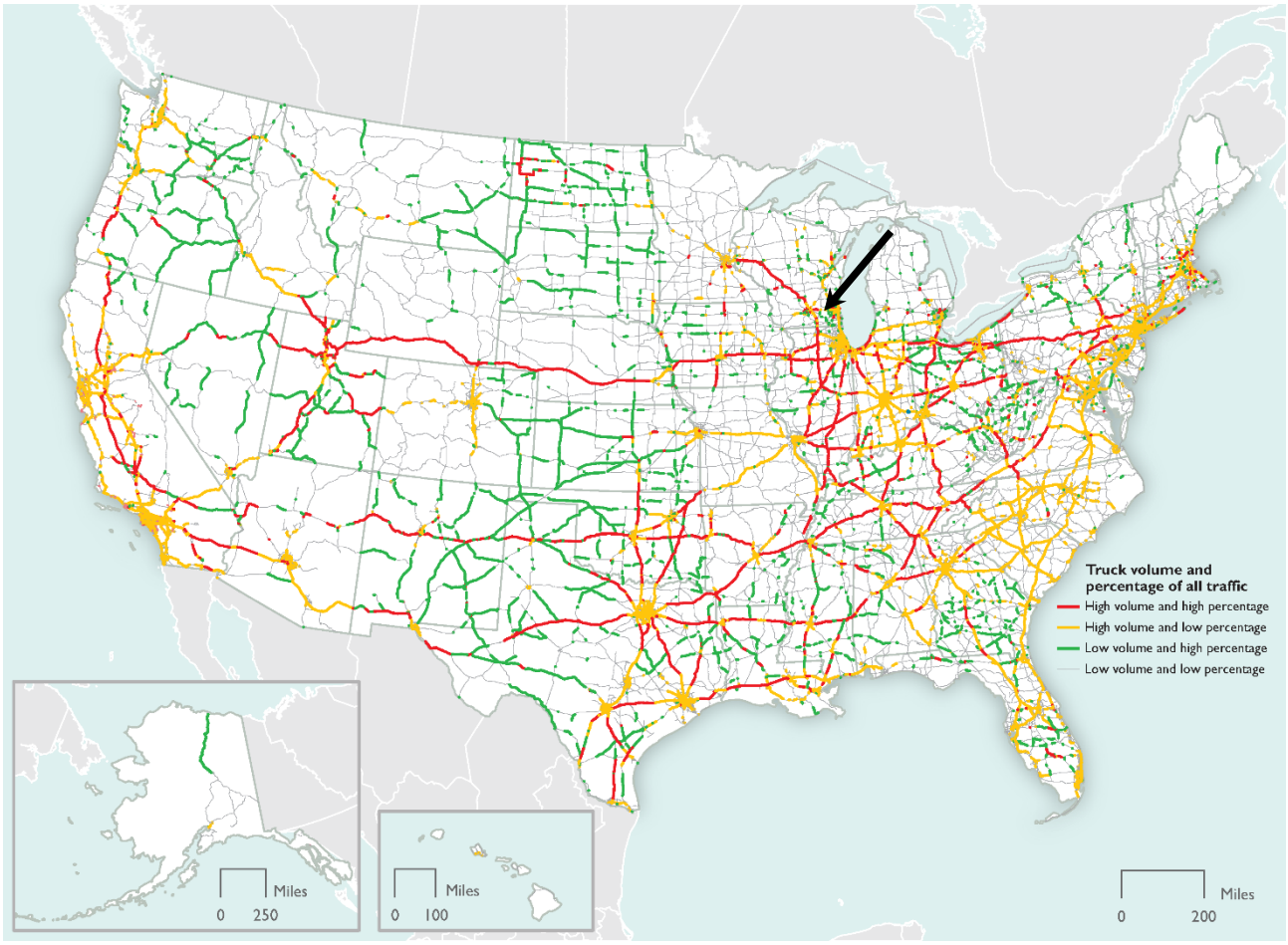
Currently, truck volumes on the Wisconsin portion of I-39/90 average 17,300 trucks per day. On the Illinois side, daily truck volumes approach 15,900. Based on the FAF projections, truck volumes along the I-39/90 corridor could increase to approximately 25,000 trucks per day by the year 2045. As previously stated, the I-39/90 corridor is currently able to accommodate this traffic capacity standpoint, but it will be important for SLATS to monitor truck conditions along the interstate corridor, as well as throughout the region, for potential future year issues. Furthermore, this LRTP stated the challenges that the SLATS region faces in terms of east-west connectivity. As such, SLATS should continue to monitor east-west truck movements as these can significantly impact downtown areas especially in Beloit and South Beloit.

FIGURE 38. PROJECTED AVERAGE DAILY LONG-HAUL TRUCK TRAFFIC ON THE NATIONAL HIGHWAY SYSTEM: 2045



Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, version 4.5, 2019.

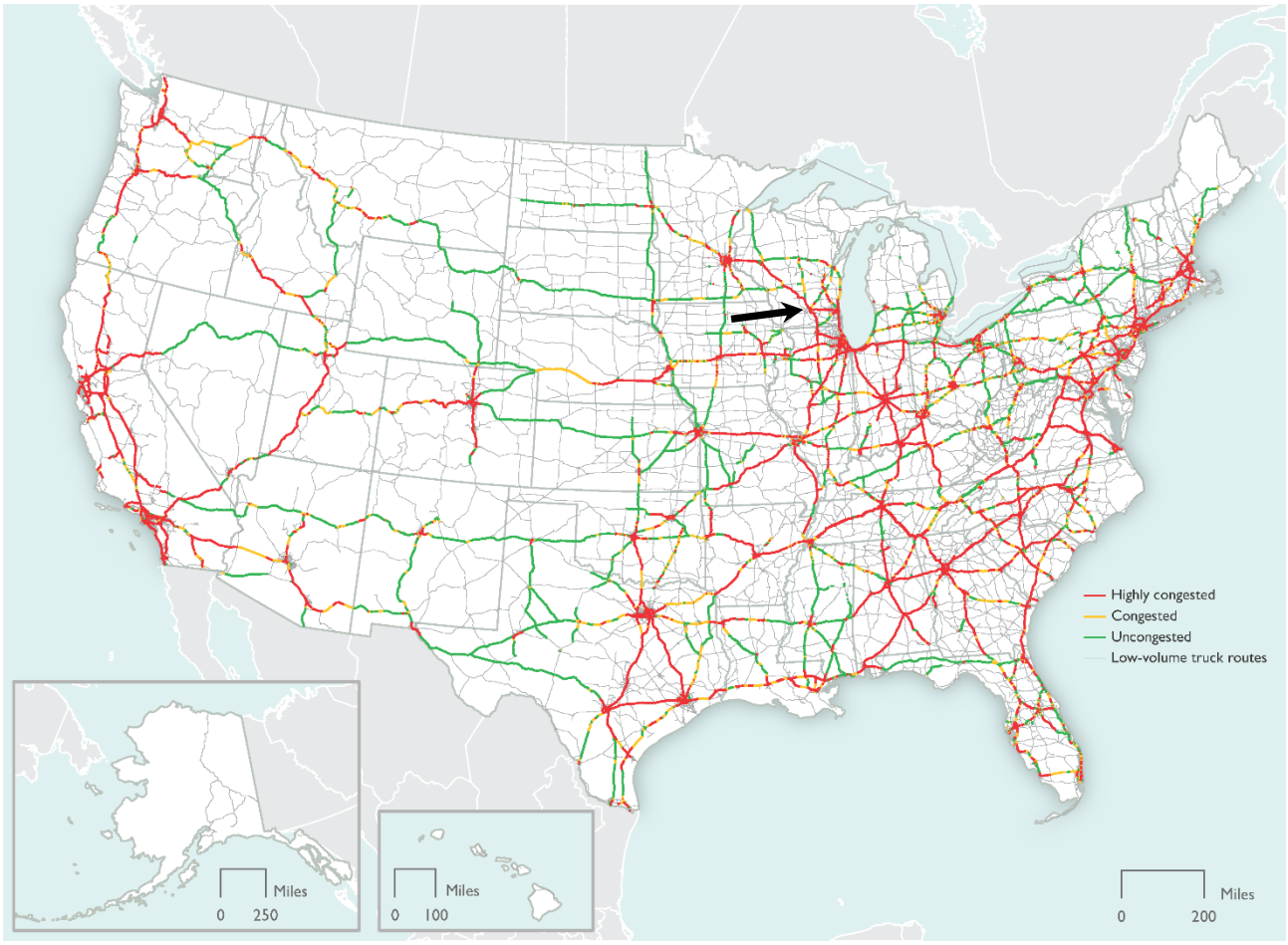
FIGURE 39. PROJECTED MAJOR TRUCK ROUTES ON THE NATIONAL HIGHWAY SYSTEM: 2045



Notes: Average annual daily truck traffic (AADTT) includes all freight-hauling and other trucks with six or more tires and includes all motor vehicles.

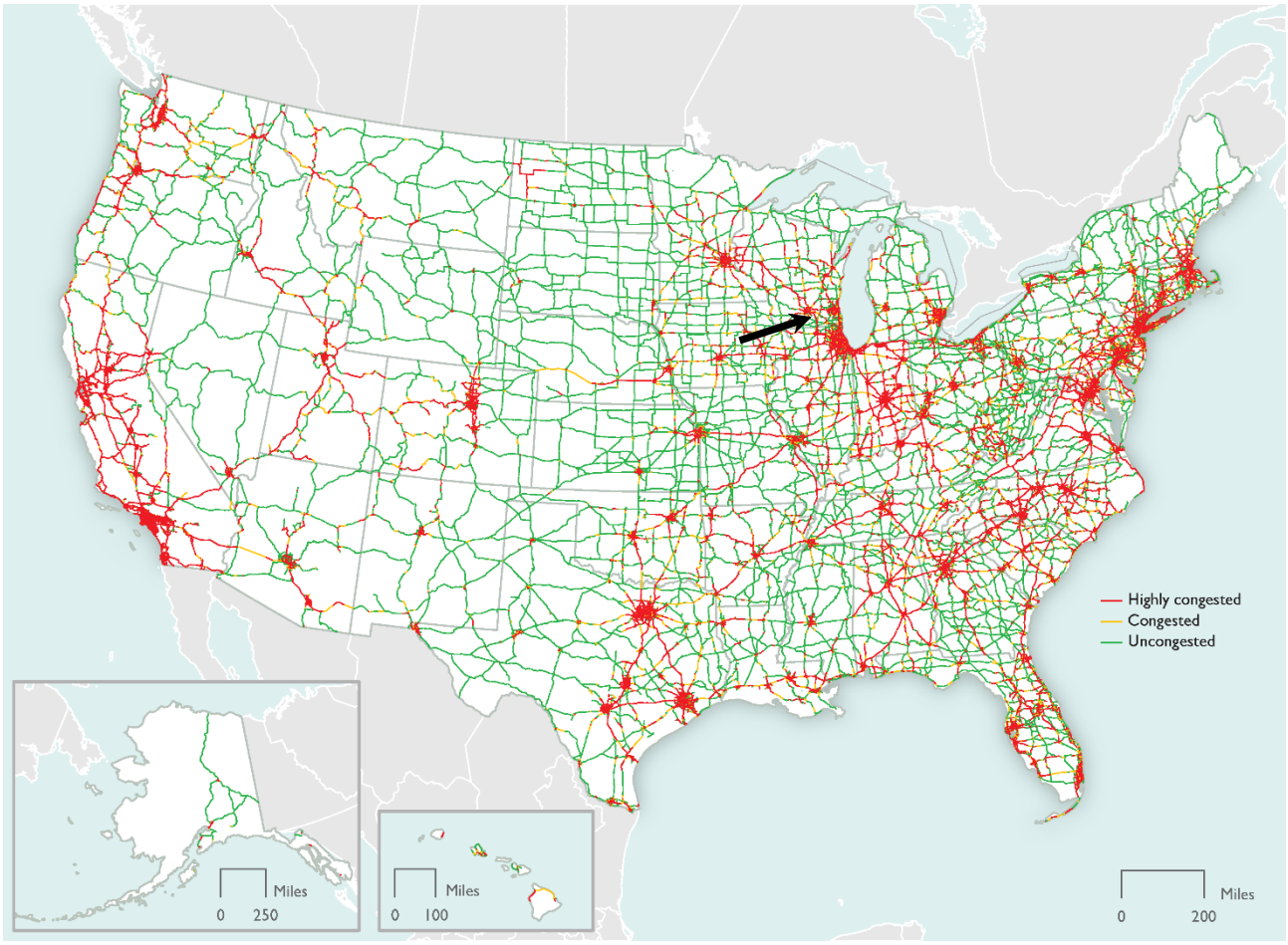
Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, version 4.5, 2019.

FIGURE 40. PROJECTED PEAK-PERIOD CONGESTION ON HIGH-VOLUME TRUCK PORTIONS OF THE NATIONAL HIGHWAY SYSTEM: 2045



Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, version 4.5, 2019.

FIGURE 41. PROJECTED PEAK-PERIOD CONGESTION ON THE NATIONAL HIGHWAY SYSTEM: 2045



Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, version 4.5, 2019.

Emerging Technology

Communities throughout the country are going through a period of profound change and transition that will affect how individuals travel now and in the future. New technologies and services have been under development and many are now being deployed throughout the built environment to enable greater efficiency and offer more mobility options. As a result, these have also introduced new actors into the transportation landscape, affecting how both the physical space of transportation networks and transport information is shared. Still to come are emerging technologies that, when deployed, will have profound affects only nearly every aspect of society.

Many technologies and services are still so young that they have not been proven yet. However, it is important to be mindful of the changing mobility landscape as SLATS determines where to invest its limited transportation funds. An overview of some of these technologies and services are described briefly below:

- **Mobility on Demand** – MoD is the ability for riders to hail/request a transportation mode to complete an end-to-end journey. MoD could be a private partnership with a company, such as transportation network companies (TNCs) or could be operated by a public agency with their own fleet. While many MoD providers have been TNCs offering private rides, there has been significant public-private-partnerships with TNCs to provide first/last mile journeys from transit stops, paratransit trips, or to supplement transit services during non-operational transit hours, and connect transit deserts.
- **Micromobility** – Micromobility represents small mobility devices such as bicycles, tricycles, cargo bikes and trikes, scooters, mopeds, and others. Micromobility devices can be docked, with devices located and secured to a network of stations, or can be dockless, with devices available to pick up, use, and drop off within a defined service area. These devices can also be human-powered or electrically powered. There is also the potential to include adaptive bicycles or tricycles that would expand access to shared transportation services to people with special needs or disabilities. The City of Beloit deployed e-scooters in July 2021 (discussed in the following section).
- **Mobility as a Service (Maas)** – MaaS integrates various types of transportation vehicles and services (e.g., transit, micromobility for point-to-point or first/last mile trips, car share, TNCs, carpooling in) to a single mobility service via a smart phone platform.
- **Smart Roadway Infrastructure** – Smart Road technologies collects data that can be analyzed in real-time primarily to support traffic management, and could include speed and acoustic sensors, CCTV cameras, smart traffic lights, condition/weather monitoring systems, digital signage, and others. Smart Road infrastructure may also include in-road electric charging lanes, solar roadways, and other applications.
- **Smart Transit Infrastructure** – Smart infrastructure focused on transit assets such as solar panels on the roof of bus shelters, WiFi, USB charging points, real-time multimodal information, & digital local information (e.g., traffic, weather, news, and headlines). This may also include smart infrastructure that supports transit such as light-emitting treatments embedded in sidewalks, bike paths, and bus pads.
- **Autonomous vehicles (AVs)** – AVs use connected vehicle technology and sensors to sense the environment and safely operate with little to no human control. Vehicle-to-vehicle technologies allow vehicles to "talk" to each other are used to monitor speed and position. Vehicle to infrastructure technologies is used to determine intersection geometry, detect signal phases and overhead safety messages. AV shuttles range in capacity from 4 to 16 passengers, have ramps for ADA accessibility, and are fully electric with ranges of up to 14 hours.

City of Beloit E-scooters

In June 2021, the Beloit City Council approved an ordinance allowing the use of e-scooters within the City limits (outside city limits the scooters slow to one-mile per hour). The e-scooters are operated by Bird and residents over the age of 18 are eligible to rent the scooters. Riders use a smart phone application to rent a scooter and pay per-minute. The e-scooter was deployed for operation beginning at the end of July 2021.

Initial reaction to the scooters has been mixed with the City receiving several complaints regarding safety and ordinance compliance issues within the first weeks of operation. Complaints were mainly focused on:

- Scooters illegally being used on sidewalks
- Scooter improperly parked
- Riders disobeying traffic laws

In response to the criticism, the City contacted Bird and the company lowered the maximum speed limit of the scooters in the downtown. Furthermore, Bird added signage indicating that scooters should not be operated on sidewalks. The City intends to continue to monitor the program and if necessary, will work with Bird to implement additional service modifications.