

2045

Metropolitan Transportation Plan

Technical Report #3 Transportation Performance Management

Jackson Metropolitan Planning Organization

November 2020





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1.0 Performance Management

The 2045 Metropolitan Transportation Plan (MTP) follows the principles of performance-based planning and programming and related federal regulations laid out in MAP-21 and the FAST Act. These performance-based regulations require all Metropolitan Planning Organizations (MPOs) to track specific transportation performance measures related to national goals and to set targets for these measures.

The scorecard on the following pages displays the MPO's baseline performance, with comparisons to the state's baseline performance and targets. The Central Mississippi Planning and Development District (CMPDD), the MPO for the Jackson Metropolitan Planning Area (MPA), has chosen to support the state targets set by the Mississippi Department of Transportation (MDOT).

This report also discusses future actions that the MPO can take to improve regional performance and further support state targets.

This report only addresses specific performance measures required by federal transportation performance management regulations. A more complete assessment of current transportation conditions can be found in *Technical Report 2: Existing Conditions*.



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1.0 Performance Management

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Jackson MPO

Transportation Performance Management Scorecard

Legend ▶

Target



Good



Needs
Improvement



Poor

Safety Performance Measures (PM1)

Measure	MDOT Calendar Year 2019 Target	5-Year MPO Average	2014-2018 Trends/Results	Score	Analysis
Number of Fatalities	697.0	67.6	<p>2014 2015 2016 2017 2018</p> <p>MPO MS Target 5-year MPO Average</p>	Good	The number of fatalities within the MPA have been steady from 2014 to 2018.
Rate of Fatalities (per 100 million Vehicle Miles Traveled)	1.706	1.199	<p>2014 2015 2016 2017 2018</p> <p>MPO MS Target 5-year MPO Average</p>	Good	The rate of fatalities within the MPA remains steady.
Number of Serious Injuries	556.0	60.8	<p>2014 2015 2016 2017 2018</p> <p>MPO MS Target 5-year MPO Average</p>	Good	The number of serious injury crashes within the MPA has been steady between 2014 and 2018.
Rate of Serious Injuries (per 100 million Vehicle Miles Traveled)	1.356	1.079	<p>2014 2015 2016 2017 2018</p> <p>MPO MS Target 5-year MPO Average</p>	Good	The rate of serious injuries within the MPA remains relatively steady.
Number of Non-motorized fatalities and serious injuries	131.4	20.8	<p>2014 2015 2016 2017 2018</p> <p>MPO MS Target 5-year MPO Average</p>	Good	The number of non-motorized fatalities and serious injuries within the MPA remains relatively steady.

Source: Fatality Analysis Reporting System (FARS); Safety Analysis Management System (SAMS); Mississippi Department of Transportation (MDOT)

Bridge/Pavement Performance Measures (PM2)

Measure	MDOT 2-Year Target 2020	MDOT 4-Year Target 2022	2018 Trends/Results	Score	Analysis
Percent of Pavements of the Interstate System in Good Condition	N/A	> 55%	<p>77.2% 67.0% 55.0%</p> <p>MPO MS 4-Year Target</p>	😊	The percent of pavements of the Interstate system in good condition within the MPA and statewide meets MDOT's target.
Percent of Pavements of the Interstate System in Poor Condition	N/A	< 5%	<p>0.0% 0.5% 5.0%</p> <p>MPO MS 4-Year Target</p>	😊	There were no pavements of the Interstate within the MPA that were in poor condition.
Percent of Pavements of the Non-Interstate NHS in Good Condition	> 25%	>25%	<p>36.1% 35.0% 25.0%</p> <p>MPO MS 2-Year and 4-Year Targets</p>	😊	The percent of pavements of the Non-Interstate NHS in good condition within the MPA meets MDOT's target.
Percent of Pavements of the Non-Interstate NHS in Poor Condition	< 10%	< 10%	<p>5.0% 4.0% 10.0%</p> <p>MPO MS 2-Year and 4-Year Targets</p>	😊	The percent of pavements of the Non-Interstate NHS in poor condition within the MPA meets MDOT's target.
Percent of NHS bridges in Good condition by deck area	> 60%	> 60%	<p>45.9% 61.7% 60.0%</p> <p>MPO MS 2-Year and 4-Year Targets</p>	😞	NHS bridges in good condition within the MPA fail to meet the state target and are significantly lower than the state baseline.
Percent of NHS bridges in Poor condition by deck area	< 5%	< 5%	<p>1.3% 2.1% 5.0%</p> <p>MPO MS 2-Year and 4-Year Targets</p>	😊	The percent of NHS bridges in poor condition by deck area statewide and within the MPA meets MDOT's target.

Source: MDOT; National Bridge Inventory (NBI)

System Performance Measures (PM3)

Measure	MDOT 2-Year Target 2020	MDOT 4-Year Target 2022	2018 Trends/Results	Score	Analysis
Percent of Person-Miles Traveled on the Interstate that are Reliable	> 90%	> 90%	<p>99.3% 99.3%</p> <p>90.0%</p> <p>■ MPO ■ MS — 2-Year and 4-Year Targets</p>	😊	Nearly the entire Interstate system within the MPA is considered reliable based on the percentage of person-miles traveled.
Percent of Person-Miles Traveled on the Non-Interstate NHS that are Reliable	N/A	> 85%	<p>86.2% 94.7%</p> <p>85.0%</p> <p>■ MPO ■ MS — 4-Year Target</p>	😐	The reliability of the Non-Interstate NHS within the MPA meets MDOT's target based on the percentage of person-miles traveled. However, the MPA's performance is close to falling below the state target.
Truck Travel Time Reliability (TTTR) Index on the Interstate	<1.5	<1.5	<p>1.24 1.13</p> <p>1.50</p> <p>■ MPO ■ MS — 2-Year and 4-Year Targets</p>	😊	The truck travel time reliability on the Interstate system within the MPA is considered reliable and meets MDOT's target.

Source: National Performance Management Research Data Set (NPMRDS)

Transit Asset Management 2018 Performance and Target

Rolling Stock

Measure	Asset Category	2019-2022 Target	2018 Trends/Results	Score	Analysis
Percentage of revenue vehicles exceeding their Useful Life Benchmark (ULB)	Buses 	50%	 <p>50% 50% 50% 50%</p> <p>58% 52% 100% 57%</p> <p>Targets</p>		The percentage of each vehicle exceeding the ULB is greater than the targets for each vehicle, indicating an aging transit fleet.
	Cutaway Buses 	50%			
	Mini Van 	50%			
	Overall 	50%			



Equipment

Measure	Asset Category	2019-2022 Target	2018 Trends/Results	Score	Analysis
Percentage of non-revenue service vehicles exceeding their ULB	Truck 	50%	 <p>50% 50% 50%</p> <p>100% 0% 100%</p> <p>Targets</p>		The trucks and cars exceed their ULBs. The SUV does not exceed its useful life benchmark.
	SUV 	50%			
	Car 	50%			

Source: City of Jackson

Transit Asset Management 2018 Performance and Target

Facilities

Measure	Asset Category	2019-2022 Target	2018 Trends/Results	Score	Analysis
Percentage of facilities rated under 3.0 on the Transit Economic Requirements Model (TERM) scale	Administration Buildings 	50%			One of the two administration buildings is in need of immediate repair and is well past its useful life. The remaining facilities are in good condition, though are no longer new, and may have some slightly defective or deteriorated components.
	Maintenance 	0%			
	Service Buildings 	0%			
	Passenger Facility 	0%			

Infrastructure

Measure	Asset Category	2019-2022 Target	2018 Trends/Results	Score	Analysis
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Not Applicable in the Jackson Metropolitan Planning Area

Source: City of Jackson

Transit Safety

Measure	Mode	Target	5-Year MPO Average	2014-2018 Trends/Results					Score	Analysis
Number of Fatalities by mode	Fixed Route Bus	TBD	0.0	<div><div>TBD</div><div>0.00.00.00.00.0</div><div>20142015201620172018</div><div>Target5-year MPO Average</div></div>					TBD	
	Non-Fixed Route Bus	TBD	0.0	<div><div>TBD</div><div>0.00.00.00.00.0</div><div>20142015201620172018</div><div>Target5-year MPO Average</div></div>					TBD	
Rate of Fatalities per 100,000 Total Vehicle Revenue Miles by mode	Fixed Route Bus	TBD	0.0	<div><div>TBD</div><div>0.00.00.00.00.0</div><div>20142015201620172018</div><div>Target5-year MPO Average</div></div>					TBD	Safety plans and target are still under development by the designated transit provider and the Jackson MPO.
	Non-Fixed Route Bus	TBD	0.0	<div><div>TBD</div><div>0.00.00.00.00.0</div><div>20142015201620172018</div><div>Target5-year MPO Average</div></div>					TBD	
Number of Injuries by mode	Fixed Route Bus	TBD	7.2	<div><div>TBD</div><div>13.03.08.010.02.0</div><div>20142015201620172018</div><div>Target5-year MPO Average</div></div>					TBD	
	Non-Fixed Route Bus	TBD	4.2	<div><div>TBD</div><div>5.00.05.07.04.0</div><div>20142015201620172018</div><div>Target5-year MPO Average</div></div>					TBD	

Source: National Transit Database

Transit Safety

Measure	Mode	Target	5-Year MPO Average	2014-2018 Trends/Results	Score	Analysis												
Rate of Injuries per 100,000 Total Vehicle Revenue Miles by mode	Fixed Route Bus	TBD	1.0	<table><thead><tr><th>Year</th><th>Rate of Injuries</th></tr></thead><tbody><tr><td>2014</td><td>1.7</td></tr><tr><td>2015</td><td>0.4</td></tr><tr><td>2016</td><td>1.1</td></tr><tr><td>2017</td><td>1.5</td></tr><tr><td>2018</td><td>0.3</td></tr></tbody></table>	Year	Rate of Injuries	2014	1.7	2015	0.4	2016	1.1	2017	1.5	2018	0.3	TBD	
	Year	Rate of Injuries																
2014	1.7																	
2015	0.4																	
2016	1.1																	
2017	1.5																	
2018	0.3																	
Non-Fixed Route Bus	TBD	1.3	<table><thead><tr><th>Year</th><th>Rate of Injuries</th></tr></thead><tbody><tr><td>2014</td><td>1.5</td></tr><tr><td>2015</td><td>0.0</td></tr><tr><td>2016</td><td>1.8</td></tr><tr><td>2017</td><td>2.1</td></tr><tr><td>2018</td><td>1.1</td></tr></tbody></table>	Year	Rate of Injuries	2014	1.5	2015	0.0	2016	1.8	2017	2.1	2018	1.1	TBD		
Year	Rate of Injuries																	
2014	1.5																	
2015	0.0																	
2016	1.8																	
2017	2.1																	
2018	1.1																	
Number of Safety Events by mode	Fixed Route Bus	TBD	8.0	<table><thead><tr><th>Year</th><th>Number of Safety Events</th></tr></thead><tbody><tr><td>2014</td><td>14.0</td></tr><tr><td>2015</td><td>4.0</td></tr><tr><td>2016</td><td>8.0</td></tr><tr><td>2017</td><td>13.0</td></tr><tr><td>2018</td><td>1.0</td></tr></tbody></table>	Year	Number of Safety Events	2014	14.0	2015	4.0	2016	8.0	2017	13.0	2018	1.0	TBD	Safety plans and target are still under development by the designated transit provider and the Jackson MPO.
	Year	Number of Safety Events																
2014	14.0																	
2015	4.0																	
2016	8.0																	
2017	13.0																	
2018	1.0																	
Non-Fixed Route Bus	TBD	4.4	<table><thead><tr><th>Year</th><th>Number of Safety Events</th></tr></thead><tbody><tr><td>2014</td><td>5.0</td></tr><tr><td>2015</td><td>0.0</td></tr><tr><td>2016</td><td>4.0</td></tr><tr><td>2017</td><td>9.0</td></tr><tr><td>2018</td><td>4.0</td></tr></tbody></table>	Year	Number of Safety Events	2014	5.0	2015	0.0	2016	4.0	2017	9.0	2018	4.0	TBD		
Year	Number of Safety Events																	
2014	5.0																	
2015	0.0																	
2016	4.0																	
2017	9.0																	
2018	4.0																	
Rate of Safety Events per 100,000 Total Vehicle Revenue Miles by mode	Fixed Route Bus	TBD	1.1	<table><thead><tr><th>Year</th><th>Rate of Safety Events</th></tr></thead><tbody><tr><td>2014</td><td>1.9</td></tr><tr><td>2015</td><td>0.5</td></tr><tr><td>2016</td><td>1.1</td></tr><tr><td>2017</td><td>2.0</td></tr><tr><td>2018</td><td>0.1</td></tr></tbody></table>	Year	Rate of Safety Events	2014	1.9	2015	0.5	2016	1.1	2017	2.0	2018	0.1	TBD	
	Year	Rate of Safety Events																
2014	1.9																	
2015	0.5																	
2016	1.1																	
2017	2.0																	
2018	0.1																	
Non-Fixed Route Bus	TBD	1.3	<table><thead><tr><th>Year</th><th>Rate of Safety Events</th></tr></thead><tbody><tr><td>2014</td><td>1.5</td></tr><tr><td>2015</td><td>0.0</td></tr><tr><td>2016</td><td>1.4</td></tr><tr><td>2017</td><td>2.7</td></tr><tr><td>2018</td><td>1.1</td></tr></tbody></table>	Year	Rate of Safety Events	2014	1.5	2015	0.0	2016	1.4	2017	2.7	2018	1.1	TBD		
Year	Rate of Safety Events																	
2014	1.5																	
2015	0.0																	
2016	1.4																	
2017	2.7																	
2018	1.1																	

Source: National Transit Database

Transit Safety

Measure	Mode	Target	5-Year MPO Average	2014-2018 Trends/Results					Score	Analysis												
Mean Distance Between Major Mechanical Failures by mode	Fixed Route Bus	TBD	65,463	<table><thead><tr><th>Year</th><th>2014</th><th>2015</th><th>2016</th><th>2017</th><th>2018</th></tr></thead><tbody><tr><td>Value</td><td>TBD</td><td>124,026</td><td>53,321</td><td>82,484</td><td>60,162</td></tr></tbody></table>					Year	2014	2015	2016	2017	2018	Value	TBD	124,026	53,321	82,484	60,162	TBD	Safety plans and target are still under development by the designated transit provider and the Jackson MPO.
	Year	2014	2015	2016	2017	2018																
Value	TBD	124,026	53,321	82,484	60,162																	
Non-Fixed Route Bus	TBD	110,701	<table><thead><tr><th>Year</th><th>2014</th><th>2015</th><th>2016</th><th>2017</th><th>2018</th></tr></thead><tbody><tr><td>Value</td><td>TBD</td><td>332,338</td><td>39,415</td><td>84,697</td><td>59,298</td></tr></tbody></table>					Year	2014	2015	2016	2017	2018	Value	TBD	332,338	39,415	84,697	59,298	TBD		
Year	2014	2015	2016	2017	2018																	
Value	TBD	332,338	39,415	84,697	59,298																	

Source: National Transit Database

2.0 Future MPO Actions

2.1 Safety Performance

The MPO meets all of the established state safety performance targets. To continue supporting the state targets and help improve statewide performance, the MPO must reduce fatalities and serious injuries on its roadways. Efforts the MPO may undertake to reduce these crashes and reduce fatality and serious injury rates include:

- Keep the roadways and bridges maintained and as congestion-free as possible.
- Work with state and local officials, as well as other safety stakeholders, to reduce the fatalities and serious injuries on the roadways.
- Coordinate with MDOT to develop the state's Highway Safety Improvement Program (HSIP).
- Ensure that transportation projects and safety improvements are coordinated with the state's Strategic Highway Safety Plan (SHSP).
- Identify safety programs that may be implemented.
- Consider how projects placed in the Transportation Improvement Program will impact safety.

2.2 Bridge/Pavement Performance

The MPO meets the state targets for pavement condition on the reported Interstate and non-Interstate National Highway System (NHS) segments. To continue supporting the state target and improve its performance on the roadways, the MPO should:

- Prioritize timely repairs and resurfacing of pavement on routes with deteriorating pavement conditions when they arise.
- Work with state and local stakeholders to identify and repair pavement cracking, rutting, potholes, etc.
- Reduce or eliminate heavy vehicle traffic on the affected roadways by establishing designated truck routes on roadways with better pavement conditions.
- Use the local Intelligent Transportation Systems (ITS) infrastructure to monitor roadway conditions and redirect drivers to less congested routes, reducing vehicle loads and deterioration of pavement conditions.
- Employ Travel Demand Management (TDM) strategies.

The MPO meets the state target for bridges in Poor condition by deck area. However, it fails to meet the state target of percent of bridges in Good condition by deck area. The MPO's performance in this category is considerably lower than the state's baseline performance, which itself is close to falling below the MDOT target. For the MPO to meet the state target as well as support and improve the state's performance, it will need to place emphasis on repairing or replacing bridges that are not in Good

condition. The MPA bridges that are not in Good condition should be prioritized through the plan's operation and maintenance budget. This will also increase safety and system performance and avoid costlier repairs in the future.

Where possible, the MPO, in coordination with MDOT, should apply for applicable federal grants to aid with obtaining funds for bridge repairs and maintenance. While there is no guarantee of receiving these funds, they would allow the MPO to expedite repairs and allow as many bridges as possible to be repaired to Good condition.

2.3 System Performance

Roadway reliability on the Interstates and non-Interstate NHS routes within the MPA meets the state targets. However, the MPO's baseline for non-Interstate routes is close to falling below the state target.

The actions the MPO may take to continue supporting the Interstate reliability and increase the non-Interstate NHS reliability are the same:

- Work with law enforcement to remove crashes from travel lanes, reducing congestion.
- Use ITS to advise motorists of roadway conditions and redirect drivers to less congested routes.
- Implement signal coordination projects to reduce congestion.
- Schedule roadway work at off-peak times.
- Employ Travel Demand Management strategies.

The MPA has four Interstate segments for the purposes of the Truck Travel Time Reliability (TTTR) measure. These are:

- I-20, which has an overall TTTR of 1.13;
- I-55, which has an overall TTTR of 1.39;
- The I-20/I-55 concurrency, which has an overall TTTR of 1.66; and
- I-220, which has an overall TTTR of 1.25.

The I-20/I-55 concurrency is the only segment of the Interstate system within the MPA that does not meet the state's target for TTTR. Actions that the MPO may take to improve the TTTR include:

- Work with law enforcement to remove crashes from travel lanes, reducing congestion.
- Use ITS to advise motorists of roadway conditions and redirect drivers to less congested routes.
- Implement signal coordination projects at Interstate ramps to reduce queueing on ramps and promote efficiency.
- Schedule roadway work at off-peak times.
- Employ Travel Demand Management strategies.

- Implement congestion reduction measures.
- Using ITS to advise truck drivers of roadway conditions and redirect them to less congested routes.
- Provide alternative truck routes.

2.4 Transit Asset Management Performance

The overall age of transit vehicles operated by JTRAN, the public transit provider in the MPO area, exceeds the Useful Life Benchmark (ULB) targets established within the MPA. In addition to the rolling stock vehicles, the truck and car equipment vehicles also exceed their ULB targets. To improve its rolling stock and equipment performance targets JTRAN will need to upgrade its fleet by incorporating newer vehicles and phasing out older vehicles.

JTRAN also maintains two administration buildings as part of its system. Of these two, one of these rates below 3.0 on the Transit Economic Requirements Model (TERM) scale. To increase this performance, JTRAN will need to upgrade the administration building in need of repair.

2.5 Transit Safety

The Federal Transit Administration (FTA) has added new safety requirements for transit providers in order to satisfy the new Public Transportation Agency Safety Plans (PTASP) rule. The new PTASP rule requires that qualifying transit agencies develop:

- An Agency Safety Plan (ASP), including performance targets
- A Safety Management System (SMS)
- Documentation related to the ASP and SMS as well as the results of the SMS processes and activities

The FTA states that:

"The PTASP rule requires transit providers to have their certified agency safety plans in place, which includes the first set of required safety performance targets, and share these targets with the MPO no later than July 20, 2020. The MPOs then have 180 days from receipt of the agency performance targets to prepare their initial public transportation safety performance targets."

The FTA also states:

"Each transit provider is required to review its agency safety plan, annually and update the plan, including the safety performance targets, as necessary.

The MPO is not required to set new transit safety targets each year, but can choose to revisit the MPO's safety targets based on the schedule for preparation of its system performance report that is part of the Metropolitan Transportation Plan (MTP). The first MPO MTP update or amendment to be approved on or after July 20, 2021, must include the adopted transit safety targets for the region."

The 2045 Metropolitan Transportation Plan is not required to contain PTSAP related performance measure targets, but the performance metrics that will be tracked in the future are shown in the scorecards above so that JTRAN and the MPO may plan accordingly.