



# 2045 Long Range Transportation Plan

October 2021

## Appendix G – Transportation System Performance Report



# Appendix G

## Transportation System Performance Report

This appendix summarizes the status of performance-based planning and programming for the SLATS Metropolitan Planning Area (MPA). It describes how SLATS, and specifically the 2045 LRTP, supports progress toward achieving the national transportation goals and performance measures.

### Transportation Performance Management

With the passage of the Moving Ahead for Progress in the 21st Century Act (MAP-21), and continuing as part of the FAST Act, Congress established Transportation Performance Management (TPM). Federal Highway Administration (FHWA) defines TPM as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals. Another requirement is Performance Based Planning and Programming (PBPP), which impacts the development of the 2045 LRTP, as well being incorporated into the SLATS Transportation Improvement Program (TIP) process. PBPP refers to the application of performance management principles within the planning and programming processes of transportation agencies to achieve desired performance outcomes for the multimodal transportation system.

Transportation performance measures and targets describe how well the transportation system is functioning in quantitative terms and establishes future targets for system performance based on recent trends and calculated values. According to FHWA, TPM represents the opportunity to prioritize needs and align resources for optimizing system performance in a collaborative manner.

States and Metropolitan Planning Organizations (MPOs) are required to incorporate FHWA and Federal Transit Administration (FTA) performance measures and targets into their planning practices. MPOs may choose to support statewide targets set by the state or set its own, along with assuming the responsibility of achieving them. SLATS, as a bi-state MPO, has adopted the statewide targets established by WisDOT and IDOT, and is committed to working with local, State, and federal partners to implement a performance-based decision making process consistent with FAST Act performance measures.

#### *Federal Highway Performance Goals*

FAST Act includes seven national goal areas and requires State DOTs and MPOs to develop a performance-based approach to support the national goals. As part of this process, USDOT in consultation with state DOTs, MPOs, and other stakeholders establish performance measures corresponding to the national goals. State DOTs and MPOs are allowed to identify additional measures, but all statewide transportation plans and LRTPs must then address the performance measures and targets associated with those measures, at a minimum. Moreover, state DOTs, MPOs, and public transportation service providers are required to establish performance targets and to coordinate development of these targets to ensure consistency. **Table 1** displays national goals and performance

measure assessment areas. **Table 2** displays MAP-21/FAST Act Performance Measures as established in 23 CFR 490 (National Performance Management Measures) and 49 USC 625 (transit asset).

**TABLE 1. NATIONAL FEDERAL HIGHWAY PROGRAM PERFORMANCE GOALS**

<b>Safety</b>
<ul style="list-style-type: none"> <li>•To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.</li> </ul>
<b>Infrastructure Condition</b>
<ul style="list-style-type: none"> <li>•To maintain the highway infrastructure asset system in a state of good repair.</li> </ul>
<b>Congestion Reduction</b>
<ul style="list-style-type: none"> <li>•To achieve a significant reduction in congestion on the National Highway System.</li> </ul>
<b>System Reliability</b>
<ul style="list-style-type: none"> <li>•To improve the efficiency of the surface transportation system.</li> </ul>
<b>Freight Movement &amp; Economic Vitality</b>
<ul style="list-style-type: none"> <li>•To improve the national freight highway network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.</li> </ul>
<b>Environmental Sustainability</b>
<ul style="list-style-type: none"> <li>•To enhance the performance of the transportation system while protecting and enhancing the natural environment.</li> </ul>
<b>Reduced Project Delivery Delays</b>
<ul style="list-style-type: none"> <li>•To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.</li> </ul>

Source: 23 USC 150: National goals and performance management measures.

**TABLE 2. NATIONAL FEDERAL HIGHWAY PROGRAM PERFORMANCE GOALS**

Safety (PM 1)	Infrastructure (PM 2)	System Performance (PM 3)	Transit
<ul style="list-style-type: none"> <li>• Number of fatalities</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of pavement of the Interstate System in Good condition</li> </ul>	<ul style="list-style-type: none"> <li>• Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the Interstate that are reliable</li> </ul>	<ul style="list-style-type: none"> <li>• Rolling Stock: The percentage of revenue vehicles (by type) that exceed the useful life benchmark (ULB).</li> </ul>
<ul style="list-style-type: none"> <li>• Fatalities per 100 million vehicle miles traveled</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of pavement of the Interstate System in Poor condition</li> </ul>	<ul style="list-style-type: none"> <li>• Non-Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the non-Interstate NHS that are reliable</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment: The percentage of non-revenue service vehicles (by type) that exceed the ULB.</li> </ul>
<ul style="list-style-type: none"> <li>• Number of serious injuries</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of pavement of the non-Interstate NHS in Good condition</li> </ul>	<ul style="list-style-type: none"> <li>• Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index</li> </ul>	<ul style="list-style-type: none"> <li>• Facilities: The percentage of facilities (by group) that are rated less than 3.0 on the Transit Economic Requirements Model (TERM) Scale.</li> </ul>
<ul style="list-style-type: none"> <li>• Serious injuries per 100 million vehicle miles traveled</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of pavement of the non-Interstate NHS in Poor condition</li> </ul>	<ul style="list-style-type: none"> <li>• Congestion Reduction (CMAQ measures and targets do not apply as SLATS is not in a non-attainment area for air pollution)</li> </ul>	<ul style="list-style-type: none"> <li>• Infrastructure: The percentage of track segments (by mode) that have performance restrictions. (not applicable to SLATS)</li> </ul>
<ul style="list-style-type: none"> <li>• Number of non-motorized fatalities and non-motorized serious injuries</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of NHS bridges classified as in Good condition</li> </ul>		<ul style="list-style-type: none"> <li>• Safety Targets: Fatalities (number and rate per 100,000 VRM); Injuries (number and rate per 100,000 VRM); Safety Events (number and rate per 100,000 VRM); and, System Reliability (failures/VRM)</li> </ul>
	<ul style="list-style-type: none"> <li>• Percentage of NHS bridges classified as in Poor condition</li> </ul>		

Source: 23 CFR 490 (National Performance Management Measures) and 49 USC 625 (transit asset).

## SLATS Performance Measures

The following discusses the current status of the SLATS performance measures and compliance with performance target setting. Each section includes a discussion of how the LRTP projects/policies help move the SLATS region in a positive direction toward achieving the approved targets.

### *Safety (PM 1)*

On March 15, 2016 the USDOT published the final rule for the National Performance Management Measures: Highway Safety Improvement Program (23 CFR Part 490). The rulemaking defined the following national safety performance measures (PM 1) for all public roads.

- Total number of traffic related fatalities.
- Rate of traffic related fatalities per 100 million VMT (Vehicle Miles Traveled).
- Total number of traffic related serious injuries.
- Rate of traffic related serious injuries per 100 million VMT.
- Total number of non-motorized fatalities and serious injuries.

Safety performance targets are updated annually as part of the State DOT's Highway Safety Improvement Program (HSIP) report and subsequently endorsed by the MPO. Safety performance targets that have been established by WisDOT and IDOT are summarized in **Table 3**. Current targets are for calendar year 2021, with 2019 and 2020 targets provided as reference. **Figures 1 to 5** display the 2019 to 2021 targets by state.

**TABLE 3. NATIONAL FEDERAL HIGHWAY PROGRAM PERFORMANCE GOALS**

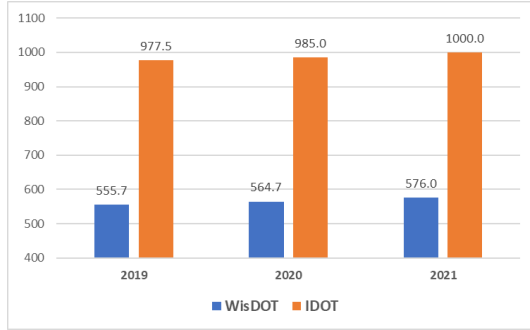
HSIP Performance Measures	Calendar Year					
	2019		2020		2021	
	WisDOT	IDOT	WisDOT	IDOT	WisDOT	IDOT
<b>Number of fatalities</b>	555.7	977.5	564.7	985.0	576.0	1000.0
<b>Rate of fatalities (per 100 million vehicle miles traveled)</b>	0.915	0.920	0.888	0.910	0.890	0.930
<b>Number of serious injuries</b>	2967.6	11727.4	2907.0	11668.7	2897.9	11556.4
<b>Rate of serious injuries (per 100 million vehicle miles traveled)</b>	4.785	11.040	4.585	10.800	4.482	10.790
<b>Number of non-motorized fatalities and non-motorized serious injuries</b>	342.0	1431.7	344.7	1456.2	350.2	1517.6

Source: WisDOT and IDOT.

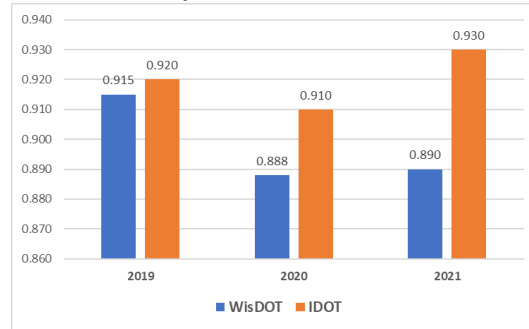
SLATS has adopted the WisDOT and IDOT targets and to the extent practicable, SLATS is committed to coordinating with the DOTs to integrate each State's safety goals, objectives, and plans into the ongoing MPO planning process. This is primarily achieved by aligning investment priorities in the TIP with projects that have the potential to reduce crash rates, improve pedestrian safety, and enhance safety design. By supporting WisDOT and IDOT safety performance targets, SLATS agrees to:

- Work with the States to address areas of concern for fatalities or serious injuries within the MPA.
- Coordinate with the State DOTs to mutually develop and share available data related to safety performance measures.
- Plan and program projects so they contribute toward achieving the safety performance targets.

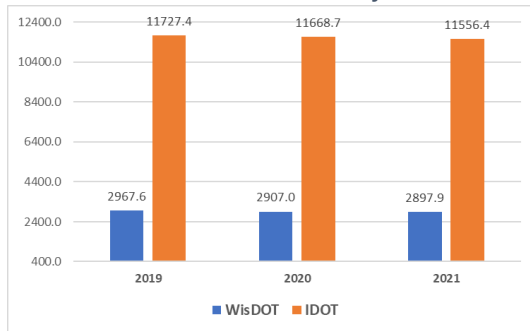
**FIGURE 1. NUMBER OF FATALITIES**



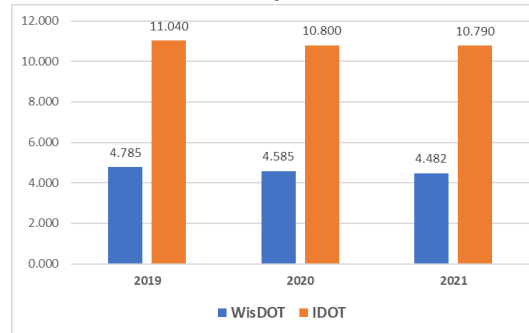
**FIGURE 2. RATE OF FATALITIES (PER 100 MILLION VEHICLE MILES TRAVELED)**



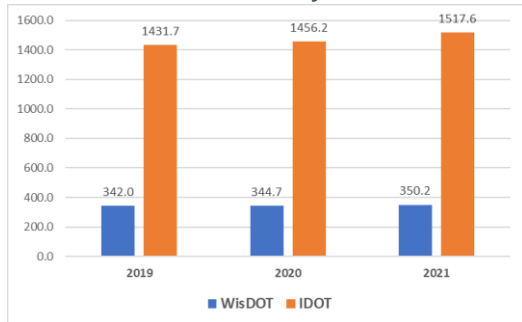
**FIGURE 3. NUMBER OF SERIOUS INJURIES**



**FIGURE 4. RATE OF SERIOUS INJURIES (PER 100 MILLION VEHICLE MILES TRAVELED)**



**FIGURE 5. NUMBER OF NON-MOTORIZED FATALITIES AND NON-MOTORIZED SERIOUS INJURIES**



Safety targets are updated annually by WisDOT and IDOT, and SLATS must adopt, or modify, the targets within 180 days, and incorporate those updates into the TIP as needed. The 2021 Safety targets were adopted in October 2020 ahead of the February 2021 deadline, and incorporated in the 2021 TIP. It is anticipated that the 2022 safety targets will be reviewed/addressed in Fall 2021, following the adoption of the 2045 LRTP.

### Progress/Opportunities Toward Reaching PM 1 Targets

SLATS places a high priority on safety and strives to program projects that enhance safety for the traveling public, specifically with an emphasis on reducing fatalities and serious injuries. The SLATS 2045 LRTP includes projects, and policies, that directly support enhanced safety for the traveling public. Ultimately, these projects and policies are anticipated to have a positive impact in supporting WisDOT and IDOT in moving closer to meeting the respective safety targets.

As part of the 2045 LRTP, SLATS identified guiding principles to direct the plan development and project selection process. Two of the five principles support enhanced safety conditions within the MPA.

The first is to **Advance Complete Streets Principles**. SLATS places a high priority on creating a transportation network that is accessible, and safe, to all transportation users. The region has an active bicycle user groups and the LRTP outreach process indicated a desire by residents to walk and bike more. The LRTP analysis showed that unlike many metropolitan areas, and communities, across the country that struggle to address high levels of traffic congestion, the SLATS roadway network was found to have widespread acceptable levels of service, or little traffic congestion. As such, the SLATS region has the opportunity to explore alternatives that potentially repurpose a roadway's cross section to better accommodate bicyclists and pedestrians, reduce excessive travel speeds, and improve safety for the traveling public.

The second guiding principle is to **Accommodate New Technologies and Mobility Solutions**. The transportation landscape is changing, and new technology and mobility solutions will offer new ways for people to travel through the horizon year 2045. Along with new technology comes advancements in safety features. Many people are familiar with roadway signs that provide real time traffic data (including information regarding crashes, lane blockages, etc.) and newer vehicles which have advanced safety features that can provide drivers with alerts or take actions such as braking to avoid collisions. As technology continues to advance there will be greater opportunities for it to further enhance overall safety for the traveling public.

As part of the 2045 LRTP, crash data was reviewed for the SLATS MPA (see **Table 4**). 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.

**TABLE 4. 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.



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. The trend from 2018 to 2019 shows a positive movement in a reduction of fatalities and serious injuries. The following observations were made regarding the safety conditions with the SLATS MPA (for additional information regarding the safety analysis see **Appendix D.**)

### 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 4<sup>th</sup> Street, and Townline Avenue, has a high concentration of crashes resulting in minor injuries. There was one serious injury observed near the intersection of 5<sup>th</sup> Street. There was also a fatality observed just west of 6<sup>th</sup> Street. This location is of particular note given the proximity to Beloit Memorial High School.

As a final general observation, the safety analysis noted a high concentration of serious injuries, and minor injuries, occurring near downtown Beloit. Generally speaking, given the nature of a downtown area, it was initially thought that there would be slower travel speeds and fewer serious and minor injury crashes in these areas. 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.

### L RTP Recommend Projects

Both Wisconsin and Illinois have programmed a number of infrastructure expansion and preservation projects within the SLATS MPA, all of which incorporate safety improvements. These include updating geometrics and design to current standards which can significantly reduce crashes, improve roadway condition and in-turn driving safety, and increase multimodal options through bus and bike accommodations to make routes safer for all users. The I-39/90 expansion project, from the Stateline to Madison, is a significant regional investment that will have positive impacts on travel safety for the public, as well as enhanced safety accommodations for trucks and the movement of freight. The I-39/90 and I-43/WIS 81 diverging diamond interchange, when completed, should also have a positive safety impact.

The 2045 L RTP recommend plan (fiscally constrained plan), includes projects that enhance safety and should benefit progress toward the safety performance targets for the respective states. The following describes the key safety elements of the projects (additional project information is available in

### **Appendix F).**

- **Cranston Road, Riverside Drive (US 51) to Prairie Avenue**, is a main east-west four lane non-divided urban principal arterial on the National Highway System. It is a major regional corridor, connecting predominantly residential areas on the west end to the WIS 81 commercial corridor on the east, including several of the region's major employers located in the City's industrial park (Frito Lay, Hormel) and the Gateway Business Park (Staples, Pratt Industries, Amazon). The proposed segment is a concrete roadway constructed in 1989 which has documented maintenance concerns, including transverse joint deterioration and multiple areas of slab settlement.

A review of the crash history for the last four years indicates 31 crashes in the corridor, three involving bicycles and eight speed related. The 2045 L RTP crash analysis found the intersection at Prairie to be rated the 7th highest in the MPA between 2017 to 2019. A recent 2020-2021 Multimodal Local Supplement (MLS) grant application was unsuccessful in obtaining funding for this project. This improvement involves a proposed reconditioning to urban arterial design standards. A "Road Diet" will be evaluated to allow for the installation of on-road bicycle lanes with a center two-way left-turn lane to accommodate the multiple retail and residential driveways. This cross section would provide needed traffic calming and enhance pedestrian crossing safety as Robinson Elementary School is located in corridor. The addition of bike lanes would connect existing paths on Park and Prairie Avenues and is included in the region's bike and pedestrian plan. Sidewalk gaps on the north side of Cranston Road from Riverside Drive to Park Avenue will be evaluated and addressed. The project will be coordinated with the Canadian Pacific Railroad to potentially upgrade the Cranston Road crossing to meet current design standards.

- **Liberty Avenue / 4th Street / Portland Avenue**, is an anticipated project that would address safety concerns. This corridor was found to have six intersections ranked in the top 20 crash locations within the MPA. Portland Avenue also provides important east-west network connectivity across the Rock River, and enhancing east-west connectivity is an important regional transportation issue, including a safety focus. This was supported through public input and stakeholder meetings which highlighted the challenges of traveling from areas west of the river to employment opportunities in downtown Beloit and areas to the east. Additionally, the public indicated a need to address quality of life issues, including enhancing alternative modes of transportation to access downtown, reduce speeding, and in general improving overall safety. While specific improvements will be determined, it is envisioned that the project would focus on enhancing overall safety within the corridor. Furthermore, portions of this project may coincide with implementation of the High School master plan.

The 2040 L RTP first identified the possibility of removing the traffic signals at 4th Street and Liberty Avenue and curve 4th Street into Liberty Avenue allowing a free flow movement along WI-81. This improvement could help to relieve peak hour



congestion, including peak school hour traffic, and make truck turning movements more efficient. Potential improvements have also been discussed to reconfigure 4th Street to one lane in each direction, between Grand Avenue and Liberty Avenue. The primary objective of this improvement would be to slow traffic and create a more pedestrian-friendly environment.

- **Elmwood Avenue**, serves as an important east-west regional connection in the northern portion of the SLATS MPA. In addition, this corridor connects to Newark Road/CTH Q which serves as an important Rock River crossing within the region. The 2045 LRTP has continually stressed the importance, from the standpoint of the traveling public as well as safely accommodating truck traffic, to find opportunities to enhance east-west travel. The intersection of Elmwood Avenue and Riverside Drive is identified as a top crash intersection as part of the 2045 LRTP. This intersection has also been studied (as part of an ICE study) for a potential realignment to provide a direct connection to Newark Road, and eliminate the one-way pair that exists with Briar Lane, between Riverside Drive and Park Avenue.
- **Old River Road**, is a project that includes widening and resurfacing from IL 75 to Roscoe Road while providing an 80,000-pound pavement design, improved shoulders, and multi-use path. An urban section will be constructed east of IL 75 to improve drainage. Minor intersections will also be improved to meet applicable criteria and current ADA standards. The project also includes a sidepath from IL 75 (likely along River Street and Ferry Street) along Old River Road past the Rockton Athletic Fields to Stephen Mack Middle School. These improvements will greatly enhance safety for all transportation users within the corridor.
- **Gardner Street**, in South Beloit is a major east-west roadway in the northern portion of Illinois. The corridor serves as a primary entry into downtown South Beloit (and Beloit) and is also a significant freight generating corridor. A recent statewide IDOT truck bottleneck study identified a portion of Gardner Street as a top truck bottleneck location. This corridor has land that is available to accommodate future growth and the improvement would also support redevelopment.

A corridor study is proposed to be conducted in the short-term to identify specific multimodal investments. While project details are not currently determined, it is likely that this roadway would require a reconditioning. In addition, it would also likely include curb repairs and potentially raised medians to enhance safety for the traveling public. Additional details will be determined; however, enhancing safety for the traveling public, and enhancing the efficient, safe movement of freight (trucks) will be an emphasis area of the study.

## Conclusion

Safety remains a top priority for the region and SLATS is a committed partner to work with WisDOT and IDOT in meeting statewide safety performance measures/targets. As documented in this LRTP update, one of the guiding principles for this planning effort is to advance complete streets principles. Incorporating, or at a minimum considering, complete streets principles into all area roadway projects is a best practice to ensure that SLATS residents have safe, and accessible options to travel through the region, by car, bike, transit, or walking.

Furthermore, the use of Intelligent Transportation System (ITS) applications could potentially be expanded throughout the region to support safety. ITS already plays an important role in providing real time traffic information, including information related to traffic crashes or incidents, along the interstate. It could also have local applications including enhancing traffic operations at signalized intersections through enhanced signal timings and signal coordination. ITS applications could also incorporate signal preemption to ensure emergency responders are able to quickly, and safely, respond to incidents throughout the region.

*Infrastructure Condition (PM 2)*

On January 18, 2017 the USDOT published the final rule for the National Performance Management Measures: Infrastructure Condition and System Performance (23 CFR Part 490). The rulemaking defined the following infrastructure condition performance measures for the NHS.

- Percentage of pavement of the Interstate System in Good condition
- Percentage of pavement of the Interstate System in Poor condition
- Percentage of pavement of the non-Interstate NHS in Good condition
- Percentage of pavement of the non-Interstate NHS in Poor condition
- Percentage of NHS bridges classified as in Good condition
- Percentage of NHS bridges classified as in Poor condition

PM2 targets for 2019/21 (WI) and 2020/22 (IL) related to NHS Pavement and Bridge Conditions were established by WisDOT and IDOT in May 2018. MPOs were subsequently required to establish 2-year and 4-year targets for each of the six performance measures by either agreeing to plan and program projects so that they contribute to the accomplishment of the State's PM2 targets or commit to quantifiable PM2 targets for the MPA. SLATS agreed to plan and program projects so that they contribute toward the accomplishment of WisDOT's and IDOT's 2-year and 4-year PM2 targets in October 2018. **Table 5** summarizes the current PM2 measures and targets SLATS adopted for each State.

**TABLE 5. PM 2 INFRASTRUCTURE CONDITION TARGETS**

## WisDOT

Measure	2-Year Target (2019)	4-Year Target (2021)
Interstate – Percentage pavements in “Good” condition	N/A	≥45%
Interstate – Percentage pavements in “Poor” condition	N/A	≤5%
Non-Interstate NHS – Percentage pavements in “Good” condition	≥20%	≥20%
Non-Interstate NHS – Percentage pavements in “Poor” condition	≤12%	≤12%
Percentage of NHS bridges by deck area in “Good” condition	≥50%	≥50%
Percentage of NHS bridges by deck area in “Poor” condition	≤3%	≤3%

## IDOT

Measure	2-Year Target (2020)	4-Year Target (2022)
Interstate – Percentage pavements in “Good” condition	65%	65%
Interstate – Percentage pavements in “Poor” condition	≤5%	≤5%
Non-Interstate NHS – Percentage pavements in “Good” condition	27%	27%
Non-Interstate NHS – Percentage pavements in “Poor” condition	6%	6%
Percentage of NHS bridges by deck area in “Good” condition	28%	27%
Percentage of NHS bridges by deck area in “Poor” condition	13%	14%

### **Progress/Opportunities Toward Reaching PM 2 Targets**

Maintaining pavement and bridges in a state of good repair is critical to supporting safety for the traveling public, and to help facilitate the efficient movement of freight throughout the region. The most significant progress toward addressing the PM 2 infrastructure condition targets is in the recent I-39/90 expansion project that runs from the Stateline to Madison. The project upgraded the pavement conditions on I-39/90 and reconstructs the I-39/90 and I-43/WI-81 diverging diamond interchange, which also provides additional safety enhancements and bridge improvements.

Beyond the interstate, most non-interstate NHS routes are State highways. On the Illinois side of the MPA, IDOT recently repaved IL-251 (NHS segment) from the Stateline south, continuing beyond the SLATS MPA and IL-2 is currently being studied for improvements that should enhance pavement conditions. On the Wisconsin side, Cranston Road from US-51 to WI-81 is part of the NHS and this was one factor in identifying the segment from Riverside Drive (US 51) to Prairie Avenue as the top fiscally constrained project in the 2045 LRTP. As previously mentioned in the safety discussion, this segment is a major regional corridor, connecting predominantly residential areas on the west end to the WI-81 commercial corridor on the east to several of the region's major employers located in the City's industrial park and the Gateway Business Park. The proposed segment is a concrete roadway constructed in 1989 which has documented maintenance concerns, including transverse joint deterioration and multiple areas of slab settlement. Left unaddressed, these maintenance concerns could result in the need to conduct a much more intensive project, including the possibility of a full reconstruction.

Liberty Avenue / 4th Street / Portland Avenue is another planned improvement that will address a segment of the NHS. While this study is primarily focused on safety, it is possible that some improvements could potentially address pavement improvements. At this point there are no project details, but pavement conditions will be considered as part of the study.

Two NHS bridges that are currently identified in 'poor' condition are programmed in the SLATS 2021 - 2024 TIP. These include:

- I-39/90 and I-43/WIS 81 Interchange – At the time this LRTP was prepared, this interchange was nearing completion for a full reconstruction to accommodate system-to-system interstate movements and a new diverging diamond interchange at WIS 81.
- IL 251 – A bridge replacement is planned near Rockton Road later than 2025. Estimated cost is approximately \$12.0 million.

### **Conclusion**

As with safety, SLATS has the greatest opportunity to support NHS pavement and bridge condition targets established by each State through local project planning. Using STBG-U funds to recondition or reconstruct a road or bridge on the NHS invariably improves conditions. SLATS is committed on-going coordination with local agencies, WisDOT and IDOT on projects on the NHS including various corridors and intersections (IL-2, USH-51 and CTH Q, Cranston Road, USH 51 and WI-81/WI-213). These studies recommend improvements that could improve pavement and bridge conditions on the NHS, both local and State routes.

*System Reliability (PM 3)*

On January 18, 2017 the USDOT published the final rule for the National Performance Management Measures: Infrastructure Condition and System Performance (23 CFR Part 490). The rulemaking defined the following System Reliability performance measures for the NHS.

- Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the Interstate that are reliable
- Non-Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the non-Interstate NHS that are reliable
- Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index
- Congestion Reduction: (CMAQ measures and targets do not apply as SLATS is not in a non-attainment area for air pollution)

The first set of PM3 targets for 2019/21 (WI) and 2020/22 (IL) related to System Reliability were established by WisDOT and IDOT in May 2018. MPOs were subsequently required to establish 2-year and 4-year targets for each of the three required NHS PM3 performance measures by either agreeing to plan and program projects so that they contribute to the accomplishment of the State's PM3 target(s) or commit to quantifiable PM3 target(s) for the MPA (Wisconsin and Illinois MPOs outside of the Milwaukee Urbanized Area, the Chicago Urbanized Area and otherwise outside of nonattainment or maintenance areas have three PM3 performance measures and related targets to adopt). SLATS agreed to plan and program projects so that they contribute toward the accomplishment of WisDOT's and IDOT's 2-year and 4-year PM3 target(s) in October 2018. The current PM3 measures and targets SLATS adopted per each State summarized in **Table 6**.

**TABLE 6. PM 3 SYSTEM RELIABILITY CONDITION TARGETS**

**WisDOT**

Measure	2-Year Target (2019)	4-Year Target (2021)
<b>Travel Reliability – Percent of person-miles traveled that are reliable on the Interstate</b>	94.00%	90.00%
<b>Travel Reliability – Percent of person-miles traveled that are reliable on the Non-Interstate NHS</b>	N/A	86.00%
<b>Freight Reliability – Truck Travel Time Reliability Index on the Interstate</b>	1.40	1.60

**IDOT**

Measure	2-Year Target (2020)	4-Year Target (2022)
<b>Travel Reliability – Percent of person-miles traveled that are reliable on the Interstate</b>	79.00%	77.00%
<b>Travel Reliability – Percent of person-miles traveled that are reliable on the Non-Interstate NHS</b>	85.30%	83.30%
<b>Freight Reliability – Truck Travel Time Reliability Index on the Interstate</b>	1.34	1.37

Similar to PM 2, most NHS routes within the SLATS MPA are State highways or Interstate highways and improvements are therefore determined in large part at the State level. By including State projects in

the TIP that are expected to improve system reliability, the MPO agrees to plan and program projects that contribute toward the accomplishment of each State's PM3 targets.

Through the use of the regional travel demand model, it was determined that traffic congestion within the SLATS MPA is currently low, and is expected to remain relatively low through the year 2045. As previously discussed, the interstate facilities within the MPA have been recently upgraded and have sufficient capacity to carry the observed daily volumes. One area worth noting is along White Avenue (Park Avenue to Milwaukee Road, mostly east of Prairie Avenue) where the model appears to be under-assigning traffic a little 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.

A second area worth monitoring is Gardner Street, between I-39/90 and IL 251. A recent statewide IDOT Truck Bottleneck study ranked this segment 17<sup>th</sup> for the Urban Other category.<sup>1</sup> As such, this segment is considered to be one of the most severe freight bottlenecks in the state.

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 Gardner Street are 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.

### **Progress/Opportunities Toward Reaching PM 3 Targets**

Gardner Street, in South Beloit is a major east-west roadway in the northern portion of Illinois. The corridor serves as a primary entry into downtown South Beloit (and Beloit) and is also a significant freight (truck) generating corridor. The segment west of IL 251 is included in the LRTPs fiscally constrained projects, and the area near the interchange was highlighted for potential signal timing improvements.

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<sup>1</sup> The study reviewed approximately 180 locations and identified the top 25 locations in three categories: Urban Chicago, Urban Other, and Rural.

To the extent practicable, the SLATS will continue to coordinate with the State DOTs to integrate each State's performance goals, objectives, and plans into the MPO planning process by aligning investment priorities in the TIP projects that have the potential to improve infrastructure condition and system efficiency for the traveling public and freight providers. By agreeing to support the State DOT's performance targets, SLATS agrees to:

- Work with the States to address transportation infrastructure concerns and maintenance activities associated with pavement and bridge conditions within the Metropolitan Planning Area.
- Work with the States to implement transportation management activities to improve both passenger and freight reliability on the NHS.
- Coordinate with the State DOTs to share available data related to the assessment of PM2 and PM3 performance measures.
- Plan and program projects so they contribute toward achieving the PM2 and PM3 performance targets.

#### *Transit Asset Management Performance Measures*

On July 26, 2016 the USDOT published the final rule for Transit Asset Management (49 CFR Part 625). The rulemaking defines a framework for transit agencies to monitor and manage public transportation assets. All recipients of FTA funds are required to develop Transit Asset Management (TAM) plans to provide a systematic process for procuring, maintaining, and replacing capital assets. A prerequisite to the TAM process is the development of performance targets by transit agencies in reference to the State of Good Repair (SGR) for transit assets. The SGR is defined as the condition at which the capital asset is able to operate at a full level of performance and does not pose unacceptable safety risks for users. Assets are measured against the FTA Useful Life Benchmark (ULB), which is the expected life cycle for a particular asset. Performance measures are established for revenue vehicles, equipment, and transit facilities based on the following definitions:

Beginning in 2018, Beloit Transit System (BTS) and Stateline Mass Transit District (SMTD), both Tier 2 public transit agencies operating with 5307 funding within the SLATS MPA, opted into each State's Group TAM process (BTS opted in to WisDOT's TAM Plan and SMTD opted into IDOT's TAM Plan). The 2018 TAM Plans were completed by WisDOT and IDOT in late Summer/early Fall 2018, and included 2019 performance management targets for rolling stock, equipment, facilities, and infrastructure on behalf of the transit agencies. BTS and SMTD automatically accept the State determined targets by opting into the State TAM Plan process. SLATS had 180 days to adopt the same transit targets or set different targets. SLATS adopted each State's 2019 TAM targets by resolution in October 2018, 2020 TAM targets in October 2019 and will do so each October for the subsequent year (e.g. SLATS adopted 2022 TAM targets in October 2021).

The resolution to support WisDOT and IDOT TAM targets means that SLATS agrees to plan and program projects for the MPA so that they contribute toward the accomplishment of the respective State TAM targets. By agreeing to support the public transportation agencies TAM performance targets SLATS will:

- Work with the local transit providers to develop strategies to prioritize investments.
- Coordinate with the State DOTs and public transit agencies to mutually develop and share available data related to TAM performance measures.
- Plan and program projects so they contribute toward achieving the TAM performance targets.



**Table 7** summarizes performance measures applicable to BTS and SMTD.

**TABLE 7. TRANSIT ASSET MANAGEMENT TARGETS**

**Wisconsin (BTS)**

**Facilities – Percent Rated Below 3 on the Condition Scale**

Performance Measure	2020 Target %	2021 Target %
Passenger/Parking Facility	n/a	10
Admin/Maintenance Facility	10	10

**Rolling Stock - Percent of Revenue Vehicles that have Met or Exceeded their Useful Life Benchmarks**

Performance Measure	Useful Life (Years)	2020 Target %	2021 Target %
Articulated Bus	n/a	n/a	n/a
Automobile	4	77	77
Over-the-road Bus	n/a	n/a	n/a
Bus	12	44	44
Cutaway	7	47	47
Double Decker Bus	n/a	n/a	n/a
Minivan	4	51	51
Other	n/a	n/a	N/A
School Bus	12	100	0
Sports Utility Vehicle	n/a	n/a	n/a
Van	4	27	27

**Equipment – Service Vehicles - % of Non-Revenue Vehicles that have Met or Exceeded their Useful Life Benchmarks**

Performance Measure	Useful Life (Years)	2020 Target %	2021 Target %
Automobiles	4	33	33
Trucks and other Rubber Tire Vehicles	4	29	29
Steel Wheel Vehicles	n/a	n/a	n/a

**Illinois (SMTD)**

Agency	FTA Vehicle Type	Useful Life Benchmark (ULB)	Count at or Over ULB	Count Total	FY20 Performance	Number at or Over ULB at End of FY21*	FY21 Target
SMTD	Cutaway	10	0	8	0.00%	0	0.00%

### **Progress/Opportunities Toward Targets**

Capital improvements were factored into the transit financial analysis (see **Appendix F**). The major component of capital asset management deals primarily with fleet maintenance/vehicle replacement. Per FTA rolling stock useful life policy guidelines, large, heavy-duty buses have a minimum useful life of at least 12 years or 500,000 miles. Six of BTS's buses exceed FTA's minimum useful life age threshold and three exceed the mileage threshold. No vehicles for SMTD exceed these thresholds, with the oldest vehicles purchased in 2016.

BTS received two replacement buses in 2021, and the current draft 2022 – 2025 TIP anticipates BTS receiving two replacement buses in 2022, and one every year after through 2027. This would retire the vehicles that are currently over the useful life threshold. SMTD is currently anticipating the addition of three vehicles. Based on this short-term replacement schedule, the outer years of the LRTP were identified for future vehicle replacements. In total, it is estimated that BTS and SMTD would each replace 22 vehicles through the horizon year 2045. Again, this assumes that no changes in current service and would keep BTS and SMTD on track to support the TAM targets.

#### *Transit Safety Performance Measures*

In July 2018, FTA published the Public Transportation Agency Safety Plan (PTASP) Final Rule, which requires certain operators of public transportation systems such as BTS and SMTD that receive federal funds under FTA's Urbanized Area Formula Grants (BTS and SMTD receive 5307 funds) to develop safety plans that include processes and procedures to implement Safety Management Systems (SMS). As part of the PTASP requirements, transit agencies set safety performance targets based on the following safety performance measures:

- Fatalities – Total number of reportable fatalities and rate per total vehicle revenue miles.
- Injuries – Total number of reportable injuries and rate per total vehicle revenue miles.
- Safety Events – Total number of reportable events and rate per total vehicle revenue miles.
- System Reliability – Mean distance between major mechanical failures. The NTD defines a major mechanical system failure as a failure of some mechanical element of the revenue vehicle that prevents the vehicle from completing a scheduled revenue trip or starting the next scheduled revenue trip because vehicle movement is limited or due to safety concerns.

The plan must include safety performance targets and transit operators also must certify they have a safety plan in place meeting the requirements of the rule. The plan must be updated and certified by the transit agency annually. BTS and SMTD<sup>2</sup> have adopted PTASP plans and safety targets for 2021. As required, SLATS adopts the PTASP targets within 180 days following adoption by each transit agency. The current targets are displayed in **Table 8**.

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<sup>2</sup> The Rockford Mass Transit District (RMTD) oversees the maintenance and operations for SMTD, the RMTD PTASP includes and satisfies the PTASP requirement for SMTD. It also includes required Annual Safety Performance Targets for FY2021. SMTD adopted the RMTD PTASP and targets in fall of 2020.

**TABLE 8. TRANSIT SAFETY TARGETS**

Mode of Service	Fatalities (total)	Fatalities (rate per 100,000 VRM)	Injuries (total)	Injuries (rate per 100,000 VRM)	Safety Events (total)	Safety Events (rate per 100,000 VRM)	System Reliability (failures/VRM)
Demand Response (SMTD)	0.0	0.0	7.0	0.61	0.0	0	20,000
Fixed Route (BTS)	0.0	0.0	1.3	0.04	18.0	0.58	130,000
Paratransit (RCT)	0.0	0.0	0.3	0.30	1.3	1.3	10,000

NOTE: BTS contracts with Rock County Transit (RTC) to provide complementary paratransit service.

The current resolutions to support SMTD and BTS safety targets effectively agrees to plan and program projects for so that they contribute toward the accomplishment of each transit agency's FY2021 PTASP Safety Targets(s) for the following performance measures:

The overarching goal of the PTASP is to enhance all aspects of safety within the participating public transportation agency by guiding effective and proactive management of safety risks in their operations and prioritizing capital investments using performance-based planning. To the extent practicable, the SLATS will continue to coordinate with the State DOTs and local transit providers to integrate each agency's PTASP goals, objectives, and plans into the MPO planning process. This includes linking investment priorities in the TIP toward projects that have the potential to effectively and proactively manage safety risks in public transportation.