

# Volume II Roadways and Bridges

## 2040 Metropolitan Transportation Plan Jackson Urbanized Area



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prepared by:



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# Volume II: Roadways and Bridges

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## Table of Contents

Table of Contents.....	TOC-1
List of Tables.....	TOC-2
List of Figures.....	TOC-4
<b>1.0 Introduction.....</b>	<b>II-1</b>
<b>2.0 Existing Conditions .....</b>	<b>II-2</b>
2.1 The Roadway Network .....	II-2
Roadways by Functional Classification .....	II-3
Roadways by Maintenance Responsibility .....	II-4
2.2 Pavement Conditions .....	II-5
2.3 Bridge Conditions.....	II-7
2.4 Traffic, Congestion, and Reliability.....	II-14
2.5 Safety.....	II-21
2.6 Security .....	II-37
<b>3.0 Future Transportation Needs .....</b>	<b>II-40</b>
3.1 Congestion Relief.....	II-40
3.2 Roadway Safety Needs .....	II-45
3.3 Roadway Maintenance Needs.....	II-51
3.4 Bridge Deficiencies.....	II-53
<b>4.0 Financial Analysis .....</b>	<b>II-56</b>
<b>5.0 Project Development and Prioritization .....</b>	<b>II-58</b>
<b>6.0 Fiscally-Constrained Implementation Plan.....</b>	<b>II-66</b>
6.1 Applying Fiscal Constraint .....	II-66
6.2 Effectiveness of Fiscally Constrained Projects.....	II-67
6.3 Fiscally Constrained Projects .....	II-69
6.4 Visionary Projects.....	II-74

# Volume II: Roadways and Bridges

---



## List of Tables

Table 2.1 Major Roadways .....	II-2
Table 2.2 Roadway Model Network Lane Mileage by Functional Class .....	II-4
Table 2.3 Roadway Network Centerline Mileage by Maintenance Responsibility.....	II-4
Table 2.4 Pavement Condition for National Highway System Roadways.....	II-6
Table 2.5 Pavement Condition for All Arterials and Collectors in MPA, 2014 .....	II-6
Table 2.6 Bridges by Condition.....	II-8
Table 2.7 Bridge Deck Area by Condition.....	II-8
Table 2.8 Bridges by Sufficiency Rating .....	II-9
Table 2.8 Daily Vehicle Trips by Purpose, 2013.....	II-14
Table 2.9 Roadway System Travel Characteristics, 2013 .....	II-15
Table 2.10 Roadway Corridors with Volumes Exceeding Capacity, 2013 .....	II-16
Table 2.11 Automobile Crashes by Year, 2011-2013 .....	II-21
Table 2.12 Automobile Crashes by Time of Day, 2011-2013.....	II-22
Table 2.13 Automobile Crashes by Roadway Surface Conditions, 2011-2013.....	II-23
Table 2.14 Automobile Crashes by Roadway Lighting, 2011-2013.....	II-23
Table 2.15 Automobile Crashes by Severity, 2011-2013 .....	II-24
Table 2.16 Automobile Crashes by Collision Type, 2011-2013 .....	II-25
Table 2.17 Alcohol Involvement in Automobile Crashes, 2011-2013 .....	II-26
Table 2.18 Top 10 Intersections with High Automobile Crash Frequency by County, 2011-2013 .....	II-27
Table 2.19 Top 20 Intersections with High Automobile Crash Frequency by Severity, 2011-2013 .....	II-28
Table 2.20 Top 20 Intersections with High Automobile Crash Frequency by Collision Type, 2011-2013 .....	II-29
Table 2.21 Top Intersections with High Automobile Rear End Crash Frequency, 2011-2013 ...	II-30
Table 2.22 Top Intersections with High Automobile Angle Crash Frequency, 2011-2013 .....	II-30
Table 2.23 Top 10 High Automobile Crash Frequency Segments and Crash Rates, 2011-2013 .....	II-31
Table 2.24 Top 10 High Automobile Crash Rate Segments, 2011-2013 .....	II-32

# Volume II: Roadways and Bridges

---



Table 2.25 Top 10 High Crash Rate Intersections, 2011-2013 .....	II-33
Table 3.1 Vehicle Trips by Purpose, 2010 to 2040 .....	II-40
Table 3.2 Travel Demand Impact of Growth and Existing and Committed Projects, 2013 to 2040 .....	II-41
Table 3.3 Segments with Volume to Capacity Ratios above 1.00 in 2040 (E+C) .....	II-42
Table 3.4 High Priority Arterial and Collector Roadway Maintenance Segments.....	II-52
Table 3.5 Worst Performing Bridges in Poor Condition by Sufficiency Rating.....	II-54
Table 3.6 Worst Performing Bridges on NHS by Sufficiency Rating.....	II-55
Table 4.1 Jackson Urbanized Area MTP 2040 Typical Project Cost by Improvement Type (2013 Dollars) .....	II-57
Table 5.1 Roadway Capacity Project Prioritization Criteria .....	II-59
Table 5.2 Roadway Capacity Project Prioritization Criteria Measures.....	II-60
Table 5.3 Project Prioritization Results .....	II-61
Table 6.1 Fiscal Constraint.....	II-67
Table 6.2 Travel Impacts of Fiscally Constrained 2040 MTP .....	II-67
Table 6.3 Travel Impacts of Fiscally Constrained 2040 MTP by Roadway Functional Class.....	II-68
Table 6.4 Jackson Urbanized Area MTP 2040 Staged Improvement Program - Stage I (2016-2020).....	II-69
Table 6.5 Jackson Urbanized Area MTP 2040 Staged Improvement Program - Stage II (2021-2030).....	II-70
Table 6.6 Jackson Urbanized Area MTP 2040 Staged Improvement Program - Stage III (2031-2040).....	II-71
Table 6.7 Jackson Urbanized Area MTP 2040 Staged Improvement Program - Vision Needs Table .....	II-75

# Volume II: Roadways and Bridges

---



## List of Figures

Figure 2.1 Functional Classification of Roadways .....	II-10
Figure 2.2 Roadway Maintenance Responsibility in MPA.....	II-11
Figure 2.3 Roadway Pavement Conditions .....	II-12
Figure 2.4 Sufficiency Rating of Bridges in Poor Condition .....	II-13
Figure 2.5 Average Daily Traffic on Roadways, 2010 .....	II-17
Figure 2.6 Existing Roadway Congestion, 2010 .....	II-18
Figure 2.7 Travel Time Reliability, AM Peak .....	II-19
Figure 2.8 Travel Time Reliability, PM Peak.....	II-20
Figure 2.9 Mississippi SHSP Update Development Process.....	II-35
Figure 2.10 Screening of Initial Safety Strategies for Mississippi.....	II-36
Figure 3.1 Future Roadway Congestion, 2040 (Existing + Committed) .....	II-44
Figure 5.1 Roadway Project Prioritization.....	II-65
Figure 6.1 Fiscally-Constrained Roadway Capacity Projects.....	II-73
Figure 6.2 Visionary Roadway Capacity Projects.....	II-78

# Volume II: Roadways and Bridges

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## 1.0 Introduction

The region's roadways and bridges are used by personal motor vehicles, public transportation providers, private transportation providers, freight trucks, and bicyclists. For this reason the region's roadways and bridges are of great importance.

In the Jackson Metropolitan Planning Area (MPA), traveling by motor vehicle is the primary means of transportation. This is typical of regions its size, as according to the 2009 National Household Travel Survey (NHTS), approximately 85% of all household trips in urbanized areas with populations between 200,000 and 500,000 were made in a motor vehicle. This means that the condition of the roadways and bridges affect the overwhelming majority of travel in the MPA.

This volume of the 2040 Metropolitan Transportation Plan (MTP) addresses current and future roadway and bridge needs for the Jackson MPA using the following process:

- Chapter 2 analyzes existing conditions;
- Chapter 3 projects future needs;
- Chapter 4 forecasts future federal, state, and local funds anticipated to be available;
- Chapter 5 prioritizes projects identified throughout the planning process; and
- Chapter 6 presents the fiscally-constrained list of projects from 2016 through 2040.

# Volume II: Roadways and Bridges



## 2.0 Existing Conditions

Planning for future transportation system improvements starts with evaluating the existing transportation system. This chapter identifies the conditions and characteristics of the existing transportation system.

### 2.1 The Roadway Network

Several federal and state highways serve the study area. These facilities constitute the main network of roadways in the area. The most significant of these facilities are described in Table 2.1.

**Table 2.1 Major Roadways**

Roadway	Description
<b>I-20</b>	I-20 begins near Midland, TX at I-10 and travels east to Florence, SC. It goes through the study area from west to east.
<b>I-55</b>	I-55 begins in LaPlace, LA at I-10 and travels north to Chicago, IL. It travels through the study area from south to north, overlapping I-20 for about 2 miles in an area known as the “spaghetti bowl.”
<b>I-220</b>	Interstate 220 provides an additional connection between I-20 West and I-55 North, establishing a closed loop around the core urban area of Jackson.
<b>US 49</b>	US 49 begins in Gulfport, MS and travels north to Piggot, AR. US 49 goes through the study area from the north west to the south east.
<b>US 51</b>	US 51 starts in LaPlace, LA and runs north to its intersection with MI 2 in Ironwood, MI. US 51 runs from the south west of the study area, through to the north east.
<b>US 80</b>	US 80 begins in El Paso, TX and goes east to Savannah, GA. It runs east and west through the study area, usually along I-20. Outside of the study area, US 80 dual routes with I-20 at some sections.
<b>MS 16</b>	MS 16 leads west to Yazoo City and east to Carthage and Philadelphia.
<b>MS 43</b>	MS 43 runs north to Kosciusko and south to Bay St. Louis on the Gulf Coast.
<b>MS 25</b>	Originating in the city of Jackson, MS 25 heads northeast to Starkville and ultimately to Tishomingo County in the extreme northeastern corner of the state.
<b>MS 18</b>	MS 18 runs westward to Port Gibson on the Mississippi River; traveling in the opposite direction it winds its way through Raleigh, Bay Springs, Pachuta, and Quitman on the way to western Alabama.
<b>MS 22</b>	MS 22 is the shortest of the major state routes, only 40 miles or so: beginning at Edwards, just west of the study area to Canton at the northern limit of the Jackson Urbanized Area.

## Volume II: Roadways and Bridges

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### Roadways by Functional Classification

Each type of roadway serves a function in the overall roadway network. Roadways are divided into functional classes based on their intended balance of mobility (speed) and access to adjacent land. Their designs vary in accordance with this functional classification.

**Interstates:** These facilities are divided highways with full control of access and grade separations at all intersections. The controlled access character of interstates results in high-lane capacities, which are three times greater than the individual lane capacities of urban arterial streets.

**Expressways:** These facilities provide for movement of large volumes of traffic at relatively high speed, and are primarily intended to serve long trips. Expressways have some grade separated intersections, while the majority of the intersections are widely spaced and signalized.

**Arterials:** These facilities are important components of the overall transportation system. They serve both as feeders to interstates and expressways, and as principal travel ways between major land use concentrations within the study area. Arterials are typically divided facilities (undivided where right-of-way limitations exist) with relatively high traffic volumes and traffic signals at major intersections. The primary function of arterials is to move traffic; they are the main means of local travel. A secondary function of arterials is land access.

**Collectors:** These facilities provide both land service and traffic movement functions. Collectors serve as intermediate feeders between arterials and local streets and primarily accommodate short distance trips. Since collector streets are not intended to accommodate long through trips, they are generally not continuous for any great length.

**Local Streets:** The sole function of these facilities is to provide access to immediately adjacent land. Within the local street classification, three subclasses are established to indicate the type of area served: residential, industrial, and commercial. These streets are not included in the computer network, with the exception of a few segments that provide connectivity in the model network and improve the reliability of the model.

Figure 2.1 illustrates the functional classification of the Jackson MPA's roadways and Table 2.2 summarizes this information by centerline miles and lane miles.

## Volume II: Roadways and Bridges



**Table 2.2 Roadway Model Network Lane Mileage by Functional Class**

Functional Class	Centerline Miles		Lane Miles	
	Miles	Percent	Miles	Percent
Interstate	278	16.6%	573	14.1%
Principal Arterial	335	19.9%	1,148	28.2%
Minor Arterial	375	22.3%	904	22.2%
Collector	692	41.2%	1,441	35.4%
Total	1,680	100.0%	4,066	100.0%

Note: Does not include local roads  
Source: Jackson Regional Travel Demand Model

### Roadways by Maintenance Responsibility

Since most roadways are local roads, it is not surprising that approximately 60% of roadways in the model network are maintained by counties or municipalities, as indicated in Table 2.3 and illustrated in Figure 2.2. All of the principal arterials and many of the minor arterials are State Highways or Federal Highways and are state-maintained roadways. All of the roadways classified functionally as locals are maintained by a county or municipal agency. Most collectors are also maintained by a county or municipal agency.

**Table 2.3 Roadway Network Centerline Mileage by Maintenance Responsibility**

Maintenance Responsibility	Centerline Miles		Lane Miles	
	Miles	Percent	Miles	Percent
National Park Service	46	2.7%	92	2.3%
State	621	37.0%	1,575	38.7%
County or Municipality	1,013	60.3%	2,399	59.0%
Total	1,680	100.0%	4,066	100.0%

Note: Excludes local roads  
Source: Jackson Regional Travel Demand Model

## Volume II: Roadways and Bridges

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### *2.2 Pavement Conditions*

Maintaining sufficient pavement conditions ensure that roadways operate at their full capacities and provide roadway users with safer, more comfortable travel experiences that minimize vehicle wear and tear.

Results from the 2040 MTP public input meeting showed that road and bridge conditions were one of the public's top priorities. On average, the public rated current satisfaction with road and bridge conditions as fair to poor. Furthermore, in a funding allocation exercise where the public was asked to allocate future transportation dollars by improvement type, the public allocated approximately one-third of all funding to maintaining roads.

#### *Pavement Conditions on National Highway System*

Pavement condition ratings for all interstates and a sample of non-interstate National Highway System (NHS) pavements were determined using the 2013 Highway Performance Monitoring System (HPMS) data submitted by MDOT to the Federal Highway Administration (FHWA). The HPMS is a national level highway information system that includes data on the extent, condition, performance, and use and operating characteristics of the nation's highways. HPMS data is sample data, collected across the entire Federal-aid eligible system, for interstate, arterial and collector networks. The pavement condition provided is based on the International Roughness Index (IRI), cracking, rutting, and faulting values from the FHWA's Highway Performance Management System.

As part of the implementation of the Moving Ahead for Progress in the 21st Century Act (MAP-21) signed into law in 2012, pavement condition performance monitoring will be required by MPOs in the near future. The proposed performance measures classify pavement conditions using a combination of data from the HPMS, including IRI, cracking, rutting, and faulting. All pavements on the NHS will be classified as either in Good, Fair, or Poor condition. Because the 2013 HPMS data only provides the IRI rating, this is what is used to discuss existing pavement conditions for the MTP.

Table 2.4 shows the percentage of the Jackson MPA's NHS lane miles that are currently in Good, Fair, Poor, and Very Poor condition based on the IRI. The ranges for IRI values in Table 2.4 are consistent with what proposed FHWA rulemaking indicates will be federal performance measure thresholds with the exception of Very Poor, which is intended to further distinguish pavement conditions. Approximately 25 percent of the total lane-miles are in poor or very poor condition.

Figure 2.3 shows that the worst pavement conditions are on the principal arterials in and around the City of Jackson. Most of the interstate system in the MPA is in fair or better condition.

## Volume II: Roadways and Bridges



**Table 2.4 Pavement Condition for National Highway System Roadways**

IRI Rating	Lane Miles	Percent of Total
Good (<95)	725	46.9%
Fair (95-170)	427	27.6%
Poor (170-220)	147	9.5%
Very Poor (>220)	249	16.1%
Total	1,548	100.0%

Note: Includes most of NHS system, but gaps do exist in data.  
Source: USDOT, 2013 Highway Performance Monitoring System

### Pavement Condition on all Arterials and Collectors

The Central Mississippi Planning and Development District (CMPDD), the Metropolitan Planning Organization (MPO), maintains a Pavement Management System (PMS) for all arterials and collectors in the Jackson MPA that is updated on a three year cyclical basis. Data is collected by windshield surveys in which the surveyor identifies deficiencies in the roadway that can include patching, rutting, potholes cracking and poor storm water drainage. Overall pavement condition is measured by a Pavement Condition Index (PCI) which assigns a condition based on a scale from 0 to 100, with 100 being a perfect score.

Using the PCI values for all roadways inventoried in the CMPDD PMS, pavement conditions were assigned using thresholds utilized by other agencies. Table 2.5 shows these thresholds and the associated pavement condition of all arterial and collector lane miles in 2014.

As with the NHS system, about 25 percent of all arterial and collector lane miles in the Jackson MPA are in poor condition.

**Table 2.5 Pavement Condition for All Arterials and Collectors in MPA, 2014**

Condition	PCI Value	Lane Miles	Percent of Total
Good	≥ 86	1,467	57.0%
Fair	55 to 85	528	20.5%
Poor	< 55	579	22.5%
Total	All	2,574	100.0%

Note: Only includes arterials and collectors.  
Source: CMPDD Pavement Management System

## Volume II: Roadways and Bridges

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### *2.3 Bridge Conditions*

Bridges are a critical part of the overall transportation network, serving as important connections over waterways, providing grade separation between roadways and other transportation facilities, and connecting transportation facilities to each other. Bridges must be maintained and upgraded as needed to ensure that they are not serving as safety or environmental hazards, bottlenecks, or limitations to freight movement.

As previously mentioned, results from the 2040 MTP public input meeting showed that road and bridge conditions were one of the public's top priorities. On average, the public rated current satisfaction with road and bridge conditions as fair to poor. Furthermore, in a funding allocation exercise where the public was asked to allocate future transportation dollars by improvement type, the public allocated approximately one-third of all funding to maintaining roads, which includes bridges.

There are nearly 1,300 bridges within, or within close proximity, to the Jackson MPA. Most of these are crossing waterways, but there are also many structures crossing over other roadways and railroads. According to National Bridge Inventory (NBI) data, no bridges are of historic significance in the Jackson MPA inventory.

#### *Bridge Conditions and Sufficiency Ratings*

Bridge conditions for all bridges in the United States with public roads passing above or below are included in the National Bridge Inventory (NBI). The NBI defines bridges to include bridge-length culverts. This data source is updated annually and provides valuable condition information.

As part of the implementation of MAP-21, bridge condition performance monitoring will be required by MPOs in the near future. The proposed performance measures for bridges are the percentage of NHS bridges classified as being in Good condition and the percentage of NHS bridges classified as being in Poor condition. The proposed definition of Good and Poor are based on a structure's deck, superstructure, and substructure rating or culvert rating.

Table 2.6 shows the number and percentage of bridges classified by FHWA condition for both NHS bridges alone and for all bridges. The majority of bridges on the NHS system overall are in fair or better condition. 64 bridges in the Jackson MPA are defined as Poor by the proposed FHWA standards. Figure 2.4 shows the location of all of these bridges in poor condition. Only five of the bridges in poor condition are on NHS routes.

FHWA may use the deck area of bridges to define the percentage of NHS bridges classified as being in Good condition and Poor condition. Table 2.7 shows this breakdown for both NHS and all bridges in the Jackson MPA. The percentage of deck area in poor condition for both the NHS

## Volume II: Roadways and Bridges



and all bridges is lower than the percentage of the number of bridges in poor condition. This indicates that the bridges in poor condition are relatively small in size.

Another way of evaluating bridge condition is their sufficiency rating assigned in the NBI. Historically, in order to be eligible for federal funds for bridge rehabilitation or replacement, a bridge must have a sufficiency rating of 80 or lower for rehabilitation and below 50 for replacement. Table 2.8 shows that 105 bridges, nearly ten percent of all bridges, in the Jackson MPA may warrant replacement while another 464 may warrant rehabilitation. Figure 2.4 illustrates the sufficiency ratings of bridges in poor condition.

**Table 2.6 Bridges by Condition**

Condition	NHS Bridges in MPA		All Bridges in MPA	
	Number	Percent	Number	Percent
Good Condition	254	42.4%	672	52.7%
Fair Condition	170	28.4%	351	27.5%
Poor Condition	5	0.8%	64	5.0%
No Data	170	28.4%	189	14.8%
Total	599	100.0%	1,276	100.0%

Source: National Bridge Inventory

**Table 2.7 Bridge Deck Area by Condition**

Condition	NHS Bridges in MPA		All Bridges in MPA	
	Square Meters	Percent	Square Meters	Percent
Good Condition	270,350	50.5%	414,037	54.9%
Fair Condition	263,099	49.2%	326,803	43.4%
Poor Condition	1,458	0.3%	12,848	1.7%
Total Deck Area	534,907	100.0%	753,689	100.0%

Source: National Bridge Inventory

Note: About 15% of bridges did not have sufficiency ratings or deck dimensions in NBI.

## Volume II: Roadways and Bridges



**Table 2.8 Bridges by Sufficiency Rating**

Sufficiency Rating	NHS Bridges in MPA		All Bridges in MPA	
	Number	Percent	Number	Percent
Above 80	274	45.7%	518	40.6%
50-80	141	23.5%	464	36.4%
Less than 50	14	2.3%	105	8.2%
No Data	170	28.4%	189	14.8%
Total	599	100.0%	1,276	100.0%

Source: National Bridge Inventory

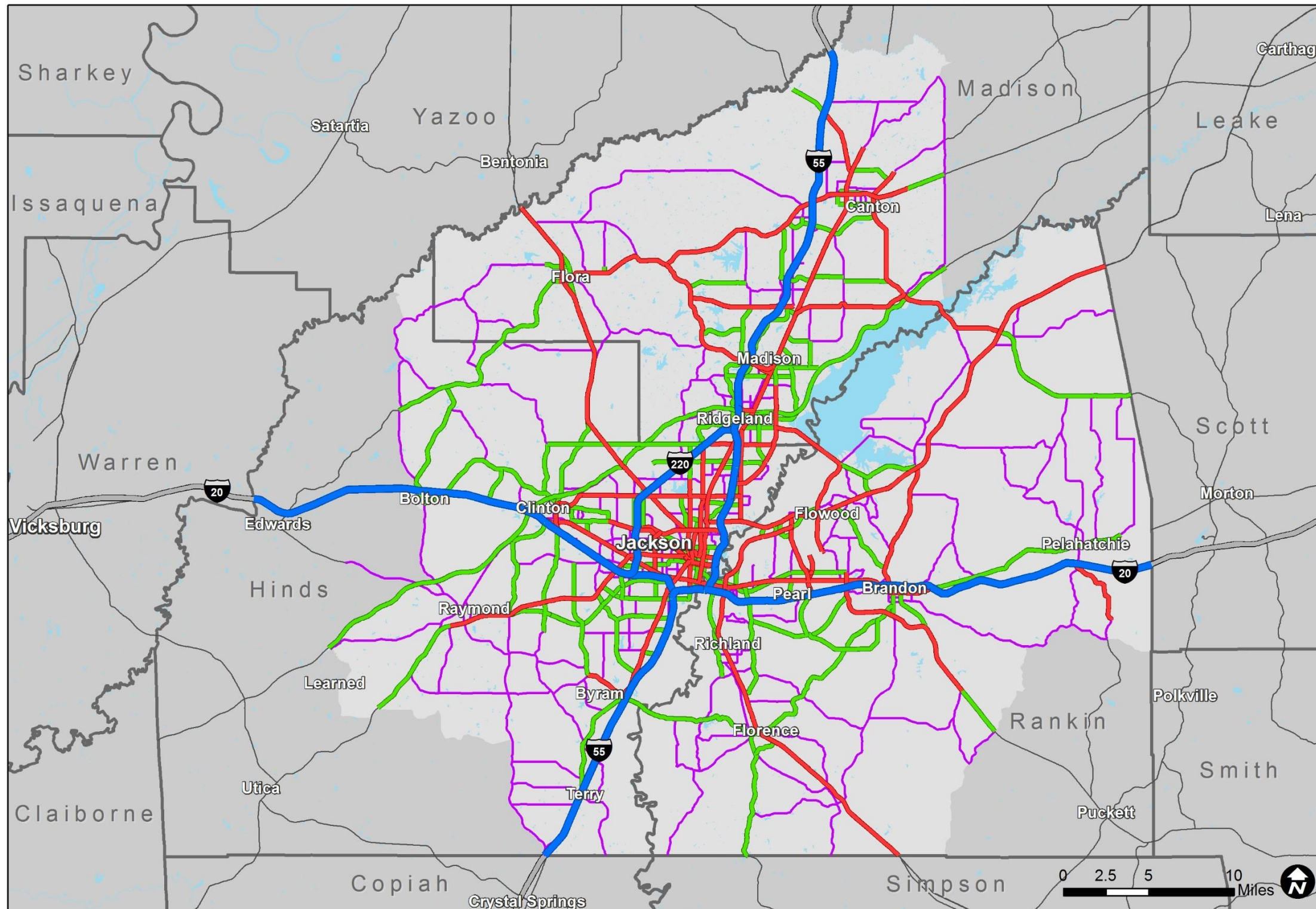
### Structurally Deficient and Functionally Obsolete Bridges

Aside from the sufficiency rating, bridges constructed more than ten years ago in the NBI are evaluated to determine if they are either “structurally deficient” or “functionally obsolete.” Neither of these designations necessarily means that a bridge is unsafe. Structural deficiency is characterized by deteriorated conditions of significant bridge elements and potentially reduced load-carrying capacity. A “structurally deficient” bridge typically requires significant maintenance and repair to remain in service and would eventually require major rehabilitation or replacement to address the underlying deficiency. A bridge is considered “functionally obsolete” when it does not meet current design standards (for criteria such as lane width), either because the volume of traffic carried by the bridge exceeds the level anticipated when the bridge was constructed and/or the relevant design standards have been revised. Addressing functional deficiencies may require the widening or replacement of the structure.

There are 86 structurally deficient bridges in the Jackson MPA, six of which are on the NHS. There are also an additional 163 functionally obsolete bridges in the MPA, 87 of which are on the NHS.

In addition to the two bridge condition performance measures which MPOs must track, all states must ensure that no more than ten percent of the total deck area of NHS bridges in the state is classified as Structurally Deficient.

**FIGURE 2.1 FUNCTIONAL CLASSIFICATION OF ROADWAYS**



**Legend**

- Interstate
- Principal Arterial
- Minor Arterial
- Collector

**Roadways Outside MPA:**

- Interstate
- Other Major Roadways
- Water Bodies
- Metropolitan Planning Area
- Counties

Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.

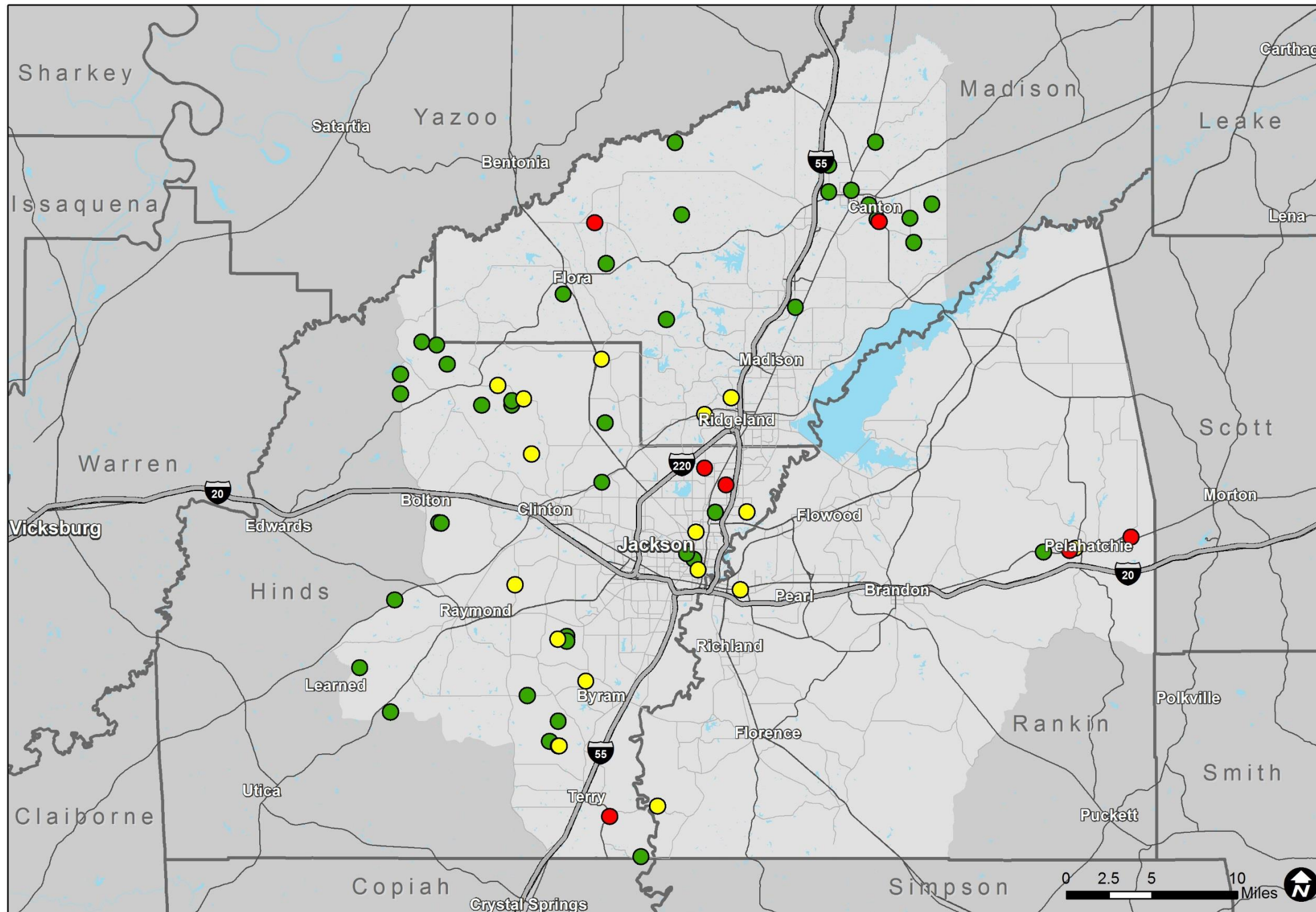
Map Source: Neel-Schaffer, Inc.

Data Sources: CMPDD





**FIGURE 2.4 SUFFICIENCY RATING OF BRIDGES IN POOR CONDITION**



**Legend**

**Sufficiency Rating of All Bridges in Poor Condition\***

- 3 - 15
- 16 - 30
- 31 - 46

- Interstates
- Secondary Roadways
- Other Major Roadways in MPO
- Water Bodies
- Metropolitan Planning Area
- Counties

Note: \*All bridges in poor condition in the Jackson MPA are Structurally Deficient.

Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.

Map Source: Neel-Schaffer, Inc.

Data Sources: USDOT, 2013 National Bridge Inventory

## Volume II: Roadways and Bridges



### *2.4 Traffic, Congestion, and Reliability*

The number of daily trips by trip purpose in 2013, as estimated by the Travel Demand Model is summarized in Table 2.8. This data shows that just over one in thirteen vehicle trips is originating outside of the MPA and that internal commercial and truck vehicle trips (e.g., freight, taxi, etc.) account for about one in ten vehicle trips. Most household vehicle trips originating in the MPA begin or end at home.

Table 2.9 shows how these trips are distributed onto the modeled transportation network, which excludes most of the local roads. Most of the delay (about 84 percent) is estimated to occur on the principal arterials and interstates, which are also where most vehicle miles traveled and vehicle hours occur. Conversely, there is little delay estimated to occur on collectors and travel on these roadways only account for 11 percent of vehicle miles traveled and 13 percent of vehicle hours traveled.

**Table 2.8 Daily Vehicle Trips by Purpose, 2013**

Trip Purpose	Vehicle Trips	Percent
Home-Based Work	338,010	17.4%
Home-Based Other	802,017	41.4%
Non-Home Based	458,274	23.6%
Commercial Vehicle	174,050	9.0%
Truck	21,146	1.1%
External-Internal	129,213	6.7%
External-External	16,803	0.9%
Total	1,939,513	100.0%

Source: Jackson Travel Demand Model, NSI

## Volume II: Roadways and Bridges



**Table 2.9 Roadway System Travel Characteristics, 2013**

Functional Class	Daily Vehicle Miles Traveled (VMT)		Daily Vehicle Hours Traveled (VHT)		Daily Vehicle Hours of Delay	
	Number	Percent	Number	Percent	Number	Percent
Interstate	5,787,383	42.0%	114,721	34.8%	18,925	37.5%
Principal Arterial	4,598,105	33.3%	122,442	37.2%	23,240	46.1%
Minor Arterial	1,884,237	13.7%	50,270	15.3%	4,674	9.3%
Collector	1,525,796	11.1%	41,903	12.7%	3,609	7.2%
Total	13,795,521	100.0%	329,336	100.0%	50,448	100.0%

Source: Jackson Travel Demand Model, NSI

Figure 2.5 confirms that vehicular traffic in the Jackson MPA is greatest on interstates and principal arterials, most notably, the I-20/I-55 overlap section south of the Jackson Central Business District (CBD) and I-55 from I-20 north to I-220. These areas have estimated average daily volumes exceeding 122,000 vehicles. Figure 2.5 shows that the highest volume corridors with estimated daily volumes between 50,000 and 65,000 vehicles mostly include the region's arterials. Areas with estimated average daily volumes between 10,000 and 50,000 are mostly limited to roadway segments connecting to these arterials.

Traffic is better understood when roadway capacities are taken into account. Volume to capacity (V/C) ratios are often used to illustrate congestion on roadway segments. Figure 2.6 shows these V/C ratios for the major roadways in the Jackson MPA. Currently only nine roadway segments, summarized in Table 2.10, exceed a V/C ratio of 1.00. These nine segments are mostly near the intersections of roadways and/or at interstate interchanges with high traffic volumes with a V/C ratio range of 1.00 to 1.34. This suggests that peak period congestion is currently an issue in the Jackson MPA.

It should be noted that the V/C ratios in Volume IV: Congestion Management Process differ from those presented in this volume. This difference is the result of utilizing different roadway capacity assumptions. The regional travel demand model, which was used to calculate V/C ratios in this volume, assumes a higher daily roadway capacity due to peak spreading. The Congestion Management Process (CMP) assumes more traditional, lower roadway capacities, resulting in a larger number of roadway segments where volume exceeds capacity.

## Volume II: Roadways and Bridges



**Table 2.10 Roadway Corridors with Volumes Exceeding Capacity, 2013**

Roadway	From/To	Length (miles)
I-55 NB Off Ramp	E Woodrow Wilson Dr. to I-55 SB Off Ramp	0.08
I-55 Service Road	E County Line Rd. to I-55 NB On Ramp	0.07
I-20 EB On Ramp	@ MS 18 W	0.25
US 49	Lowe Cir. to Old US 49	0.75
MS 471	Value Rd. to Luckney Rd.	0.58
Flowood Dr.	Ellis Dr. to Treetops Blvd.	0.71
Flowood Dr.	Short Ln. to N Flowood Dr.	0.10
MS 18 W	Greenway Dr. to south I-20 Ramps	0.07
Lakeland Dr.	Howard Wilson Ln. to Old Fannin Rd.	1.22

Source: Jackson Travel Demand Model, NSI

While most of the region’s roadways do not have daily volumes that exceed their daily capacities, there may still be congestion issues at specific times, notably peak periods. Travel time reliability addresses this issue by evaluating how travel times vary in time, typically by time of day. For the purposes of the MTP, travel time reliability analysis will focus on peak periods. Reliability issues related to traffic incidents, construction, special events, or other events would require a more detailed analysis.

Figure 2.7 and Figure 2.8 show Travel Time Indices (TTI) for major roadways during AM and PM peak periods in the Jackson MPA. The TTI is the ratio of actual travel time to free-flow travel time and illustrates areas that experience congestion during peak periods. It should be noted that the TTI presented in this volume is different than the Congestion Factor measured in Volume IV: Congestion Management Process. The difference is the result of varying data sources. The TTI uses observed average weekday speed from an entire year from a statewide dataset provided by INRIX while the CMP Congestion Factor uses sample travel time data collected by CMPDD.

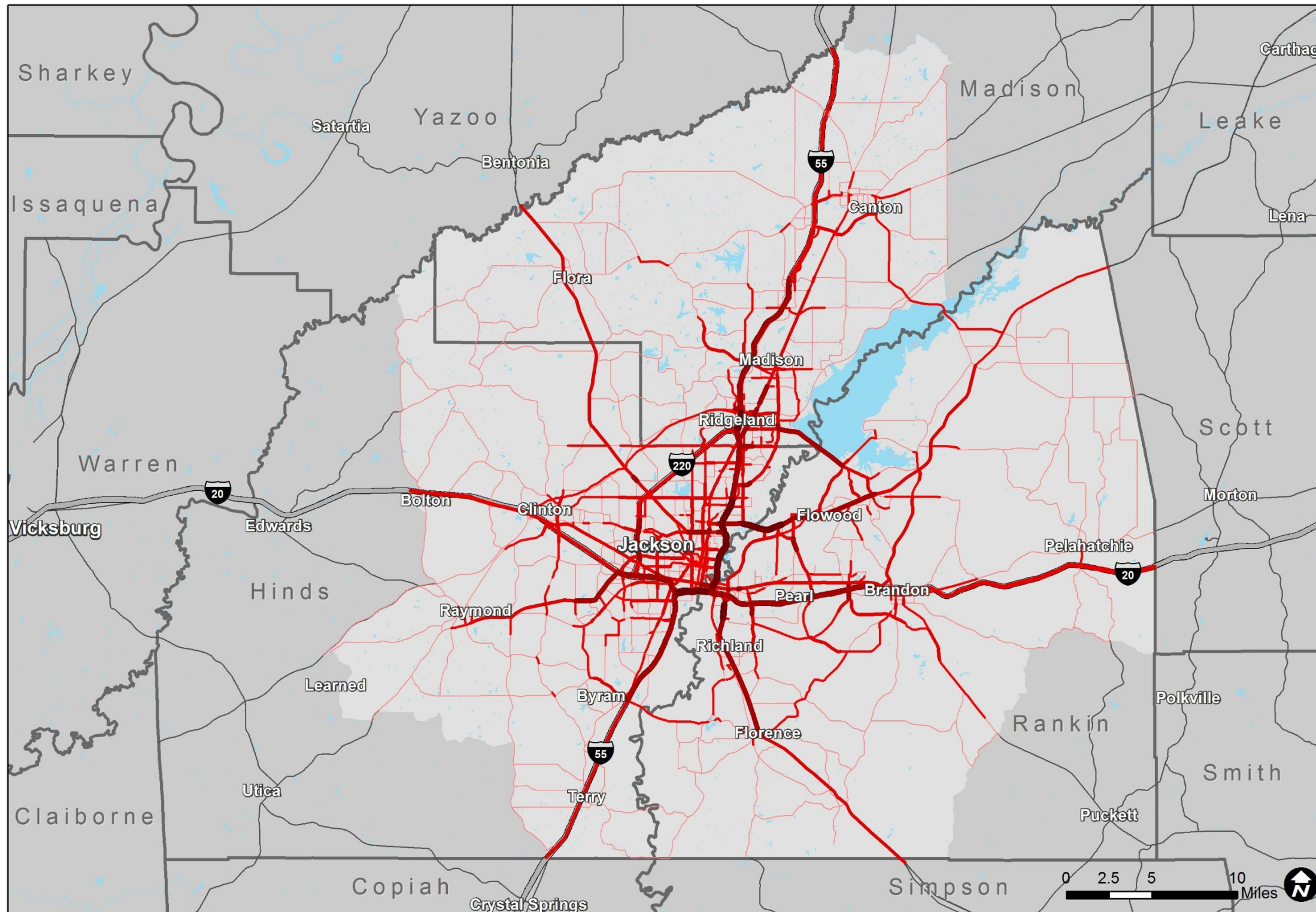
Travel time reliability overall is worse in the PM peak than in the AM peak. Typically, roadway segments that experience AM reliability issues also experience PM reliability issues. Areas experiencing relatively high peak-period congestion, as indicated by the TTI include:

- I-55 north and south of County Line Rd.
- US 51 from I-55 to Natchez Trace Pkwy.
- MS 25 (Lakeland Dr.) from Pearl River to Grants Ferry Rd.
- MS 475 from I-20 to Old Brandon Rd.
- US 49 in Richland

**FIGURE 2.5 AVERAGE DAILY TRAFFIC ON ROADWAYS, 2010**



**2040  
MTP**



**Legend**

**Modeled Network:**

**Average Daily Traffic**

- 0 - 5,000
- 5,001 - 10,000
- 10,001 - 25,000
- 25,001 - 50,000
- Above 50,000

**Roadways Outside MPA:**

- Interstate
- Other Major Roadways
- Water Bodies
- Metropolitan Planning Area
- Counties

Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.

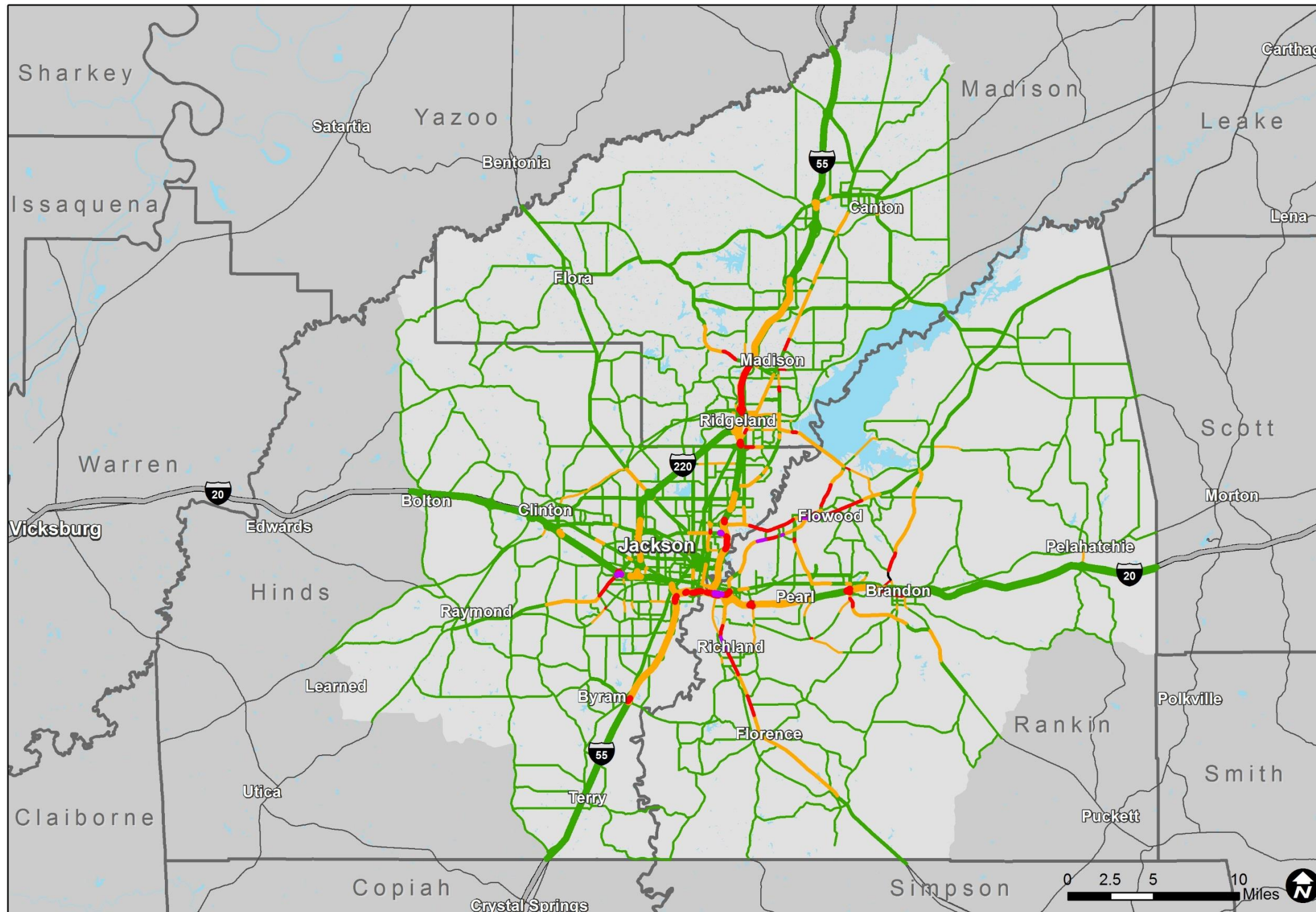
Map Source: Neel-Schaffer, Inc.

Data Sources: Jackson Regional Travel Demand Model

**FIGURE 2.6 EXISTING ROADWAY CONGESTION, 2010**



**2040  
MTP**



**Legend**

**Modeled Network:**

**Volume/Capacity Ratio**

- 0.00 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.20
- 1.21 - 1.34

**Roadways Outside MPA:**

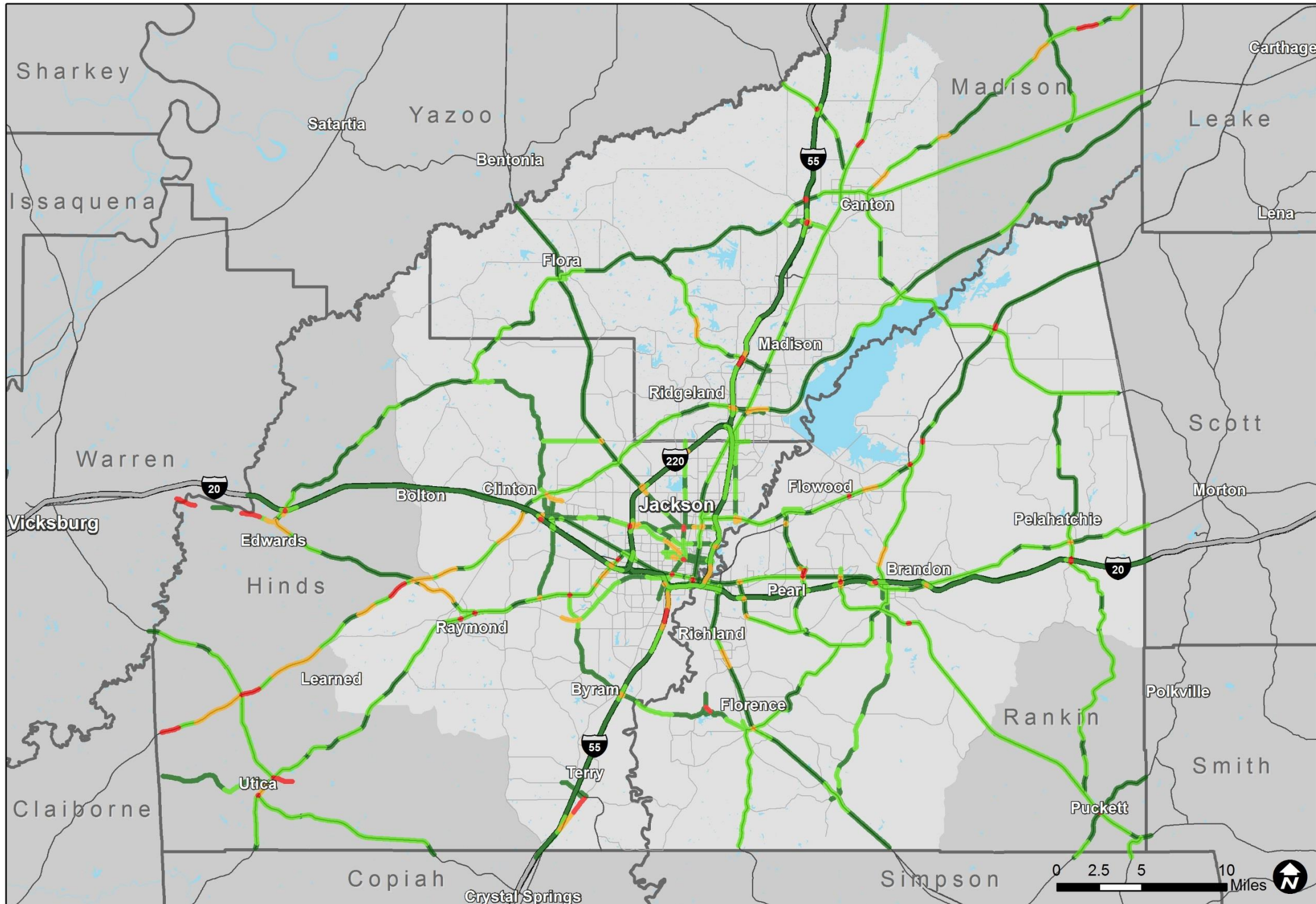
- Interstate
- Other Major Roadways
- Water Bodies
- Metropolitan Planning Area
- Counties

Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.

Map Source: Neel-Schaffer, Inc.

Data Sources: Jackson Regional Travel Demand Model

**FIGURE 2.7 TRAVEL TIME RELIABILITY, AM PEAK**



**Legend**

**Travel Time Index**

- Under 0.80 (Very Unreliable)
- 0.81 - 0.90 (Unreliable)
- 0.91 - 1.00 (Somewhat Unreliable)
- 1.00 and Over (Very Reliable)

- Interstates
- Secondary Roadways
- Other Major Roadways in MPO
- Water Bodies
- Metropolitan Planning Area
- Counties

Notes: Data shows the Travel Time Index (TTI) for peak period weekday travel in 2013. For this map, the TTI is defined as the ratio of the observed 85th percentile speed during peak periods to the free-flow speed. Because of differences in data and methodologies, the values and breaks in values in this map should not be compared to other TTI values. It is intended to identify roadway segments of relative unreliability within the MPA.

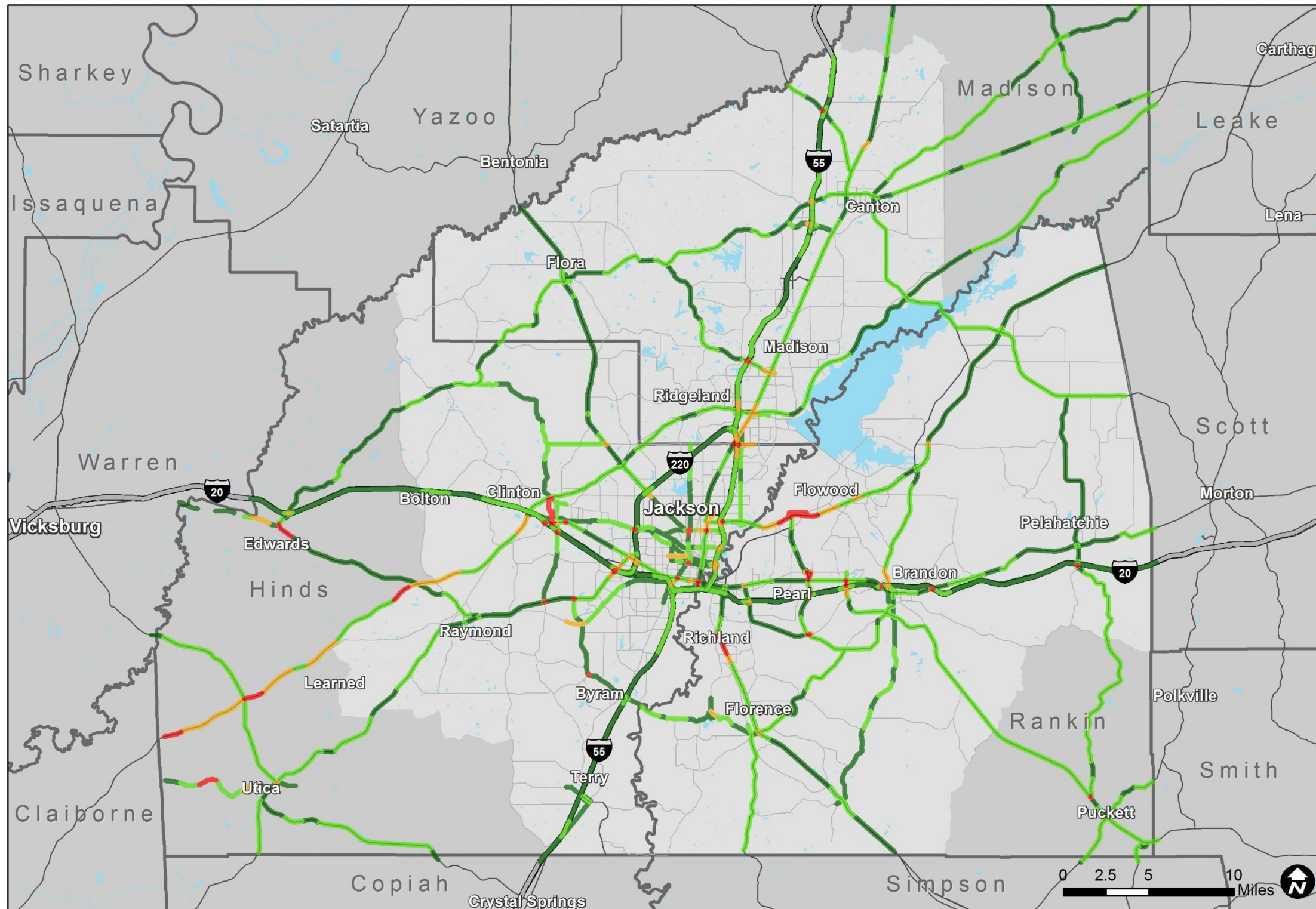
The morning peak is defined as 7 AM to 9 AM. The afternoon peak is defined as 4 PM to 6 PM. Free-flow speed is derived from the average 85th percentile speed of non-peak hours.

Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.

Map Source: Neel-Schaffer, Inc.

Data Sources: INRIX

**FIGURE 2.8 TRAVEL TIME RELIABILITY, PM PEAK**



**Legend**

**Travel Time Index**

- Under 0.80 (Very Unreliable)
- 0.81 - 0.90 (Unreliable)
- 0.91 - 1.00 (Somewhat Unreliable)
- 1.00 and Over (Very Reliable)
- Interstates
- Secondary Roadways
- Other Major Roadways in MPO
- Water Bodies
- Metropolitan Planning Area
- Counties

Notes: Data shows the Travel Time Index (TTI) for peak period weekday travel in 2013. For this map, the TTI is defined as the ratio of the observed 85th percentile speed during peak periods to the free-flow speed. Because of differences in data and methodologies, the values and breaks in values in this map should not be compared to other TTI values. It is intended to identify roadway segments of relative unreliability within the MPA.

The morning peak is defined as 7 AM to 9 AM. The afternoon peak is defined as 4 PM to 6 PM. Free-flow speed is derived from the average 85th percentile speed of non-peak hours.

Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.

Map Source: Neel-Schaffer, Inc.

Data Sources: INRIX

# Volume II: Roadways and Bridges



## 2.5 Safety

The safety element of the 2040 MTP focuses on gathering and analyzing available safety data and then identifying general hazardous areas. Due to the limited scope of this study, it does not identify location specific recommendations for the identified hazardous locations. However, potential countermeasures which could be used to mitigate various crash types have been included in Chapter 3: Future Transportation Needs.

### Crash Data Analysis

#### Roadways and Bridges

According to the National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS), between 2011 and 2013 approximately 33,000 fatalities have occurred on United States' roadways each year. Every crash, regardless of the severity, costs money and time in damages, emergency services, and delays. These costs affect both governments and taxpayers. Despite the trend of reduced crashes over previous years, crashes and roadway safety still need to be addressed. One of the goals of this plan is to improve travel safety by reducing the risk of crashes on the roadways.

Crash records, corrected with the MDOT Safety Analysis Management System (SAMS) latitude and longitude data, from Hinds, Madison, and Rankin Counties in the MPO study area from 2011 to 2013 were used in the crash analysis of the study area. The crash records included the time and location of the crash, severity of the crash, and crash location conditions. A total of 42,116 automobile only crashes occurred within the study area. Table 2.11 shows a breakdown of the crashes by county and year.

**Table 2.11 Automobile Crashes by Year, 2011-2013**

Crash Year	Hinds	Madison	Rankin	Total
2011	7,226	2,503	3,761	13,490
2012	7,483	2,472	3,899	13,854
2013	7,740	2,656	4,376	14,772
Total	22,449	7,631	12,036	42,116

Source: SAMS, 2011- 2013

### Roadway Crash Trends

The first step in improving travel safety is determining the cause of the crashes. This study analyzed the time of day, roadway surface conditions, roadway lighting, crash severity, collision type, and whether or not alcohol was involved in the crashes. This information is presented and discussed on the following pages.

## Volume II: Roadways and Bridges



For each crash, the data shows approximately what time of day the crash occurred. These times are divided into hourly increments as shown in Table 2.12. Within the study area, approximately 79 percent of the crashes occurred from 7:00 AM to 7:00 PM, which corresponds with typical travel to work, school, and other various activities. The highest number of crashes occurred between 12:00 PM and 6:00 PM, when traffic is likely to be the heaviest. The number of crashes was much lower between 12:00 AM and 6:00 AM, when businesses and schools are closed and traffic is typically lighter.

**Table 2.12 Automobile Crashes by Time of Day, 2011-2013**

Hour Beginning	Hinds	Madison	Rankin	Number of Crashes	Percentage
Midnight	301	63	71	435	1.0%
1:00 AM	284	49	80	413	1.0%
2:00 AM	245	56	51	352	0.8%
3:00 AM	198	49	49	296	0.7%
4:00 AM	154	47	38	239	0.6%
5:00 AM	186	97	89	372	0.9%
6:00 AM	396	188	254	838	2.0%
7:00 AM	1,379	636	1,132	3,147	7.5%
8:00 AM	1,248	456	595	2,299	5.5%
9:00 AM	862	287	401	1,550	3.7%
10:00 AM	933	280	511	1,724	4.1%
11:00 AM	1,165	374	680	2,219	5.3%
12:00 PM	1,467	497	882	2,846	6.8%
1:00 PM	1,438	495	775	2,708	6.4%
2:00 PM	1,458	515	791	2,764	6.6%
3:00 PM	1,630	599	997	3,226	7.7%
4:00 PM	1,968	652	1,167	3,787	9.0%
5:00 PM	2,228	780	1,374	4,382	10.4%
6:00 PM	1,423	492	791	2,706	6.4%
7:00 PM	971	300	459	1,730	4.1%
8:00 PM	810	251	309	1,370	3.3%
9:00 PM	727	212	264	1,203	2.9%
10:00 PM	558	160	158	876	2.1%
11:00 PM	420	96	118	634	1.5%
Total	22,449	7,631	12,036	42,116	100.0%

Source: SAMS, 2011- 2013

## Volume II: Roadways and Bridges



The roadway surface condition at the time of the crash may also be a contributing factor. A breakdown of the surface conditions for all crashes in the study area is shown in Table 2.13. Approximately 6,800 (about 16 percent) crashes occurred during wet pavement conditions. Nearly 35,000, approximately 82 percent, occurred during dry conditions. Although wet roadway surface conditions could have been a factor in some instances, the majority of the crashes were unaffected by wet conditions.

**Table 2.13 Automobile Crashes by Roadway Surface Conditions, 2011-2013**

Roadway Surface Condition	Hinds	Madison	Rankin	Number of Crashes	Percentage
Dry	18,623	6,163	9,929	34,715	82.4%
Wet	3,541	1,300	1,952	6,793	16.1%
Water	31	18	20	69	0.2%
Snow	9	5	3	17	0.0%
Slush	18	9	3	30	0.1%
Ice	110	31	42	183	0.4%
Sand/Mud/Dirt/Oil/Gravel	10	3	4	17	0.0%
Unlisted	107	102	83	292	0.7%
Total	22,449	7,631	12,036	42,116	100.0%

Source: SAMS, 2011- 2013

The lighting conditions during the time of each crash are also considered in this analysis. Table 2.14 includes a breakdown of the crashes that occurred under various lighting conditions. Over 75 percent of the crashes occurred during daylight. About 15 percent of crashes occurred when it was dark outside with street lights, and about eight percent of the crashes occurred at night with no street lights.

**Table 2.14 Automobile Crashes by Roadway Lighting, 2011-2013**

Lighting	Hinds	Madison	Rankin	Number of Crashes	Percentage
Daylight	16,522	5,656	9,496	31,674	75.2%
Dark – Lit	4,071	963	1,242	6,276	14.9%
Dark – Unlit	1,374	820	1,001	3,195	7.6%
Dawn	206	96	106	408	1.0%
Dusk	276	96	191	563	1.3%
Total	22,449	7,631	12,036	42,116	100.0%

Source: SAMS, 2011- 2013

## Volume II: Roadways and Bridges



Crash severity should also be considered, and this data is shown in Table 2.15. Within the study area, 42,116 automobile crashes occurred between 2011 and 2013, with 137 crashes claiming lives and 9,361 crashes causing injuries. Only 0.6 percent of the total crashes resulted in a fatality or severe injury. Just over 77 percent of the crashes had no injuries reported.

**Table 2.15 Automobile Crashes by Severity, 2011-2013**

Severity	Hinds	Madison	Rankin	Number of Crashes	Percentage
Fatal	66	20	51	137	0.3%
Severe	70	25	51	146	0.3%
Moderate	846	300	643	1,789	4.2%
Complaint	4,062	1,267	2,097	7,426	17.6%
No Injury	17,405	6,019	9,194	32,618	77.4%
Unlisted	0	0	0	0	0.0%
Total	22,449	7,631	12,036	42,116	100.0%

Source: SAMS, 2011- 2013

The type of collision is also an important factor in determining the cause of crashes. Table 2.16 shows the number of crashes by collision type that occurred between 2011 and 2013. The four highest collision types, making up nearly 84 percent of the crashes in the study area, were rear end collisions, angle collisions, sideswipe collisions, and run off road collisions. Rear-end crashes account for the majority of the collisions (just above 43 percent) and are typically concentrated at or near signalized intersections. According to the crash data, angle crashes are the second most common collision type followed by sideswipe crashes.

## Volume II: Roadways and Bridges



**Table 2.16 Automobile Crashes by Collision Type, 2011-2013**

Collision Type	Hinds	Madison	Rankin	Number of Crashes	Percentage
Run off road	2,790	1,071	1,438	5,299	12.6%
Vehicle overturn	36	12	31	79	0.2%
Object fell from vehicle	107	27	36	170	0.4%
Other object in road	265	46	65	376	0.9%
Roadside object	186	29	53	268	0.6%
Parked vehicle	880	215	267	1,362	3.2%
Rear end	8,415	3,150	5,737	17,302	41.1%
Left turn same roadway	1,239	357	714	2,310	5.5%
Left turn cross traffic	14	10	14	38	0.1%
Right turn cross traffic	6	5	1	12	0.0%
Head on	109	47	81	237	0.6%
Sideswipe	3,573	777	1,170	5,520	13.1%
Angle	3,691	1,291	2,120	7,102	16.9%
Hit and Run	588	20	49	657	1.6%
Jackknife	2	1	0	3	0.0%
Animal	524	565	241	1,330	3.2%
Other	11	8	18	37	0.1%
Unknown	13	0	1	14	0.0%
Total	22,449	7,631	12,036	42,116	100.0%

Source: SAMS, 2011- 2013

The last factor considered in this analysis is whether or not alcohol was involved in these crashes. Alcohol is a factor in many crashes across the United States, so it is worth evaluating in this study. Table 2.17 shows a breakdown of alcohol involvement for crashes that occurred in the study area between 2011 and 2013. About 2.5 percent of overall crashes in the study area involved alcohol. Of the 161 total fatal crashes within the study area, 16 were fatal crashes related to alcohol involvement, resulting in a nearly 10 percent share of total fatality crashes being alcohol related.

## Volume II: Roadways and Bridges



**Table 2.17 Alcohol Involvement in Automobile Crashes, 2011-2013**

Alcohol	Hinds	Madison	Rankin	Number of Crashes	Percentage
Alcohol involved	569	171	328	1,068	2.5%
Alcohol not involved	21,880	7,460	11,708	41,048	97.5%
Total	22,449	7,631	12,036	42,116	100.0%

Source: SAMS, 2011- 2013

### Crash Locations

There were about 15,000 intersection crashes in the study area over a three year period, 2011 to 2013. The total crashes at each intersection were computed by locating the crashes that occurred within 100 feet of that intersection. Table 2.18 shows the top 10 intersections with the highest crash frequency in each county. Table 2.19 shows the top 20 intersections with the highest crash frequency, as well as the severity of the crashes. Table 2.20 shows the collision types that occurred at the top 20 intersections. Table 2.21 and Table 2.22 display the locations of the top intersections with rear end and right angle crashes respectively, along with the intersection control at the respective intersection.

Since the nature of this study is to only identify trends, this study did not attempt to analyze each location and corresponding crash records but merely depended on the data included in crash databases provided by MDOT.

## Volume II: Roadways and Bridges



**Table 2.18 Top 10 Intersections with High Automobile Crash Frequency by County, 2011-2013**

Hinds		Madison		Rankin	
Intersection	Crashes	Intersection	Crashes	Intersection	Crashes
I-55 E Frontage Rd. @ E County Line Rd. <sup>1</sup>	355	US 51 @ Jackson St.	95	US 80 @ MS 18/Crossgates Blvd.	215
US 80 @ Springridge Rd./Clinton Pkwy.	176	US 51 @ Rice Rd.	92	MS 25 (Lakeland Dr.) @ MS 475 (Airport Rd.)	162
E County Line Rd. @ Ridgewood Rd. <sup>1</sup>	169	Highland Colony Pkwy. @ Old Agency Rd.	84	US 80 @ MS 475 (Airport Rd.)	139
N State St. @ E Woodrow Wilson Ave.	159	MS 463 @ Grandview Blvd./Galleria Pkwy.	83	US 49 @ Harper St.	132
MS 18 @ Greenway Dr.	152	Lake Harbour Dr. @ Old Canton Rd.	70	US 49 @ MS 469	122
E County Line Rd. @ Ridgewood Court Dr. <sup>1</sup>	149	Rice Rd. @ Old Canton Rd.	70	MS 25 (Lakeland Dr.) @ Old Fannin Rd./E Metro Pkwy.	104
S West St. @ S Gallatin St.	123	MS 463 @ I-55 Ramps	70	US 49 @ Scarbrough St./Wilson Dr.	103
I-55 W Frontage Rd. @ E County Line Rd. <sup>1</sup>	116	US 51 @ MS 463 (Madison Pkwy.)/Hoy Rd.	63	MS 25 (Lakeland Dr.) @ Grants Ferry Rd./Castlewoods Blvd.	97
I-55 E Frontage Rd. @ Adkins Blvd.	113	US 51 @ Main St.	58	Pearson Rd. @ Riverwind Dr.	97
MS 25 (Lakeland Dr.) @ Ridgewood Rd.	112	MS 463 @ Highland Colony Pkwy./Bozeman Rd.	56	Spillway Rd. @ Northshore Pkwy./Old Fannin Rd.	95

Source: SAMS, 2011- 2013

Note 1: Intersection along Hinds/Madison County Line

## Volume II: Roadways and Bridges



**Table 2.19 Top 20 Intersections with High Automobile Crash Frequency by Severity, 2011-2013**

Rank	Location	Crashes	Fatal	Severe	Moderate	Complaint	No Injury
1	I-55 E Frontage Rd. @ E County Line Rd.	355	0	0	5	51	299
2	US 80 @ MS 18/Crossgates Blvd.	215	0	0	0	26	189
3	US 80 @ Springridge Rd./Clinton Pkwy.	176	0	1	3	27	145
4	E County Line Rd. @ Ridgewood Rd.	169	0	0	2	24	143
5	MS 25 (Lakeland Dr.) @ MS 475 (Airport Rd.)	162	0	0	0	30	132
6	N State St. @ E Woodrow Wilson Ave.	159	0	0	2	34	123
7	MS 18 @ Greenway Dr.	152	0	0	5	32	115
8	E County Line Rd. @ Ridgewood Court Dr.	149	0	0	1	17	131
9	US 80 @ MS 475 (Airport Rd.)	139	0	0	3	15	121
10	US 49 @ Harper St.	132	0	0	2	28	102
11	S West St. @ S Gallatin St.	123	0	0	1	20	102
12	US 49 @ MS 469	122	0	0	2	21	99
13	I-55 W Frontage Rd. @ E County Line Rd.	116	0	0	1	18	97
14	I-55 E Frontage Rd. @ Adkins Blvd.	113	0	0	4	31	78
15	MS 25 (Lakeland Dr.) @ Ridgewood Rd.	112	0	0	3	17	92
16	Medgar Evers Blvd. @ W Northside Dr.	107	0	0	2	30	75
17	MS 25 (Lakeland Dr.) @ Old Fannin Rd/E Metro Pkwy.	104	0	0	3	15	86
18	US 49 @ Scarbrough St./Wilson Dr.	103	0	0	5	20	78
19	Siwell Rd. @ Terry Rd.	100	0	0	2	19	79
20	MS 25 (Lakeland Dr.) @ I-55 E Frontage Rd.	98	0	0	1	14	83
	Total	2,906	0	1	47	489	2,369

Source: SAMS, 2011- 2013

## Volume II: Roadways and Bridges



**Table 2.20 Top 20 Intersections with High Automobile Crash Frequency by Collision Type, 2011-2013**

Rank	Intersection	Crashes	Run off road	Vehicle Overtum	Object fell from vehicle	Other object in road	Roadside Object	Parked vehicle	Rear end	Left turn same roadway	Left turn cross traffic	Head on	Sideswipe	Angle	Hit and Run
1	I-55 E Frontage Rd. @ E County Line Rd.	355	0	0	0	0	0	0	310	9	0	0	9	27	0
2	US 80 (W Government St.) @ MS 18 /Crossgates Blvd	215	1	0	0	0	0	0	174	7	0	0	20	11	2
3	US 80 @ Springridge Rd./Clinton Pkwy.	176	0	0	0	1	0	0	126	31	0	0	8	10	0
4	E County Line Rd. @ Ridgewood Rd.	169	2	0	0	0	0	0	89	23	0	0	25	29	1
5	MS 25 (Lakeland Dr.) @ MS 475 (Airport Rd.)	162	2	0	0	0	0	0	120	15	0	0	21	4	0
6	N State St. @ E Woodrow Wilson Ave.	159	3	0	0	0	0	0	104	17	0	1	26	8	0
7	MS 18 @ Greenway Dr.	152	1	0	1	0	0	1	99	15	0	0	14	14	7
8	E County Line Rd. @ Ridgewood Court Dr.	149	1	0	0	0	0	0	111	1	0	0	22	13	1
9	US 80 @ MS 475 (Airport Rd.)	139	0	0	0	0	0	0	122	1	0	0	10	6	0
10	US 49 @ Harper St.	132	0	0	0	0	1	0	89	8	0	1	16	16	1
11	S West St. @ S Gallatin St.	123	0	0	0	0	0	0	52	14	0	1	14	41	1
12	US 49 @ MS 469	122	1	0	0	0	0	0	89	6	0	0	7	19	0
13	I-55 W Frontage Rd. @ E County Line Rd.	116	1	0	0	0	0	0	90	2	0	0	11	12	0
14	I-55 E Frontage Rd. @ Adkins Blvd.	113	3	0	0	0	0	0	35	5	0	0	26	44	0
15	MS 25 (Lakeland Dr.) @ Ridgewood Rd.	112	4	1	0	0	0	0	78	4	0	0	20	4	1
16	Medgar Evers Blvd. @ W Northside Dr.	107	2	0	0	0	0	0	74	4	1	1	12	13	0
17	MS 25 (Lakeland Dr.) @ Old Fannin Rd./E Metro Pkwy	104	0	0	0	0	0	0	82	8	1	0	9	4	0
18	US 49 @ Scarbrough St./Wilson Dr.	103	3	0	0	0	0	0	78	8	0	0	8	6	0
19	Siwell Rd. @ Terry Rd.	100	0	0	0	0	0	0	54	10	2	0	8	26	0
20	MS 25 (Lakeland Dr.) @ I-55 E Frontage Rd.	98	1	0	0	0	0	0	81	2	0	0	10	4	0
	<b>Total</b>	<b>2,906</b>	<b>25</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2,057</b>	<b>190</b>	<b>4</b>	<b>4</b>	<b>296</b>	<b>311</b>	<b>14</b>

Source: SAMS, 2011- 2013

## Volume II: Roadways and Bridges



**Table 2.21 Top Intersections with High Automobile Rear End Crash Frequency, 2011-2013**

Rank	Intersection	Number of Crashes	Intersection Control
1	I-55 E Frontage Rd. @ E County Line Rd.	310	Signal
2	US 80 (W Government St.) @ MS 18/Crossgates Blvd.	174	Signal
3	US 80 @ Springridge Rd./Clinton Pkwy.	126	Signal
4	US 80 @ MS 475 (Airport Rd.)	122	Signal
5	MS 25 (Lakeland Dr.) @ MS 475 (Airport Rd.)	120	Signal
6	E County Line Rd. @ Ridgewood Court Dr.	111	Signal
7	N State St. @ E Woodrow Wilson Ave.	104	Signal
8	MS 18 @ Greenway Dr.	99	Signal
9	I-55 W Frontage Rd. @ E County Line Rd.	90	Signal
10	E County Line Rd. @ Ridgewood Rd.	89	Signal
11	US 49 @ MS 469	89	Signal
12	US 49 @ Harper St.	89	Signal

Source: SAMS, 2011- 2013

**Table 2.22 Top Intersections with High Automobile Angle Crash Frequency, 2011-2013**

Rank	Intersection	Number of Crashes	Intersection Control
1	I-55 E Frontage Rd. @ Adkins Blvd.	44	Signal
2	S West St. @ S Gallatin St.	43	Signal
3	I-55 W Frontage Rd. @ Meadowbrook Rd.	40	Signal
4	E County Line Rd. @ Ridgewood Rd.	29	Signal
5	I-55 E Frontage Rd. @ E County Line Rd.	27	Signal
6	Siwell Rd. @ Terry Rd.	26	Signal
7	US 80 @ Ellis Ave.	23	Signal
8	I-55 E Frontage Rd. @ Canton Mart Rd.	21	Signal
9	MS 468 (Pearson Rd.) @ Riverwind Dr.	20	Signal
10	I-55 W Frontage Rd. @ E Northside Dr.	20	Signal
11	MS 25 (Lakeland Dr.) @ Wirtz Rd.	20	Unsignalized
12	Flowood Dr. @ Old Fannin Rd.	20	Signal

Source: SAMS, 2011- 2013

## Volume II: Roadways and Bridges



### Crash Rates

Crash rates for the study area were based on the model network layer and base year (2013) volumes obtained from the Jackson MPO travel demand model. The length of each segment was calculated and the corresponding daily traffic volumes from the model are used in the crash rate equation. The equation that was used to calculate segment crash rates is:

$$\text{Segment Crash Rate} = \frac{N * 10^6}{365 * ADT * L}$$

Where: Segment Crash Rate = crashes per million vehicle miles traveled.

N = average annual crash frequency of the segment

ADT = average daily traffic of the segment

L = length of the segment in miles

Table 2.23 shows the ten segments with the highest crash frequencies in the study area, as well as their corresponding crash rates, while Table 2.24 shows the ten segments with the highest automobile crash rates in the study area (segments with ADT greater than 10,000 and length greater than 0.1 miles).

**Table 2.23 Top 10 High Automobile Crash Frequency Segments and Crash Rates, 2011-2013**

Segment	From	To	Total Crashes	Annual Crash Frequency	ADT	Length	Crash Rate*
MS 25 (Lakeland Dr.)	Lakeland Commons Dr.	Old Fannin Rd.	139	46	41,308	0.39	7.80
MS 25 (Lakeland Dr.)	0.35 mi E of Ridgewood Rd.	0.23 mi W of Treetops Blvd.	130	43	61,174	0.77	2.52
MS 25 (Lakeland Dr.)	Old Fannin Rd.	Promenade Blvd/Dogwood Pl.	108	36	35,867	0.42	6.51
E County Line Rd.	I-55 E Frontage Rd.	Dyess Rd.	89	30	35,202	0.12	18.66
MS 18	Disotell Blvd./Gray Daniels Blvd.	US 80 (W Government St.)	81	27	23,756	0.19	16.70
Old Fannin Rd.	MS 25 (Lakeland Blvd.)	Hospitality Dr./Freedom Bend	74	25	17,773	0.30	12.48
I-20 WB	S Gallatin St. Off-Ramp	S State St. On-Ramp	74	25	55,873	0.75	1.62

## Volume II: Roadways and Bridges



Segment	From	To	Total Crashes	Annual Crash Frequency	ADT	Length	Crash Rate*
MS 463	Old Mannsdale Rd.	Bozeman Rd./Highland Colony Pkwy.	64	21	18,128	0.55	5.89
US 80	Springridge Rd./Clinton Pkwy.	0.34 mi E of Springridge Rd./Clinton Pkwy.	63	21	8,440	0.34	20.18
US 49	Parkinson Dr./Roland Dr.	Lowe Cir.	60	20	38,030	0.42	3.45

Note: \*Crash Rate is expressed in crashes per million vehicle miles traveled

Source: SAMS, 2011- 2013

**Table 2.24 Top 10 High Automobile Crash Rate Segments, 2011-2013**

Segment	From	To	Total Crashes	Annual Crash Frequency	ADT	Length	Crash Rate*
Old Agency Rd.	I-55 NB-to-WB Off Ramp	I-55 NB-to-EB Off Ramp	46	15	11,143	0.10	39.07
US 80 (W Government St.)	0.17 mi E of MS 18	0.34 mi W of Woodgate Dr.	48	16	17,438	0.12	20.90
E County Line Rd.	I-55 E Frontage Rd.	Dyess Rd.	89	30	35,202	0.12	18.66
US 80 (W Government St.)	Gateway Dr.	Eastgate Dr.	50	17	12,548	0.20	17.94
MS 18	Disotell Blvd./Gray Daniels Blvd.	US 80 (W Government St.)	81	27	23,756	0.19	16.70
MS 468 (Pearson Rd.)	Riverwind Dr.	Ramona Dr.	51	17	15,237	0.19	16.51
US 80 (Government St.)	Black St.	Rankin County Courthouse Annex	20	7	10,628	0.12	13.89
Old Fannin Rd.	MS 25 (Lakeland Blvd.)	Hospitality Dr./Freedom Bend	74	25	17,773	0.30	12.48
US 80	Hampstead Blvd/Masonic Dr.	E Browning Dr.	52	17	14,587	0.28	11.70
US 80	Plaza Dr.	Pemberton Dr.	54	18	18,612	0.24	11.24

Note: \*Crash Rate is expressed in crashes per million vehicle miles traveled

Source: SAMS, 2011- 2013

## Volume II: Roadways and Bridges



The equation that was used to calculate intersection crash rates is:

$$\text{Intersection Crash Rate} = \frac{N * 10^6}{365 * ADT}$$

Where: Intersection Crash Rate = crashes per million vehicle miles traveled.

N = average annual crash frequency of the segment

ADT = average daily traffic of the segment

Table 2.25 shows the ten intersections with the highest crash rates in the study area.

**Table 2.25 Top 10 High Crash Rate Intersections, 2011-2013**

Location	Total Crashes	Annual Crash Frequency	ADT	Crash Rate*
I-55 E Frontage Rd. @ E County Line Rd.	355	118	48,380	6.70
US 80 @ Springridge Rd./Clinton Pkwy.	176	59	27,141	5.92
S West St. @ S Gallatin St.	123	41	19,388	5.79
US 80 (W Government St.) @ MS 18/Crossgates Blvd.	215	72	35,534	5.53
I-55 E Frontage Rd. @ Adkins Blvd.	113	38	24,560	4.20
E County Line Rd. @ Ridgewood Court Dr.	149	50	32,866	4.14
US 80 @ MS 475 (Airport Rd.)	169	56	41,951	3.68
I-55 W Frontage Rd. @ E County Line Rd.	116	39	31,024	3.41
MS 18 @ Greenway Dr.	152	51	40,660	3.41
Siwell Rd. @ Terry Rd.	100	33	27,241	3.35

Note: \*Crash Rate is expressed in crashes per million vehicle miles traveled

Source: SAMS, 2011- 2013

### Mississippi Strategic Highway Safety Plan

A Strategic Highway Safety Plan (SHSP) is a statewide-coordinated safety plan that was developed to reduce fatalities along state highways and all public roads.

The State of Mississippi maintains a SHSP that was put in place as part of the SAFETEA-LU requirements. The original SHSP was developed in 2007 using the 4Es of traffic safety: Engineering, Enforcement, Emergency response, and Education. The 2007 SHSP, completed by the Mississippi Department of Transportation (MDOT) and the Mississippi Department of Public Safety (MDPS), set a goal of reducing traffic-related fatalities to 700 traffic fatalities by 2011, but

## Volume II: Roadways and Bridges

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this was considered a stretch goal since the average number of traffic fatalities during the study period (2000 to 2007) was almost 900 traffic fatalities per year, and the trend was flat. The 2007 SHSP identified five critical emphasis areas and sixteen critical strategies. In 2013, the SHSP was updated to build upon the original SHSP, with a new identified goal of reducing annual traffic fatalities by 25 percent by 2017, exceeding the national goal of reducing traffic fatalities by half over the next 20 years.

Mississippi has a long tradition of investing in all phases of highway safety. Examples of strategies, based on the 4Es and data collection, include:

- **Engineering:** Edge treatments including rumble strips and wider edge lines; Performing roadway safety assessments; MDOT's Safety Analysis Management System (SAMS) to design and develop a web-based geographic information system (GIS)-enabled application; and the Office of State Aid Road Construction (OSARC) overseeing more than 10,000 miles of county highway and construction to American Association of State Highway and Transportation Officials (AASHTO) standards.
- **Enforcement:** Primary safety belt law enacted in May 2006, as well as a strong "Click It or Ticket" Public Information and Education (PI&E) campaign to increase seat belt usage; usage of blitz periods throughout the year by use of Mississippi Office of Highway Safety (MOHS) funds to conduct Saturation Patrols, Sobriety Checkpoints, and Selective Traffic Enforcement by local enforcement departments and the Mississippi Highway Patrol; and grants provided by the Federal Motor Carrier Highway Safety Administration (FMCSA) to reduce the number of commercial vehicle collisions on Mississippi roadways.
- **Education:** The success of the "Drive Sober or Get Pulled Over" PI&E campaign to address driving under the influence (DUI) in increasing DUI arrests in Mississippi, particularly for offenders under 21; and the creation of a Judicial Outreach Liaison (JOL) program to help educate judges across the state regarding impaired-driving issues.
- **Emergency Medical Services (EMS):** The establishment of a Statewide Trauma System; linking data between EMS, law enforcement, emergency services, and hospitals to produce crash-outcome studies; ensuring EMS management information system maintains the National EMS Information System standards (NEMIS); and coordination with providers of air medical services resulting in nine established bases in the state.
- **Data:** The recent investment into data systems technology (SAMS and ReportBeam) to greatly improve data accuracy and timeliness as well as analysis capabilities

The SHSP was updated in 2013 and includes all elements of the 2007 plan. The updated SHSP:

- Addresses the frequency, rate, and primary factors contributing to fatalities and life-changing injuries on all Mississippi roads

## Volume II: Roadways and Bridges

- Is consistent with Federal Highway Administration (FHWA) procedural guidance
- Establishes a mission, vision, and goal for all safety partners in the State of Mississippi
- Incorporates input provided by safety partners representing national, state, and local agencies; and private safety advocacy groups
- Follows a data driven process that considers all users on all roads
- Provides a guide for future safety investments
- Addresses the 4Es of safety (Engineering, Enforcement, Education, and Emergency medical services)

The process in developing the Mississippi SHSP begins with the crash analysis and concludes with the SHSP report and is the culmination of more than a year of work between MDOT and its safety partners. Figure 2.9 shows the process used in developing the Mississippi SHSP.

**Figure 2.9: Mississippi SHSP Update Development Process**



Source: Mississippi Strategic Highway Safety Program

During the development of the current SHSP, three driver behavior and two highway emphasis areas were identified for implementation of countermeasures based on data availability, improvement potential, and access to resources. The three driver behavior emphasis areas are:

- Seat belts
- Alcohol and drugs
- Unlicensed or suspended licensed drivers

## Volume II: Roadways and Bridges

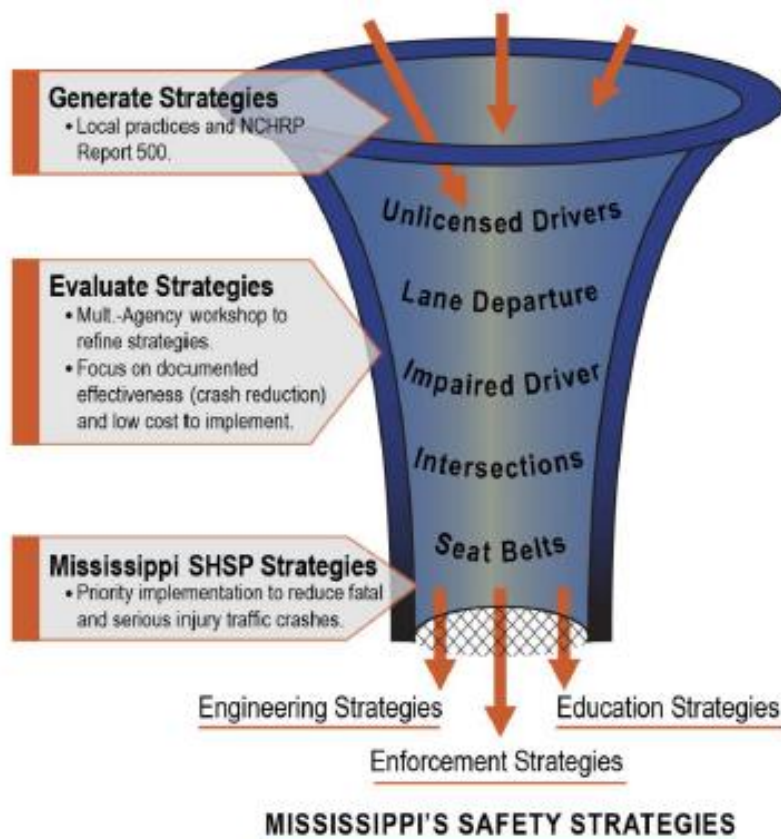
The two highway emphasis areas are:

- Lane departure crashes
- Intersections

In addition, focus has been emphasized on distracted driving and commercial vehicle safety within the state.

During the Safety Strategies Workshop on September 30, 2010 in Jackson, which included a large number of stakeholders, a comprehensive list of potential safety improvement strategies was assembled for each Emphasis Area. Following the workshop, MDOT and MOHS staff evaluated and screened the initial comprehensive lists of safety strategies using crash data, effectiveness, implementation cost, and the input provided by the participants in the Safety Strategies Workshop. Figure 2.10 shows the screening of the initial Safety Strategies for Mississippi.

**Figure 2.10: Screening of Initial Safety Strategies for Mississippi**



Source: Mississippi Strategic Highway Safety Program

## Volume II: Roadways and Bridges

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### *2.6 Security*

While safety and security are closely related, they are differentiated by the cause of the harm from which the transportation system and its users are being protected. Safety encompasses the prevention of unintentional harm to system users or their property. This includes vehicular crashes (whether of cars, trucks, buses, airplanes, or bicycles), train derailments, slope failures or other sudden destruction of roadways due to natural causes, and falls or injuries to pedestrians due to poorly constructed or absent facilities, among other issues. Security involves the prevention of intentional harm to the transportation system or its users, including theft or dismemberment of elements of transportation infrastructure, assault on users of the system, or large-scale attacks intended to completely disrupt the movement of people and goods.

#### MPO Role

The main role of MPOs in planning for security is to coordinate with relevant agencies, such as emergency management officials, police and sheriff's departments, fire departments and rescue squads. However, MPO's can take certain measures to improve security prevention, protection, response, and recovery.

#### Prevention

As related to security, prevention refers to efforts to limit access to resources that may be compromised or efforts to increase surveillance. Examples of prevention measures include access control systems, closed circuit television (CCTV) systems, security alarms, fencing, locks, and architectural barriers. The design of facilities and public spaces can also incorporate features that deter security breaches.

#### Protection

For facilities that are high vulnerability risks, additional design measures should be considered. These measures would mitigate potential security risks, should they occur.

#### Response

Redundancy of transportation facilities should be encouraged in capital project planning. This assists in emergency evacuations or detours should a particular segment of the transportation network become unavailable. The use of Intelligent Transportation Systems (ITS) to control traffic signals and other controls also assists in responding to security risks.

#### Recovery

Short-term and long-term recovery plans should be familiar to transportation decision-makers. This includes everything from evacuating to restoring local businesses and neighborhoods.

## Volume II: Roadways and Bridges

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MDOT has dedicated evacuation routes and there is a hazard mitigation plan for all counties in the MPA.

In the Jackson MPO area, Hinds, Madison, and Rankin Counties each have their own emergency management bodies. More information can be found on each county's operations at:

Hinds County-

<http://www.hindscountymys.com/departments/emergency-management>

Madison County-

[http://www.madison-co.com/county\\_departments/emergency\\_management/index.php](http://www.madison-co.com/county_departments/emergency_management/index.php)

Rankin County-

<http://www.rankineoc.com/>

Ultimately it is the responsibility of each MPO to craft a security policy consistent with its goals, state guidance, and MAP-21. Security will be a consideration in the establishment of MPO goals and the support for MPO funding priorities. The following presents potential areas of focus, recognizing that hurricane evacuation is a primary concern within the Jackson Urbanized Area.

### *Use of MPO Transportation Model to Assess Evacuation Plans*

The TransCAD regional model will be modified to simulate evacuation events, including the investigation of evacuation scenarios both to test the effectiveness of existing plans and to improve plans for routing traffic through the MPO region.

### *Use of Area Transit Systems to Support Evacuation Events*

The MPO will work with local transit providers to investigate opportunities for use of transit vehicles to provide for evacuation of transit dependent populations.

### *Integration of Intelligent Transportation Systems (ITS) in Evacuation Planning*

The MPO supports investment in ITS technologies. The MPO understands the need to study and assess how this technology can be used to assist evacuees in their decision making and expedite their progress during evacuation events.

### *Integration of Hurricane Evacuation Purpose and Need in Planning for Future Roadway Improvements*

As the MTP projects are refined within the context of the MDOT Construction Program, project features will be reviewed for consistency with a hurricane evacuation purpose and need.

## Hurricanes

Finally, every hurricane produces a unique evacuation event. Evacuees are influenced by the amount of notice provided in advance of the storm's landfall, as well as the projected storm path and intensity. Information on hurricane evacuation routes and procedures can be found at:

## Volume II: Roadways and Bridges

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[http://mdot.ms.gov/portal/emergency\\_services.aspx](http://mdot.ms.gov/portal/emergency_services.aspx)

# Volume II: Roadways and Bridges



## 3.0 Future Transportation Needs

This section discusses transportation issues that will need to be addressed in the future. It was developed by an analysis of existing conditions and travel demand model forecasts. However, existing plans, public involvement, and stakeholder input were also incorporated.

### 3.1 Congestion Relief

Given the population and employment growth forecast to occur by 2040, the Jackson Travel Demand Model indicates that the number of vehicle trips in the MPA will increase by nearly 26%, increasing by about 500,000 trips from 2013 to 2040. Most trip types grow by the same rate, but trips originating outside of the MPA are forecast to grow slightly higher. These changes are summarized in Table 3.1.

Table 3.2 shows that, if transportation projects that currently have committed funding are constructed then the centerline miles will increase by 1.3 percent because of new roadways in addition to committed widening projects.

Table 3.2 also shows the forecast change in Vehicle Miles Traveled (VMT), Vehicle Hours Traveled (VHT), and Hours of Delay. This data indicates that both VMT and VHT will increase by about 30-40%, largely due to the forecast growth and change in land use patterns. The change in hours of delay shows that without any additional projects beyond those already funded, the additional travel generated by this growth will result in a very high percent increase in delay. The minutes of delay per trip in 2040 would increase to 2.3 from 1.6 in year 2013, a 50 percent increase.

**Table 3.1 Vehicle Trips by Purpose, 2010 to 2040**

Trip Purpose	2010	2040 (E+C)	Change	Percent Change
Home-Based Work	338,010	421,898	83,888	24.8%
Home-Based Other	802,017	1,001,389	199,372	24.9%
Non-Home Based	458,274	570,579	112,305	24.5%
Commercial Vehicle	174,050	226,881	52,831	30.4%
Truck	21,146	27,882	6,736	31.9%
External-Internal	129,213	170,806	41,593	32.2%
External-External	16,803	21,996	5,193	30.9%
Total	1,939,513	2,441,431	501,918	25.9%

Note: E+C is future scenario with only Existing and Committed transportation projects.  
Source: Jackson Travel Demand Model, NSI

## Volume II: Roadways and Bridges



**Table 3.2 Travel Demand Impact of Growth and Existing and Committed Projects, 2013 to 2040**

Centerline Miles of Roadways				
Classification	2010 (Base)	2040 (E+C Projects)	Change	Percent Difference
Interstate	112	112	0	0.0%
Principal Arterial	328	334	6	1.8%
Minor Arterial	375	386	11	2.9%
Collector	699	702	3	0.4%
Total	1,514	1,534	20	1.3%
Daily Vehicle Miles Traveled (VMT)				
Classification	2010 (Base)	2040 (E+C Projects)	Change	Percent Difference
Interstate	5,787,383	7,492,125	1,704,742	29.5%
Principal Arterial	4,598,105	5,986,492	1,388,387	30.2%
Minor Arterial	1,884,237	2,660,686	776,449	41.2%
Collector	1,525,796	2,163,302	637,506	41.8%
Total	13,795,521	18,302,605	4,507,084	32.7%
Daily Vehicle Hours Traveled (VHT)				
Classification	2010 (Base)	2040 (E+C Projects)	Change	Percent Difference
Interstate	114,721	157,274	42,553	37.1%
Principal Arterial	122,442	169,752	47,310	38.6%
Minor Arterial	50,270	72,755	22,485	44.7%
Collector	41,903	61,709	19,806	47.3%
Total	329,336	461,490	132,154	40.1%
Daily Vehicle Hours of Delay				
Classification	2010 (Base)	2040 (E+C Projects)	Change	Percent Difference
Interstate	18,925	35,545	16,620	87.8%
Principal Arterial	23,240	41,619	18,379	79.1%
Minor Arterial	4,674	9,834	5,160	110.4%
Collector	3,609	8,228	4,619	128.0%
Total	50,448	95,226	44,778	88.8%

Note: E+C is future scenario with only Existing and Committed transportation projects.  
Source: Jackson Travel Demand Model, NSI

## Volume II: Roadways and Bridges



While congestion is currently concentrated mostly near intersections in the Jackson MPA, by 2040 congestion is forecast to become more widespread if only the existing and committed projects are implemented. The number of roadway segments with Volume to Capacity (V/C) ratios above 1.00 would increase from nine in 2013 to 28 in 2040, as listed in Table 3.3 and illustrated in Figure 3.1. Still, while congestion is forecast to become more widespread, no segments are forecast to have V/C ratios above 1.5.

It is important to note that not all segments with a high V/C ratio should be widened with additional through lanes or turning lanes. In urban settings, it may be more appropriate to consider ITS improvements like signalization improvements or reversible lanes. It also may be more appropriate to employ Transportation Demand Management (TDM) strategies and/or improve walking, biking, or transit conditions to encourage alternative means of transportation.

**Table 3.3 Segments with Volume to Capacity Ratios above 1.00 in 2040 (E+C)**

Route	Limits	Length (miles)
I-55 SB Off Ramp	@ Siwell Rd.	0.19
I-55 NB Off Ramp	E Woodrow Wilson Dr. to I-55 SB Off Ramp	0.08
I-55 NB On Ramp	@ Lakeland Dr. Service Road to I-55	0.13
I-55 Service Road	I-55 NB Off Ramp to I-55 NB On Ramp	0.12
I-20 EB On Ramp	@ MS 18 W	0.25
I-20 WB Off Ramp	@ MS 18 W	0.15
I-20 WB	S State St. to US 49	1.48
I-20 WB On Ramp	@ MS 18 E	0.22
I-20 EB Off Ramp	@ MS 18 E	0.20
US 80	I-20 to Overby St.	0.47
US 51	Twin Cedars Cir. to Green Oak Ln.	0.64
US 49	McBride St. to US 49 Service Rd.	0.35
MS 18 W	Woodland St. to Chadwick Dr.	0.24
MS 18 W	Fulton Pl. to I-20 WB Off Ramp	0.39
Flowood Dr.	Liberty Rd. to Old Fannin Rd.	0.80
Lakeland Dr.	Crane Ridge Dr. to River Oaks Dr.	1.83
Lakeland Dr.	Howard Wilson Ln. to Castlewoods Blvd.	4.47

## Volume II: Roadways and Bridges



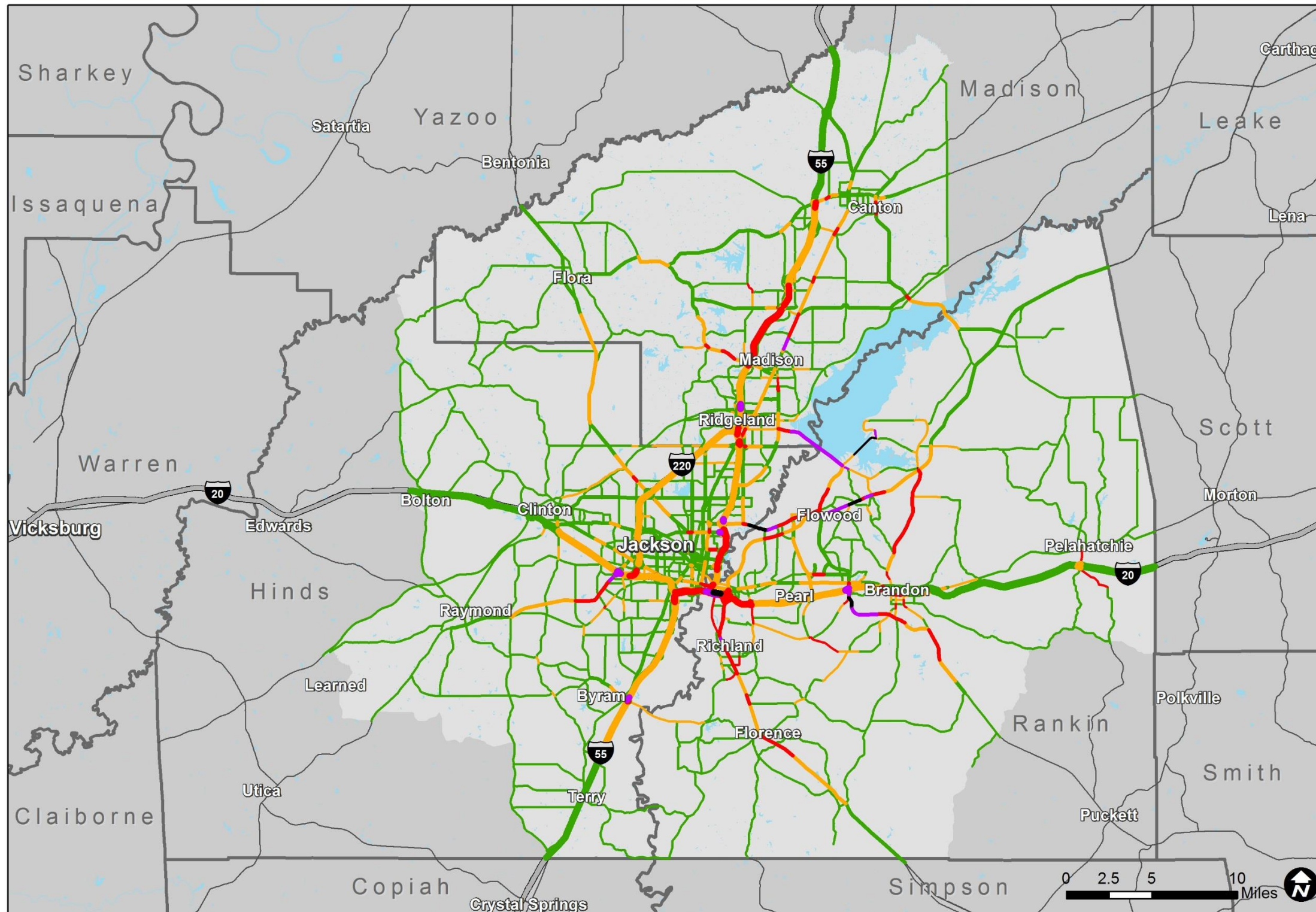
Route	Limits	Length (miles)
MS 18 E	north I-20 ramps to Dell Blvd.	2.86
MS 18 E	Louis Wilson Dr. to Kathryn Dr.	0.58
Value Rd.	US 80 to Hwy 471	0.72
MS 43	north I-20 Ramps to south I-20 Ramps	0.20
Spillway Rd.	Pelahatchie Shore Dr. to Hugh Ward Pkwy.	0.23
Northshore Pkwy.	Windrose Dr. to Fannin Landing Cir.	1.92
Fannin Landing Cir.	Northshore Pkwy. to 0.48 north	0.48
MS 463	Woodgreen Dr. to west I-55 Ramps	0.22
MS 471	MS 25 to Spillway Rd.	0.12
Spillway Rd.	Harbor Dr. to Northshore Pkwy.	3.64
Industrial Dr.	west I-220 Ramps to east I-220 Ramps	0.10

Note: E+C is future scenario with only Existing and Committed transportation projects.  
Source: Jackson Travel Demand Model, NSI

**FIGURE 3.1 FUTURE ROADWAY CONGESTION, 2040 (EXISTING+COMMITTED)**



**2040  
MTP**



**Legend**

**Modeled Existing plus Committed Network**

**Volume/Capacity Ratio**

- 0.00 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.20
- 1.21 - 1.34

**Roadways Outside MPA:**

- Interstate
- Other Major Roadways
- Water Bodies
- Metropolitan Planning Area
- Counties

Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.

Map Source: Neel-Schaffer, Inc.

Data Sources: Jackson Regional Travel Demand Model

## Volume II: Roadways and Bridges

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### *3.2 Roadway Safety Needs*

Within the study area, a total of 42,116 automobile only crashes occurred between 2011 and 2013. The majority of these crashes took place between the hours of 7 AM to 7 PM, with the most crashes occurring from 12 PM to 6 PM. These peak hour crashes are likely the result of intersections and/or roadways not being designed to operate efficiently when presented with large traffic volumes. Safety can likely be improved and collisions reduced by adjusting signal timing, intersection improvements and/or adding lane(s). Approximately 82 percent of crashes in the study area occurred during dry roadway surface conditions; therefore, roadway surface conditions do not play a major factor in the majority of crashes. The overwhelming majority of crashes, about 75 percent, occurred during the daylight. About 8 percent of crashes occurred at locations with no street lights during the nighttime hours (dark). The crashes that occurred under these conditions are likely the result of poor lighting and can be reduced by providing proper lighting at intersections.

Within the study area, there were a total of 137 fatal automobile only crashes and 9,361 injury automobile only crashes between 2011 and 2013. About three percent of the crashes that occurred in the study area involved alcohol, but nearly 10 percent of total fatal crashes were alcohol related. Hence, this study recommends promoting programs that aims to eliminate drunk driving.

The four highest collision types, making up nearly 84 percent of the crashes in the study area, were:

- Rear end collisions
- Angle collisions
- Sideswipe collisions
- Run off road collisions

Recommendations for reducing these types of crashes are outlined below:

#### *Rear End Collisions*

In the study area, rear end collisions account for the largest amount of crashes. These crashes can be attributed to a number of factors. One main cause of rear end accidents is driver inattentiveness. Other potential causes include large turning volumes, slippery pavement, inadequate roadway lighting, crossing pedestrians, poor visibility of a traffic signal, congestion, inadequate signal timing, and/or an unwarranted signal.

The crash data shows high concentrations of rear end crashes along US Hwy 80. The crashes occur primarily at intersections. Correlating the crash data with field conditions and observation

## Volume II: Roadways and Bridges

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reveals that many of these rear-end crashes may be influenced by intersection geometry and traffic operations. Rear-end crash frequency may be reduced by adjusting the yellow clearance intervals in compliance with the *Institute of Transportation Engineers (ITE)* recommended clearance interval practices. The number of crashes may further be reduced by reconfiguring the travel and turning lanes. This can be accomplished in a variety of methods including converting the two-way frontage roads to one-way frontage roads, providing exclusive right-turn lanes, providing advanced warning signs, providing indirect left-turns, or by displacing left-turn movements.

In general, the recommendations for reducing rear end crashes include:

- Analyze turning volumes to determine if a right turn lane or left turn lane is warranted. Providing a turning lane separates the turning vehicles from the through vehicles, preventing through vehicles from rear ending turning vehicles. If a large right turn volume exists, increasing the corner radius for right turns is an option.
- Checking the pavement conditions. Rear end collisions caused by slippery pavement can be reduced by lowering the speed limit with enforcement, providing overlay pavement, adequate drainage, groove pavement, or with the addition of a “Slippery When Wet” sign.
- Ensure roadway lighting is sufficient for drivers to see the roadway and surroundings.
- Determine if there is a large amount of pedestrian traffic. Pedestrians crossing the roads may impede traffic and force drivers to stop suddenly. If crossing pedestrians are an issue, options include installing or improving crosswalk devices and providing pedestrian signal indications.
- Check the visibility of the traffic signals at all approaches. In order to provide better visibility of the traffic signal, options include installing or improving warning signs, overhead signal heads, installing 12” signal lenses, visors and back plates, or relocating/adding signal heads.
- Verify that the signal timing is adequate to serve the traffic volumes at the trouble intersections. Options include adjusting phase-change interval, providing a red-clearance interval, providing progression, and utilizing signal actuation with dilemma zone protection.
- Verify that a signal is warranted at the given intersection.

## Volume II: Roadways and Bridges

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### *Angle Crashes*

Angle collisions are the second most prevalent collision type in the study area between 2011 and 2013. They can be caused by a number of factors, including restricted sight distance, excessive speed, inadequate roadway lighting, poor visibility of a traffic signal, inadequate signal timing, inadequate advance warning signs, running a red light, and large traffic volumes.

In general, the recommendations for reducing right angle collisions include:

- Verify that the sight distance at all intersection approaches is not restricted. Options to alleviate restricted sight distance include removing the sight obstruction and/or installing or improving warning signs.
- Conduct speed studies to determine whether or not speed was a contributing factor. In order to reduce crashes caused by excessive speeding, the speed limit can be lowered with enforcement, the phase change interval can be adjusted, or rumble strips can be installed.
- Ensure roadway lighting is sufficient for drivers to see the roadway and surrounding area.
- Check the visibility of the traffic signal at all approaches. In order to provide better visibility of the traffic signal, options include installing or improving warning signs, overhead signal heads, installing 12" signal lenses, visors, back plates, and/or relocating or adding signal heads.
- Verify that the signal timing is adequate to serve the traffic volumes. Options include adjusting phase change interval, providing a red-clearance interval, providing progression, and/or utilizing signal actuation with dilemma zone protection.
- Verify that the intersection is designed to handle the traffic volume. If the traffic volumes are too large for the intersection's capacity, options include adding a lane(s) and retiming the signal.

### *Sideswipes*

Sideswipes are the third most prevalent crashes that occurred in the study area. They can be caused by a number of factors including excessive speed, inadequate roadway lighting, poor pavement markings, large traffic volumes, and driver inattentiveness.

## Volume II: Roadways and Bridges

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The recommendations for reducing sideswipes include:

- Check for proper signage around the intersection, especially if the roadway geometry may be confusing for the driver. Verify that all one-way streets are marked “One-Way” and “No Turn” signs are placed at appropriate locations.
- Verify that pavement markings are visible during day and night hours.
- Verify that the roadway geometry can be easily maneuvered by drivers.
- Evaluate left and right turning volumes to determine if a right turn and/or left turn lane is warranted.
- Ensure roadway lighting is sufficient for drivers to see roadway and surroundings.
- Verify that lanes are marked properly and provide turning and through movement directions on lanes as well as signage that indicates lane configurations. This will prevent cars from dangerously switching lanes at the last minute.

### *Other Collision Types*

Within the study area, there are a number of other collision types that are prevalent, including left turn-angle, left turn-opposite, left turn-same, right turn-same, right turn-opposite, sideswipe-same, and sideswipe-opposite.

In general, the recommendations for increasing the safety and reducing the number of crashes at all the study intersections include:

- Determine if the speed limit is too high or if vehicles in the area are traveling over the speed limit. Reducing the speed can reduce the severity of crashes and make drivers more attentive to their surroundings.
- Verify the clearance intervals for all signalized intersection approaches and ensure that there is an all red clearance. For larger intersections, it is particularly important to have a long enough clearance interval for vehicles to safely make it through the intersection before the light turns red.
- Check for proper intersection signage, especially if the roadway geometry may be confusing for the driver. Verify that all one-way streets are marked “One-Way” and “No Turn” signs are placed at appropriate locations.
- Verify that pavement markings are visible during day and night hours.

## Volume II: Roadways and Bridges

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- Verify that the roadway geometry can be easily maneuvered by drivers.
- Evaluate left and right turning volumes to determine if a right turn and/or left turn lane is warranted.
- Ensure roadway lighting is sufficient for drivers to see roadway and surroundings.
- Check the visibility of the traffic signals from all approaches.
- Verify that lanes are marked properly and provide turning and through movement directions, as well as signage that indicates lane configurations. This will prevent cars from dangerously switching lanes at the last minute and reduces crash potential.

### *Develop a Safety Management System (SMS)*

Traffic safety programs are relatively uniform from state to state in their approach to making the highway system safer for their users. The typical traffic safety program combines several different features from a SMS, which all states were mandated to have under ISTEA in 1991. Under ISTEA, the SMS was required to address:

- Coordinating and integrating safety features for the various modes of travel
- Identifying hazardous locations, investigating them, and establishing countermeasures to increase safety
- Early consideration for safety in all highway projects and programs
- Identifying safety needs of special user groups (handicapped, elderly, etc.)
- Routinely maintaining and upgrading the safety features on the roadways
- Marketing safety programs to encourage community involvement

The SMS mandate was later withdrawn due to the 1995 National Highway System Designation Act. However, MAP-21 Section 1203 requires that each state and MPO have a planning process that addresses the safety performance measure to “achieve a significant reduction in traffic fatalities and serious injuries on all public roads.” MAP-21 also retains the SAFETEA-LU requirement that the planning process address the need to “increase the safety of the transportation system for motorized and non-motorized users.” A traffic safety program involves several steps.

## Volume II: Roadways and Bridges

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The typical traffic safety program includes:

- A crash record system
- Identification of hazardous locations
- Engineering studies
- Selection of countermeasures
- Prioritization of improvement projects
- Planning and implementation of improvement projects
- Evaluation of the implemented projects

The crash record system should contain data on individual crashes that occur in the area. The crash data should include the following information

- Time
- Date
- Weather condition
- Pavement condition
- Driver, and
- Roadway

The primary source for this data is usually police reports from local jurisdictions. In order for this record system to be useful, the data has to be processed and available on a timely basis so that it can be analyzed.

The identification of hazardous locations is based on actual crashes that have occurred, and/or the potential of an area to have a high number of crashes. The severity of these crashes must also be considered in order to prioritize the locations and develop solutions for them. Once the hazardous locations are identified, engineering studies can be conducted using the crash record system data. An analysis can use crash frequency, crash rate, Equivalent Property Damage Only (EPDO) rates, and other methods. Supplemental data from police comments and citizen complaints can also be used in the analysis process in order to find the causes of the crashes.

Once the causes of the crashes have been determined, countermeasures are proposed and then evaluated. Improvement projects are then selected based on the benefits they provide compared to the cost to implement them. Sometimes, enforcement and education may be all that is

## Volume II: Roadways and Bridges

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necessary in order to reduce the number of crashes. Other times, multiple projects may be needed to mitigate a particular problem area.

Once projects have been selected, they need to be prioritized based on their cost and benefits. Not all improvement projects will be able to be implemented due to funding limitations. After the projects have been selected and prioritized, a plan should be developed in order to implement projects. An implementation plan will help ensure that resources and finances are available to complete the improvement projects in a timely manner. Implementation of projects should occur as soon as possible to avoid cost increases and prevent potential crashes that may occur without the project in place.

Projects must be evaluated to determine whether they are effective or can be used to address similar problems in the future. This is typically done in a before-and-after analysis by observing the frequency and severity of the crashes several years before the implementation of the project, and then for several years after the project has been completed. Two issues can arise in this method of analysis. First, if enforcement and/or education change from before to after conditions, it can affect the number of crashes at that location. Second, “regression to the mean”, a statistical phenomenon that can make natural variation in repeated data look like real change, must be taken into account to ensure that change in crash patterns and/or frequency can be attributable to the safety projects. In order to correct these two issues, control sites should be established that are similar to the study locations, but have not had any changes made to them.

### *3.3 Roadway Maintenance Needs*

As indicated in Chapter 2.0 Existing Conditions, there is a great need for roadway maintenance projects in the Jackson MPA. Using the CMPDD PMS data and prioritization methodology, a list of the greatest roadway maintenance needs was developed for all arterials and collectors. It is assumed that MDOT will work to maintain the interstate system in fair or better condition.

CMPDD’s PMS prioritization methodology ranks roadway segments on three criteria: roughness (30%), condition (10%), and traffic volumes (60%). Table 3.4 shows the high-priority maintenance projects resulting from utilizing this prioritization methodology and then only selecting projects with a PCI value below 55, indicating poor conditions.

## Volume II: Roadways and Bridges



**Table 3.4 High Priority Arterial and Collector Roadway Maintenance Segments**

Rank	Name	From Street	To Street	Miles	Functional Class	Average Daily Traffic	Roughness (1-3)	Condition (1-5)	Pavement Condition Index (PCI)	Improvement Category
1	State St. 10	Webster St.	Fortification St.	0.5	Arterial	22,000	3	4	35	Overlay
2	Ridgewood Rd. 1	Countyline Rd.	Plantation Blvd.	0.6	Arterial	20,000	3	5	35	Rebuild/Replace
3	Canton Mart Rd. 1	Old Canton Rd.	I-55 Frontage Rd.	0.2	Arterial	19,400	3	5	26	Rebuild/Replace
4	Lake Harbour Dr. 2	Pear Orchard Rd.	Charmant Dr.	0.4	Arterial	19,000	3	5	42	Rebuild/Replace
5	Northside Dr. 15	Triangle Dr.	West Frontage Rd.	1.4	Arterial	16,000	3	5	29	Rebuild/Replace
6	Northside Dr. 13	California Ave.	Watkins Dr.	1.0	Arterial	17,000	3	4	38	Overlay
7	State St. 5	Northside Dr.	Meadowbrook	0.3	Arterial	15,000	3	5	23	Rebuild/Replace
8	State St. 4	Natural Shoulder	Pavement Change	0.8	Arterial	16,000	3	4	35	Overlay
9	Lynch St. 2	Buchanan	Hwy. 80	0.4	Arterial	12,000	3	5	43	Rebuild/Replace
10	Robinson Rd. 3	Ellis Ave.	Arbor Vista	0.4	Arterial	12,000	3	5	43	Rebuild/Replace
11	Gallatin St. 2	Amite St.	Pascagoula St.	0.3	Arterial	13,000	3	4	38	Overlay
12	Siwell Rd. 5	Big Creek Rd.	Davis Rd.	0.5	Arterial	10,000	3	5	36	Rebuild/Replace
13	State St. 6	Meadowbrook	Dunbar	0.7	Arterial	10,000	3	5	37	Rebuild/Replace
14	State St. 9	Woodrow Wilson	Webster St.	0.6	Arterial	22,000	2	4	50	Overlay
15	Old Canton Rd. 6	Canton Mart Rd.	Woodcrest Dr.	1.3	Arterial	24,000	2	3	53	Surface Coat
16	Ellis Ave. 3	Robinson Rd.	Capitol St.	1.2	Arterial	9,900	3	5	17	Rebuild/Replace
17	Raymond Rd. 9	Robinson Rd.	McDowell Rd.	0.4	Arterial	9,600	3	5	17	Rebuild/Replace
18	Raymond Rd. 10	McDowell Rd.	W Highland Dr.	0.8	Arterial	9,600	3	5	28	Rebuild/Replace
19	Robinson Rd. 4	Arbor Vista	Rose St.	1.1	Arterial	9,100	3	5	23	Rebuild/Replace
20	Gallatin St. 3	Pascagoula St.	Begin Three Lanes	0.2	Arterial	11,000	3	4	35	Overlay
21	Gallatin St. 4	Begin Three Lanes	Hand St.	0.3	Arterial	11,000	3	4	35	Overlay
22	Gallatin St. 5	Hand St.	Porter St.	0.2	Arterial	11,000	3	4	35	Overlay
23	Capitol St. 4	Magnolia Ave.	Rose St.	0.2	Arterial	7,600	3	5	10	Rebuild/Replace
24	N West St. 8	Adelle St.	Pavement Change	0.2	Arterial	7,100	3	5	29	Rebuild/Replace
25	Mill St. 2	Woodrow Wilson	Fortification St.	1.0	Arterial	7,100	3	5	32	Rebuild/Replace

Source: CMPDD PMS data, NSI

## Volume II: Roadways and Bridges

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### *3.4 Bridge Deficiencies*

The existing conditions analysis revealed that there are currently 64 bridges in poor condition in the Jackson MPA, five of which are on the NHS. Two of these bridges in poor condition, both on the NHS, have already been reconstructed. These were adjacent bridges on MS 43 in Canton.

In order to maintain and improve the MPO's current performance in bridge conditions, two lists of bridge improvement priorities have been created.

The first list, provided in Table 3.5, ranks the top 15 bridges in poor condition in the MPA by sufficiency ratings, regardless of location on the NHS. This list simply identifies the bridges in the Jackson MPA with the worst existing conditions.

The second list, provided in Table 3.6, highlights the worst performing bridges on the NHS, based on sufficiency ratings. Since there are only three remaining NHS bridges in poor condition, this list highlights the bridges on the NHS with sufficiency ratings below 50, indicating a high need for rehabilitation or replacement. By addressing the needs of these bridges, the MPO can prevent these bridges from slipping into poor condition and maintain or improve its performance on national performance measures, which are currently proposed to only be concerned with the NHS bridges.

While some of these deficient bridges may be improved in the 2040 MTP as incidental to other transportation projects, such as a roadway widening projects, the MPO and MDOT should prioritize these bridges for improvements as funding becomes available.

## Volume II: Roadways and Bridges



**Table 3.5 Worst Performing Bridges in Poor Condition by Sufficiency Rating**

Facility	Feature Intersecting	County	Year Built	Sufficiency Rating	Special Classification	Condition
Manhattan Rd.	Hanging Moss Creek	Hinds	1964	3.0	Structurally Deficient	Poor
US 80	Kansas City Southern RR	Rankin	1935	5.0	Structurally Deficient	Poor
Hanging Moss Rd.	Tributary of Hanging Moss Creek	Hinds	1987	7.0	Structurally Deficient	Poor
SR 473	Vaughn Creek	Hinds	1959	8.0	Structurally Deficient	Poor
US 80	Pelahatchie Creek Relief	Rankin	1951	12.0	Structurally Deficient	Poor
Moore Ave.	Cane Creek	Madison	1973	13.9	Structurally Deficient	Poor
US 80	Pelahatchie Creek	Rankin	1951	15.6	Structurally Deficient	Poor
Rosemary Rd.	Pearl River	Hinds	1945	19.3	Structurally Deficient	Poor
N Midway Rd.	Branch of Bakers Creek	Hinds	1965	21.5	Structurally Deficient	Poor
Davis Rd.	Big Creek	Hinds	1979	21.7	Structurally Deficient	Poor
Ready Mix St.	Tributary to Town Creek	Hinds	1962	24.9	Structurally Deficient	Poor
Steed Rd.	Creek	Madison	1975	25.0	Structurally Deficient	Poor
South St.	Town Creek	Hinds	1914	25.7	Structurally Deficient	Poor
Clinton Tinnin Rd.	Branch of Straight Fence Creek	Hinds	1977	25.8	Structurally Deficient	Poor
Clinton Tinnin Rd.	Straight Fence Creek	Hinds	1973	25.8	Structurally Deficient	Poor

Source: National Bridge Inventory, 2013

## Volume II: Roadways and Bridges



**Table 3.6 Worst Performing Bridges on NHS by Sufficiency Rating**

Facility	Feature Intersecting	County	Year Built	Sufficiency Rating	Special Classification	Condition
Hanging Moss Rd.	Tributary of Hanging Moss Creek	Hinds	1987	7.0	Structurally Deficient	Poor
US 49	Lime Kiln Creek	Hinds	1958	19.6	Structurally Deficient	Fair
Monument St.	Town Creek	Hinds	1950	35.5	Structurally Deficient	Poor
S Mill St.	Town Creek	Hinds	1914	36.1	Structurally Deficient	Poor
I-20	Kansas City Southern RR	Hinds	1953	37.8	Functionally Obsolete	Fair
Woodrow Wilson Ave.	ICGRR (Mill St.)	Hinds	1940	39.8	Functionally Obsolete	Fair
S West St.	Town Creek	Hinds	1959	42.9	Functionally Obsolete	Fair
SR 469	Steen Creek	Rankin	1955	44.0	Functionally Obsolete	Fair
US 80	Richland Creek	Rankin	1935	45.5	Functionally Obsolete	Fair
SR 18	Dabbs Creek	Rankin	1940	45.8	Functionally Obsolete	Fair
Yandell Rd.	Little Bear Creek	Madison	1957	48.7	None	Fair
US 80	Pearl River Relief	Rankin	1938	49.1	Functionally Obsolete	Fair

Source: National Bridge Inventory, 2013

### 4.0 Financial Analysis

MTPs are required to be fiscally constrained. In order to be fiscally constrained, the costs of programmed projects must not exceed the amount of funding that is reasonably expected to be available. This chapter provides an analysis of anticipated funding available for transportation projects and programs in the MPA.

#### Street and Highway Funding

Assuming that future funding for transportation improvements will be consistent with the level of expenditure indicated by recent historical data, an average of \$77 million per year in 2013 dollars is forecasted to be available in state and federal funds for transportation improvements in the study area, using both MPO designated funding and MDOT funds. By factoring in a one percent annual inflation rate, the total amount forecast to be available through 2040 is \$2.25 billion. The annual amounts are aggregated to the three time periods of the MTP resulting in the following levels of state and federal funding to be available for each stage.

- STAGE 1 (2015-2020) - \$405,637,585
- STAGE 2 (2021-2030) - \$874,405,429
- STAGE 3 (2031-2040) - \$965,887,584

#### Typical Project Cost Estimates

In order to develop a staged improvement program consistent with the financial constraints imposed by the projected availability of funding described above, implementation costs were projected for all proposed improvements. Cost estimates for some projects were available from the MDOT or local public agencies. However, for most, it was necessary to develop new estimates. This effort began with cost estimates obtained from historic project costs from the MDOT and local public agencies. Where such construction estimates were not available, the study team prepared order-of-magnitude cost estimates in 2013 dollars based on projects in the historic funding database. The typical construction cost estimates for various types of improvements are shown in Table 4.1.

## Volume II: Roadways and Bridges



**Table 4.1 Jackson Urbanized Area MTP 2040 Typical Project Cost by Improvement Type (2013 Dollars)**

Improvement Type	Avg. Cost	Unit
New Interstate	\$16,000,000	Mile
Interstate Widening	\$9,000,000	Mile
Interstate Rehab	\$4,000,000	Mile
New 4 Lane Arterial	\$9,000,000	Mile
New 2 Lane Arterial	\$5,000,000	Mile
Arterial Widening	\$3,250,000	Mile
Center Turn Lane	\$3,000,000	Mile
Reconstruction	\$1,900,000	Mile
Overlay	\$650,000	Mile
Sidewalks	\$500,000	Mile
New Interchange	\$22,000,000	Each
Interchange Improvement	\$7,000,000	Each
Intersection Improvement	\$800,000	Each
Railroad Overpass	\$6,000,000	Each

Source: MDOT Historic Project Lettings 1991-2014, NSI 2015

For projects included in Stage II and Stage III of the Plan, the typical cost calculated for each project was factored up by an annual rate of two (2) percent to account for inflation and to develop Year-of-Expenditure (YOE) cost of a project. Since it is not possible to predict exactly which year the project would be constructed, the inflation value calculated at the mid-point of the stage was used; for Stage II the rate is 1.283, and for Stage III it is 1.564. An opinion of probable YOE cost for each plan project was calculated by multiplying the project cost in 2013 dollars with stage specific inflation value.

### 5.0 Project Development and Prioritization

This chapter summarizes how transportation projects were developed and evaluated in the 2040 MTP.

#### Project Development

Projects were identified in the following ways:

- Roadway capacity projects were identified from the public visioning exercise, stakeholder input, and previous plans;
- Maintenance and Operations projects were identified through an analysis of existing conditions and consultation with local transportation providers.

Roadway capacity project costs were developed based on typical improvement costs per mile. Where local data was available, this information supplemented typical cost estimates.

#### Project Prioritization

In order to maximize limited funding, transportation capacity projects were prioritized. High-priority Maintenance and Operations (MO) projects were identified in Chapter 3: Future Transportation Need and will be funded through the federal programs highlighted in Chapter 4: Financial Analysis. More detailed analysis would be necessary to prioritize MO projects against each other.

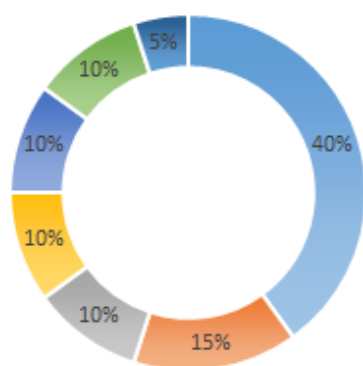
For prioritization purposes, some capacity projects were combined. This was done for projects that would logically be done in succession, such as widening roadway corridors.

Table 5.1 shows the criteria and weights that were used to prioritize identified roadway capacity projects. Table 5.2 then shows how these criteria were measured. The results of this prioritization exercise are shown in Table 5.3 and illustrated in Figure 5.1

# Volume II: Roadways and Bridges

**Table 5.1 Roadway Capacity Project Prioritization Criteria**

Criteria	Rationale	Maximum Points
Travel Delay Reduction Benefits	Make most efficient use of limited funding by selecting projects that reduce overall network delay experienced by the users.	40
Safety	Unsafe areas should receive priority over other areas.	15
Connectivity/Continuity	Connectivity benefits exceed quantifiable model outputs, especially as it relates to the provision of alternative routes and street connectivity for bicyclists and pedestrians.	10
Intermodal/Multimodal Benefits	Encourage projects that benefit both the movement of people and goods and/or have the potential to improve bicycle and pedestrian conditions.	10
Plan Consistency	Encourage projects that have been vetted through locally-adopted plans, existing studies or plans such as Congestion Management Process (CMP).	10
Potential Impact to Community or Natural Resources	Avoid negative and costly environmental impacts.	10
Potential Impact to Minority and Low-Income Population	Environmental Justice.	5



## Project Scoring Score Breakdown

- Travel Delay Reduction Benefits
- Safety
- Connectivity and Continuity
- Intermodal and Multimodal Benefits
- Plan Consistency
- Potential Impact to Community or Natural Resources
- Potential Impact to Minority and Low-Income Population

# Volume II: Roadways and Bridges



**Table 5.2 Roadway Capacity Project Prioritization Criteria Measures**

Criterion	Rationale	Measure	Scoring Scale (Points Possible)				
			0	5	10	15	40
Travel Delay Reduction Benefits	Make most efficient use of limited funding by selecting projects that reduce overall network delay experienced by the users.	Vehicle hours of delay.	Points awarded in increments of 4 based upon the effectiveness of a project in reducing overall roadway network delay.				
Safety	Unsafe areas should receive priority over other areas.	Qualitative assessment based on crash data, bridge conditions, and engineering judgement.	No safety benefits	Minimal safety benefits	Moderate safety benefits	Considerable safety benefits	
Connectivity and Continuity	Connectivity benefits exceed quantifiable model outputs, especially as it relates to the provision of alternative routes and street connectivity for bicyclists and pedestrians.	For new roadways/extensions: arterials intersected per mile (Principal arterials count as 2). For roadway widenings: Number of connections or intersections with existing widened facilities.	No arterial intersections/ does not connect or intersect with roadway with higher number of lanes	< 2 intersections per mile/ connects or intersects 1 roadway with higher number of lanes	2+ intersections per mile/connects or intersects 2+ roadways with higher number of lanes		
Intermodal and Multimodal Benefits	Encourage projects that benefit both the movement of people and goods and/or have the potential to improve bicycle and pedestrian conditions.	Type of roadway and estimated truck traffic. For new roadways, assume similar truck traffic as similar or parallel facility.	Not a major freight route/freeway with no bike or pedestrian access	>= 500 estimated average daily trucks	More than 1,000 estimated average daily trucks or part of MDOT primary freight corridor		
Plan Consistency	Encourage projects that have been vetted in locally-adopted plans or existing studies or plans.	In previous locally-adopted plan or in preliminary study or Congestion Management Process (CMP).	Not in previous plans	In previous MTP, local plan or preliminary study completed /on going	CMP		
Potential Impact to Community or Natural Resources	Avoid negative and costly environmental impacts.	Proximity to community or natural resources like historic sites, recreational areas, churches, cemeteries, preserves, etc.	Scaled 1-10, depending on nearby resources				
Potential Impact to Minority and Low-Income Population	Avoid disproportionately high and adverse impacts to Environmental Justice groups.	Percentage of population in Environmental Justice group along project route.	Above planning area average	Below planning area average			

# Volume II: Roadways and Bridges



**Table 5.3 Project Prioritization Results**

Rank	Project No.	Route	County	Location	Improvement	Length	Project Cost (2013 dollars)	Travel Delay Reduction	Safety	Connectivity/Continuity	Intermodal/Multimodal	Plan Consistency	Env't Score	EJ Score	Total Score
1	317	I-20	Rankin	@ Trickham Bridge Rd.	New Interchange	--	\$22,000,000	32	15	10	10	5	8	5	85
2	214	Lakeland Dr. (MS 25)	Rankin	MS 475 to MS 471	Widen to 6 lanes	8.10	\$26,325,000	40	10	5	10	10	4	5	84
3	303	I-55	Hinds	Lakeland Dr. to Rankin County Line	Widen to 8 Lanes	3.55	\$31,950,000	36	10	5	10	10	4	5	80
4	120	Airport Pkwy.	Hinds/ Rankin	I-55 to MS 475 & MS 25	New 4/6 Lane Roadway	10.00	\$200,000,000	40	10	5	10	5	4	5	79
5	313	MS 18	Rankin	Greenfield Rd. to Star Rd.	Widen to 4 lanes, RR Overpass	3.45	\$17,212,500	36	10	5	5	10	6	5	77
6	421	Farmington Rd. Ext.	Rankin	Old Fannin Rd. to MS 25	New 2 Lane Roadway	3.40	\$17,000,000	36	10	5	10	0	10	5	76
7	219	I-220	Hinds/ Madison	I-20 to I-55	Widen to 6 lanes	10.50	\$94,500,000	40	5	5	10	10	2	0	72
8	208	I-55	Madison	MS 22 to MS 463	Widen to 6 Lanes	10.20	\$91,800,000	40	5	0	10	5	6	5	71
9	420	Old Hwy 49	Rankin	US 80 to US 49	Widen to 4 lanes	2.85	\$9,262,500	36	5	5	10	0	10	5	71
10	307	US 51	Madison	Weisenberger Rd. to Tisdale Rd.	Widen to 5 lanes	2.30	\$7,475,000	24	10	5	5	10	10	5	69
11	314	MS 18	Rankin	Star Rd. to Mohr Rd.	Widen to 4 lanes	4.20	\$13,650,000	28	10	0	10	10	4	5	67
12	319	US 80	Hinds/ Rankin	State St. to Pearson Rd.	Widen to 6 Lanes	2.70	\$8,775,000	28	5	0	10	10	8	5	66
13	218	US 49	Rankin	Main St. (Florence) to Star Rd.	Widen to 6 lanes	6.45	\$20,962,500	32	10	0	10	5	2	5	64
14	119	I-20	Rankin	Greenfield Rd. to US 80 east of Brandon	Widen to 6 Lanes	4.70	\$42,300,000	32	5	0	10	5	2	5	59
15	422	Petros Rd.	Rankin	Pearson Rd. to MS 469	New 4 Lane Divided Roadway	4.50	\$40,500,000	24	10	5	5	5	8	0	57
16	202	I-55	Hinds	Siwell Rd. to Copiah County Line	Widen to 6 lanes	10.30	\$108,500,000	32	5	0	10	5	4	0	56
17	201	I-20	Hinds	Clinton-Raymond Rd. to MS 18	Widen to 6 Lanes	4.75	\$42,750,000	24	5	0	10	10	6	0	55
18	312	Greenfield Rd.	Rankin	MS 468 to MS 18	Widen to 4 lanes	3.30	\$10,725,000	16	10	5	5	5	8	5	54
19	405	Jackson West Pkwy.	Hinds	Clinton Blvd. to McRaven Rd.	New 4 Lane Divided Roadway and I-20 Interchange	3.20	\$50,800,000	20	15	5	5	5	4	0	54
20	505	MS 468	Rankin	MS 475 to MS 18	Widen to 4 Lanes	6.50	\$21,125,000	28	10	0	5	0	6	5	54
21	210	Rice Rd.	Madison	Hoy Rd. to Old Canton Rd.	Widen to 5 lanes	4.10	\$13,325,000	20	5	5	5	5	4	5	49
22	215	MS 469	Rankin	Monterey Rd. to MS 468	Widen to 4 lanes	4.10	\$13,325,000	20	10	0	5	5	4	5	49
23	109	Reunion Pkwy.	Madison	Bozeman Rd. to Parkway East	New 4 Lane Divided Roadway and I-55 Interchange	1.20	\$32,800,000	8	5	10	5	5	10	5	48

**Volume II:  
Roadways and Bridges**



Rank	Project No.	Route	County	Location	Improvement	Length	Project Cost (2013 dollars)	Travel Delay Reduction	Safety	Connectivity/Continuity	Intermodal/Multimodal	Plan Consistency	Env't Score	EJ Score	Total Score
24	318	Old Brandon Rd.	Rankin	MS 475 to Crossgates Blvd.	Widen to 4 lanes	2.40	\$7,800,000	12	10	5	5	10	6	0	48
25	112	East Brandon Bypass	Rankin	MS 18 to US 80	New 4 Lane Divided Roadway	3.20	\$28,800,000	16	5	5	5	5	10	0	46
26	101	Byram-Clinton-Norrell Corridor	Hinds	I-20 to Parks Rd.	New 4-lane Roadway	12.75	\$114,750,000	16	5	5	5	5	4	5	45
27	211	US 51	Madison	MS 16 to Weisenberger Rd.	Widen to 4 lanes	7.60	\$24,700,000	28	0	5	5	5	2	0	45
28	206	Raymond Rd.	Hinds	Siwell Rd. to McDowell Rd.	Widen to 4 Lanes	2.55	\$8,287,500	20	5	5	5	5	4	0	44
29	306	South Wheatley St.	Madison	Lake Harbour Dr. to County Line Rd.	Widen to 5 lanes	1.00	\$3,250,000	1	10	10	5	5	8	5	44
30	108	MS 463	Madison	Reunion Pkwy. to Madison Central Dr.	Widen to 5 lanes	2.70	\$8,775,000	12	5	5	5	5	6	5	43
31	320	Siwell Rd./Florence-Byram Rd.	Hinds/ Rankin	I-55 to Cleary Rd.	Reconstruct as 4-lane toll road	4.75	\$42,750,000	24	0	0	5	5	4	5	43
32	305	Ridgewood Rd.	Madison	US 51 to Centre St.	Widen to 5 lanes	0.65	\$2,112,500	1	10	10	5	5	6	5	42
33	213	Gunter Rd. Extension	Rankin	US 49 to Cleary Rd.	New 2 Lane Roadway	3.10	\$15,500,000	8	5	5	5	5	8	5	41
34	402	Henderson Rd. Ext.	Hinds	Siwell Rd. to Byram Pkwy.	New 4 Lane Divided Roadway	1.35	\$12,150,000	1	10	5	5	5	10	5	41
35	403	Gary Dr. Ext.	Hinds	Gary Rd. to Henderson Rd. Ext.	New 4 Lane Divided Roadway	0.90	\$8,100,000	1	10	10	5	5	10	0	41
36	414	Welch Farms Rd.	Madison	MS 463 to Madison Ave.	New 4 Lane Divided Roadway	0.70	\$6,300,000	1	10	10	5	5	10	0	41
37	111	Crossgates Blvd.	Rankin	Old Brandon Rd. to I-20	Widen to 6-lane Divided Roadway	0.80	\$2,600,000	1	5	0	10	10	8	5	39
38	209	Colony Park Blvd.	Madison	Sunnybrook Rd. to US 51	New 4 Lane Divided Roadway	1.35	\$12,150,000	1	5	10	5	5	8	5	39
39	304	Rice Rd.	Madison	US 51 to Old Canton Rd.	Widen to 5 lanes	1.55	\$5,037,500	1	5	10	5	5	8	5	39
40	118	Spillway Rd.	Rankin	Northshore Pkwy. to Grants Ferry Rd.	Widen to 5 lanes	1.60	\$5,200,000	12	0	5	5	5	6	5	38
41	106	Harbor Dr.	Madison	Lake Harbour Dr. north 0.35 miles	Widen to 4 Lanes	0.35	\$1,137,500	1	5	10	5	5	6	5	37
42	216	Grants Ferry Rd.	Rankin	Spillway Rd. to MS 25	Widen to 5 lanes	1.10	\$3,575,000	1	5	10	5	5	6	5	37
43	310	Green Acres Rd. Extension	Madison	King Ranch Rd. to Old Yazoo City Rd.	New 4-lane Roadway and I-55 Interchange	2.00	\$40,000,000	4	10	5	5	5	8	0	37
44	410	Endris Rd. Extension	Madison	N Old Canton Rd. to Rankin Rd.	New 4 Lane Divided Roadway	4.65	\$41,850,000	1	10	5	5	5	6	5	37
45	417	Main St. (MS 469 - Florence)	Rankin	Old Hwy 49 to US 49	Widen to 5 lanes	0.45	\$1,462,500	1	5	10	10	0	6	5	37
46	406	Metrocenter South Pkwy.	Hinds	Lynch St. to Robinson Rd.	New 4 Lane Divided Roadway and I-20 Overpass	0.80	\$17,200,000	1	10	10	5	0	10	0	36
47	507	MS 469 Ext.	Rankin	MS 468 to MS 18	New 4 Lane Divided Roadway	2.25	\$20,250,000	1	10	5	5	0	10	5	36
48	501	Northside Dr.	Hinds	Cynthia Rd. to Ridgewood Rd.	Widen to 4/6 Lanes	9.30	\$30,225,000	16	10	0	5	0	4	0	35
49	602	Terry Rd.	Hinds	Siwell Rd. to Gary Rd.	Widen to 5 Lanes	0.90	\$2,925,000	1	10	10	5	5	4	0	35
50	604	US 80 (Brandon)	Rankin	I-20W to I-20E	Center Turn Lane	3.00	\$9,000,000	1	10	5	10	0	4	5	35

**Volume II:  
Roadways and Bridges**



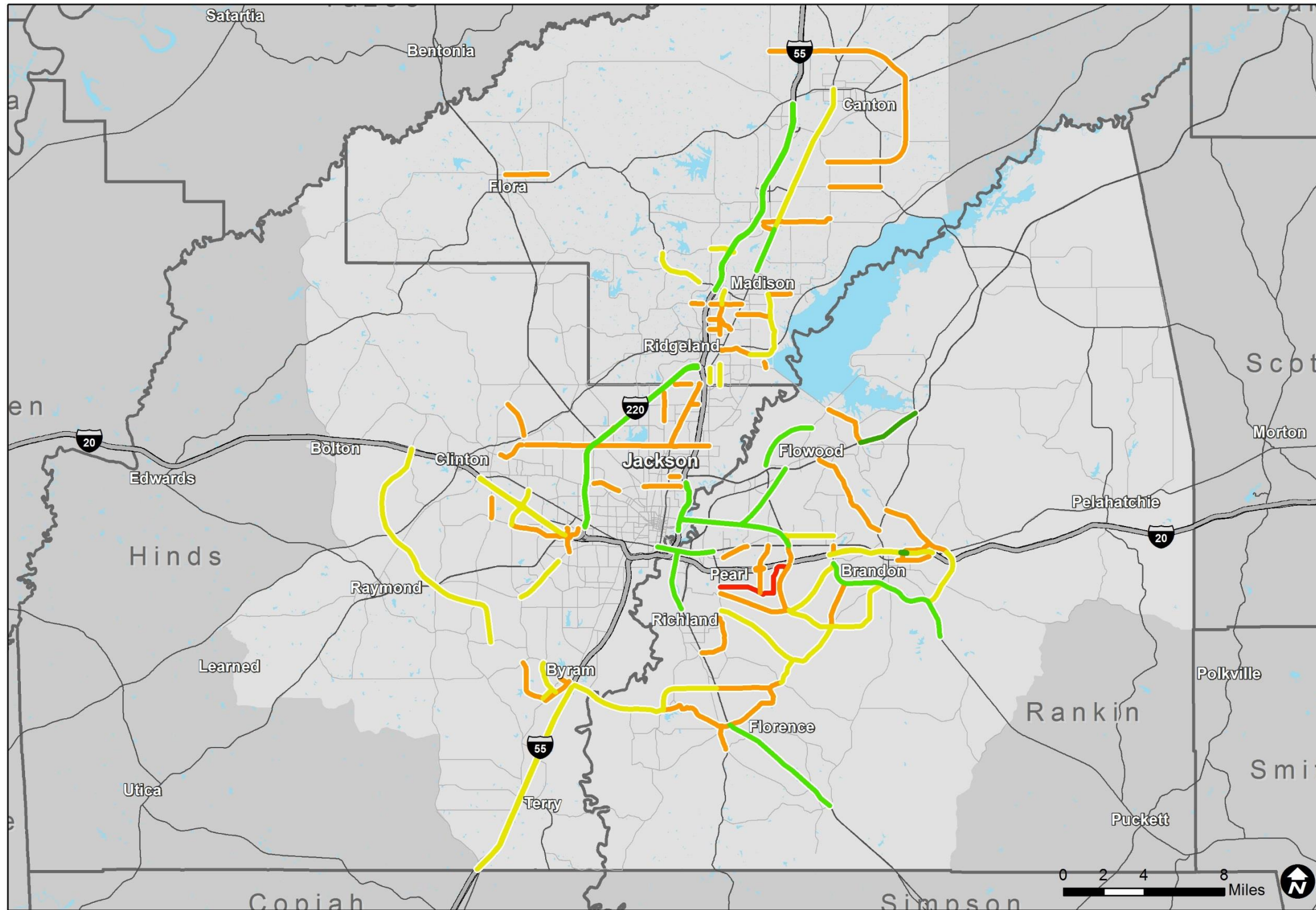
Rank	Project No.	Route	County	Location	Improvement	Length	Project Cost (2013 dollars)	Travel Delay Reduction	Safety	Connectivity/Continuity	Intermodal/Multimodal	Plan Consistency	Env't Score	EJ Score	Total Score
51	104	W County Line Rd.	Hinds	McLaurin Rd. to US 51	New 4 Lane Divided Roadway and RR Grade Separation	0.10	\$10,000,000	1	5	10	5	5	8	0	34
52	116	Old Brandon Rd.	Rankin	Bierdeman Rd. to Pemberton Dr.	Center Turn Lane	1.15	\$3,450,000	1	10	0	5	5	8	5	34
53	301	Beasley Rd.	Hinds	State St. to I-55	Widen to 5 lanes	0.65	\$2,112,500	1	5	10	5	5	8	0	34
54	302	Bullard St.	Hinds	Boling Dr. to Woodrow Wilson Dr.	Reconstruct 4-lane divided roadway	1.35	\$4,387,500	1	15	0	5	5	8	0	34
55	308	Weisenberger Rd.	Madison	Gluckstadt Rd. to US 51	Widen to 5 lanes	0.60	\$1,950,000	1	5	10	5	5	8	0	34
56	316	MS 475	Rankin	Old Brandon Rd. to I-20	Widen to 6 lanes	1.35	\$4,387,500	1	5	0	10	10	8	0	34
57	401	Byram Town Center Blvd.	Hinds	Byram Pkwy. to Terry Rd.	New 4 Lane Divided Roadway	0.40	\$3,600,000	1	5	10	5	5	8	0	34
58	409	East Sowell Rd.	Madison	N Old Canton Rd. to MS 43	New 4 Lane Divided Roadway	2.50	\$22,500,000	1	5	5	5	5	8	5	34
59	411	Green Acres Rd. Extension	Madison	US 51 to MS 16	New 4 Lane Divided Roadway	3.80	\$34,200,000	1	10	5	5	5	8	0	34
60	415	Steed St. Ext.	Madison	Sunnybrook Rd. to Wheatley St.	New 3 Lane roadway	0.50	\$2,500,000	1	10	0	5	5	8	5	34
61	103	Northside Dr.	Hinds	Huntcliff Way to Cynthia Rd.	Widen to 5 Lanes	1.75	\$5,687,500	4	5	5	5	5	4	5	33
62	107	Madison Ave. Phase 2	Madison	Highland Colony Pkwy. to US 51	Widen to 4 Lanes Divided	2.50	\$8,125,000	1	5	5	5	5	6	5	32
63	110	N Wheatley St. Extension	Madison	Madison Ave to Ridgeland Ave.	New 4 Lane Divided Roadway	1.50	\$13,500,000	1	5	5	5	5	6	5	32
64	115	Pirates Cove Rd. (Partial)	Rankin	US 80 to MS 468	Widen to 4 Lanes, New 2 Lane and I-20 Interchange	3.10	\$48,610,000	1	10	5	5	5	6	0	32
65	407	Williamson Rd.	Hinds	Pinehaven Rd. to Arrow Dr.	New 4 Lane Divided Roadway	1.80	\$16,200,000	1	5	5	5	5	6	5	32
66	504	Luckney Rd.	Rankin	MS 471 to MS 25	Widen to 5 Lanes	4.85	\$15,762,500	1	10	5	5	0	6	5	32
67	506	MS 469	Rankin	US 49 to Monterey Rd.	Widen to 4 Lanes	3.80	\$12,350,000	8	5	5	5	0	4	5	32
68	509	Florence-Byram Rd./W Main St.	Rankin	Cleary Rd. to MS 469	Widen to 4 Lanes	3.35	\$10,887,500	1	10	5	5	0	6	5	32
69	117	Grants Ferry Pkwy.	Rankin	MS 471 to Trickham Bridge Rd.	New 4 Lane Divided Roadway	2.85	\$25,650,000	1	0	5	5	5	10	5	31
70	217	Paige McDill Rd.	Rankin	Trickham Bridge Rd. to US 80	Widen to 4 lanes	0.95	\$3,087,500	1	5	0	5	5	10	5	31
71	309	Hoy Rd.	Madison	Rice Rd. to N Old Canton Rd.	Widen to 5 lanes	1.10	\$3,575,000	1	5	0	5	5	10	5	31
72	315	MS 468 (Pearl)	Rankin	Deeb St. to MS 475	Widen to 4 lanes	2.95	\$9,587,500	1	5	0	5	5	10	5	31
73	408	Methodist Farm Rd.	Hinds	I-220 to Northside Dr.	Widen to 4 lanes and I-220 Interchange	1.00	\$25,250,000	1	10	10	5	0	4	0	30
74	416	MS 475	Rankin	I-20 to MS 468	Widen to 6 lanes	2.45	\$7,962,500	12	5	0	5	0	8	0	30
75	102	Gary Rd.	Hinds	Terry Rd. to Davis Rd.	Widen to 4 Lanes	2.55	\$8,287,500	1	5	0	5	5	8	5	29
76	204	Robinson Rd.	Hinds	MS 18 to Raymond Rd.	Widen to 4 lanes	1.25	\$4,062,500	1	0	10	5	5	8	0	29
77	207	Cox Ferry Rd.	Madison	Railroad Ave. to Cane Creek Rd. (Flora)	New 2 Lane Roadway	2.10	\$10,500,000	1	5	5	5	5	8	0	29

**Volume II:  
Roadways and Bridges**



Rank	Project No.	Route	County	Location	Improvement	Length	Project Cost (2013 dollars)	Travel Delay Reduction	Safety	Connectivity/Continuity	Intermodal/Multimodal	Plan Consistency	Env't Score	EJ Score	Total Score
78	413	Hart Rd.	Madison	Rankin Rd. to MS 16	Widen to 4 lanes	2.70	\$8,775,000	1	5	5	5	5	8	0	29
79	418	Pearson Rd.-Monterey Rd.	Rankin	US 49 to 0.4 miles north of E Harper Rd.	Widen to 4 lanes	2.65	\$8,612,500	1	5	5	5	0	8	5	29
80	603	Springridge Rd.	Hinds	I-20 to McRaven Rd.	Center Turn Lane	1.45	\$4,350,000	1	10	5	5	0	8	0	29
81	212	Yandell Rd.	Madison	Parkway East to N Old Canton Rd.	Realign and widen to 4/5 lanes divided	3.35	\$16,062,500	4	0	5	5	5	4	5	28
82	311	MS 469	Rankin	Main St. to Erlich Rd.	Widen to 4 lanes	1.20	\$3,900,000	1	5	0	5	5	6	5	27
83	508	Gunter Rd.	Rankin	US 49 to MS 469	Widen to 4 Lanes	2.60	\$8,450,000	1	5	5	5	0	6	5	27
84	601	Lakeland Dr.	Hinds	Old Canton Rd. to I-55	Widen to 6 Lanes	0.55	\$1,787,500	1	5	5	10	0	6	0	27
85	412	Green Acres Rd.	Madison	US 51 to King Ranch Rd.	Widen to 4 lanes	1.75	\$5,687,500	1	5	0	5	5	10	0	26
86	205	Woodrow Wilson Ave.	Hinds	Livingston Rd. to I-55	Widen to 6 lanes	1.80	\$12,850,000	8	0	0	10	5	2	0	25
87	502	State St. (US 51)	Hinds	Northside Dr. to E County Line Rd.	Widen to 6 Lanes	3.35	\$10,887,500	4	10	0	5	0	6	0	25
88	503	St Augustine Dr.	Madison	US 51 to Rice Rd.	Widen to 4 Lanes	1.60	\$5,200,000	1	5	5	5	0	4	5	25
89	203	Hanging Moss Rd.	Hinds	County Line Rd. to Meadow Rd.	Widen to 4 lanes	1.85	\$6,012,500	1	0	5	5	5	8	0	24
90	404	Greenway Pkwy.	Hinds	McRaven Rd. to Robinson Rd.	New 4 Lane Divided Roadway/Widen to 4 Lanes	2.85	\$17,887,500	1	5	5	5	0	8	0	24
91	105	W County Line Rd.	Hinds	Floral Dr. to Brown St.	Widen to 4 Lanes	0.70	\$8,350,000	1	0	5	5	5	6	0	22
92	419	Trickham Bridge Rd.	Rankin	Paige McDill Rd. to US 80	Widen to 5 lanes	1.85	\$6,012,500	1	5	0	5	0	6	5	22
93	113	Old Whitfield Rd.	Rankin	MS 468 to MS 475	Center Turn Lane	4.55	\$13,650,000	1	5	0	5	5	4	0	20

# FIGURE 5.1 ROADWAY PROJECT PRIORITIZATION



**Legend**

**Test Projects**

**Prioritization Score**

- 20 or less (Lowest Priority)
- 21 - 40 (Low Priority)
- 41 - 60 (Medium Priority)
- 61 - 80 (High Priority)
- 81 - 85 (Highest Priority)

- Interstates
- Secondary Roadways
- Other Major Roadways in MPO
- Water Bodies
- Metropolitan Planning Area
- Counties

Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.

Map Source: Neel-Schaffer, Inc.

Data Sources: Neel-Schaffer, Inc.

### 6.0 Fiscally-Constrained Implementation Plan

#### 6.1 Applying Fiscal Constraint

The staged improvement program is a fiscally constrained list of transportation projects that collectively represent the Jackson area's planned future transportation network. Projects included in the adopted MTP become eligible for federal and/or state funding assistance through programs such as the NHS and Surface Transportation Program (STP). These programs are funded under the current transportation bill, MAP-21.

In developing this plan, the approach has been to identify transportation needs, and to consider alternative ways of meeting those needs. In many cases, additional study may be required in order to determine the most effective and feasible improvement alternative. Suggested improvements identified in the staged improvement program are meant to convey the type of improvement that would make the most sense based on currently available information.

This approach acknowledges the inability to avoid all future traffic congestion simply by building as much roadway capacity as the anticipated demand for travel would seem to require. It also recognizes the reality of induced demand, that is, additional roadway capacity inevitably generates additional traffic. One principle which has guided the development of this plan has been the idea that alternative travel options should be made available wherever possible. Possibilities include new or improved parallel routes, or modal choices that serve the same origins and destinations. In the case where there is a projected need for additional roadway capacity, the preferred response may not be a wider facility, but enhanced operational efficiency. Improvements can be achieved using Transportation System Management (TSM), Travel Demand Management (TDM), or Intelligent Transportation System (ITS) strategies and access management techniques that serve to optimize the performance of a facility.

The staged improvement program is a long-range plan for transportation improvements in the Jackson Urbanized Area that envisions implementation over a period spanning from 2016 until 2040. Recommended improvements are distributed among three stages:

- Stage I covers the short-term period from 2016 through 2020;
- Stage II corresponds to the intermediate period from 2021 through 2030; and
- Stage III is the long-range period from 2031 through 2040.

The assignment of a given project to a particular stage was largely determined by prioritization of projects based on projected future travel demand, estimated funding available for each stage of

## Volume II: Roadways and Bridges



the plan, project cost and other mobility-related considerations (such as safety, emergency evacuation, access to developable areas, etc.).

Table 6.1 summarizes the project costs and forecast state and Federal revenues for implementing the Plan.

**Table 6.1 Fiscal Constraint**

	Stage I 2016 - 2020	Stage II 2021 - 2030	Stage III 2031 - 2040	Total 2016 - 2040
Estimated Fiscally-Constrained MTP Project Costs	\$465,398,000	\$872,024,000	\$914,922,000	\$2,252,344,000
Estimated State & Federal Funding Availability	\$405,637,585	\$874,405,429	\$965,887,584	\$2,245,930,598
			Vision Needs	\$1,319,116,000
			Total Needs Plan	\$3,571,460,000

Note: Annual Inflation Factors – 2.0% on Project Cost, 1.0% on Funding Availability

The anticipated state and federal street and highway funding for the plan period (2016 – 2040) was calculated to be \$2.25 billion. The estimated total cost of improvements as identified in the staged improvement program is \$2.26 billion, which is within acceptable programming limits of available funding. Therefore, the Jackson MPO MTP 2040 is financially constrained.

### 6.2 Effectiveness of Fiscally Constrained Projects

Table 6.2 shows the travel impacts of implementing the capacity projects in the fiscally-constrained project lists. While daily vehicle miles traveled and daily vehicle hours traveled only decrease slightly, the daily hours of delay decrease by about 12 percent by implementing the projects recommended in the 2040 MTP.

**Table 6.2 Travel Impacts of Fiscally Constrained 2040 MTP**

Measure	2040 Existing and Committed	2040 Fiscally Constrained MTP	Differenc e	Percent Difference
Daily Vehicle Miles Traveled	18,302,605	18,293,445	-9,160	-0.1%
Daily Vehicle Hours Traveled	461,491	450,298	-11,193	-2.4%
Daily Hours of Delay	95,226	83,841	-11,385	-12.0%

Source: Jackson Travel Demand Model, NSI

## Volume II: Roadways and Bridges



**Table 6.3 Travel Impacts of Fiscally Constrained 2040 MTP by Roadway Functional Class**

Centerline Miles of Roadways				
Classification	2040 (E+C Projects)	2040 MTP	Difference	Percent Difference
Interstate	112	112	0	0.0%
Principal Arterial	328	334	6	2.9%
Minor Arterial	375	386	11	0.4%
Collector	699	702	3	1.3%
Total	1,514	1,534	20	0.0%
Daily Vehicle Miles Traveled (VMT)				
Classification	2040 (E+C Projects)	2040 MTP	Difference	Percent Difference
Interstate	7,492,125	7,349,705	-142,419	-1.9%
Principal Arterial	5,986,492	6,055,070	68,577	1.1%
Minor Arterial	2,660,686	2,720,535	59,849	2.2%
Collector	2,163,302	2,168,134	4,832	0.2%
Total	18,302,605	18,293,445	-9,160	-0.1%
Daily Vehicle Hours Traveled (VHT)				
Classification	2040 (E+C Projects)	2040 MTP	Difference	Percent Difference
Interstate	157,274	152,024	-5,250	-3.3%
Principal Arterial	169,752	165,159	-4,593	-2.7%
Minor Arterial	72,755	71,555	-1,200	-1.6%
Collector	61,709	61,559	-149	-0.2%
Total	461,491	450,298	-11,193	-2.4%
Daily Vehicle Hours of Delay				
Classification	2040 (E+C Projects)	2040 MTP	Difference	Percent Difference
Interstate	35,545	32,554	-2,991	-8.4%
Principal Arterial	41,619	35,397	-6,222	-15.0%
Minor Arterial	9,834	7,636	-2,198	-22.4%
Collector	8,228	8,255	27	0.3%
Total	95,226	83,841	-11,385	-12.0%

Note: E+C is future scenario with only Existing and Committed transportation projects.  
Source: Jackson Travel Demand Model, NSI

## Volume II: Roadways and Bridges



### 6.3 Fiscally Constrained Projects

#### Stage I (2016-2020)

Stage I is planned for improvement in the years 2016 to 2020. A list of projects is shown in Table 6.4. The planned improvements in Stage I are projected to cost **\$465.4 million** and will be funded with local, state, and federal funds. Project improvements consist of intersection improvements, new roadway construction, bridge replacements, roadway preservation, enhancements, and safety projects.

**Table 6.4 Jackson Urbanized Area MTP 2040 Staged Improvement Program - Stage I (2016-2020)**

ID	Route	Location	Improvement	Project Cost (\$000)
45	E. Metro Corridor	Cooper Rd. to Old Brandon Rd.	New 4 lane road	\$5,114
47	Hoy Rd.	Old Canton Rd. to W. Bradford Lane	Widen to 5, 4, 3 lanes	\$13,021
48	Old Canton Rd.	Main St. to St. Augustine Dr.	Widen to 3 lanes	\$4,080
49	Lake Harbour Dr. Extension	Hwy. 51 to Highland Colony Pkwy.	New 5 lane road	\$11,628
50	Pearl/Richland Intermodal Connector	Hwy. 49 to Pearson Rd.	New 4 lane road	\$12,769
51	MS. 477/West Rankin Pkwy.	Hwy. 80 to Hwy. 25	New 4 lane road	\$10,135
52	Hwy. 49	Florence to Scale Area	Widen to 6 lanes	\$94,537
53	Reunion Pkwy. Phase 3	Parkway East to Hwy. 51	New 2 lane road	\$8,976
54	Bozeman Rd.	Hwy. 463 to Gluckstadt Rd.	Widen to 5 lanes	\$19,169
56	Byram-Clinton Corridor	Siwell Rd. to Parks Rd.	New 4 lane road	\$17,942
57	Lakeland Dr. (MS 25)	MS 475 to Grants Ferry Rd	Widen to 6 lanes	\$42,360
--	Line Item	Various locations	Reconstruction	\$108,797
--	Line Item	Various locations	Maintenance	\$7,932
--	Line Item	Various locations	Safety	\$11,872
--	Line Item	Various locations	Enhancement	\$5,956
--	Line Item	Various locations	Overlay	\$68,046
--	Line Item	Various locations	Bridge replacement	\$23,064
	Norrell Rd. Interchange Improvements	I-20 at Norrell Rd.	Interchange	\$40,200*
Total Stage I				\$465,398

\*Note: Special funds have been identified for this project which are not part of the fiscally constrained plan

## Volume II: Roadways and Bridges



### Stage II (2021-2030)

Stage II is planned for improvement in the years 2021 to 2030. A list of projects is shown in Table 6.5. The planned improvements in Stage II are projected to cost **\$872 million** and represent improvements consisting of roadway widening, new roadway construction, bridge replacements, roadway preservation, enhancements, and safety projects.

**Table 6.5 Jackson Urbanized Area MTP 2040 Staged Improvement Program - Stage II (2021-2030)**

ID	Route	Location	Improvement	Length	Project Cost (\$000)
214	Lakeland Dr. (MS 25)	Grants Ferry Rd. to MS 471	Widen to 6 lanes	2.85	\$33,773
313	MS 18	Greenfield Rd. to Star Rd.	Widen to 4 lanes, RR overpass	3.45	\$22,083
421	Farmington Rd. Ext.	Old Fannin Rd. to MS 25	New 2 Lane roadway	3.40	\$21,810
420	Old Hwy 49	US 80 to US 49	Widen to 4 lanes	2.85	\$11,883
218	US 49	Main St. (Florence) to Star Rd.	Widen to 6 lanes	6.45	\$26,894
314	MS 18	Star Rd. to Mohr Rd.	Widen to 4 lanes	4.20	\$17,512
319	US 80	State St. to Pearson Rd.	Widen to 6 lanes	2.70	\$11,258
505	MS 468	MS 475 to MS 18	Widen to 4 lanes	6.50	\$27,102
211	US 51	MS 16 to Weisenberger Rd.	Widen to 4 lanes	7.60	\$31,688
307	US 51	Weisenberger Rd. to Tisdale Rd.	Widen to 5 lanes	2.30	\$9,590
422	Petros Rd.	Pearson Rd. to MS 469	New 4 lane divided roadway	4.50	\$51,959
320	Siwell Rd./Florence-Byram Rd.	I-55 to Cleary Rd.	Reconstruct as 4-lane toll road	4.75	\$54,845
405	Jackson West Pkwy.	Clinton Blvd. to McRaven Rd.	Widen to 6 lanes	3.20	\$65,173
--	Line Item	Various locations	Reconstruction	--	\$234,527
--	Line Item	Various locations	Maintenance	--	\$17,099
--	Line Item	Various locations	Safety	--	\$25,591
--	Line Item	Various locations	Enhancement	--	\$12,838
--	Line Item	Various locations	Overlay	--	\$146,682
--	Line Item	Various locations	Bridge replacement	--	\$49,717
Total Stage II					\$872,024

## Volume II: Roadways and Bridges



### Stage III (2031-2040)

Stage III is planned for improvement in the years 2031 to 2040. A list of projects is shown in Table 6.6. The planned improvements in Stage III are projected to cost **\$914.9 million** and represent improvements consisting of roadway widening, new roadway construction, roadway preservation, enhancements, and safety projects.

**Table 6.6 Jackson Urbanized Area MTP 2040 Staged Improvement Program - Stage III (2031-2040)**

ID	Route	Location	Improvement	Length	Project Cost (\$000)
215	MS 469	Monterey Rd. to MS 468	Widen to 4 lanes	4.10	\$20,839
210	Rice Rd.	Hoy Rd. to Old Canton Rd.	Widen to 5 lanes	4.10	\$20,839
206	Raymond Rd.	Siwell Rd. to McDowell Rd.	Widen to 4 lanes	2.55	\$12,961
312	Greenfield Rd.	MS 468 to MS 18	Widen to 4 lanes	3.30	\$16,773
112	East Brandon Bypass	MS 18 to US 80	New 4 lane divided roadway	3.20	\$45,040
501	Northside Dr.	Cynthia Rd. to Ridgewood Rd.	Widen to 4/6 lanes	9.30	\$47,269
318	Old Brandon Rd.	MS 475 to Crossgates Blvd.	Widen to 4 lanes	2.40	\$12,198
108	MS 463	Reunion Pkwy. to Madison Central Dr.	Widen to 5 lanes	2.70	\$13,723
118	Spillway Rd.	Northshore Pkwy. to Grants Ferry Rd.	Widen to 5 lanes	1.60	\$8,132
116	Old Brandon Rd	Bierdeman Rd. to Pemberton Dr.	Center turn lane	1.15	\$3,450
109	Reunion Pkwy.	Bozeman Rd. to Parkway East	New 4 lane divided roadway and I-55 interchange	1.20	\$51,296
213	Gunter Rd. Extension	US 49 to Cleary Rd.	New 2 lane roadway	3.10	\$24,240
506	MS 469	US 49 to Monterey Rd.	Widen to 4 lanes	3.80	\$19,314
205	Woodrow Wilson Ave.	Livingston Rd. to I-55	Widen to 6 lanes	1.80	\$20,096
103	Northside Dr.	Huntcliff Way to Cynthia Rd.	Widen to 5 lanes	1.75	\$8,895
212	Yandell Rd.	Parkway East to N Old Canton Rd.	Realign and widen to 4/5 lanes divided	3.35	\$25,120
306	South Wheatley St.	Lake Harbour Dr. to	Widen to 5 lanes	1.00	\$5,083

## Volume II: Roadways and Bridges

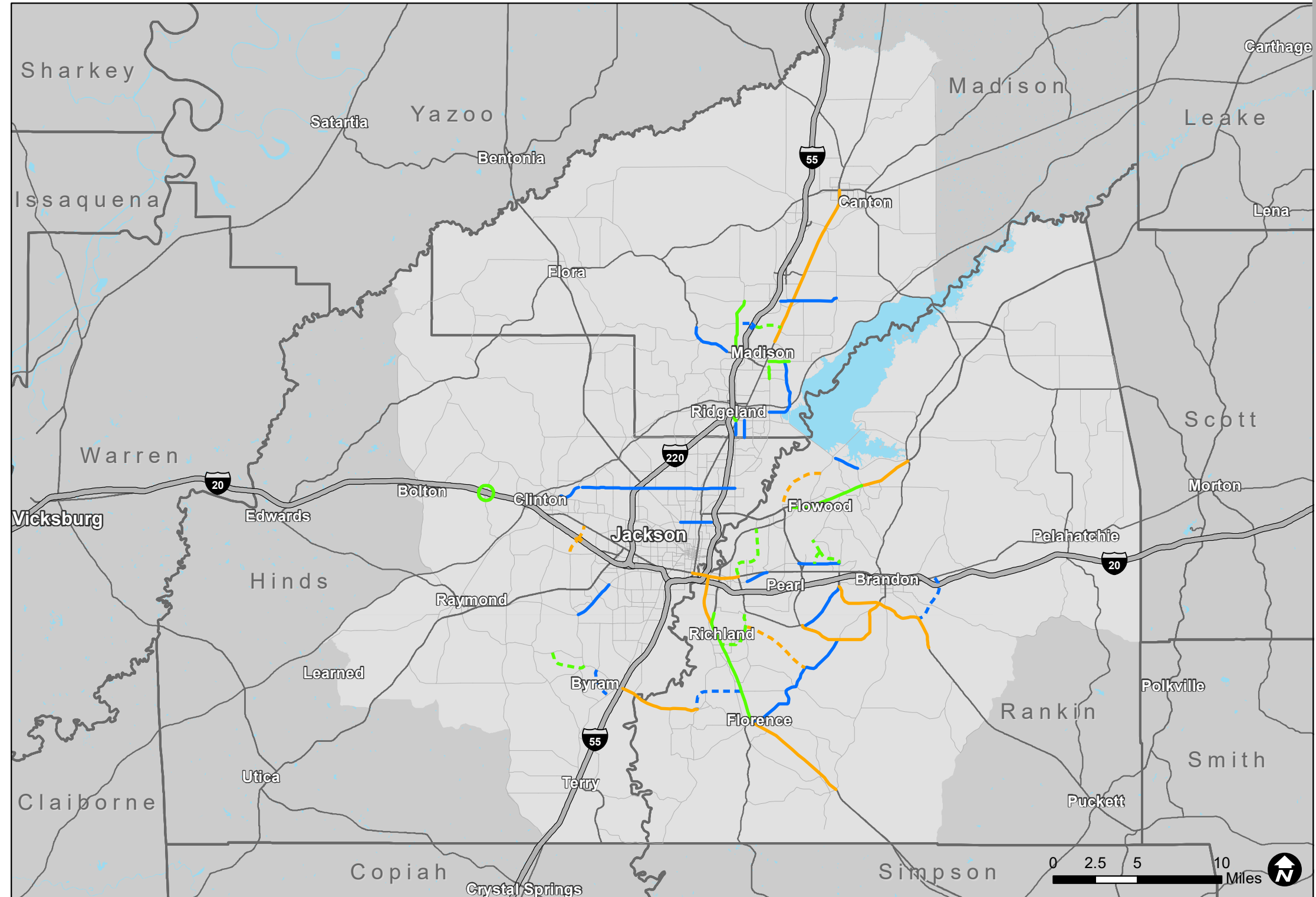


ID	Route	Location	Improvement	Length	Project Cost (\$000)
		County Line Rd.			
305	Ridgewood Rd.	US 51 to Centre St.	Widen to 5 lanes	0.65	\$3,304
402	Henderson Rd. Ext.	Siwell Rd. to Byram Pkwy.	New 4 lane divided roadway	1.35	\$19,001
--	Line Item	Various locations	Reconstruction	--	\$259,064
--	Line Item	Various locations	Maintenance	--	\$18,888
--	Line Item	Various locations	Safety	--	\$28,269
--	Line Item	Various locations	Enhancement	--	\$14,181
--	Line Item	Various locations	Overlay	--	\$162,028
--	Line Item	Various locations	Bridge	--	\$54,919
Total Stage III					\$914,922

# FIGURE 6.1 FISCALLY-CONSTRAINED ROADWAY CAPACITY PROJECTS



**2040**  
**MTP**



## Legend

- - - Stage I - New Roadway
- Stage I - Existing Roadway Improvement
- - - Stage II - New Roadway
- Stage II, Existing Roadway Improvement
- - - Stage III, New Roadway
- Stage III, Existing Roadway Improvement
- Interstates
- Secondary Roadways
- Other Major Roadways in MPO
- Metropolitan Planning
- Water Bodies
- Counties

Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.



## Volume II: Roadways and Bridges

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### *6.4 Visionary Projects*

The previous sections have addressed Stages I, II, and III's transportation improvements with identified funding sources; however, many other transportation improvements are needed. The Vision Plan identifies those necessary but unfunded transportation improvements.

The funded transportation improvements represent the best combination of transportation improvements within projected available funding to address existing transportation deficiencies. The remaining unfunded transportation improvements are no less important or effective; they just cannot be accommodated within the financially constrained budget. The estimated cost, in 2013 dollars, to implement these projects is \$1.3 billion.

Delayed funding for a transportation improvement project may be the result of the project's size, cost, design complexity, acquisition difficulties, jurisdictional concerns, and/or environmental concerns. A project may be delayed because its efficiency is minimized until other projects are completed or it does not alleviate existing transportation deficiencies that will only be exacerbated over time.

The remaining unfunded transportation improvements are included in the vision plan to keep a record of future needs. A list of vision plan projects is shown in Table 6.7. The vision projects are shown in Figure 6.2. Funding and implementation of the vision plan will have tremendous impact on the transportation network of the community.

## Volume II: Roadways and Bridges



**Table 6.7 Jackson Urbanized Area MTP 2040 Staged Improvement Program - Vision Needs**

ID	Route	Location	Improvement	Length	Project Cost (2013 \$,000)
303	I-55	Lakeland Dr. to Rankin County Line	Widen to 8 lanes	3.55	\$31,950
120	Airport Pkwy	I-55 to MS 475 & MS 25	New 4/6 lane roadway	10.00	\$200,000
219	I-220	I-20 to I-55	Widen to 6 lanes	10.50	\$94,500
208	I-55	MS 22 to MS 463	Widen to 6 lanes	10.20	\$91,800
119	I-20	Greenfield Rd. to US 80 east of Brandon	Widen to 6 lanes	4.70	\$42,300
202	I-55	Siwell Rd. to Covich County Line	Widen to 6 lanes	10.30	\$108,500
201	I-20	Clinton-Raymond Rd. to MS 18	Widen to 6 lanes	4.75	\$42,750
101	Byram-Clinton-Norrell Corridor	I-20 to Parks Rd.	New 4-lane roadway	12.75	\$114,750
403	Gary Dr. Ext.	Gary Rd. to Henderson Rd. Ext.	New 4 lane divided roadway	0.90	\$8,100
414	Welch Farms Rd.	MS 463 to Madison Ave.	New 4 lane divided roadway	0.70	\$6,300
111	Crossgates Blvd.	Old Brandon Rd. to I-20	Widen to 6-lane divided roadway	0.80	\$2,600
209	Colony Park Blvd.	Sunnybrook Rd. to US 51	New 4 lane divided roadway	1.35	\$12,150
304	Rice Rd.	US 51 to Old Canton Rd.	Widen to 5 lanes	1.55	\$5,037
106	Harbor Dr.	Lake Harbour Dr. north 0.35 miles	Widen to 4 lanes	0.35	\$1,137
216	Grants Ferry Rd.	Spillway Rd. to MS 25	Widen to 5 lanes	1.10	\$3,575
310	Green Acres Rd. Extension	King Ranch Rd. to Old Yazoo City Rd.	New 4-lane roadway and I-55 interchange	2.00	\$40,000
410	Endris Rd. Extension	N Old Canton Rd. to Rankin Rd.	New 4 lane divided roadway	4.65	\$41,850
417	Main St. (MS 469 - Florence)	Old Hwy 49 to US 49	Widen to 5 lanes	0.45	\$1,462
406	Metrocenter South Pkwy.	Lynch St. to Robinson Rd.	New 4 lane divided roadway and I-20 overpass	0.80	\$17,200
507	MS 469 Ext.	MS 468 to MS 18	New 4 lane divided roadway	2.25	\$20,250
602	Terry Rd.	Siwell Rd. to Gary Rd.	Widen to 5 lanes	0.90	\$2,925

## Volume II: Roadways and Bridges



ID	Route	Location	Improvement	Length	Project Cost (2013 \$,000)
604	US 80 (Brandon)	I-20W to I-20E	Center turn lane	3.00	\$9,000
104	W County Line Rd.	McLaurin Rd. to US 51	New 4 lane divided roadway and RR grade separation	0.10	\$10,000
416	MS 475	I-20 to MS 468	Widen to 6 lanes	2.45	\$12,452
301	Beasley Rd.	State St. to I-55	Widen to 5 lanes	0.65	\$2,112
302	Bullard St.	Boling Dr. to Woodrow Wilson Dr.	Reconstruct 4-lane divided roadway	1.35	\$4,387
308	Weisenberger Rd.	Gluckstadt Rd. to US 51	Widen to 5 lanes	0.60	\$1,950
316	MS 475	Old Brandon Rd. to I-20	Widen to 6 lanes	1.35	\$4,387
401	Byram Town Center Blvd.	Byram Pkwy. to Terry Rd.	New 4 lane divided roadway	0.40	\$3,600
409	East Sowell Rd.	N Old Canton Rd. to MS 43	New 4 lane divided roadway	2.50	\$22,500
411	Green Acres Rd. Extension	US 51 to MS 16	New 4 lane divided roadway	3.80	\$34,200
415	Steed St. Ext.	Sunnybrook Rd. to Wheatley St.	New 3 lane roadway	0.50	\$2,500
107	Madison Ave Phase 2	Highland Colony Pkwy to US 51	Widen to 4 lane divided	2.50	\$8,125
110	N Wheatley St. Extension	Madison Ave. to Ridgeland Ave.	New 4 lane divided roadway	1.50	\$13,500
115	Pirates Cove Rd. (Partial)	US 80 to MS 468	Widen to 4 lanes, New 2 lane and I-20 interchange	3.10	\$48,610
407	Williamson Rd.	Pinehaven Rd. to Arrow Dr.	New 4 lane divided roadway	1.80	\$16,200
504	Luckney Rd.	MS 471 to MS 25	Widen to 5 lanes	4.85	\$15,762
509	Florence-Byram Rd./W Main St.	Cleary Rd. to MS 469	Widen to 4 lanes	3.35	\$10,887
117	Grants Ferry Pkwy.	MS 471 to Trickham Bridge Rd.	New 4 lane divided roadway	2.85	\$25,650
217	Paige McDill Rd.	Trickham Bridge Rd. to US 80	Widen to 4 lanes	0.95	\$3,087
309	Hoy Rd.	Rice Rd. to N Old Canton Rd.	Widen to 5 lanes	1.10	\$3,575

## Volume II: Roadways and Bridges

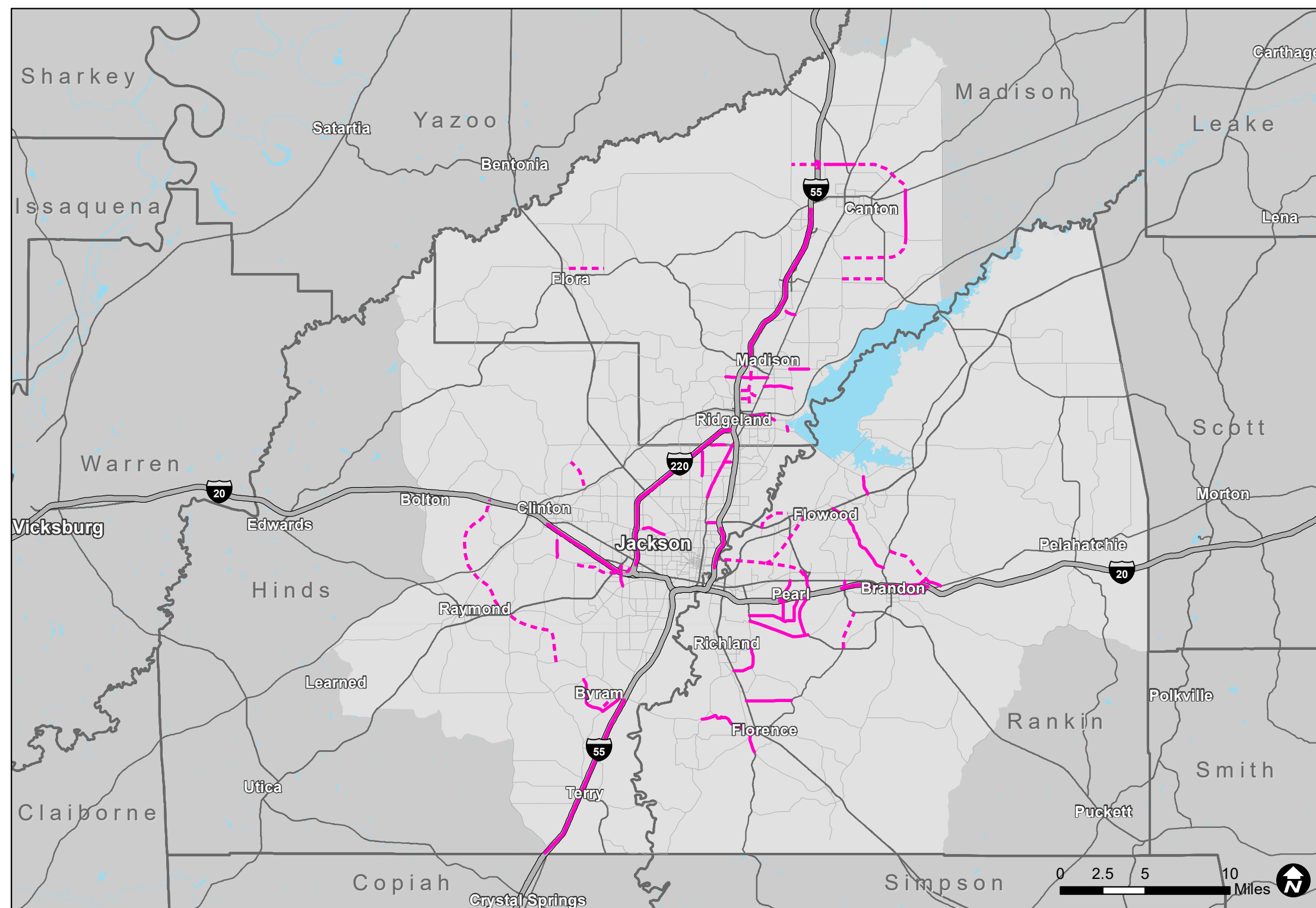


ID	Route	Location	Improvement	Length	Project Cost (2013 \$,000)
315	MS 468 (Pearl)	Deeb St. to MS 475	Widen to 4 lanes	2.95	\$9,587
408	Methodist Farm Rd.	I-220 to Northside Dr.	Widen to 4 lanes and I-220 interchange	1.00	\$25,250
102	Gary Rd.	Terry Rd. to Davis Rd.	Widen to 4 lanes	2.55	\$8,287
204	Robinson Rd.	MS 18 to Raymond Rd.	Widen to 4 lanes	1.25	\$4,062
207	Cox Ferry Rd.	Railroad Ave. to Cane Creek Rd. (Flora)	New 2 lane roadway	2.10	\$10,500
413	Hart Rd.	Rankin Rd. to MS 16	Widen to 4 lanes	2.70	\$8,775
418	Pearson Rd.- Monterey Rd.	US 49 to 0.4 miles north of E Harper Rd.	Widen to 4 lanes	2.65	\$8,612
603	Springridge Rd.	I-20 to McRaven Rd.	Center turn lane	1.45	\$4,350
311	MS 469	Main St. to Erlich Rd.	Widen to 4 lanes	1.20	\$3,900
508	Gunter Rd.	US 49 to MS 469	Widen to 4 lanes	2.60	\$8,450
601	Lakeland Dr.	Old Canton Rd. to I-55	Widen to 6 lanes	0.55	\$1,787
412	Green Acres Rd.	US 51 to King Ranch Rd.	Widen to 4 lanes	1.75	\$5,687
502	State St. (US 51)	Northside Dr. to E County Line Rd.	Widen to 6 lanes	3.35	\$10,888
503	St Augustine Dr.	US 51 to Rice Rd.	Widen to 4 lanes	1.60	\$5,200
203	Hanging Moss Rd.	County Line Rd. to Meadow Rd.	Widen to 4 lanes	1.85	\$6,012
404	Greenway Pkwy.	McRaven Rd. to Robinson Rd.	New 4 lane divided roadway/Widen to 4 lanes	2.85	\$17,887
105	W County Line Rd.	Floral Dr. to Brown St.	Widen to 4 lanes	0.70	\$8,350
419	Trickham Bridge Rd.	Paige McDill Rd. to US 80	Widen to 5 lanes	1.85	\$6,012
113	Old Whitfield Rd.	MS 468 to MS 475	Center turn lane	4.55	\$13,650
605	Liberty Rd. Ext.	Liberty Rd. to MS 15	New 2 Lane Roadway	2.05	\$10,250
Total Vision					\$ 1,319,116

# FIGURE 6.2 VISIONARY ROADWAY CAPACITY PROJECTS



**2040**  
**MTP**



## Legend

- Unfunded Project - Existing Roadway Improvement
- - - Unfunded Project - New Roadway
- Interstates
- Secondary Roadways
- Other Major Roadways in MPO
- Metropolitan Planning Area
- Water Bodies
- Counties

Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.