

**Joint Legislative Committee on Performance
Evaluation and Expenditure Review (PEER)**

Report to
the Mississippi Legislature



A Review of the Department of Transportation's Scheduling of Projects for Selected Highway Construction and Maintenance Programs

The Vision 21 Program, passed in the 2002 Regular Session of the Mississippi Legislature, is a \$3.6 billion highway construction program that upgrades existing highways or builds new highways where they are needed. The Vision 21 Program legislation requires the Mississippi Department of Transportation (MDOT) to let all projects contained in phases I, II, and III of the 1987 Four-Lane Highway Program prior to or concurrent with letting projects for the Vision 21 Program. State law also requires MDOT to prioritize all other Vision 21 projects based on a needs analysis, which includes determination of the year of need for each highway segment--i. e., the year that it will reach an unacceptable level of service and the volume to capacity ratio and daily traffic volume of each road segment. MDOT is required to review the priority schedule annually to determine whether it needs revision.

Prior to November 2008, MDOT did not “construct, upgrade, or improve” Vision 21 highway segments in accordance with such a schedule, but allocated funds to highway districts based primarily on traffic volume within each district. However, factors affecting the prioritization of highway construction projects (e. g., provisions in state law regarding the utilization of federal funds and acceleration of projects related to economic development) inhibit the department’s ability to advance highway construction projects purely on a statewide, needs-based priority system.

Regarding MDOT’s selection and funding of highway maintenance projects, the department collects quantifiable engineering data on the maintenance needs of highway segments. However, the department prioritizes highway maintenance projects by district and allocates funding based on total vehicle miles traveled within each district, rather than on the basis of statewide, prioritized maintenance needs. In contrast, the Department of Transportation uses a statewide, needs-based prioritization method to select state highway bridge replacement projects.

According to records provided by MDOT, the department used all but approximately \$105 million of the Emergency Relief funds received from the Federal Highway Administration on the construction and completion of Hurricane Katrina-related projects. The remaining approximately \$105 million in funds may be drawn upon to complete any remaining projects related to Hurricane Katrina.

PEER: The Mississippi Legislature's Oversight Agency

The Mississippi Legislature created the Joint Legislative Committee on Performance Evaluation and Expenditure Review (PEER Committee) by statute in 1973. A joint committee, the PEER Committee is composed of seven members of the House of Representatives appointed by the Speaker and seven members of the Senate appointed by the Lieutenant Governor. Appointments are made for four-year terms with one Senator and one Representative appointed from each of the U. S. Congressional Districts. Committee officers are elected by the membership with officers alternating annually between the two houses. All Committee actions by statute require a majority vote of four Representatives and four Senators voting in the affirmative.

Mississippi's constitution gives the Legislature broad power to conduct examinations and investigations. PEER is authorized by law to review any public entity, including contractors supported in whole or in part by public funds, and to address any issues that may require legislative action. PEER has statutory access to all state and local records and has subpoena power to compel testimony or the production of documents.

PEER provides a variety of services to the Legislature, including program evaluations, economy and efficiency reviews, financial audits, limited scope evaluations, fiscal notes, special investigations, briefings to individual legislators, testimony, and other governmental research and assistance. The Committee identifies inefficiency or ineffectiveness or a failure to accomplish legislative objectives, and makes recommendations for redefinition, redirection, redistribution and/or restructuring of Mississippi government. As directed by and subject to the prior approval of the PEER Committee, the Committee's professional staff executes audit and evaluation projects obtaining information and developing options for consideration by the Committee. The PEER Committee releases reports to the Legislature, Governor, Lieutenant Governor, and the agency examined.

The Committee assigns top priority to written requests from individual legislators and legislative committees. The Committee also considers PEER staff proposals and written requests from state officials and others.

PEER Committee
Post Office Box 1204
Jackson, MS 39215-1204

(Tel.) 601-359-1226
(Fax) 601-359-1420
(Website) <http://www.peer.state.ms.us>

The Mississippi Legislature

Joint Committee on Performance Evaluation and Expenditure Review

PEER Committee

SENATORS
GARY JACKSON
Vice Chair
CINDY HYDE-SMITH
Secretary
SIDNEY ALBRITTON
TERRY BROWN
MERLE FLOWERS
SAMPSON JACKSON
NOLAN METTETAL



REPRESENTATIVES
HARVEY MOSS
Chair
WILLIE BAILEY
ALYCE CLARKE
DIRK DEDEAUX
WALTER ROBINSON
RAY ROGERS
GREG WARD

Post Office Box 1204
Jackson, Mississippi 39215-1204

Max K. Arinder, Ph. D.

Executive Director

www.peer.state.ms.us

TELEPHONE:
(601) 359-1226

FAX:
(601) 359-1420

OFFICES:
Woolfolk Building, Suite 301-A
501 North West Street
Jackson, Mississippi 39201

January 30, 2009

Honorable Haley Barbour, Governor
Honorable Phil Bryant, Lieutenant Governor
Honorable Billy McCoy, Speaker of the House
Members of the Mississippi State Legislature

On January 30, 2009, the PEER Committee authorized release of the report entitled **A Review of the Department of Transportation's Scheduling of Projects for Selected Highway Construction and Maintenance Programs.**

A handwritten signature in cursive script that reads "Harvey Moss". The signature is written in black ink and is positioned above a horizontal line.

Representative Harvey Moss, Chair

This report does not recommend increased funding or additional staff.

Table of Contents

Letter of Transmittal	i
Executive Summary	vii
Introduction	1
Authority	1
Scope and Purpose	1
Method	2
Background	4
Statutory Authority and Responsibility of the Transportation Commission and Department of Transportation.....	4
MDOT's Authority and Responsibility for Prioritizing and Scheduling Highway Construction and Maintenance	9
The Department of Transportation's Revenues and Expenditures for State Fiscal Years 2007 and 2008	14
The Department of Transportation's Highway Construction Schedules and Funding Programs	17
Conclusions: MDOT's Management of the Vision 21 Program and Selection and Funding of Highway Maintenance and Bridge Projects	22
How MDOT Manages the Vision 21 Highway Construction Program	22
How MDOT Selects and Funds Highway Maintenance Projects.....	35
How MDOT Selects and Funds Bridge Replacement Projects	37
Conclusion: The Department of Transportation's Management of Hurricane Katrina Emergency Relief Fund Projects	41
Recommendations	43
Appendix A: MDOT's Organizational Chart as of June 30, 2008.....	45
Appendix B: Vision 21 Segments to Be Given Preference According to MISS. CODE ANN. Section 65-3-97 (4) (a) (1972)	46
Appendix C: Highway Construction Projects Classified as a Mid-Range or Long-Range Need in 2002 and That Are in or Have Completed the Design Phase.....	49

Table of Contents (continued)

Appendix D: Highway Construction Projects That are Not Yet in the Design Phase and Would Have Been Classified as an Immediate Need in 2002 55

Appendix E: MDOT's Significant Index Model for Bridge Assessment..... 63

Appendix F: Structural Condition of State Highway System Bridges Identified for Replacement as of June 30, 2008 64

Agency Response 67

List of Exhibits

1. MDOT’s Major Highway Programs..... 3

2. Mississippi Transportation Commission Districts
and MDOT Highway Districts 5

3. Terms Frequently Used in the Highway Construction Process..... 6

4. MDOT’s State FY 2007 and State FY 2008 Receipts and
Disbursements, by Funding Source 15

5. MDOT’s Construction Fund Allocations to Districts, FY 2007 through FY 2009..... 26

6. Summary of Status of Vision 21 Projects as of MDOT’s 2005 Schedule 29

7. Status of Hurricane Katrina Emergency Relief Fund Projects as of July 31, 2008 42

A Review of the Department of Transportation's Scheduling of Projects for Selected Highway Construction and Maintenance Programs

Executive Summary

Introduction

In conducting this review, PEER's primary goal was to determine whether the Mississippi Department of Transportation (MDOT) utilizes an objective and verifiable process for determining the immediate, mid-range, and long-range needs of Mississippi's highways and whether its scheduling of construction and maintenance is in concert with that process.

PEER sought to determine:

- whether MDOT has complied with the statutory implementation requirements for Vision 21;
- how MDOT selects projects for maintenance expenditures;
- how MDOT monitors the conditions of state highway bridges; and,
- how much federal Emergency Relief money MDOT received after Hurricane Katrina for Emergency Relief projects and what projects ultimately received these funds.

For purposes of this review, PEER evaluated only the highway construction and maintenance scheduling that MDOT oversees, which includes U. S. and state highway construction projects as well as interstate construction projects. This review did not include state aid projects, which consist of city and county roads and are defined by MDOT as roads that connect communities within individual counties and with adjoining counties and/or which also connect with the state highway system to form a complete network of secondary routes.

Although authority and responsibility of the Mississippi Transportation Commission and MDOT also include aeronautics, public transit, ports and waterways, and rail facilities, this report focuses exclusively on issues related to highways.

Statutory Authority and Responsibilities of the Transportation Commission and the Department of Transportation

MISS. CODE ANN. Sections 65-1-3 through 65-1-9 (1972) establish the Mississippi Transportation Commission as the governing body for the Mississippi Department of Transportation and give it authority to appoint an Executive Director to carry out the day-to-day operation of the department subject to the commission's orders and directions. The commission members are elected one each from the state's three Supreme Court districts.

MISS. CODE ANN. Section 65-1-2 (1972) establishes the Mississippi Department of Transportation. According to MDOT's FY 2007 Annual Report, the department's mission is to provide "a safe intermodal transportation network that is planned, designed, constructed and maintained in an effective, cost-efficient and environmentally-sensitive manner." MISS. CODE ANN. Section 65-1-2 (1972) designates the department as the single state agency to receive and expend funds from the federal government for transportation purposes.

MDOT's Authority and Responsibility for Prioritizing and Scheduling Highway Construction and Maintenance

State law establishes several prioritization mandates for the scheduling, construction, and maintenance of the state's highway system. These statutes require MDOT to prioritize projects based on criteria such as traffic volume in relation to road capacity, route continuity, public safety, and economic benefit.

Chapter 1 of Title 65 of the MISSISSIPPI CODE contains several sections requiring MDOT to prioritize highway projects and to communicate this information to the Legislature. Some of these sections apply to all MDOT highway projects, while other sections apply to specific highway programs such as the 1987 Four-Lane Highway Program.

Pages 9 through 14 of the report provide more detail on the statutory requirements for scheduling, construction, and maintenance of Mississippi's highways.

The Department of Transportation's Highway Construction Schedules and Funding Programs

Highway schedules show, by fiscal year, estimated costs of highway construction projects, the phases of those projects (e. g., design, right of way, or construction), the

scope of work (e. g., grading of road, replacement of bridge, reconstruction of road), and the sources of funding. The Department of Transportation maintains highway schedules funded through state revenue and five major federal sources. These schedules list all proposed, active, or upcoming highway projects, which are funded through the five programs over a period of up to six years. Projects must meet the federal program requirements in order to receive funding. Projects may receive funding through more than one program, but must meet the requirements of each program providing funding.

Pages 17 through 21 of the report provide more detailed information on the department's construction schedules and funding programs.

Conclusions: MDOT's Management of the Vision 21 Program and Selection and Funding of Highway Maintenance and Bridge Projects

How MDOT Manages the Vision 21 Highway Construction Program

MISS. CODE ANN. Section 65-3-97 (1972) requires that MDOT schedule Vision 21 highway construction projects in accordance with priorities determined by needs analyses conducted by the department and annually review such priority schedule to determine whether it needs revision. Prior to November 2008, MDOT did not “construct, upgrade, or improve” Vision 21 highway segments in accordance with such a schedule, but allocated funds to highway districts based primarily on traffic volume within each district. However, factors affecting the prioritization of highway construction projects (e. g., provisions in state law regarding the utilization of federal funds and acceleration of projects related to economic development) inhibit the department's ability to advance highway construction projects purely on a statewide, needs-based priority system.

MISS. CODE ANN. Section 65-3-97 (5) (a) (i) (1972) requires that MDOT schedule Vision 21 highway construction projects “in accordance with a priority schedule based upon a needs analysis” performed by the department. Over a three-year cycle, MDOT collects traffic volume data and calculates the volume/capacity ratio for highways under MDOT's authority. From this information, MDOT determines each Vision 21 highway's “year of need,” which is the year in which the level of service on a segment is projected to deteriorate to an unacceptable level.

Although the information collected could have been used as part of a statewide, needs-based method for prioritizing highway construction projects, prior to November 2008, the Mississippi Transportation Commission and Department of Transportation did not “construct, upgrade, or improve” highway segments in accordance with a statewide priority schedule based on a needs analysis. Instead, MDOT allocated funds to the highway districts based primarily on traffic volume within each district. According to MDOT, in November 2008, the department

changed its method of allocating construction funds from allocating funds to each district based on the number of vehicle miles traveled in each district to allocating the funds for construction projects based on a statewide needs-based priority list. From November 2008 through January 2009, no projects were allocated—either in accordance with the statewide needs-based priority system or with MDOT’s previously used method.

When the Vision 21 Program was created, MDOT continued some highway construction projects already in process in an attempt to meet the statutory requirements for such projects to be let no later than January 1, 2006. In some cases, this resulted in projects with a later year of need (as designated by MDOT) being accelerated ahead of projects with an earlier year of need.

Provisions of state law allow the Transportation Commission to adjust the sequencing of projects to maximize the utilization of funding or accommodate the relative requirement of each project. Other provisions allow the commission to consider economic development in establishing a priority schedule. As a result, highway construction projects with a lower priority may be advanced before projects with a higher priority. These are factors that the department has the flexibility to consider in an annual review of the schedule. However, these factors inhibit MDOT’s ability to advance highway construction projects purely on a statewide, needs-based priority system.

PEER found that the Transportation Commission has complied with MISS. CODE ANN. §65-3-97 (5) (e) (1972) by dedicating at least \$200 million annually in state and/or federal funds to Vision 21 projects.

How MDOT Selects and Funds Highway Maintenance Projects

MDOT collects quantifiable engineering data on the maintenance needs of highway segments. However, the department prioritizes highway maintenance projects by district and allocates funding based on total vehicle miles traveled within each district, rather than on the basis of statewide, prioritized maintenance needs.

In addition to pavement overlay, highway maintenance includes activities such as mowing, guardrail repair, litter cleanup, preventive maintenance (e. g., pothole and crack repair), and repairs related to earthslides.

In determining highway maintenance needs, MDOT collects scientific data as well as input from district engineers, representatives from the Federal Highway Administration, and employees of MDOT’s Maintenance and Research divisions. The department’s staff prepares a final maintenance list for each district based on the electronic and visual inspections and input from the above-noted individuals. However, rather than preparing a statewide

maintenance needs list, MDOT divides the maintenance needs list by district and allocates maintenance funds to each district based on total vehicle miles traveled in the district. Allocating maintenance funds based on total vehicle miles traveled rather than based on needs does not ensure that the state's highest priority maintenance needs are met.

How MDOT Selects and Funds Bridge Replacement Projects

The Department of Transportation uses a statewide, needs-based prioritization method to select state highway bridge replacement projects.

MDOT receives \$50 million each year in bridge replacement funds for state and national highway bridges. Of this total, \$40 million comes from federal funds and \$10 million comes from state-appropriated dollars.

MDOT's scientific, needs-based system of bridge replacement prioritization allows MDOT to track and address state bridge replacement needs from most critical to least critical. MDOT uses three key indicators to help plan, evaluate, and prioritize the state's bridge replacement needs: the sufficiency rating, the structural rating, and the Significant Index Model.

According to PEER's analysis of the MDOT state highway system bridge inventory, MDOT has 455 bridges with a sufficiency rating of below 50, which qualifies them for Federal Highway Bridge Replacement and Rehabilitation Program funds. Of these 455 bridges, 107 have a structural rating that identifies them as a high priority for corrective action or replacement.

According to MDOT personnel, the cost in today's dollars to replace all of the state highway system bridges that are in need of replacement would be approximately \$975 million; therefore the department cannot fully address the number of state highway system bridges in need of repair, rehabilitation, or replacement. If the condition of some of the bridges with a sufficiency rating of 50 or less is not addressed, MDOT may have to post warning signs or possibly close some bridges.

According to the Federal Highway Administration, MDOT could use program funds such as Surface Transportation Program, National Highway, Maintenance funds, and state funds to apply to bridge replacement projects as long as the bridge selected is included in a highway project that qualifies for those funds. According to MDOT officials, this course of action is followed whenever possible and MDOT also utilizes Interstate Maintenance funds for bridge replacement where appropriate. Further, if bridge replacement funds or other federal funds are not available, MDOT uses state funds to replace or rehabilitate unsafe bridges on a case-by-case basis.

Conclusion: The Department of Transportation's Management of Hurricane Katrina Emergency Relief Fund Projects

According to records provided by MDOT, the department used all but approximately \$105 million of the Emergency Relief funds received from the Federal Highway Administration on the construction and completion of Hurricane Katrina-related projects. The remaining approximately \$105 million in funds may be drawn upon to complete any remaining projects related to Hurricane Katrina.

As of March 6, 2006, MDOT was allocated \$1.013 billion in Emergency Relief funds for highway projects related to Hurricane Katrina. In August 2007, MDOT received an additional \$20 million in Emergency Relief funds for a total federal allocation of \$1.033 billion to be used for projects related to Hurricane Katrina. As of June 30, 2008, MDOT had expended approximately \$928 million of the \$1.033 billion allocated to the department for the reconstruction and completion of Hurricane Katrina-related highway projects.

Exhibit 7, page 42 of the report, provides a list of all Emergency Relief fund projects and total expenditures for each.

Recommendations

1. In accordance with MISS. CODE ANN. §65-3-97 (1972), MDOT should continue with its stated intention to construct roadways in accordance with a priority schedule based upon a needs analysis performed by MDOT. However, should projects that exceed priority established by needs analysis be moved forward, the Transportation Commission should provide an explanation in the minutes as to why the project warrants an increase in priority, such as analysis of restrictions associated with federal funding, receipt of congressional earmarks, acceleration due to an economic development project, or a comparison of needs-based data. This information should be considered before approval of the priority change and entered into the minutes once approved by the Transportation Commission.
2. MDOT should allocate maintenance funds for the rehabilitation and overlay of highways based on a statewide, needs-based priority system. Each highway district should continue to receive and expend maintenance funds for non-overlay maintenance needs (e. g., mowing, guardrail repair, and litter cleanup) in a manner determined by highway district officials.

For More Information or Clarification, Contact:

PEER Committee
P.O. Box 1204
Jackson, MS 39215-1204
(601) 359-1226
<http://www.peer.state.ms.us>

Representative Harvey Moss, Chair
Corinth, MS 662-287-4689

Senator Gary Jackson, Vice Chair
Kilmichael, MS 662-262-9273

Senator Cindy Hyde-Smith, Secretary
Brookhaven, MS 601-757-3086

A Review of the Department of Transportation's Scheduling of Projects for Selected Highway Construction and Maintenance Programs

Introduction

Authority

The PEER Committee reviewed the Mississippi Department of Transportation's scheduling of projects for selected highway construction and maintenance programs (i. e., Vision 21, maintenance, bridge replacement, and the Hurricane Katrina Emergency Relief fund).¹ PEER conducted the review pursuant to the authority granted by MISS. CODE ANN. Section 5-3-57 et seq. (1972).

Scope and Purpose

In conducting this review, PEER's primary goal was to determine whether the Mississippi Department of Transportation (MDOT) utilizes an objective and verifiable process for determining the immediate, mid-range, and long-range needs of Mississippi's highways and whether its scheduling of construction and maintenance is in concert with that process.

PEER sought to determine:

- whether MDOT has complied with the statutory implementation requirements for Vision 21;
- how MDOT selects projects for maintenance expenditures;
- how MDOT monitors the conditions of state highway bridges; and,
- how much federal Emergency Relief money MDOT received after Hurricane Katrina for Emergency Relief projects and what projects ultimately received these funds.

¹ See Exhibit 1, page 3, for brief descriptions of the 1987 Four-Lane, Gaming Roads, and Vision 21 highway construction programs. See Exhibit 3, page 6, for a glossary of terms frequently used in the highway construction process.

For purposes of this review, PEER evaluated only the highway construction and maintenance scheduling that MDOT oversees, which includes U. S. and state highway construction projects as well as interstate construction projects. This review did not include state aid projects, which consist of city and county roads and are defined by MDOT as roads that connect communities within individual counties and with adjoining counties and/or which also connect with the state highway system to form a complete network of secondary routes.

Although authority and responsibility of the Mississippi Transportation Commission and MDOT also include aeronautics, public transit, ports and waterways, and rail facilities, this report focuses exclusively on issues related to highways.

Method

In conducting this review, PEER:

- reviewed state laws relating to MDOT's management of highway construction and maintenance;
- reviewed state laws relating to the 1987 Four-Lane and Vision 21 programs;
- reviewed how MDOT schedules highway construction and maintenance;
- analyzed the components of the Vision 21 Program;
- reviewed the components of federal highway programs such as the National Highway System Program, Surface Transportation Program, Highway Bridge Program, Highway Safety Improvement Program, and Interstate Maintenance Program;
- analyzed the expenditure of Emergency Relief funds received by MDOT from the federal government after Hurricane Katrina;
- interviewed personnel of MDOT, the Federal Highway Administration (FHWA), and the U. S. Department of Transportation; and,
- analyzed MDOT's sources of revenue.

Exhibit 1: MDOT's Major Highway Programs

The **1987 Four-Lane Highway Program**, also referred to as the Advocating Highways for Economic Advancement and Development (A.H.E.A.D.) Program, was created through legislation passed during the 1987 Regular Session. MDOT's goal at the inception of the program was that every Mississippian would be linked to a four-lane highway within thirty miles or thirty minutes. The program was estimated to cost \$1.6 billion and expected to build 1,077 miles of four-lane highways over a fourteen-year period. The 1987 legislation required the highways to be built in three phases, based primarily on vehicle count and road capacity. Each phase had a mileage goal and an estimated cost.

In 1994, the Legislature added a fourth phase to the 1987 Four-Lane Highway Program with passage of H.B. 1302 during its Regular Session. (This bill also created the Gaming Roads Program, as discussed below.)

Through legislation passed in the 2002 Regular Session, the Legislature made extensive modifications to the 1987 Four-Lane Highway Program, resulting in what MDOT refers to as its **Vision 21 Program**. According to MDOT's FY 2005 annual report, the Vision 21 Program is a \$3.6 billion "pay-as-you-go" program that upgrades existing highways or builds new highways where they are needed. The Vision 21 Program legislation requires MDOT to let all projects contained in phases I, II, and III of the 1987 Four-Lane Highway Program prior to or concurrent with letting projects for the Vision 21 Program. The law further requires MDOT to prioritize all other Vision 21 projects (which includes all unfinished Phase IV projects from the 1987 Four-Lane Highway Program and projects in the Gaming Roads Program, as well as new "Vision 21" projects) based on a needs analysis, which includes determination of the year of need for each highway segment--i. e., the year that it will reach an unacceptable level of service and the volume to capacity ratio and daily traffic volume of each road segment. MDOT is required to review the priority schedule annually to determine whether it is in need of revision. (See MISS. CODE ANN. Section 65-3-97 [1972].)

The **Gaming Roads Program** was created through legislation passed in 1994 to improve highway access to Mississippi counties where legalized gaming is being conducted or is authorized. The legislation directed MDOT to conduct feasibility studies and, based on those studies, to select routes and locations, perform preliminary engineering work, and construct and/or reconstruct and improve existing or new highways, roads, streets and bridges, including improvements to intersections. The legislation also mandated the inclusion of several specific highway improvement projects in the Gaming Roads Program and authorized the issuance of state general obligation bonds and the creation of a Gaming Counties Bond Sinking Fund for the purpose of funding projects carried out under the program. (See MISS. CODE ANN. Section 65-39-1 through 65-39-37 [1972].)

*MDOT was known as the Mississippi Highway Department at the time the 1987 Four-Lane Highway Program was adopted.

SOURCE: MISSISSIPPI CODE ANNOTATED and Mississippi Department of Transportation's 1987 Four-Lane Highway Program/Vision 21 Annual Report issued June 30, 2005.

Background

Statutory Authority and Responsibility of the Transportation Commission and Department of Transportation

Statutory Authority and Responsibility of the Transportation Commission

MISS. CODE ANN. Sections 65-1-3 through 65-1-9 (1972) establish the Mississippi Transportation Commission as the governing body for the Mississippi Department of Transportation and give it authority to appoint an Executive Director to carry out the day-to-day operation of the department subject to the commission's orders and directions. (See Exhibit 2, page 5, for a map of the Mississippi transportation districts.)

According to MISS. CODE ANN. Section 65-1-8 (1) (1972), the commission members, one elected from each of the three Supreme Court districts of the state, are responsible for carrying out the following general powers, duties, and responsibilities:

- (a) *To coordinate and develop a comprehensive, balanced transportation policy for the State of Mississippi;*
- (b) *To promote the coordinated and efficient use of all available and future modes of transportation;*
- (c) *To make recommendations to the Legislature regarding alterations or modifications in any existing transportation policies;*
- (d) *To study means of encouraging travel and transportation of goods by the combination of motor vehicle and other modes of transportation;*
- (e) *To take such actions as are necessary and proper to discharge its duties pursuant to the provisions of Laws, 1992, Chapter 496, and any other provision of law;*
- (f) *To receive and provide for the expenditure of any funds made available to it by the Legislature, the federal government, or any other source.*

See Exhibit 2, page 5, for a map of the transportation districts.

Exhibit 2: Mississippi Transportation Commission Districts and MDOT Highway Districts*

Legend

Northern Trans. Dist.

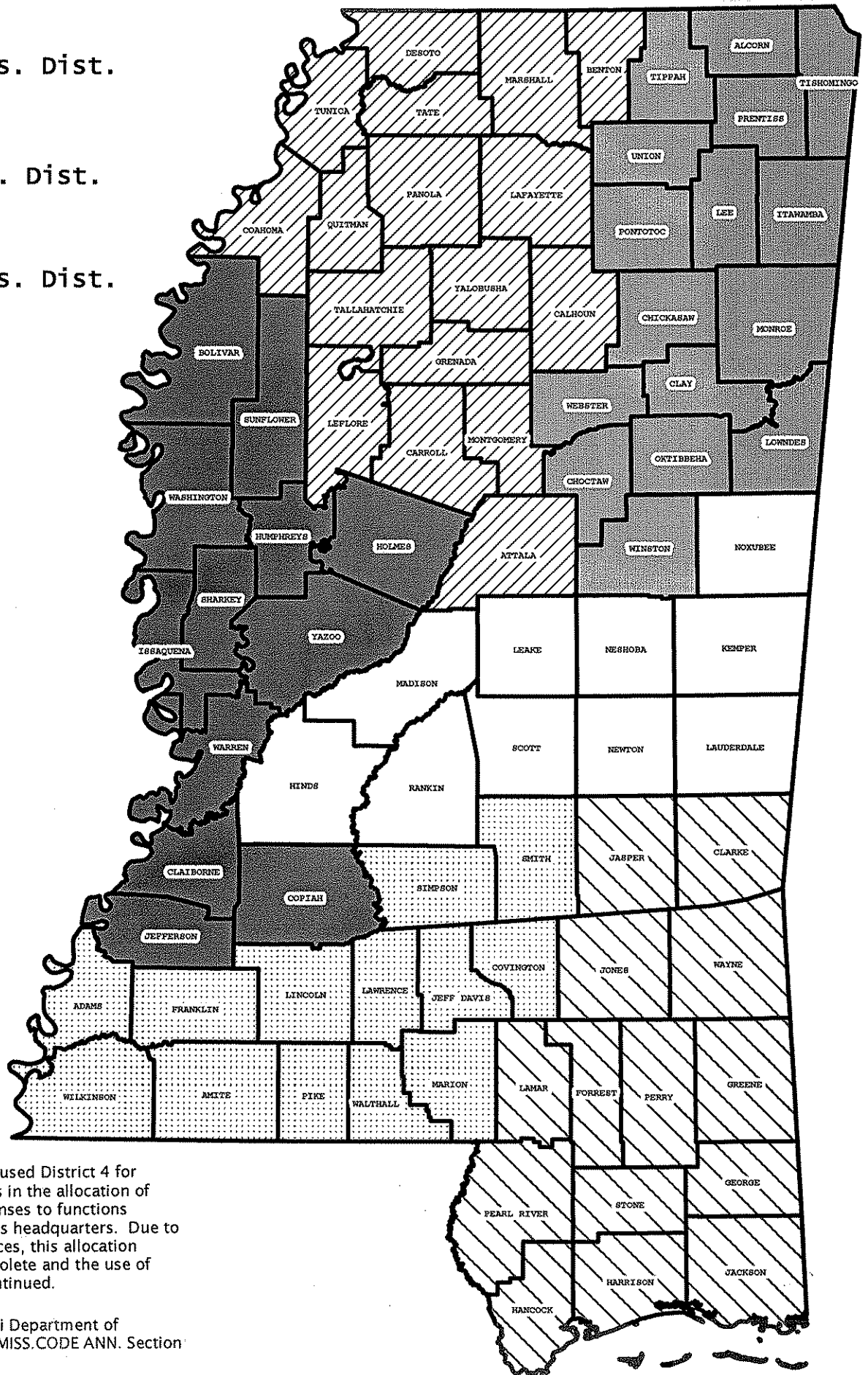
- MDOT District 1
- MDOT District 2

Central Trans. Dist.

- MDOT District 3
- MDOT District 5

Southern Trans. Dist.

- MDOT District 6
- MDOT District 7



*At one time, MDOT used District 4 for accounting purposes in the allocation of project-related expenses to functions conducted at MDOT's headquarters. Due to technological advances, this allocation process became obsolete and the use of District 4 was discontinued.

SOURCE: Mississippi Department of Transportation and MISS.CODE ANN. Section 65-1-3 (1972).

As noted on page 2, although the commission's authority and responsibility extend to all modes of transportation--including aeronautics, highways, public transit, ports and waterways, and rail facilities--this report focuses exclusively on issues relating to highways.

Exhibit 3: Terms Frequently Used in the Highway Construction Process

Term	Definition
Average Annual Daily Traffic (AADT)	The total volume of traffic on a highway segment for one year, divided by the number of days in the year.
Level of Service	A standard measurement used by transportation officials that reflects the relative ease of traffic flow on a scale of A to F, with free-flow being rated LOS-A and congested conditions rated as LOS-F.
Safety Project (Highway Safety Improvement Project)	A project described in the state strategic highway safety plan that corrects or improves a hazardous road location or feature or addresses a highway safety problem.
Schedule	A document that shows, by fiscal year, estimated costs of highway construction projects, the phases of those projects (e. g., design, right of way, or construction), the scope of work (e. g., grading of road, replacement of bridge, reconstruction of road), and the sources of funding.
Vehicle Miles Traveled (VMT)	The total number of vehicle miles traveled within a specific geographic area over a given period of time.
Volume/Capacity (V/C) Ratio	The V/C ratio is a measurement of roadway travel performance. It is calculated by dividing the demand flow rate by the capacity for a traffic facility. The demand flow rate is the number of vehicles passing a point on a lane or roadway during some time interval. The capacity is the maximum rate of flow of the roadway under ideal conditions. The V/C ratio is typically measured in critical peak hours.
Year of Need	The year in which the level of service on a roadway segment is projected to deteriorate to an unacceptable level.

SOURCE: MDOT; MISSISSIPPI CODE ANNOTATED, 23 U. S. C. Section 148 (a) (3); U.S. Department of Transportation Federal Highway Administration website (<http://www.fhwa.dot.gov>) Planning Glossary; and PEER analysis.

Statutory Authority and Responsibility of the Department of Transportation

MISS. CODE ANN. Section 65-1-2 (1972) establishes the Mississippi Department of Transportation. According to MDOT's FY 2007 Annual Report, the department's mission is to provide "a safe intermodal transportation network that is planned, designed, constructed and maintained in an effective, cost-efficient and environmentally-sensitive manner." Also, according to this report, the department has established the following seven goals that "guide its many initiatives and projects:"

Improve accessibility and mobility for Mississippi's people, commerce, and industry.

Ensure high standards of safety in the transportation system.

Maintain and preserve Mississippi's transportation system.

Ensure that system development is sensitive to human and natural environment concerns.

Provide a transportation system that encourages and supports Mississippi's economic development.

Create effective transportation partnerships and cooperation that enhance awareness of the needs and benefits of an intermodal system.

Provide a sound financial basis for the transportation system.

MISS. CODE ANN. Section 65-1-2 (1972) designates the department as the single state agency to receive and expend funds from the federal government for transportation purposes.

Organization of MDOT

The department is composed of five offices:

- The *Office of Administrative Services* provides oversight of budget development and administrative support within the MDOT Central Offices.
- The *Office of Highways* is comprised of multiple sections that oversee the design and construction of the highways within the state of Mississippi.
- The *Office of State Aid Road Construction* administers Mississippi's State Aid Road Program to assist counties in the construction and

maintenance of secondary, non-state-owned roads and bridges.

- The *Office of Intermodal Planning* includes the operating divisions of all modes of transportation in Mississippi, with the exception of highways. The primary mission of this office is to ensure quality of life and economic development by providing support for a well-planned, comprehensive, coordinated, and sustainable intermodal transportation network that guarantees safety, access, and mobility.
- The *Office of Enforcement* regulates commercial vehicles to ensure their safe, efficient, and legal operation on the highways of Mississippi.

See Appendix A, page 45, for an organizational chart of the Department of Transportation.

Each of the three Transportation Commission districts is divided into two highway districts, each with a district office and a district engineer to oversee the day-to-day operation of that district and its construction and maintenance. (See Exhibit 2, page 5, for a map of the six highway districts.)

Duties and Responsibilities of the Chief Engineer/Deputy Director

The Chief Engineer/Deputy Director is the chief technical officer for MDOT and is responsible for supervising the three Assistant Chief Engineers, the Director of Programming, the Director of Transportation Information, and the six district engineers. The Chief Engineer/Deputy Director is also responsible for the development and execution of all technical policies and procedures and acts for the Executive Director in the Executive Director's absence.

Duties and Responsibilities of the District Engineers

The responsibilities of the district engineers include:

- directing all highway engineering-related programs in the district;
- directing the planning, prioritization, and implementation of highway construction, maintenance, and bridge replacement programs in the district;
- implementing the interstate construction and rehabilitation program;

- selecting and working with engineering consultants and land surveyors in the district to ensure that projects are completed;
- working with other MDOT divisions and the Transportation Commission to develop and direct long-term planning and goals for the district;
- working with elected and appointed officials to determine transportation safety and mobility needs;
- monitoring highway matters or concerns in the district and reporting the concerns to the chief engineer; and,
- planning and monitoring the district's financial resources for each fiscal year and working with the Office of Highways to coordinate projects in accordance with funding levels.

By having district engineers to oversee the districts, MDOT ensures that it has a field representative who oversees a particular area of the state on a daily basis. District engineers also coordinate construction projects for the district and inform the central administrative office in Jackson of any highway concerns or problems that may be present in their districts.

MDOT's Authority and Responsibility for Prioritizing and Scheduling Highway Construction and Maintenance

State law establishes several prioritization mandates for the scheduling, construction, and maintenance of the state's highway system. These statutes require MDOT to prioritize projects based on criteria such as traffic volume in relation to road capacity, route continuity, public safety, and economic benefit.

Chapter 1 of Title 65 of the MISSISSIPPI CODE contains several sections requiring MDOT to prioritize highway projects and to communicate this information to the Legislature. Some of these sections apply to all MDOT highway projects, while other sections apply to specific highway programs such as the 1987 Four-Lane Highway Program.

General Authority and Responsibility for Prioritizing and Scheduling Highway Projects and Reporting this information to the Legislature and other Public Officials

MISS. CODE ANN. Section 65-1-141 (1) (a) (1972) requires the Transportation Commission to annually “prepare a three-year plan for the maintenance, construction, reconstruction and relocation of the State Highway System.” The plan must include a list and detailed description of highways or highway segments determined to have the highest priority for maintenance, construction, reconstruction, or relocation, for which project funds are available or estimated to be available during the three-year period. The plan must also include a synopsis of any analyses or studies considered by the commission to develop the criteria used in determining the priorities. Specifically with regard to criteria, MISS. CODE ANN. Section 65-1-141 (1) (b) (1972) mandates:

The Highway Commission shall determine the criteria on which the Highway Department shall assign priority for maintenance, construction, reconstruction and relocation of highways, or segments thereof, on each highway or road system under its jurisdiction, taking into consideration the following criteria:

- (i) Public necessity and public safety;*
- (ii) Present and future economic benefit and commercial value;*
- (iii) Present and future traffic census; and*
- (iv) Route continuity.*

The CODE section further directs the Transportation Commission to consider also potential public safety hazards at points on highways having substantial truck traffic entering and leaving the highway. MISS. CODE ANN. Section 65-1-141 (1) (c) (1972) directs the University Research Center to develop and provide to the Transportation Commission highway needs analyses or studies with respect to the economic criteria set forth in subsection (1) (b) (ii) above.

MISS. CODE ANN. Section 65-1-141 (2) (1972) requires MDOT to expend all funds appropriated and made available to it “from any source within the state for maintenance, construction, reconstruction and relocation of the state highway system” according to the priorities established pursuant to this CODE section. This section also sets forth a second set of prioritization criteria that apply to secondary road construction. Specifically, MISS. CODE ANN. Section 65-1-141 (2) (e) (1972) sets forth the following criteria for prioritizing secondary roads:

(i) Roads in the order of the relative use and importance of such highways, as may be determined by the present and future traffic censuses thereof, taking into consideration their present and future use, convenience, public necessity and public safety, the connecting of Mississippi towns, cities and population centers and economic contribution to the state should a specific highway be improved, the recorded maintenance expense and their continuity as highways through the state.

(ii) Roads which carry the most traffic.

(iii) Roads which connect the federal aid primary or interstate system in a uniform manner.

(iv) Roads which serve the most commercial value.

(v) Roads which are arterial in nature.

(vi) Roads which connect the major rural communities with similar communities in adjoining counties.

MISS. CODE ANN. Section 65-1-143 (1972) requires construction to begin on the prioritized roads “at the point on each segment having the greatest traffic congestion.”

MISS. CODE ANN. Section 65-1-149 (1972) requires the Transportation Commission to file a detailed annual report by January 15 of each year showing, by county, the construction and maintenance work in progress, the cost of each project, and specific contract-related information as detailed in the law. The law requires MDOT to file this report with the Governor, Department of Finance and Administration, Secretary of the Senate, Clerk of the House of Representatives, and each member of the House and Senate requesting a copy. In addition to the annual report just described, MISS. CODE ANN. Section 65-1-149 (1972) requires MDOT to present a report on projected projects for the next three years by January 15 of each year to the Senate Highways and Transportation Committee and to the House Transportation Committee. The projects included in the report must be “outlined in detail sufficient enough to facilitate an accurate assessment of such projects by such committees.”

MISS. CODE ANN. Section 65-1-153 (1) (1972) states that no appropriation shall be made to MDOT until the department supplies the Legislature with a “detailed program of the work to be accomplished during the fiscal year for which such appropriation will be made.” Subsection (2) requires MDOT to furnish in writing to specified members of the Legislature notification of any necessary changes to the

program after its adoption, the reasons for changes, and recommendations for substitute projects.

Specific Authority and Responsibility for Prioritizing and Scheduling Four-Lane Highway Program Projects

MISS. CODE ANN. Section 65-3-97 (1972) sets forth prioritization requirements for the state's 1987 Four-Lane Highway Program. The statute requires MDOT to construct highway segments specified in each of the first three phases of the 1987 Four-Lane Highway Program in strict accordance with a legislated schedule for project completion. The statute requires MDOT to construct, upgrade, or improve all other 1987 Four-Lane Highway Program construction projects specified in MISS. CODE ANN. Section 65-3-97 (1972) (which includes projects from Phase IV of the 1987 Four-Lane Highway Program, the Gaming Roads Program and the Vision 21 Program) "and other highway construction under its jurisdiction" in accordance with a priority schedule based upon a needs analysis performed by MDOT:

. . .The priority schedule shall be reviewed annually by the Department of Transportation to determine if the priority schedule is in need of revision. The analytic methods and procedures utilized by the Mississippi Department of Transportation to perform the needs analysis shall conform to current standards and practices of the transportation sciences and industry as promulgated in appropriate documentation of the United States Department of Transportation, the Transportation Research Board, the American Association of Highway and Transportation Officials, and other recognized and relevant bodies. Such conforming methodologies shall be applied utilizing considerations appropriate to the specific situation and may include capacity analysis, traffic counting, traffic projection, cost estimation, benefit-cost analysis, user cost analysis, land use projections and similar analyses and projections, so that all analyses are completed with the best tools available at the time of the analysis. The Transportation Commission may establish and publish standards for setting the priorities and in so doing shall consider other factors, not in violation of federal law, as the Transportation Commission may consider relevant, including, but not limited to, economic development, safety and

highways that may serve as hurricane evacuation routes.

The first determinant for construction of highway segments shall be the year of need. "Year of need" for purposes of this section is the year in which the level of service on a segment is projected to deteriorate to an unacceptable level. For segments with the same year of need, prioritization shall be based on the volume to capacity ratio and the daily traffic volume. In the event that the Transportation Commission deviates from the recommended priorities presented through the needs analysis, the commission shall spread the specific reasons for the deviation on its minutes. The priority schedule shall reflect immediate needs which shall be construction, upgrades and improvements to the state highway system needed over a five-year period based upon the criteria established in this paragraph which shall be reviewed annually by the Mississippi Department of Transportation. The priority schedule shall project mid-range needs which shall include highway corridors that are projected to reach an unacceptable level of service within ten (10) years after each annual review of the priority schedule. The priority schedule shall project long-range needs which shall include highway corridors that are projected to reach an unacceptable level of service ten (10) years or more after each annual review of the priority schedule.

MISS. CODE ANN. Section 65-3-97 (5) (b) (1972) requires the Transportation Commission to present its priority schedule to the Highways and Transportation Committee of the Senate and the Transportation Committee of the House of Representatives on or before October 1 of each year. This section requires MDOT to follow the schedule until later modified based on the criteria established in the law. MISS. CODE ANN. Section 65-3-97 (5) (c) (1972) directs the Transportation Commission to begin letting projects based upon the prioritized schedule of need not later than January 1, 2006, but gives the commission the flexibility to adjust the sequencing of projects "as may be required in order to maximize the utilization of available funding or to accommodate the relative requirement of each individual project." Also, MISS. CODE ANN. Section 65-3-97 (5) (f) through (h) (1972) lists specific projects for the Transportation Commission and MDOT to consider as immediate, mid-range, and long-range needs when establishing its initial priority schedule for this program. Further, under MISS. CODE ANN. Section 65-3-97 (4) (a)

(1972), selected highway segments within the Vision 21 Program were to be given preference over other Vision 21 projects with the same level of service (i. e., year of need). (See Appendix B, page 46.)

The Department of Transportation's Revenues and Expenditures for State Fiscal Years 2007 and 2008

MDOT receives funds from both federal and state sources. The department's federal revenue sources are appropriations made by Congress and the state revenue sources, which are appropriated by the Mississippi Legislature, include fuel taxes, other taxes and fees, and interlocal proceeds. MDOT expends federal and state revenues to construct and maintain the state's highway system.

MDOT's Revenues for State Fiscal Years 2007 and 2008

As shown in Exhibit 4, page 15, MDOT received a total of approximately \$1.46 billion in state FY 2007, of which approximately \$487 million (33%) was from state funds. Approximately \$974 million (67%) was from federal funds.

MDOT received a total of approximately \$1.2 billion in state FY 2008, of which approximately \$464 million (39%) was state funds. Approximately \$736 million (61%) was from federal funds.

MDOT received approximately \$261 million less in state FY 2008 than in state FY 2007 due primarily to a reduction from state FY 2007 to state FY 2008 in the amount of Hurricane Katrina-related Emergency Relief funds and other funds MDOT received from the federal government. (See pages 41-42 for additional information on MDOT's use of Emergency Relief funds.)

Description of Federal Revenue Sources

MDOT receives the majority of its federal funds through the Federal Highway Administration. MDOT also receives federal funds from other sources such as the Federal Transit Administration. Mississippi's share of the total Federal-Aid Highway Program is approximately 1.2% of the total federal taxes collected for highways.

The state's share of Federal-Aid Highway Program funds is deposited into the Federal Highway Trust Fund, where the funds are held for reimbursement of expenditures by the state for costs of eligible transportation projects, including

highway projects. MDOT is authorized to obligate a predetermined amount of money established by Congress each year to its federal highway programs such as National Highway, Surface Transportation, Bridge Replacement, and Safety. MDOT is reimbursed at least 80% of the cost of eligible projects by the Federal Highway Administration out of the Federal Highway Trust Fund.

Exhibit 4: MDOT's State FY 2007 and State FY 2008 Receipts and Disbursements, by Funding Source*

Statement of Receipts and Disbursements			
For the Fiscal Year Ended June 30, 2007 and Fiscal Year Ended June 30, 2008			Increase/Decrease from Previous State FY
	FY 2007	FY 2008	
Cash Balance	<u>\$44,398,544</u>	<u>\$50,056,760</u>	12.70%
Receipts:			
Fuel Tax	\$306,953,229	\$303,998,157	-0.96%
Federal Funds	974,048,995	735,813,805	-24.46%
Truck & Bus Taxes/Fees	65,332,717	65,548,402	0.33%
Lubricating Oil Tax	1,042,238	1,023,922	-1.76%
Contactors Tax	3,584,295	1,912,472	-46.64%
Tag Fees	14,990,489	14,813,139	-1.18%
Commercial Vehicle Fees	368,482	1,848,029	401.52%
Interlocal Proceeds	37,500,786	26,926,553	-28.20%
Interest	7,161,957	8,655,650	20.86%
Other Receipts	<u>50,173,092</u>	<u>39,673,240</u>	-20.93%
Total Receipts	\$1,461,156,280	\$1,200,213,369	-17.86%
General Funds	<u>\$0</u>	<u>\$200,000</u>	
Funds Available for Fiscal Year 2007 and 2008	<u>\$1,505,554,824</u>	<u>\$1,250,470,129</u>	-16.94%
Disbursements:			
Salaries, Wages & Fringe Benefits	\$139,882,650	\$153,412,936	9.67%
Travel	2,603,072	2,900,746	11.44%
Contractual Services	121,683,200	122,305,912	0.51%
Commodities	32,122,032	37,131,268	15.59%
Capital Outlay:			
Equipment	13,194,740	10,744,568	-18.57%
Other than Equipment**	964,019,000	741,723,541	-23.06%
Subsidies, Loans & Grants	<u>96,993,370</u>	<u>101,831,348</u>	4.99%
Repayment of Commercial Paper	<u>85,000,000</u>	<u>\$0</u>	
Total Disbursements	\$1,455,498,064	\$1,170,050,319	-19.61%
Cash Balance as of June 30, 2007 and 2008	<u>\$50,056,760</u>	<u>\$80,419,810</u>	60.66%

*Receipts included federal Hurricane Katrina Emergency Relief funds of \$388,101,603 in State FY 2007 and \$252,246,408 in State FY 2008. Disbursements included \$419,069,126 in Hurricane Katrina-related expenditures in State FY 2007 and \$226,724,027 in Hurricane Katrina-related expenditures in State FY 2008.

** Primarily consists of payments to contractors to construct scheduled highway projects and expenditures for acquisition of land for right-of-way.

SOURCE: Mississippi Department of Transportation.

In addition to the federal funds authorized under the Federal-Aid Highway Program, MDOT may also receive authorization to expend extraordinary federal Emergency Relief funds such as the funds for Hurricane Katrina-related projects (see page 41) as well as federal funds

earmarked by Congress for a particular construction project.

Description of State Revenue Sources

The Mississippi Legislature provides funding to MDOT through special funds derived from motor fuel taxes and other fees. Mississippi has a fuel tax of 18.4 cents per gallon. Under current state law, MDOT receives approximately 70 percent of total fuel taxes. According to MDOT's FY 2007 Annual Report, the department "is also funded through receipts derived from other dedicated state taxes such as truck and bus fees, which include the truck and bus privilege tax, weight and size permits, and trip permits; a contractor's tax of 3.5 percent assessed on certain highway construction contracts; \$5 per vehicle tag registration fee; a lubricating oil tax; and interest income."

MDOT receives these special funds as an appropriation from the Legislature each state fiscal year and MDOT uses them to pay for construction and maintenance projects' initial cost until federal reimbursement is received from the Federal Highway Administration. State revenue sources may be used in combination with federal funds to construct and maintain state highways or may be used to construct highway projects that do not qualify for federal reimbursement.

MDOT's Expenditures for State Fiscal Years 2007 and 2008

Excluding salaries, wages, and fringe benefits, MDOT expends the majority of its funds in three major areas:

- contractual services;
- capital outlay (other than equipment); and,
- subsidies, loans, and grants.

The largest sub-category of contractual service expenditures is for engineering services. Other large sub-categories of contractual service expenditures include utility relocation for highway projects and repairs and services for highways, bridges, and buildings. Capital outlay expenditures primarily consist of payments to the contractors to construct the scheduled highway projects and acquisition of land needed to begin construction of the scheduled highway projects. Subsidies, loans, and grant expenditures primarily consist of payments to the Office of State Aid Road Construction for projects involving county and local roads and bridges, payments for debt service on highway projects, and payments for public transit.

PEER notes that approximately \$192 million of the approximately \$223 million decrease in capital outlay expenditures from 2007 to 2008, shown in Exhibit 4, was due to a reduction of federal reimbursement in Emergency Relief funding for Hurricane Katrina-related projects (see page 41).

The Department of Transportation's Highway Construction Schedules and Funding Programs

Highway schedules show, by fiscal year, estimated costs of highway construction projects, the phases of those projects (e. g., design, right of way, or construction), the scope of work (e. g., grading of road, replacement of bridge, reconstruction of road), and the sources of funding. The Mississippi Department of Transportation maintains highway schedules funded through state revenue and five major federal sources. These two highway schedules list all proposed, active, or upcoming highway projects, which are funded through the five programs over a period of up to six years. Projects must meet the federal program requirements in order to receive funding. Projects may receive funding through more than one program, but must meet the requirements of each program providing funding.

The two main highway schedules are the Statewide Transportation Improvement Program (STIP) and a schedule of proposed projects, updated and presented to the Legislature annually, which is currently entitled "Visions A.H.E.A.D. for Mississippi: Schedule of Proposed Projects for Fiscal Years 2009-2014" (dated January 15, 2008). The five major funding programs are the Surface Transportation, the National Highway System, Interstate Maintenance, Highway Bridge, and Highway Safety Improvement. MDOT also receives congressional earmarks for specific projects and Emergency Relief funds for disasters, but these sources are not consistent and are not considered to be major funding sources. Descriptions of each type of highway schedule and funding program used by MDOT are included in the following sections.

Highway Schedules Used by MDOT

MISS. CODE ANN. Section 65-1-141 (1972) requires MDOT to prepare annually a three-year plan for the maintenance, construction, reconstruction, and relocation of the State Highway System. Compliance with this requirement is met through the above-mentioned schedule, "Visions

A.H.E.A.D. for Mississippi: Schedule of Proposed Projects for Fiscal Years 2009-2014.”

23 U. S. C. Section 135 requires each state to develop a statewide transportation plan and a Statewide Transportation Improvement Program for all areas of the state. Federal regulations require that the Statewide Transportation Improvement Program (STIP) present a financially constrained schedule of projects that will be implemented during the period covered by the plan (four years in Mississippi). According to 23 C. F. R. Section 450.216 (m), “financial constraint” means that the STIP must show how it will spend the money each year and include:

. . . sufficient financial information to demonstrate which projects are to be implemented using current and/or reasonably available revenues, while federally-supported facilities are being adequately operated and maintained.

Statewide Transportation Improvement Program

The Statewide Transportation Improvement Program, required by federal law (23 U. S. C. Section 135), serves as the framework for the development of the state’s transportation system, according to the plan. The STIP details most planned transportation improvement activities and expenditures for the state of Mississippi for a four-year period (normally excluding details on certain safety projects, most Emergency Relief projects, and most planning and research activities). It is organized by Transportation Commission district and county and shows the length of each project, the phase of work that each project will be entering (by fiscal year), and the estimated cost and funding source of each project (by fiscal year).

The STIP includes the Transportation Improvement Plans (TIPs) required by 23 U. S. C. Section 134 for Metropolitan Planning Organizations (MPOs). Federal law requires the establishment of an MPO for each urbanized area, which is defined as an area with a population greater than 50,000. According to this definition, there are four urbanized areas in the state: Jackson, the Gulf Coast, Hattiesburg, and the northern portion of DeSoto County. (The DeSoto County area is part of the Memphis, TN, MPO.) These MPOs receive federal funds from the Surface Transportation Program (discussed in the following section) that are applied toward projects designated in the TIP.

MDOT's Annual Schedule of Proposed Projects Submitted to the Legislature

MDOT annually prepares a six-year proposed schedule for the maintenance, construction, and relocation of the state maintained highway system. The Transportation Commission has adopted the following criteria that it uses to assign priorities for the maintenance and construction programs:

- public necessity and safety;
- present and future economic benefit and commercial value;
- present and future traffic census; and,
- route continuity.

The development of the plan is based on an estimate of local, state, and federal revenues, available and anticipated.

Federal Highway Funding Programs Used by MDOT

MDOT obtains federal funding for its construction and maintenance projects primarily through the following programs:

- Surface Transportation;
- National Highway System;
- Interstate Maintenance;
- Highway Bridge; and,
- Highway Safety Improvement.

The federal government regulates each of these programs, including the types of projects eligible for funding and the federal share of funding. The state must plan and allocate funds for current and future federally funded projects within these guidelines. Projects may receive funding from more than one source, depending on whether they qualify based on the criteria set by federal regulations.

Additional funds are received through congressional earmarks and Emergency Relief funds. However, MDOT does not consistently receive funds through these sources and therefore these sources are not considered to be major funding sources. Following are brief descriptions of the funding programs.

Surface Transportation Program

Surface Transportation Program (STP) funds may be used for projects on any Federal-Aid highway, including the National Highway System (NHS), bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities. Projects eligible for this funding source in Mississippi include selected projects within the 1987 Four-Lane Highway Program, the Gaming Roads Program, and the Vision 21 Program. The federal share of funding for STP projects is generally 80 percent, subject to a sliding scale adjustment. When STP funds are used for interstate projects to add high occupancy vehicle or auxiliary lanes, but not other lanes, the federal share may be 90 percent, also subject to the sliding scale adjustment. Certain safety improvements listed in 23 U. S. C. Section 120 (c) have a federal share of 100 percent.

National Highway System

National Highway System (NHS) funds are used for improvements to rural and urban roads that are part of the NHS, including the interstate system and designated connections to major intermodal terminals. The federal share of funding for NHS projects is generally 80 percent, subject to a sliding scale adjustment. When NHS funds are used for interstate projects to add high occupancy vehicle or auxiliary lanes, but not other lanes, the federal share may be 90 percent, also subject to the sliding scale adjustment. Certain safety improvements listed in 23 U. S. C. Section 120 (c) have a federal share of 100 percent.

Interstate Maintenance Program

The Interstate Maintenance Program provides funding for resurfacing, restoring, rehabilitating, and reconstructing most routes on the interstate system. According to MDOT officials, all interstate routes in Mississippi are eligible for the Interstate Maintenance Program. The federal share of funding for Interstate Maintenance Program projects is 90%, subject to the sliding scale adjustment (or up to 100% for certain safety improvements). MDOT uses state funds to pay for maintenance work on roads off of the interstate system.

Highway Bridge Program

The Highway Bridge Program provides funding to enable states to improve the condition of their highway bridges through replacement, rehabilitation, and systematic preventive maintenance. The program requires each state to set aside not less than 15 percent of the amount of federal funds apportioned to it in each fiscal year 2005 through 2009 for local bridges--i. e., bridges not on a

federal-aid highway. The federal funding for these projects is 80%, subject to the sliding scale adjustment (or up to 90% for bridges on the interstate system, subject to the sliding scale adjustment).

Highway Safety Improvement Program

Highway Safety Improvement Program (HSIP) funds may be used to carry out any highway safety improvement project on any public road or publicly owned bicycle or pedestrian pathway or trail. Also, any state with a strategic highway safety plan can use up to 10% of its HSIP funds for a fiscal year to carry out other safety projects, provided that the state certifies that it has met its needs related to railway-highway crossings and has met its infrastructure safety needs relating to highway safety improvement projects. The federal share of funding for HSIP projects is 90% (or 100% for certain safety improvements).

Congressional Earmarks

Congressional earmarks are funds appropriated and designated by Congress for specific projects. Congressional earmarks may wholly fund or partially fund the targeted project. According to MDOT officials, congressional earmarks usually do not include sufficient funds for the specified projects and state or local entities must contribute additional funds to complete the earmarked project and other projects necessitated by the earmarked project.

Emergency Relief Funds

In the event of a disaster, MDOT may receive Emergency Relief funds. Although Emergency Relief funds may be substantial (e. g., MDOT has been allocated approximately \$1 billion since August 2005 in Emergency Relief funds related to Hurricane Katrina), these funds are not a consistent source of revenue and may only be used for projects related to the disaster.

Conclusions: MDOT’s Management of the Vision 21 Program and Selection and Funding of Highway Maintenance and Bridge Projects

How MDOT Manages the Vision 21 Highway Construction Program

MISS. CODE ANN. Section 65-3-97 (1972) requires that MDOT schedule Vision 21 highway construction projects in accordance with priorities determined by needs analyses conducted by the department and annually review such priority schedule to determine whether it needs revision. Prior to November 2008, MDOT did not “construct, upgrade, or improve” Vision 21 highway segments in accordance with such a schedule, but allocated funds to highway districts based primarily on traffic volume within each district. However, factors affecting the prioritization of highway construction projects (e. g., provisions in state law regarding the utilization of federal funds and acceleration of projects related to economic development) inhibit the department’s ability to advance highway construction projects purely on a statewide, needs-based priority system.

Statutory Requirements for Prioritization of Vision 21 Projects Based on a Needs Analysis

MISS. CODE ANN. Section 65-3-97 (5) (a) (i) (1972) requires that MDOT schedule Vision 21 highway construction projects “in accordance with a priority schedule based upon a needs analysis” performed by the department.

PEER believes that in selecting and funding highway construction projects, the commission and MDOT should consider the entirety of transportation needs for the state.

As noted on page 4, state law gives the Transportation Commission responsibility for coordinating and developing a “comprehensive, balanced transportation policy for the State of Mississippi” (MISS. CODE ANN. Section 65-1-8 [1972]). Therefore, PEER believes that in selecting and funding highway construction projects, the commission and MDOT should consider the entirety of transportation needs for the state. As far back as 1981, with passage of H. B. 1383 during the regular session, the Legislature directed the Transportation Commission and the Department of Transportation to expend funds on the basis of state needs as a whole, not on the basis of geographic distribution. Also, MISS. CODE ANN. Section 65-1-112 (1972) states:

No funds provided to the state highway fund shall be expended on a set division of such funds by district, but shall be expended on the basis of state needs as a whole.

While in subsequent years the Legislature directed that certain roads be built on a schedule (e. g., the 1987 Four-

Lane Highway Program), the language contained in the 2002 amendments to the 1987 Four-Lane Highway Program reasserts a legislative policy of basing highway construction decisions on the basis of statewide needs.

When establishing the highway segments that comprise the Vision 21 Program, the Legislature required a needs-based priority system for highway construction projects after the remaining projects related to the 1987 Four-Lane Highway Program were in process or completed. MISS. CODE ANN. §65-3-97 (5) (a) (i) (1972) states:

The Transportation Commission shall construct, upgrade or improve the segments described in paragraphs (f), (g) and (h) of this subsection [Vision 21 projects], the projects described in Section 65-39-1 [Gaming Roads projects] and other highway construction under its jurisdiction, in accordance with a priority schedule based upon a needs analysis performed by the Mississippi Department of Transportation.

The above-referenced CODE section also states:

The priority schedule shall be reviewed annually by the Department of Transportation to determine if the priority schedule is in need of revision. The analytic methods and procedures utilized by the Mississippi Department of Transportation to perform the needs analysis shall conform to current standards and practices of the transportation sciences and industry as promulgated in appropriate documentation of the United States Department of Transportation, the Transportation Research Board, the American Association of Highway and Transportation Officials, and other recognized and relevant bodies. Such conforming methodologies shall be applied utilizing considerations appropriate to the specific situation and may include capacity analysis, traffic counting, traffic projection, cost estimation, benefit-cost analysis, user cost analysis, land use projections and similar analyses and projections, so that all analyses are completed with the best tools available at the time of the analysis. The Transportation Commission may establish and publish standards for setting the priorities and in so doing shall consider other factors, not in violation of federal law, as the Transportation Commission may consider relevant, including, but not limited to, economic development, safety and

highways that may serve as hurricane evacuation routes. The first determinant for construction of highway segments shall be the year of need. "Year of need" for purposes of this section is the year in which the level of service on a segment is projected to deteriorate to an unacceptable level. For segments with the same year of need, prioritization shall be based on the volume to capacity ratio and the daily traffic volume. In the event that the Transportation Commission deviates from the recommended priorities presented through the needs analysis, the commission shall spread the specific reasons for the deviation on its minutes.

Language in this section directing that the department annually review the priority schedule to determine whether it needs revision contemplates that the department may find it necessary to make changes or adjustments in the schedule.

How MDOT Prepares Its Priority Schedule for Vision 21 Highway Construction Projects

Over a three-year cycle, MDOT collects traffic volume data and calculates the volume/capacity ratio for highways under MDOT's authority. From this information, MDOT determines each Vision 21 highway's "year of need," which is the year in which the level of service on a segment is projected to deteriorate to an unacceptable level.

A highway's year of need is calculated by using historical traffic growth patterns to project future traffic volume and determining the year in which the projected traffic volume exceeds a highway's capacity.

MDOT prepares a statewide priority schedule for Vision 21 projects that lists each Vision 21 project's volume/capacity ratio² and year of need. Over a three-year cycle, MDOT collects traffic volume data and calculates the volume/capacity ratio for the highways under MDOT's authority. A highway's year of need, which is the year in which the level of service on a segment is projected to deteriorate to an unacceptable level, is calculated by using historical traffic growth patterns to project future traffic volume and determining the year in which the projected traffic volume exceeds a highway's capacity. As part of this process, district engineers provide input regarding factors such as new schools, economic development, or changes in local traffic patterns that might not have been captured during the collection of traffic data.

After calculating the volume/capacity ratio and year of need, projects are categorized within five-year horizons. Projects with a year of need within five years are classified

² A highway with a volume/capacity ratio above 1.0 is being used beyond its year of need.

as “Immediate Needs.” Projects with a year of need within ten years are classified as “Mid-Range” needs, and projects with a year of need beyond ten years are classified as “Long-Range Needs.” MDOT produces a new statewide priority listing for Vision 21 every four to five years.

How MDOT Selects and Funds Vision 21 Highway Construction Projects

Although MDOT collects information that could have been used for a statewide, needs-based method for prioritizing highway construction projects, prior to November 2008, the Mississippi Transportation Commission and Department of Transportation did not “construct, upgrade, or improve” highway segments in accordance with a statewide priority schedule based on a needs analysis.

Although the above-described process of scheduling highway projects is based on needs analyses, prior to November 2008, MDOT did not use this priority schedule as its primary method for allocating construction funds used in the Vision 21 Program.

MDOT’s Method Prior to November 2008

Prior to November 2008, the Mississippi Transportation Commission and Department of Transportation did not “construct, upgrade, or improve” highway segments in accordance with a statewide priority schedule based on a needs analysis. Although MDOT collected information that could have been used for a statewide, needs-based system for prioritization, the department did not utilize this information to allocate construction funds. Instead, MDOT allocated funds to the highway districts based primarily on traffic volume within each district.

Prior to November 2008, although MDOT officials made slight adjustments to the allocation of construction funds, each district received a share of highway construction funds approximating that district’s percentage of total vehicle miles traveled.

As described previously, MDOT collects information for the Vision 21 Program that would be necessary to build a statewide, needs-based priority system (i. e., volume/capacity ratio and year of need). However, prior to November 2008, MDOT did not use the information the department collected regarding highway needs as the primary determining factor in its selection of highway construction projects for the state. Instead, MDOT allocated highway construction funds (excluding bridge rehabilitation and replacement funds, interstate maintenance, Highway Safety Improvement Projects, and other allocated Surface Transportation Program funds) to the state’s six highway districts based primarily on the number of vehicle miles traveled within each district. (See Exhibit 2, page 5, for a map of the six MDOT highway districts.) Although MDOT officials made slight adjustments to the allocation of construction funds due to extenuating circumstances regarding District 1 not having

interstate designated roads qualifying for access to Interstate Maintenance Funds, after these adjustments were made, each district received a share of highway construction funds approximating that district's percentage of total vehicle miles traveled. (See Exhibit 5, page 26, for the amount of funds allocated to each district for FY 2008.)

Rather than following a statewide, needs-based priority schedule, district engineers determined their districts' needs based on volume/capacity ratio, traffic volume, their knowledge of the districts, and input from local officials and citizens.

Rather than following a statewide, needs-based priority schedule, district engineers determined their districts' needs based on volume/capacity ratio, traffic volume, their knowledge of the districts, and input from local officials and citizens. The construction projects they selected may have included safety, Vision 21, or non-Vision 21 projects. After selecting projects for their districts, district engineers worked with MDOT officials in the Programming and Budgeting Office to determine whether federal funding sources (such as NHS and STP) and matching state funds were available for the proposed projects and whether the projects met eligibility requirements of the funding sources.

Exhibit 5: MDOT's Construction Fund Allocations to Districts, FY 2007 through FY 2009 (in millions)^

District*	2007	2008	2009	Total	Percentage
1	\$ 31.3	\$ 45.5	\$ 43.5	\$ 207.3	19%
2	26.2	38.0	36.4	173.4	16%
3	15.2	22.0	21.1	100.5	9%
5	36.9	53.6	51.3	244.4	23%
6	38.5	55.8	53.5	254.8	24%
7	15.2	22.1	21.2	100.9	9%
Total	\$163.3	\$237.0	\$227.0	\$1,081.3	100%

^ FY 2009 figures represent the expected allocation to districts based on vehicle miles traveled. Under a statewide needs-based system implemented by MDOT in November 2008, the amounts received by each district are likely to be different.

* At one time, MDOT used District 4 for accounting purposes in the allocation of project-related expenses to functions conducted at MDOT's headquarters. Due to technological advances, this allocation process became obsolete and the use of District 4 was discontinued.

SOURCE: MDOT.

The allocation of construction funds to districts based primarily on total vehicle miles traveled within each district limited the effectiveness of the department in addressing the state's highway construction needs because funds were not allocated based on a prioritized *statewide* needs-based system. Although district engineers considered needs-based priorities of highway segments

within their own districts, a district's highway construction needs might differ from the proportion of total vehicle miles traveled in that district. MDOT might fund a project within District A while a project with a higher need in District B would not be funded. This method of selecting projects and distributing funds for highway construction projects fragmented the overall construction schedule for the state into six individual construction schedules limited by the amount of funds based on traffic volume within each district.

A district's highway construction needs might differ from the proportion of total vehicle miles traveled in that district.

As noted on page 13, state law provides the department with the opportunity to consider factors such as requirements for utilization of federal funds or projects related to economic development in its priorities for highway construction (see additional discussion on such factors on pages 30 through 33).

MDOT's Change of Method in November 2008

According to MDOT, in November 2008, the department changed its method of allocating construction funds from allocating funds to each district based on the number of vehicle miles traveled in each district to allocating the funds for construction projects based on a statewide needs-based priority list.

PEER notes that the change occurred during fieldwork for this report and was prompted by MDOT management's reassessment of the previous allocation method. From November 2008 through January 2009, no projects were allocated—either in accordance with the statewide needs-based priority system or with MDOT's previously used method described on page 25.

MDOT's Efforts to Meet Statutory Deadlines for Letting Vision 21 Projects

When the Vision 21 Program was created, MDOT continued some highway construction projects already in process in an attempt to meet the statutory requirements for such projects to be let no later than January 1, 2006. In some cases, this resulted in projects with a later year of need (as designated by MDOT) being accelerated ahead of projects with an earlier year of need.

Senate Bill 2058, 2002 Regular Session, which created the Vision 21 Program (and was later in part codified as MISS. CODE ANN. Section 65-3-97 [5] [c] [1972]), stated:

The Transportation Commission shall begin letting projects based upon the prioritized schedule of need not later than January 1, 2006. . . .

According to MDOT officials, the three and one-half years (i. e., from Senate Bill 2058's July 1, 2002, effective date to the January 1, 2006, statutory deadline for letting projects

on a prioritized schedule) was not a sufficient length of time to complete preliminary engineering and right of way acquisition for projects initiated after passage of Senate Bill 2058.

MDOT begins many projects with the knowledge that delays will prevent some projects from being ready in a timely manner and with the goal that enough projects will be ready for letting to utilize available funds.

MDOT officials have stated that the preliminary engineering phase (which includes all environmental studies and highway design) and acquisition of right of way take approximately six years if no difficulties are discovered (such as finding an endangered animal, endangered plant, or archeological site along the proposed route). In the event of a delay, the length of the delay is dependent on the circumstances and specific facts of each situation. During the right of way phase, difficulties relating to obtaining property from recalcitrant landowners and moving utilities can lead to additional delays. As a result, MDOT begins many projects with the knowledge that delays will prevent some projects from being ready in a timely manner and with the goal that enough projects will be ready for letting to utilize available funds.

After passage of Senate Bill 2058, MDOT proceeded with preliminary engineering and right of way acquisition on Vision 21 projects already in process through earlier programs. MDOT continued projects with years of need ranging from five years or less, which denotes an "Immediate Need," to projects with a year of need beyond 2030, which denotes a "Long-Range Need." (See Exhibit 6, page 29, and Appendix C, page 49, for information as of December 31, 2008, on currently active projects that were advanced in 2002.)

MDOT officials stated that projects with years of need beyond five years were advanced to ensure that enough projects were available to utilize available federal funding, continue activities on the Gaming Roads Program, and utilize congressional earmarks.

MDOT officials stated that projects with years of need beyond five years were advanced to ensure that enough projects were available to utilize available federal funding, continue activities on the Gaming Roads Program, and utilize congressional earmarks. MDOT officials also communicated that MDOT continued the projects in process due to the department's belief that once a route for a proposed highway has been identified and surveyed, that the property owner has been permanently damaged and the project should be completed. PEER would note it is legally possible to discontinue a project even after acquisition of right of way, although such a decision would not be popular among citizens.

Exhibit 6, page 29, summarizes the status of Vision 21 projects as of December 31, 2008. Appendix C, pages 49 through 54, shows the location of the fourteen projects that are in or have completed the design phase, but their year of need was mid-range or long-range in 2002 when the project was advanced. Appendix D, pages 55 through 62, shows the location of the twenty-three projects with a year of need of 2007 or earlier that are not yet in the design phase.

Exhibit 6: Summary of Status of Vision 21 Projects as of MDOT's 2005 Schedule[^]

Classification*	Year of Need Range	Number of Projects	Number In or Completed Design Phase	Number In or Completed ROW Phase	Construction Begun or Scheduled to begin by 12/31/08
Immediate Need	2007 or before	65	42	15	8
Mid-Range Need	2008 - 2012	13	4	3	1
Long-Range Need	2013 and Beyond	176	10	6	3
		254	56	24	12

[^] See Appendix C, page 49, for additional information concerning the fourteen projects with Mid-Range and Long-Range needs.

* Classification is based on a July 1, 2002, date and uses a five-year horizon to denote Immediate Need, Mid-Range Need, and Long-Range Need.

SOURCE: MDOT.

Although MDOT's decision at the inception of the Vision 21 Program resulted in the advancement of fourteen projects classified at that time as mid-range or long-range needs, these fourteen projects, under MDOT's newly adopted method of selecting projects based on a statewide, needs-based priority method, should only receive funds after all higher priority projects have been funded. However, it should be noted that continuation of the construction of Gaming Road projects and congressional earmarks does disrupt the selection of projects on a year of need priority basis. (See the following section for a discussion of factors affecting the prioritization of highway construction projects.)

Statutory Provisions Affecting the Prioritization of Highway Construction Projects

Provisions of state law allow the Transportation Commission to adjust the sequencing of projects to maximize the utilization of funding or accommodate the relative requirement of each project. Other provisions allow the commission to consider economic development in establishing a priority schedule. As a result, highway construction projects with a lower priority may be advanced before projects with a higher priority. These are factors that the department has the flexibility to consider in an annual review of the schedule. However, these factors inhibit MDOT's ability to advance highway construction projects purely on a statewide, needs-based priority system.

MISS. CODE ANN. Section 65-3-97 (5) (c) (1972) states:

... the commission shall have the flexibility to adjust the sequencing of projects as may be required in order to maximize the utilization of available funding or to accommodate the relative requirement of each individual project.

Because the majority of funding for Mississippi's highway construction comes from federal funds (either from ongoing federal highway construction programs or from congressional earmarks) and this CODE provision allows the Transportation Commission to adjust the sequencing of projects to maximize the utilization of funding, this is a factor in the selection of projects.

Also, MISS. CODE ANN. Section 65-3-97 (5) (a) (i) (1972) states:

The Transportation Commission may establish and publish standards for setting the priorities and in so doing shall consider other factors, not in violation of federal law, as the Transportation Commission may consider relevant, including, but not limited to, economic development, safety and highways that may serve as hurricane evacuation routes.

Thus highway construction projects related to economic development may also cause a project to be accelerated or a project outside of Vision 21 to have priority.

Funds from Ongoing Federal Highway Construction Programs

According to MDOT officials, MDOT obligates federal funds to the highway projects with the highest priority that also meet the requirements of the federal fund source.

As noted on page 19, highway projects must meet certain requirements in order for MDOT to obligate federal funds to the project. According to MDOT officials, MDOT obligates federal funds to the highway projects with the highest priority that also meet the requirements of the federal fund source. As a result, projects with lower priority needs may be advanced over projects with higher needs due to the lower priority project meeting the requirements to received federal funds while the higher need project does not satisfy the federal fund requirements.

According to MDOT officials, of the top thirty prioritized projects, only five projects qualified for federal funding other than through the Surface Transportation Program and congressional earmarks. Although Surface Transportation Program funds are allocated on a priority basis, MDOT must allocate the remaining federal funds to roads that meet the requirements of the different federal fund programs and such allocation may not agree with the prioritized schedule.

In accordance with MISS. CODE ANN. §65-3-97(5)(c) (1972) and given the importance of federal funds to the state's highway construction budget, MDOT chooses projects which comply with federal requirements even at the expense of advancing projects with lesser priorities.

Funds from Congressional Earmarks

Per MDOT officials, congressional earmarks do not usually include sufficient funds for the entire project or other projects that may be required by the earmarked project.

Congressional earmarks represent another source of funding that may disrupt the priority, needs-based project selection system. Earmarks are funds provided by the Congress for projects or programs where the congressional direction (in bill or report language) circumvents the merit-based or competitive allocation process or specifies the location or recipient.

Per MDOT officials, congressional earmarks do not usually include sufficient funds for the entire project or other projects that may be required by the earmarked project. Therefore, additional state funds must be obligated toward the project. By obligating additional funds to earmarked projects, less funding is available for other projects.

Congressional earmarks for projects outside the Vision 21 Program can impact funds available for other highway projects. For example, a \$10.75 million congressional earmark was received for construction of a bridge over the

Pearl River and 5.6 miles of connector highways in Marion County. The Office of State Aid Road Construction (OSARC), which is a part of MDOT, is responsible for administering this project. Although the congressional earmark is approximately equal to the estimated cost of the bridge, the congressional earmark is not sufficient to cover all costs associated with the bridge and connector roads, which is estimated to total \$20.5 million. To cover additional costs, on November 13, 2007, the Transportation Commission approved allocating \$14 million over three fiscal years to OSARC for the construction of the bridge and connector roads in Marion County. As of November 2008, Lawrence County had also contributed \$735,700 toward the project.

Future phases of this project are designed to connect Highway 44 in Lawrence County to the new bridge and are estimated to cost an additional \$38 million, which brings the total estimated cost of the entire project to \$58.5 million. As of the time of this report, no additional congressional earmarks had been received for this project and no additional funds had been allocated to OSARC for this project.

Under MISS. CODE ANN. §65-3-97(5)(c), MDOT has the authority to utilize funds available through congressional earmarks even if projects with lower priority are advanced over projects with higher priority. Even though the \$14 million allocated to OSARC is reimbursable from federal funds, these same funds could have been expended on other projects in the state that qualified for federal reimbursement and had a higher need. Further, if an additional \$38 million is expended on this project, additional delays will occur in other projects in the state that could have been advanced using these funds.

Although beyond the scope of this project, congressional earmarks, such as the one noted above, illustrate how an earmark can cause funds to be expended on a project outside of the state's needs-based priority system. PEER would question how such an earmark could come into being without a needs-based priority study or specific economic development project.

Construction Related to Economic Development

As previously noted, MISS. CODE ANN. Section 65-3-97 (5) (a) (i) (1972) allows highway construction projects related to economic development to be accelerated or a project outside of Vision 21 to have priority. For example, MDOT accelerated SR 791, which is not part of Vision 21, to accommodate the construction of the SeverCorr steel processing facility near Columbus, Mississippi. Although PEER does not question such accelerations, these expenditures decrease the amount of funds available for

projects that have a higher priority according to the needs-based system.

Summary Regarding Factors Affecting MDOT's Prioritization of Vision 21 Highway Construction Projects

Under current law, MDOT has the authority to accelerate lower priority projects in order to utilize federal funds and congressional earmarks and accommodate economic development projects. PEER is not suggesting that these actions are imprudent or improper. It is PEER's intention to note factors that inhibit MDOT's ability to advance highway construction projects purely on a statewide, needs-based priority system.

MDOT'S Compliance with Statutory Requirements for Dedication of Funds to the Vision 21 Program

The Transportation Commission has complied with MISS. CODE ANN. §65-3-97 (5) (e) (1972) by dedicating at least \$200 million annually in state and/or federal funds to Vision 21 projects.

MISS. CODE ANN. §65-3-97 (5) (e) (1972) states:

For fiscal year 2006 and each fiscal year thereafter, the Transportation Commission shall dedicate not less than Two Hundred Million Dollars (\$200,000,000.00) in state and/or federal funds to fund the program established by subsections (4) and (5) of this section [the Vision 21 Program].

Under this CODE section, the Transportation Commission is to *dedicate* (not necessarily to expend) at least \$200 million annually to Vision 21 projects. According to MDOT officials, the definition of the term "dedicated" in the above CODE section means that each fiscal year beginning in FY 2006, the Transportation Commission shall obligate \$200 million annually toward the Vision 21 Program. "Obligate" means that MDOT has identified the funding sources and funds that will be used for a particular phase of a particular project. Although obligated, the expenditure of the funds will occur over the life of the project phase, which could be up to several years.

According to MDOT officials, the following amounts were *dedicated* to Vision 21 projects from FY 2006 through FY 2009:

FY 2006	\$288,879,194
FY 2007	210,026,755
FY 2008	246,409,800
FY 2009	440,206,445

According to MDOT officials, the following amounts were *expended* on Vision 21 projects (excluding 1987 Four-Lane and Gaming Roads projects) from FY 2005 through FY 2008:

FY 2005	\$ 22,749,455
FY 2006	25,217,753
FY 2007	105,168,782
FY 2008	99,610,908

PEER does not intend to imply that MDOT should have expended more on Vision 21 projects. The purpose of the above information is to prevent misconceptions regarding the requirements of MISS. CODE ANN. §65-3-97 (5) (e) (1972). However, due to the size of the Vision 21 Program, it will consume an enormous amount of MDOT's resources in coming years.

Based on conversations with MDOT officials, the cost of preliminary engineering, acquisition of right-of-way, and construction of a mile of four-lane road consisting of two new lanes and reconstructing the existing lanes averages about \$10 million in cost, although in some instances, the cost could be significantly higher or lower. Based on MDOT's 2004 Vision 21 priority list, the 2,162 miles of listed highway projects will cost approximately \$21.6 billion, without consideration of future inflation.

Even if MDOT expended \$200 million annually on the Vision 21 Program with no future inflation, the program would take 108 years to complete.

Even if MDOT expended \$200 million annually on the Vision 21 Program with no future inflation, the program would take 108 years to complete. These figures do not include 978 highway segment miles identified in MISS. CODE ANN. §65-3-97 (6) (1972) for improvements and highway modifications, including, but not limited to straightening and realignment of the existing roadway, the addition of passing lanes, the widening of existing lanes, the addition of turn lanes, and improvement of shoulders. The Vision 21 Program represents an enormous commitment of state resources, which may very well be beyond the prudent reach of MDOT and the state.

How MDOT Selects and Funds Highway Maintenance Projects

MDOT collects quantifiable engineering data on the maintenance needs of highway segments. However, the department prioritizes highway maintenance projects by district and allocates funding based on total vehicle miles traveled within each district, rather than on the basis of statewide, prioritized maintenance needs.

In addition to pavement overlay, highway maintenance includes activities such as mowing, guardrail repair, litter cleanup, preventive maintenance (e. g., pothole and crack repair), and repairs related to earthslides.

How MDOT Determines Maintenance Needs

In determining highway maintenance needs, MDOT collects scientific data as well as input from district engineers, representatives from the Federal Highway Administration, and employees of MDOT's Maintenance and Research divisions.

Through an outside vendor, MDOT collects data for all of the state-maintained roadways in the state (approximately 28,000 lane miles) every two years. The vendor uses this video data to calculate a Distress Rating for two 500-foot samples for every mile of road and combines this data with an International Roughness Index for the same samples to produce the Pavement Condition Rating (PCR) for each sample. The department's goal is to maintain a PCR of 72 or above on interstate highways and four-lane routes and a PCR of 62 or above on the state's two-lane highway network. Also, for safety reasons, the department wants rutting on all asphalt pavement to be no greater than 0.25 inches. The initial priority list provided to MDOT's Maintenance Division ranks those sections of roadway with a PCR of 72/62 or less and/or rutting of greater than 0.25 inches at the top.

The Maintenance Division allows the districts to adjust the initial priorities if they provide proper justification, such as safety or economic issues that go beyond the pavement condition. MDOT district engineers may also perform visual inspections to determine whether the priority of a highway should be adjusted. For example, a highway's maintenance needs may have increased due to weather conditions, such as extreme cold, extreme heat, or heavy rains occurring after the electronic inspection and the visual inspection allows an opportunity for adjusting the segment's priority to reflect the change in conditions.

Representatives from the Federal Highway Administration, MDOT's Maintenance Division, MDOT's Research Division, and each highway district visually inspect the highways that have maintenance needs indicated from the electronic inspections. The representatives also inspect any

additional routes submitted by the district engineer for maintenance.

Prioritization of Maintenance Projects

Rather than preparing a statewide maintenance needs list based on the information collected, MDOT divides the maintenance needs list by district and allocates maintenance funds to each district based on total vehicle miles traveled in the district.

The State Maintenance Engineer prepares a final maintenance list for each district based on the electronic and visual inspections discussed above. However, rather than preparing a statewide maintenance needs list, MDOT divides the maintenance needs list by district and allocates maintenance funds to each district based on total vehicle miles traveled in the district.

Allocating maintenance funds based on total vehicle miles traveled rather than based on needs does not ensure that the state's highest priority maintenance needs are met.

MDOT officials believe the current method allows districts to be flexible in expending maintenance funds to meet the needs of the district. However, allocating maintenance funds based on total vehicle miles traveled rather than based on needs does not ensure that the state's highest priority maintenance needs are met. A district's individual maintenance needs may be higher or lower than its proportion of total vehicle miles traveled in the district. As a result, some higher maintenance needs in one district may not be met while a lower maintenance need in another district might be funded. Also, a change in the state's maintenance needs after preparation of the final maintenance lists based on electronic and visual inspections may create a need for a change in the allocation of maintenance funds. For example, snow and ice in the northern part of the state may create additional needs for maintenance funds, which may not be able to be fulfilled because funds have been allocated to other districts.

If maintenance funds for overlay purposes were allocated on a statewide needs basis, then overlay maintenance funds could be directed to the highways with the highest maintenance need. Districts could continue to receive funds for expenditure on non-overlay related maintenance needs.

Given MDOT's recent change to allocating construction funds on statewide needs-based system and the department's allocation of bridge replacement and rehabilitation funds on a statewide needs basis (see page 37), the department should also allocate maintenance funds on a statewide needs-based system. If maintenance funds for overlay purposes were allocated on a statewide needs basis, then overlay maintenance funds could be directed to the highways with the highest maintenance need. Districts could continue to receive funds for expenditure on non-overlay related maintenance needs. Allocating maintenance funds based on total vehicle miles traveled in the district rather than on a statewide needs-based system does not ensure that scarce maintenance funds are used to serve the maintenance needs of the state as a whole in the best manner.

How MDOT Selects and Funds Bridge Replacement Projects

The Department of Transportation uses a statewide, needs-based prioritization method to select state highway bridge replacement projects.

Funding for Bridge Replacement Projects

Mississippi's bridges are classified into one of two main categories: state highway system bridges (which include bridges on U. S. highways) or state aid bridges.³ State highway system bridges are maintained by the state with both state and federal funds. State aid bridges, which are the responsibility of the municipalities and counties, are city and/or county bridges on city and/or county roads that are not part of the state highway system. Bridges on interstate highways within Mississippi are maintained as part of the interstate highway system.

MDOT receives \$50 million each year in bridge replacement funds for state and national highway bridges. Of this total, \$40 million comes from federal funds (80% of funds received) and \$10 million comes from state-appropriated dollars (20% of the total amount of funds received). According to the Federal Highway Administration, the federal apportionment varies by state between $\frac{1}{4}$ of 1% to a maximum of 10% of the total cost of needed bridge repairs identified by the Federal Highway Administration from the reports submitted by each state in the National Bridge Inventory System.

MDOT spends the bridge replacement funds on state and national highway system bridges that the department identifies using formulas discussed in the following subsection and in Appendix E, page 63.

Any additional federal dollars spent on bridge replacement projects must be part of a highway project that can utilize Surface Transportation Program (STP) funds or National Highway (NH) funds. The state also has the option of expending additional state funds on bridge replacement projects.

MDOT's Method for Evaluating and Prioritizing Bridge Replacements

MDOT's scientific, needs-based system of bridge replacement prioritization allows MDOT to track and address state bridge replacement needs from most critical to least critical.

MDOT's prioritization of bridges is based on information the department submits in the National Bridge Inventory System for Mississippi's state and national highway system

³ MDOT defines *state aid* projects as roads that connect communities within the individual counties and with those adjoining counties and/or which also connect with the state highway system to form a complete network of secondary or collector routes.

bridges. MDOT uses three key indicators to help plan, evaluate, and prioritize the state's bridge replacement needs:

- the sufficiency rating;
- the structural rating; and,
- the Significant Index Model.

Sufficiency Rating Indicator

MDOT bases a bridge's sufficiency rating on federal rating criteria applied to information MDOT enters into the National Bridge Inventory System. The information comes from annual evaluations of the state highway system bridges.

Three major categories enter into the establishment of the basic sufficiency rating on a section of road: structural adequacy, safety, and service. *Structural adequacy* measures the ability of the road section to withstand traffic and climatic conditions. *Safety* measures the ability of the road section to offer the motorist safety. *Service* measures the capability of the road to accommodate specific volumes of traffic with a minimum of problems.

All bridges in the state highway system database have a sufficiency rating of between 1% and 100%. A bridge with 50% or below sufficiency rating indicates that a bridge is in need of replacement. The closer the sufficiency rating is to 1%, the greater the need for replacement.

Structural Condition Indicator

MDOT evaluates the structural condition of all bridges throughout the state and assigns each bridge a structural rating. The structural rating only takes into account the bridge's structural condition at the time of evaluation. MDOT assigns a structural rating to each bridge identified as having a sufficiency rating of below 50 (see previous subsection).

The rating index for structural condition ranges from 2 to 9, with a rating of 2 being the most structurally intolerable and having the highest priority for replacement and 9 being superior to the present desirable bridge replacement criteria.

Significant Index Model Indicator

MDOT also uses the Significant Index Model (SIM) to help prioritize replacements of Mississippi's 5,500 state highway system bridges. The Significant Index Model

As result of having a statewide prioritization system for bridges that uses scientific calculations for its basis, MDOT is able to make decisions for bridge replacement needs with a strong level of confidence that it has identified the most important bridge replacement needs on a statewide basis.

allows for the Bridge Prioritization team to base its ranking on a more complete picture of the bridge's condition by using a combination of the previous two indicators along with other factors, rather than just using the sufficiency rating or structural condition rating.

The Significant Index Model quantifies the consequences of not fixing a bridge. It accounts for the volume of traffic and how far that traffic would have to detour in the event that a bridge deteriorated to the point of closure. As a bridge's structural condition worsens, the model accounts for the fact that traffic has an exponential effect on the bridge's deterioration and possible failure. (See Appendix E, page 63, for a description of the SIM formula.)

MDOT also weighs the calculations from the model against other more subjective factors not reflected in the model's formula, such as anticipated growth areas, corridor improvement initiatives, and environmental issues that may delay a construction start. The result is a realistic, technically based and strategically weighted prioritization of bridge projects on a statewide basis.

As result of having a statewide prioritization system that uses scientific calculations for its basis, MDOT is able to make decisions for bridge replacement needs with a strong level of confidence that it has identified the most important bridge replacement needs on a statewide basis. However, although MDOT uses a statewide prioritization system for selection of bridge replacement projects, it is only able to address a limited amount of critical projects because it uses a limited amount of resources toward bridge replacement.

MDOT's Funding of Bridge Replacements

MDOT has identified 455 bridges that qualify for bridge replacement funds, with 107 of these bridges having a structural rating that indicates intolerable conditions with a high priority of replacement or corrective action needed.

According to PEER's analysis of the MDOT state highway system bridge inventory, MDOT has 455 bridges with a sufficiency rating of below 50. A bridge rating of 50 or less does not indicate that the bridge is unsafe but a rating of 50 or less does indicate that the bridge qualifies for Federal Highway Bridge Replacement and Rehabilitation Program funds. Of the 455 bridges, 107 bridges have a structural rating that identifies the bridges as a high priority for corrective action or replacement. (See Appendix F on page 64 for a list of the 107 state highway system bridges that have been identified as structurally deficient.)

According to MDOT personnel, the cost in today's dollars to replace all 455 state highway system bridges that are in

need of replacement would be approximately \$975 million. However, MDOT has \$50 million (\$40 million in federal funds and \$10 million in state funds, which is the required state match) annually in Federal Highway Bridge Replacement and Rehabilitation Program funds and therefore cannot fully address the number of state highway system bridges in need of repair, rehabilitation, or replacement. As a result, if the condition of some of the bridges with a sufficiency rating of 50 or less is not addressed, MDOT may have to post warning signs or possibly close some bridges.

According to MDOT personnel, the cost in today's dollars to replace all 455 state highway system bridges that are in need of replacement would be approximately \$975 million.

According to the Federal Highway Administration, MDOT could use program funds such as Surface Transportation Program (STP), National Highway (NH), Maintenance funds, and state funds to apply to bridge replacement projects as long as the bridge selected is included in a highway project that qualifies for those funds. According to MDOT officials, this course of action is followed whenever possible and MDOT also utilizes Interstate Maintenance funds for bridge replacement where appropriate. Further, if bridge replacement funds or other federal funds are not available, MDOT uses state funds to replace or rehabilitate unsafe bridges on a case-by-case basis.

A large-scale effort to rehabilitate or replace bridges that qualify for bridge replacement funds would redirect funds from other highway projects and decrease construction activity. MDOT should continue its practice of including bridges in need of repair or rehabilitation in highway projects qualifying for federal funds whenever possible and continue replacing or rehabilitating unsafe bridges as swiftly as possible.

Conclusion: The Department of Transportation's Management of Hurricane Katrina Emergency Relief Fund Projects

According to records provided by MDOT, the department used all but approximately \$105 million of the Emergency Relief funds received from the Federal Highway Administration on the construction and completion of Hurricane Katrina-related projects. The remaining approximately \$105 million in funds may be drawn upon to complete any remaining projects related to Hurricane Katrina.

There is no expiration date for the expenditure of Emergency Relief funds.

As of March 6, 2006, MDOT was allocated \$1.013 billion in Emergency Relief funds for highway projects related to Hurricane Katrina. In August 2007, MDOT received an additional \$20 million in Emergency Relief funds for a total federal allocation of \$1.033 billion to be used for projects related to Hurricane Katrina.

As of June 30, 2008, MDOT had expended approximately \$928 million of the \$1.033 billion allocated to the department for the reconstruction and completion of Hurricane Katrina-related highway projects. These projects included the Bay St. Louis Bridge, Biloxi/Ocean Springs Bridge, Highway 90, City of Biloxi Bridge, Ferry Boat Service, Beach Boulevard, and debris removal for all the coastal area. The remaining \$105 million may be drawn upon to complete any remaining projects related to Hurricane Katrina, such as bridge replacements, Highway 90 construction, and traffic signals. Any money that MDOT does not draw down upon will be returned to the Federal Highway Administration to distribute to other projects in other states. However, there is not an expiration date for the expenditure of Emergency Relief funds. The release of any Emergency Relief funds depends entirely upon whether MDOT has enough Emergency Relief related projects to exhaust the Emergency Relief funds.

The Federal Highway Administration reimbursement process requires that MDOT submit the Emergency Relief project request for each project to the Federal Highway Administration for approval before MDOT can seek reimbursement for the project. MDOT is not allowed by the Federal Highway Administration to receive the entire \$1.03 billion up front to deposit into the agency's bank account for later use.

MDOT is required to submit to the Federal Highway Administration the agency plans for all money drawn upon for Emergency Relief-related purposes. The Federal Highway Administration then reviews the request for funds, the cost of the project, and considers the type of project before the federal agency approves the money for

reimbursement. MDOT pays for the project on a monthly basis and is reimbursed by the Federal Highway Administration for those monthly expenditures. See Exhibit 7, page 42, for a complete list of all the Emergency Relief projects MDOT has obligated federal Emergency Relief funds toward and the total expenditures for each project.

Exhibit 7: Status of Hurricane Katrina Emergency Relief Fund Projects as of July 31, 2008

Project	Expended	Federal Highway Administration Emergency Relief* Reimbursement	Expended Amount Exceeding Reimbursement
Bay St. Louis Bridge*	\$271,833,755.81	\$271,169,870.00	\$663,885.81
Biloxi/Ocean Springs Bridge**	324,863,819.27	324,130,298.00	733,521.27
SR 90	40,660,786.75	39,421,266.00	1,239,520.75
State Aid/Counties (current plus inactive)	23,993,401.66	23,006,711.00	986,690.66
City of Biloxi Popps Ferry Rd Bridge	8,674,933.79	8,674,933.00	0.79
Ferry Boat Service	5,771,656.48	5,747,028.00	24,628.48
City of Biloxi Debris Removal	1,224,488.60	1,127,564.00	96,924.60
Beach Boulevard	6,320,674.83	5,886,130.00	434,544.83
City of Bay St. Louis Debris Removal	612,294.03	600,525.00	11,769.03
City of Long Beach Debris Removal	1,629,561.00	1,629,561.00	0.00
City of McComb Debris Removal	129,268.80	129,268.00	0.80
City of Gulfport Debris Removal***	4,117,068.11	3,698,099.00	418,969.11
Town of Monticello Debris Removal	4,113.84	4,113.00	0.84
Town of Osyka Debris Removal	26,593.71	26,593.00	0.71
City of Hattiesburg Debris Removal	855,489.31	855,488.00	1.31
Other Emergency Relief Projects	84,853,892.37	80,523,842.00	4,330,050.37
Inactive Projects	152,860,847.26	152,886,444.00	-25,596.74
Total	\$928,432,645.62	\$919,517,733.00	\$8,914,912.62

NOTE: The \$8,914,912.62 Expended Amount Exceeding Reimbursement is the amount for which MDOT is still waiting to receive reimbursement.

*Does not include National Highway fund expenditures of \$25,587,426 or National Highway fund reimbursements of \$20,244,110.

**Does not include National Highway fund expenditures of \$31,967,532 or National Highway fund reimbursements of \$25,539,751.

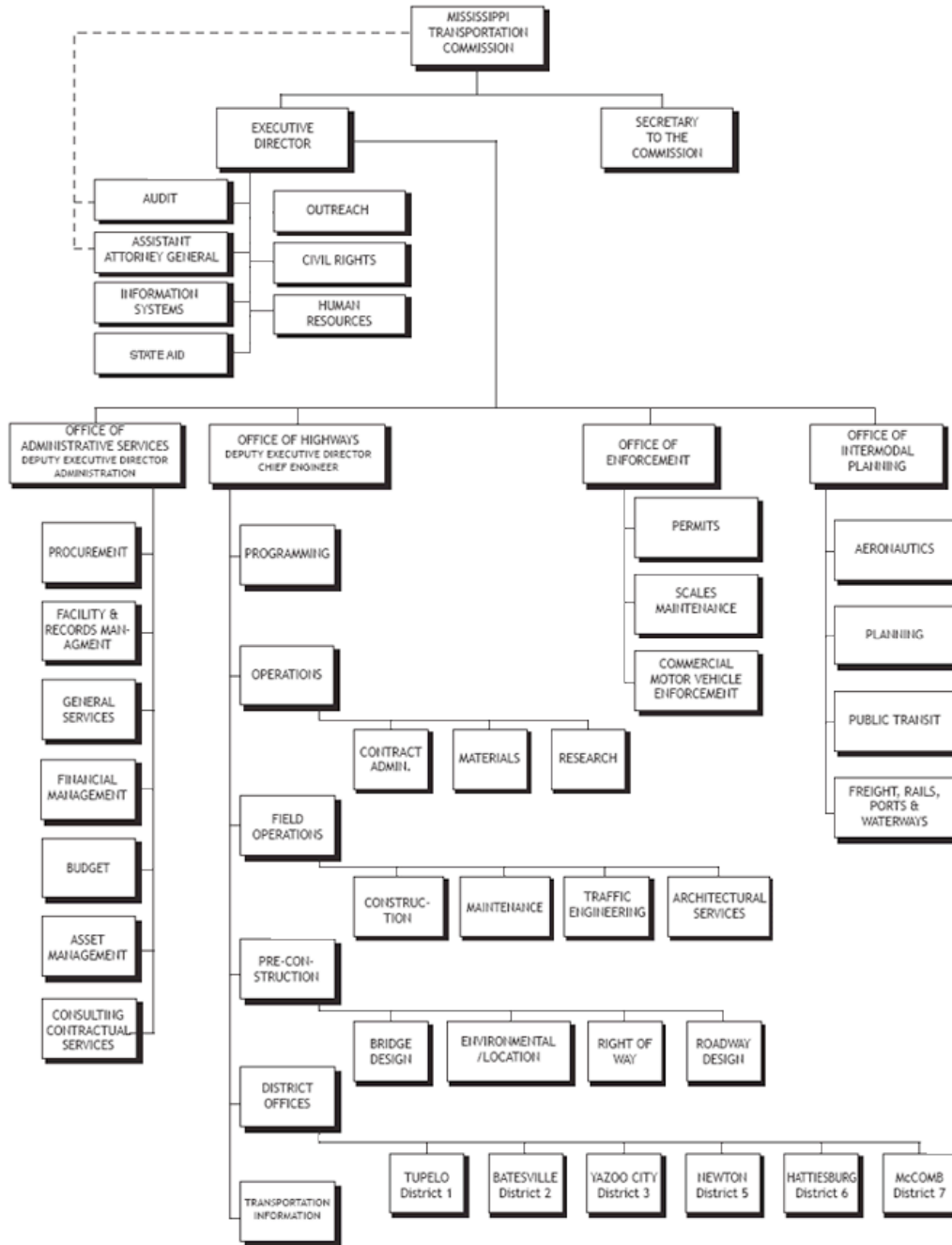
*** Does not include Urban fund expenditures of \$466,594 or Urban fund reimbursements of \$273,090.

SOURCE: Mississippi Department of Transportation.

Recommendations

1. In accordance with MISS. CODE ANN. §65-3-97 (1972), MDOT should continue with its stated intention to construct roadways in accordance with a priority schedule based upon a needs analysis performed by MDOT. However, should projects that exceed priority established by needs analysis be moved forward, the Transportation Commission should provide an explanation in the minutes as to why the project warrants an increase in priority, such as analysis of restrictions associated with federal funding, receipt of congressional earmarks, acceleration due to an economic development project, or a comparison of needs-based data. This information should be considered before approval of the priority change and entered into the minutes once approved by the Transportation Commission.
2. MDOT should allocate maintenance funds for the rehabilitation and overlay of highways based on a statewide, needs-based priority system. Each highway district should continue to receive and expend maintenance funds for non-overlay maintenance needs (e. g., mowing, guardrail repair, and litter cleanup) in a manner determined by highway district officials.

Appendix A: MDOT Organizational Chart as of June 30, 2008



SOURCE: MDOT.

Appendix B: Vision 21 Segments to Be Given Preference According to MISS. CODE ANN. Section 65-3-97 (4) (a) (1972)

County/Countries	Project Limits	Design Begun	ROW Begun	Construction Begun or will begin by 12/31/08	V/C Ratio	Year of Need
State Route 6						
Lee	Natchez Trace to US 45	x	x	x	1.66	2006
Pontotoc, Lee	SR 342 to Natchez Trace	x	x	x	1.37	2006
Pontotoc	SR 9 to SR 342	x	x	x	1.14	2006
Panola	Dummy Line Rd. to Bates Street	x			1.34	2006
Quitman, Panola	SR 3 to Dummy Line Rd.	x			0.71	2016
Coahoma	US 61 to Claremont Rd.	x			0.63	Beyond 2030
Coahoma, Quitman	Claremont Rd. to SR 3	x			0.51	Beyond 2030
State Route 15						
Pontotoc	SR 41 to Ecu	x			1.99	2006
Jones	End of 4 lane in Laurel to Shady Grove	x			1.85	2006
Tippah	Ripley bypass	x	x		1.85	2006
Union	US 78 to North Haven	x	x		1.56	2006
Newton	I-20 to Decatur	x			1.42	2006
Neshoba	End of Philadelphia Bypass to SR 19	x			1.22	2006
Chickasaw	SR 8 to SR 32 west	x			1.18	2006
Pontotoc, Union	Ecu to US 78	x	x		1.16	2006
Jasper	Bay Springs to Louin	x			1.15	2006
Jones, Jasper	Shady Grove to Bay Springs	x			1.08	2006
Perry	SR 42 west to SR 42 east	x			1.07	2006
Neshoba	SR 485 to Philadelphia Bypass	x			1.01	2006
Tippah	Northern end of Ripley bypass to Faulkner	x	x		0.92	2008
Neshoba, Winston	SR 19 to Noxapater	x			0.89	2007
Newton	Decatur to SR 494				0.81	2011
Newton	SR 504 to I-20				0.80	2012
Newton, Neshoba	SR 494 to Linwood				0.74	2014
Neshoba	Linwood to SR 485				0.72	2014
Jones	Tuckers Crossing to Slaughter Pen Rd.				0.71	2021
Tippah	Faulkner to US 72				0.71	2024

County/Countries	Project Limits	Design Begun	ROW Begun	Construction Begun or will begin by 12/31/08	V/C Ratio	Year of Need
Union, Tippah	North Haven to southern end of Ripley bypass	x	x		0.71	2019
Winston	Noxapater to beg of Louisville 4-lane bypass	x			0.70	2017
Pontotoc	Algoma to SR 41				0.68	2018
Choctaw, Webster	Sherwood to US 82				0.58	Beyond 2030
Perry	SR 42 east (Richton) to Good Hope				0.57	Beyond 2030
Perry	US 98 to Arlington Rd.				0.55	Beyond 2030
Webster, Oktibbeha	US 82 to Maben				0.54	Beyond 2030
Webster, Oktibbeha	Maben to SR 50 east				0.50	Beyond 2030
Chickasaw/ Pontotoc	SR 32 west to Algoma				0.50	Beyond 2030
Webster, Chickasaw	Mantee to SR 8				0.47	Beyond 2030
Winston, Choctaw	End of 4 lane @ McMillian to Ackerman				0.45	Beyond 2030
Perry, Jones	Good Hope to Tuckers Crossing				0.44	Beyond 2030
Harrison	End of the 4-lane north of I-10 to White Plains Rd.				0.43	Beyond 2030
Tippah	US 72 to TN SL				0.43	Beyond 2030
Jasper	Louin to Montrose				0.41	Beyond 2030
Perry	Arlington Rd. to SR 42 west (Richton)				0.28	Beyond 2030
Webster	SR 50 east to Mantee				0.28	Beyond 2030
Jasper, Newton	Montrose to SR 504				0.27	Beyond 2030
Choctaw	Ackerman to Sherwood				0.26	Beyond 2030
Jones	Slaughter Pen Rd. to Laurel (I-59)				0.25	Beyond 2030
Harrison	White Plains Rd. to Bethel Rd.				0.18	Beyond 2030
Stone, Perry	SR 26 to US 98				0.17	Beyond 2030
Harrison, Stone	Bethel Rd. to SR 26				0.13	Beyond 2030
State Route 25						
Monroe	Amory bypass to Itawamba CL	x	x		1.70	2006

County/Counties	Project Limits	Design Begun	ROW Begun	Construction Begun or will begin by 12/31/08	V/C Ratio	Year of Need
Tishomingo	SR 30 to 4-lane south of US 72	x			0.93	2006
Tishomingo	Itawamba CL to SR 30	x			0.91	2007
Monroe	SR 8 to Amory bypass	x	x		0.84	2012
Itawamba	Monroe CL to US 78				0.58	2022
Monroe	SR 382 to US 45				0.53	Beyond 2030
Tishomingo	End of 4-lane north of luka to TN SL				0.44	Beyond 2030
Itawamba	End of 4-lane north of US 78 to Tishomingo CL				0.38	Beyond 2030
Monroe	US 45 Alt to SR 382				0.36	Beyond 2030
State Route 43						
Hancock	End of the four lane to SR 603	x			1.42	2006
Pearl River	Old Kiln Rd to I-59	x			1.15	2006
Hancock	SR 603 to Town Rd.				0.73	2013
Hancock, Pearl River	Town Road to Old Kiln Rd				0.60	2020

SOURCE: PEER analysis of MDOT information.

Appendix C: Highway Construction Projects Classified as a Mid-Range or Long-Range Need in 2002 and that are In or Have Completed the Design Phase

The chart below corresponds to maps on the following pages (pages 50 through 54) of MDOT's highway construction projects that were classified as a mid-range or long-range need in 2002 and are in or have completed the design phase. (i. e., are ahead of schedule).

Figure	Route	County	Termini	Begin Date	Year of Need	District
1	SR 8	Bolivar, Sunflower	End of 4-lane east of Cleveland to Ruleville	January 1999	2010	Central
2	SR 27	Warren	Bovina Cutoff Rd. to I-20	February 1995	2010	Central
3	US 82	Washington	Greenville Bypass and River Bridge	February 1994 (a)	Beyond 2030	Central
4	SR 27	Copiah, Hinds	I-55 to SR 18	January 1999	Beyond 2030	Central
5	SR 15*	Tippah	Northern end of Ripley bypass to Falkner	April 1998	2008	Northern
6	SR 25*	Monroe	SR 8 to Amory bypass*	April 1998	2012	Northern
7	SR 6 (SR 278)*	Quitman, Panola	SR 3 to Dummy Line Rd.*	August 1998 (a)	2016	Northern
8	SR 15*	Winston	Noxapater to Beg. of Louisville 4-lane bypass	March 2000	2017	Northern
9	SR 15*	Union, Tippah	North Haven to S. End of Ripley bypass	April 1998	2019	Northern
10	I-55	DeSoto	SR 306 to Hernando (Rural Interstate)	October 1996	2021	Northern
11	SR 304	Tunica, DeSoto	US 61 to SR 301	September 1996(a)(b)	2021	Northern
12	SR 6 (SR 278)*	Coahoma	US 61 to Claremont Rd.	August 1998 (a)(c)	Beyond 2030	Northern
13	SR 6 (SR 278)*	Coahoma, Quitman	Claremont Rd. to SR 3	August 1998 (a)(c)	Beyond 2030	Northern
14	SR 67	Harrison	US 49 to I-10	August 1994(a)(b)	2015	Southern

*Although the noted routes should receive preference according to MISS. CODE ANN. Section 65-3-97 (4) (a) (1972), this is preference that should be given only when considering segments with the same level of service (i. e., year of need).

(a) This project received congressional earmarks.

(b) This project is a Gaming Road Project, which carries a priority within the Vision 21 Program.

(c) Work is confined to the remaining congressional earmark. The project is not included in Visions A.H.E.A.D. for Mississippi: Schedule of Proposed Projects for Fiscal Years 2009-2014.

SOURCE: PEER analysis of information provided by MDOT.

Figure 1

SR 8 in Bolivar and Sunflower Counties
 End of 4-lane east of Cleveland to Ruleville
 Year of Need: 2010

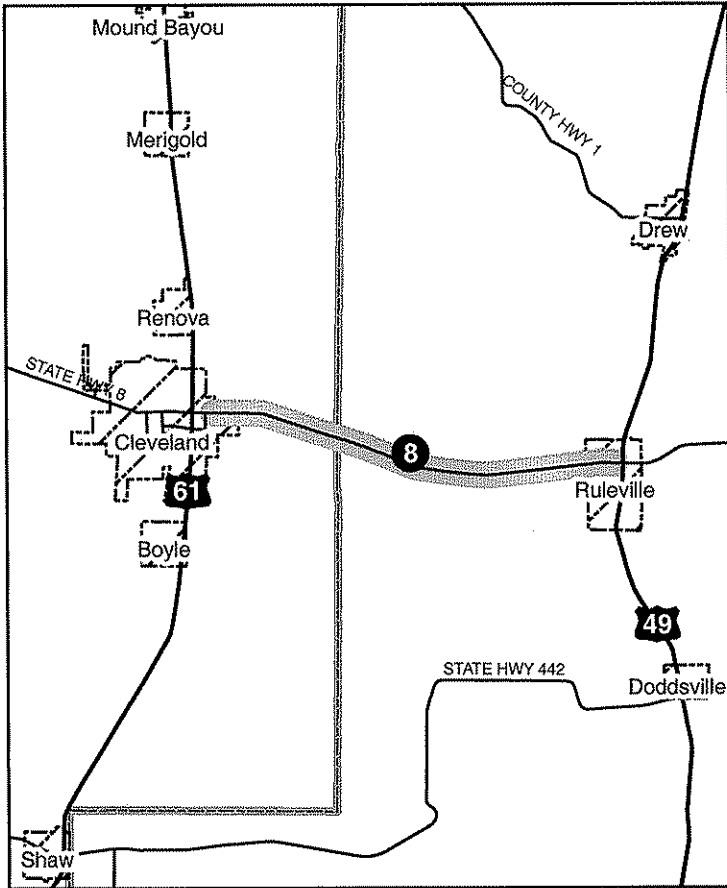


Figure 3

US 82 in Washington County
 Greenville Bypass and River Bridge
 Year of Need: Beyond 2030

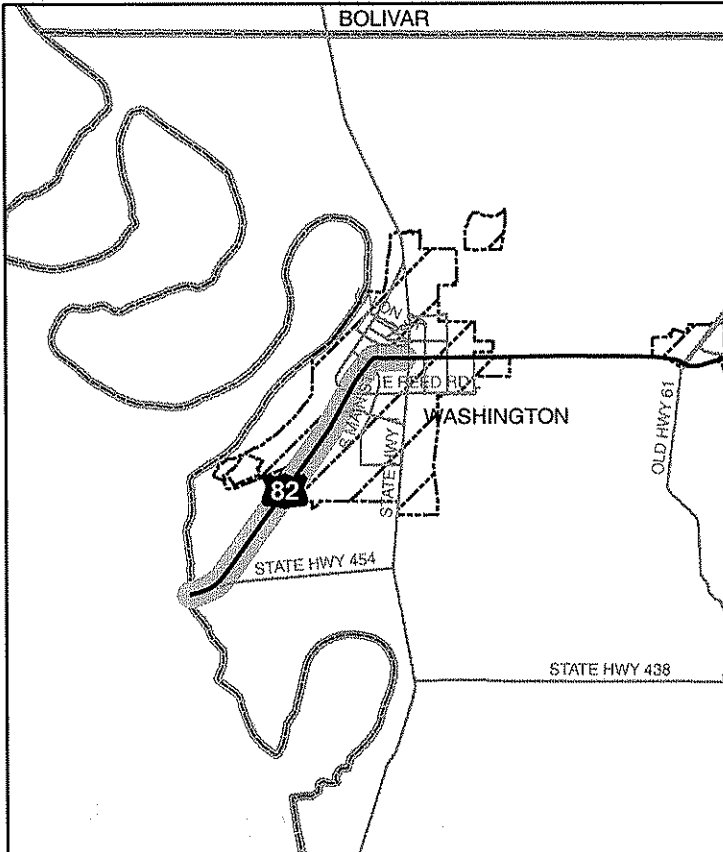


Figure 2

SR 27 in Warren County
 Bovina Cutoff Rd. to I-20
 Year of Need: 2010

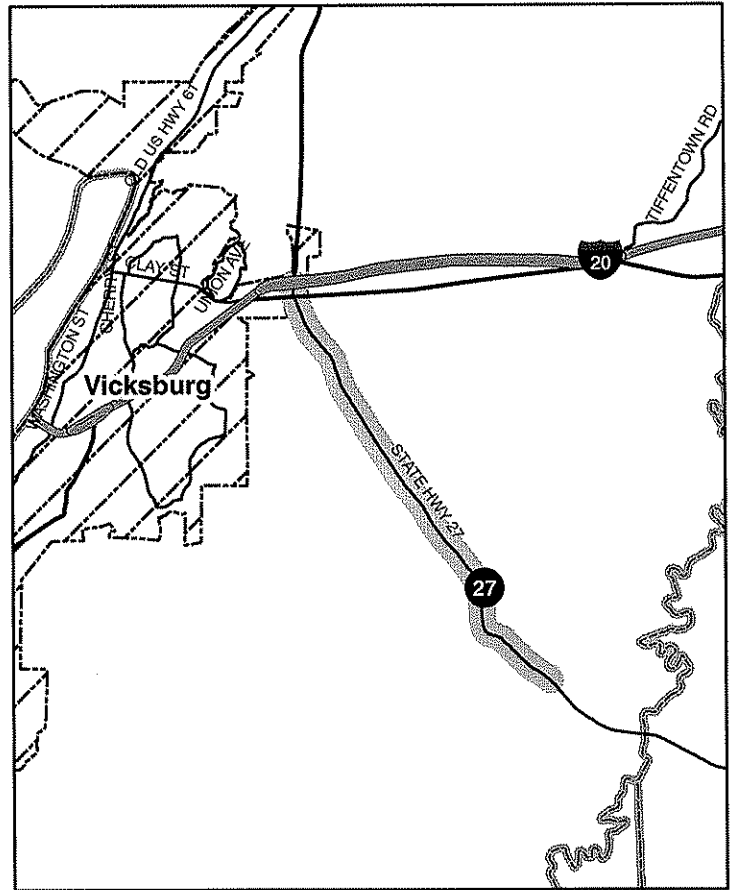


Figure 4

SR 27 in Copiah and Hinds County
 I-55 to SR 18
 Year of Need: Beyond 2030

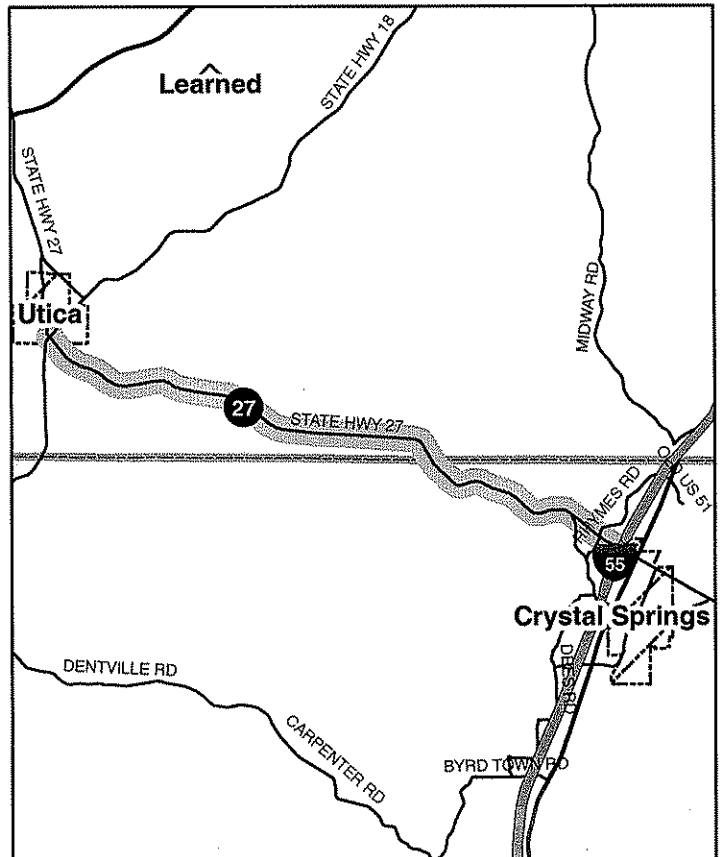


Figure 5

SR 15 in Tippah County
Ripley Bypass to Falkner
Year of Need: 2008

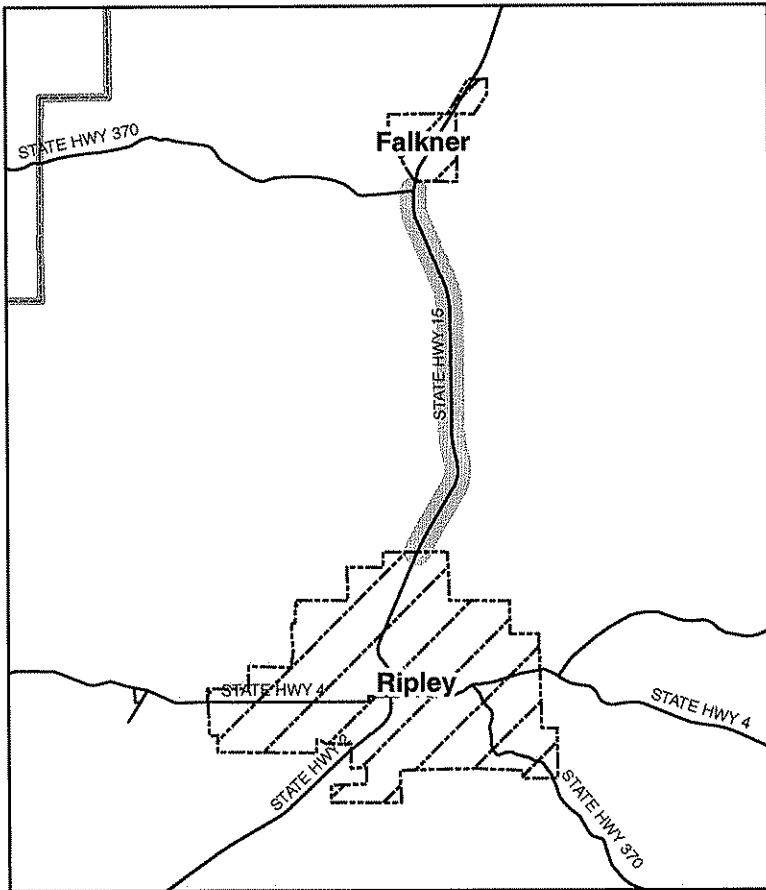


Figure 7

SR 6 (278) in Quitman and Panola Counties
SR 3 to Dummy Line Rd.
Year of Need: 2016



Figure 6
SR 25 in Monroe County
SR 8 to Amory bypass
Year of Need: 2012

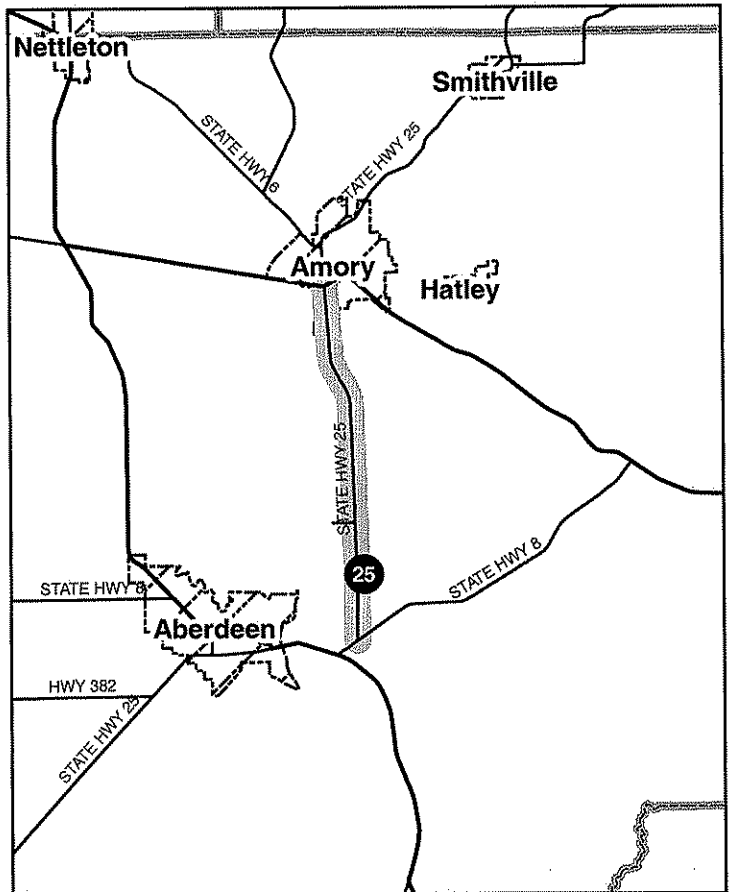


Figure 8

SR 15 in Winston County
Noxapater to Beg. of Louisville 4-lane bypass
Year of Need: 2017

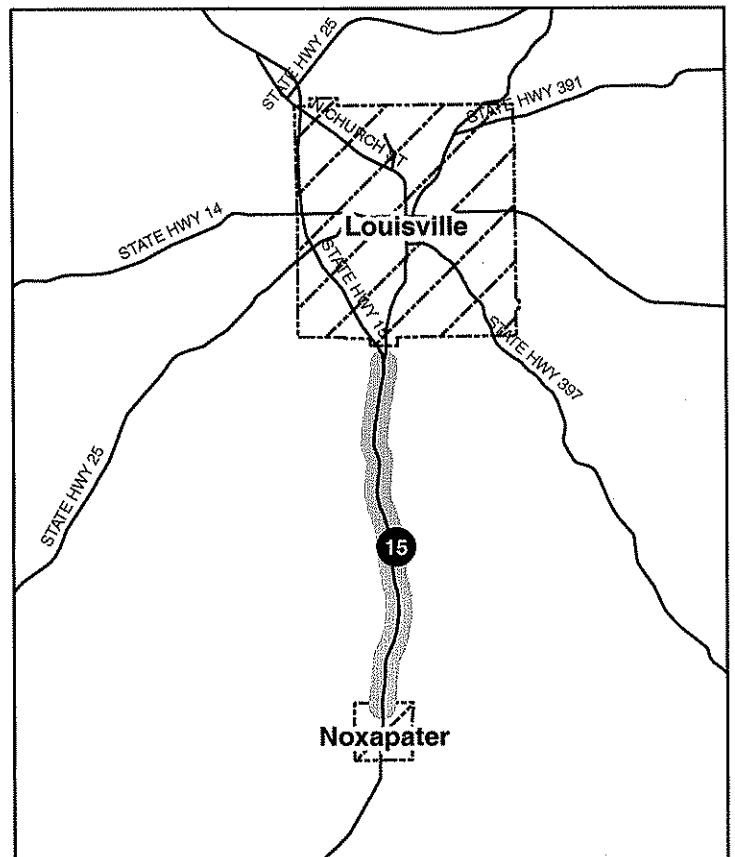


Figure 9

SR 15 in Union and Tippah Counties
North Haven to S. End of Ripley bypass
Year of Need: 2019

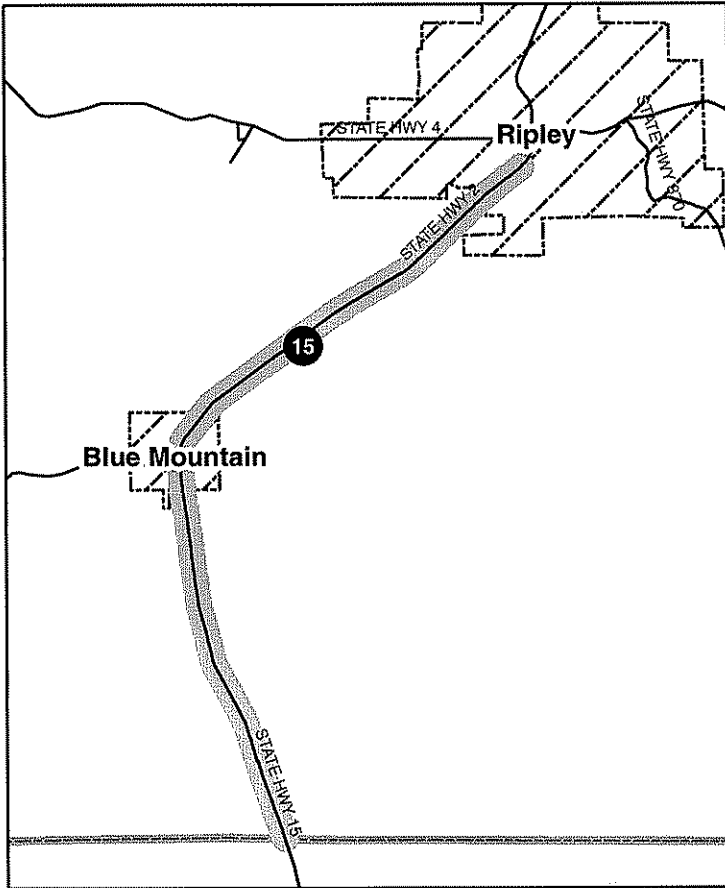


Figure 11

SR 304 in Tunica and DeSoto Counties
US 61 to SR 301
Year of Need: 2021

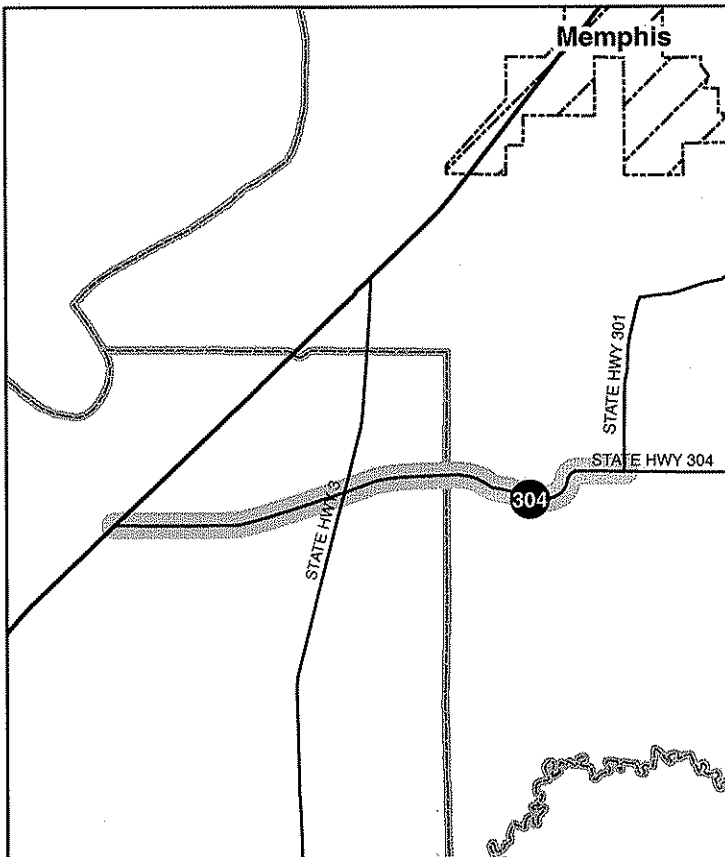


Figure 10

I-55 in DeSoto County
SR 306 to Hernando
Year of Need: 2021

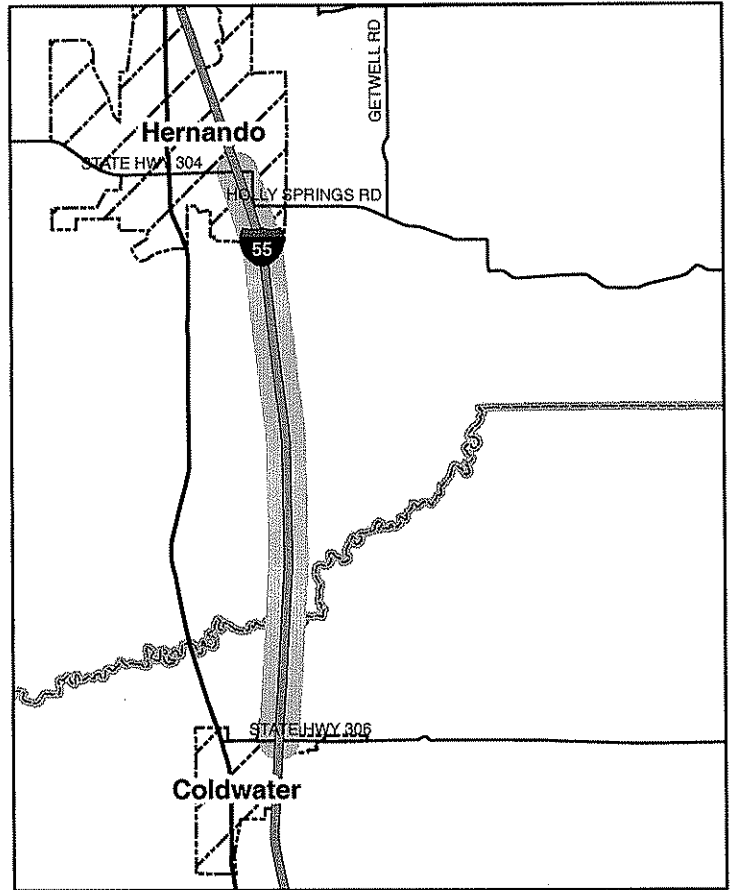


Figure 12

SR 6 (278) in Coahoma County
US 61 to Claremont Rd.
Year of Need: Beyond 2030

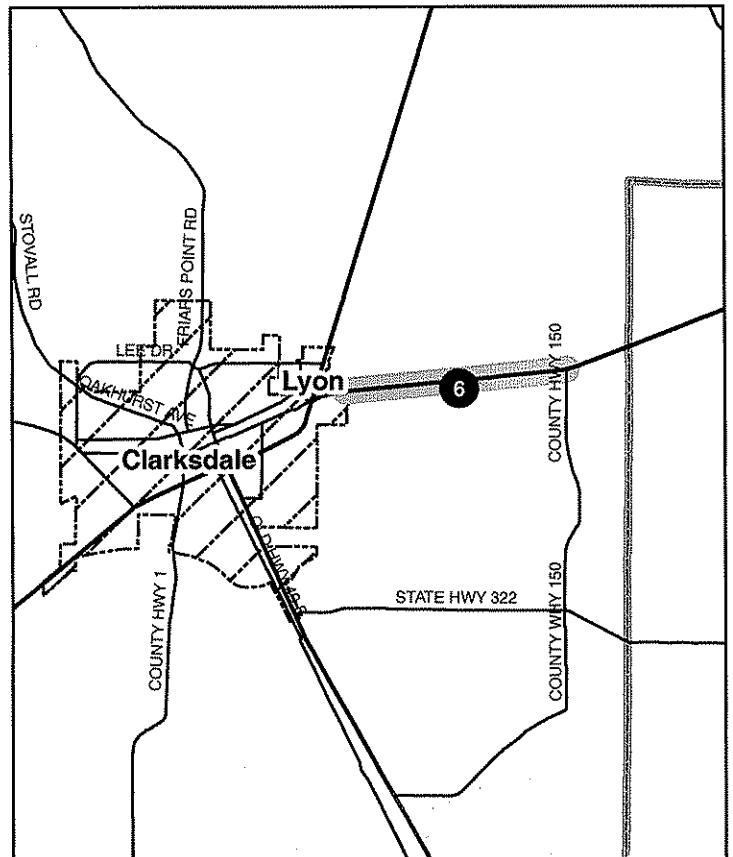


Figure 13

SR 6 (278) in Coahoma and Quitman Counties
Claremont Rd. to SR 3
Year of Need: Beyond 2030

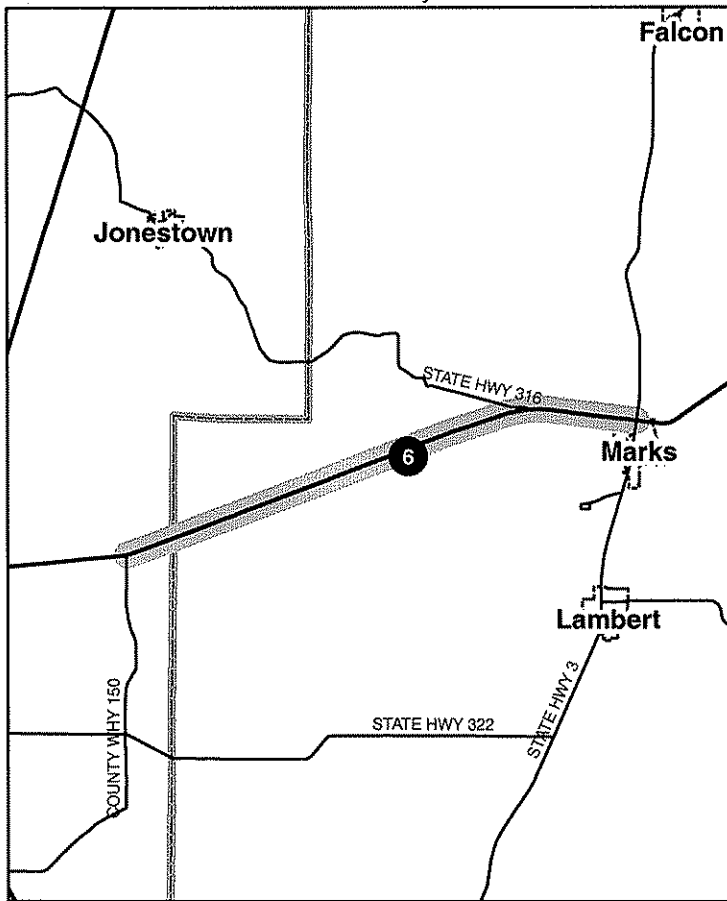
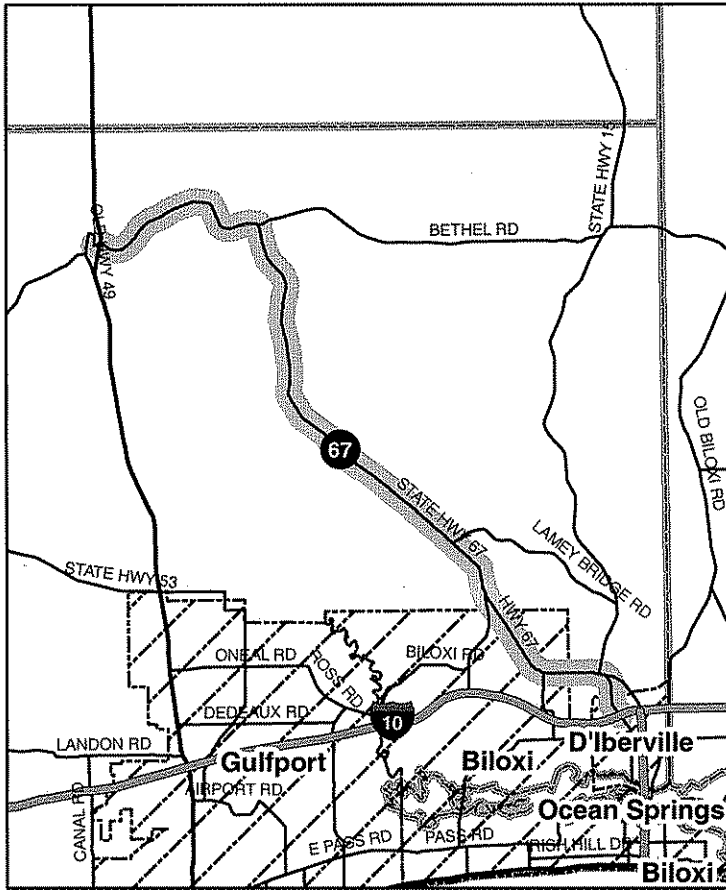


Figure 14

SR 67 in Harrison County
US 49 to I-10
Year of Need: 2015



Appendix D: Highway Construction Projects That are Not Yet in the Design Phase and Would Have Been Classified as an Immediate Need in 2002

The chart below corresponds to maps on the following pages (pages 56 through 62) of MDOT's highway construction projects that are not yet in the design phase and would have been classified as an immediate need in 2002 (i. e., are behind schedule).

Figure	Route	County	Termini	Year of Need	District
1	SR 16	Madison	I-55 to SR 43	2006	Central
2	SR 35	Scott	End of 4-lane north of I-20 to Hillsboro	2006	Central
3	SR 18 (Brandon bypass)	Rankin	Greenfield Rd. to Star Road	2006	Central
4	I-55	Hinds	High Street to Lakeland (Urban Interstate)	2006	Central
5	I-20	Hinds	Clinton/Raymond Rd. Exit to SR 18 (Rural Interstate)	2006	Central
6	I-20	Hinds, Rankin	I-55 south to US 49	2006	Central
7	SR 18	Hinds	SR 27 south to SR 27 north	2006	Central
8	I-55	Hinds	I-20 to High Street	2006	Central
9	I-55	Hinds	Terry Exit to Elton Rd. Exit (Rural Interstate)	2006	Central
10	I-55	Madison	SR 463 to South Nissan Interchange (Rural Interstate)	2006	Central
11	SR 16	Madison	SR 43 to SR 17	2006	Central
12	SR 35	Leake	SR 487 to beginning of 4-lane south of SR 16	2007	Central
13	I-55	Hinds	Elton Rd. Exit to I-20	2007	Central
14	SR 7	Marshall	End of 4-lane north of US 78 to SR 311	2006	Northern
15	SR 7	Grenada	Dubbard to I-55	2006	Northern
16	SR 7	Grenada	SR 8 west to Dubbard	2006	Northern
17	US 49	Coahoma	US 61 to AR SL	2007	Northern
18	US 278	Monroe	US 45 to SR 25 (East Corporate Limits of Amory)	2007	Northern
19	SR 7	Lafayette	End of the 4-lane north of Oxford to Abbeville	2007	Northern
20	SR 7	Yalobusha, Lafayette	End of Water Valley 4-lane bypass to SR 9W	2007	Northern
21	SR 35	Smith	SR 540 to SR 18	2006	Southern
22	(SR 605) Cowan Rd. Extension	Harrison	SR 67 to I-10 (minus Gr, Dr, Br)	2006	Southern
23	SR 27	Walthall	SR 198 to US 98	2006	Southern

SOURCE: PEER analysis of information provided by MDOT.

Figure 1

SR 16 in Madison County
I-55 to SR 43
Year of Need: 2006

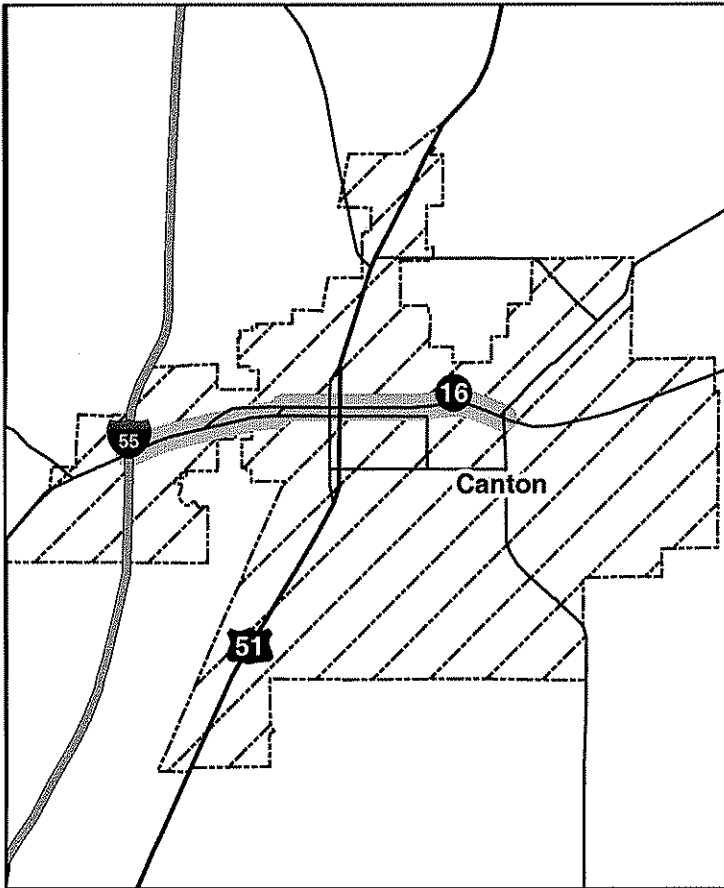


Figure 2

SR 35 in Scott County
End of 4-lane North of I-20 in Hillsboro
Year of Need: 2006

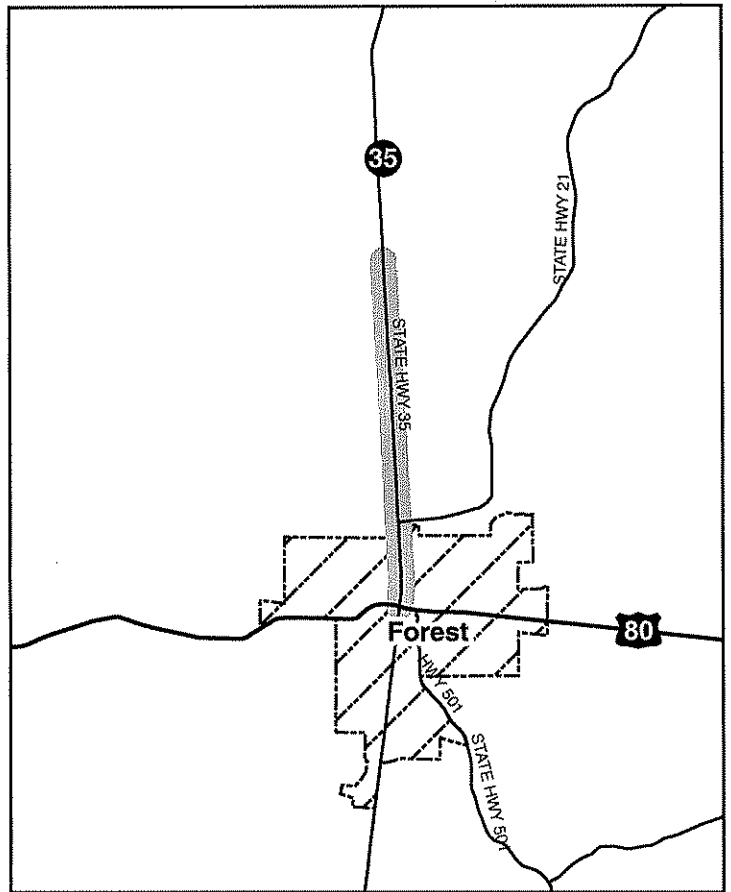


Figure 3

SR 18 (Brandon Bypass) in Rankin County
Greenfield Rd to Star Rd
Year of Need: 2006

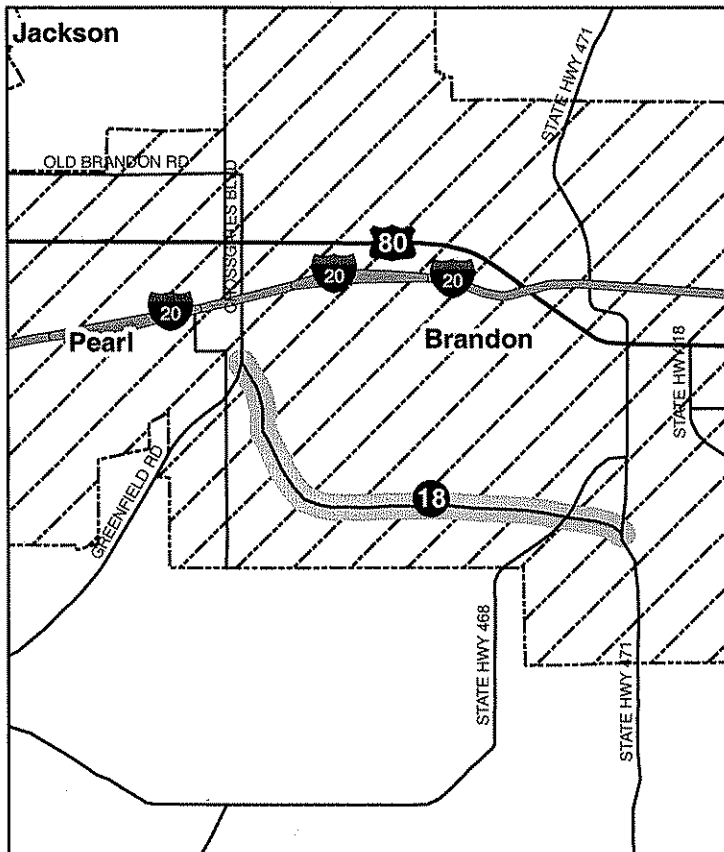


Figure 4

I-55 in Hinds County
High Street to Lakeland Drive
Year of Need: 2006

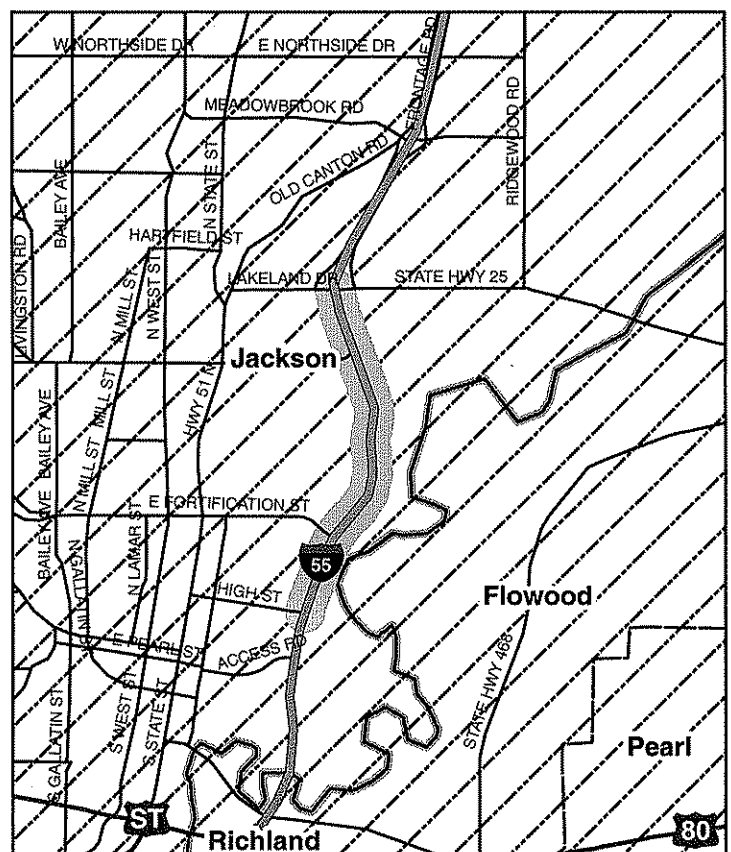


Figure 5

I-20 in Hinds County
Clinton/Raymond Rd Exit to SR 18
Year of Need: 2006

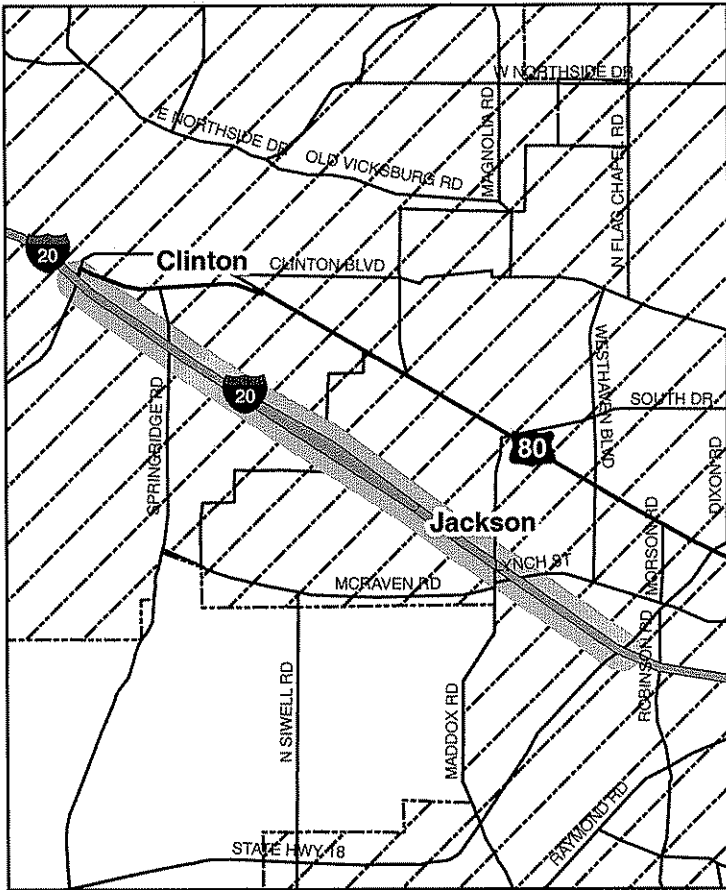


Figure 7

SR 18 in Hinds County
SR 27 South to SR 27 North
Year of Need: 2006

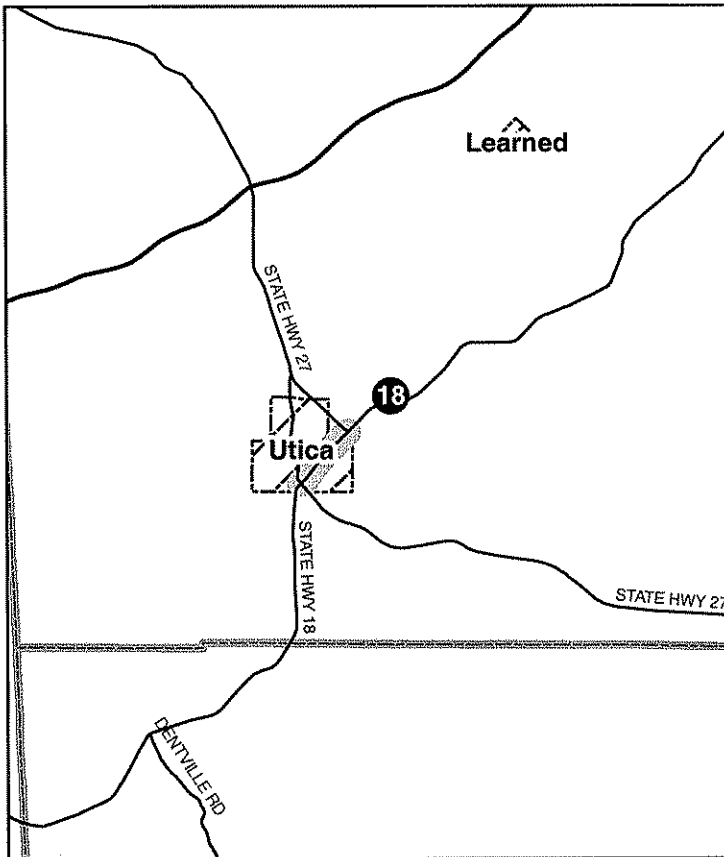


Figure 6

I-20 in Hinds and Rankin Counties
I-55 South to US 49
Year of Need: 2006

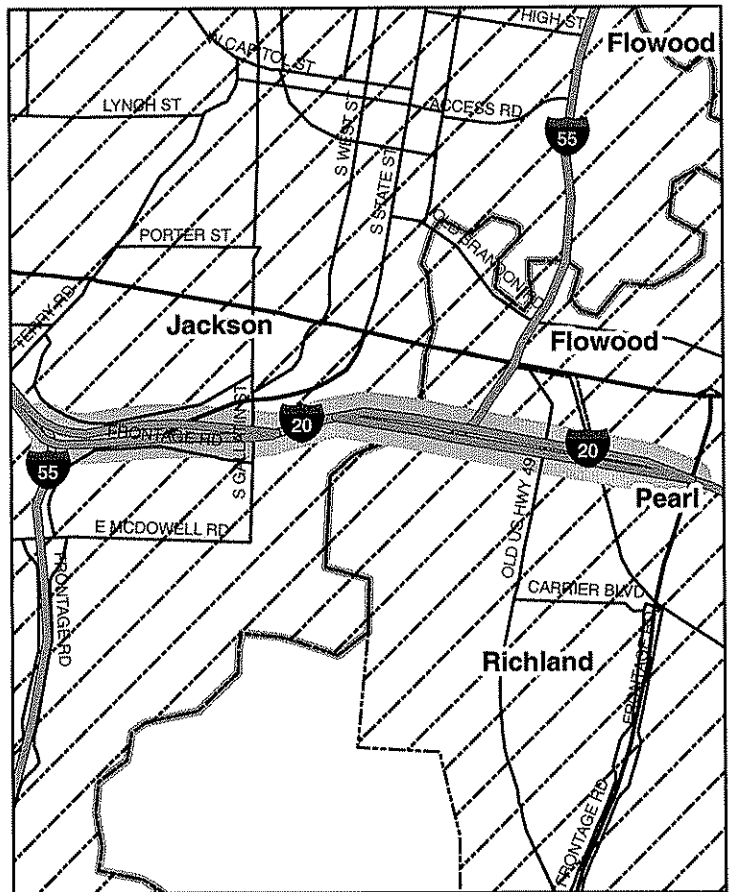


Figure 8

I-55 in Hinds County
I-20 to High Street
Year of Need: 2006

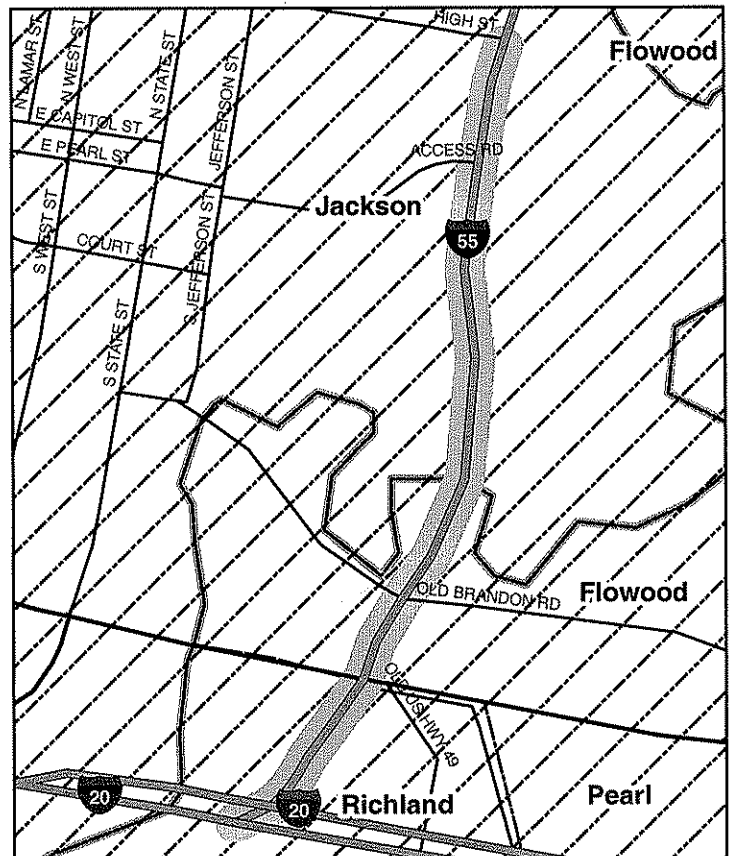


Figure 9

I-55 in Hinds County
Terry Exit to Elton Rd. Exit
Year of Need: 2006

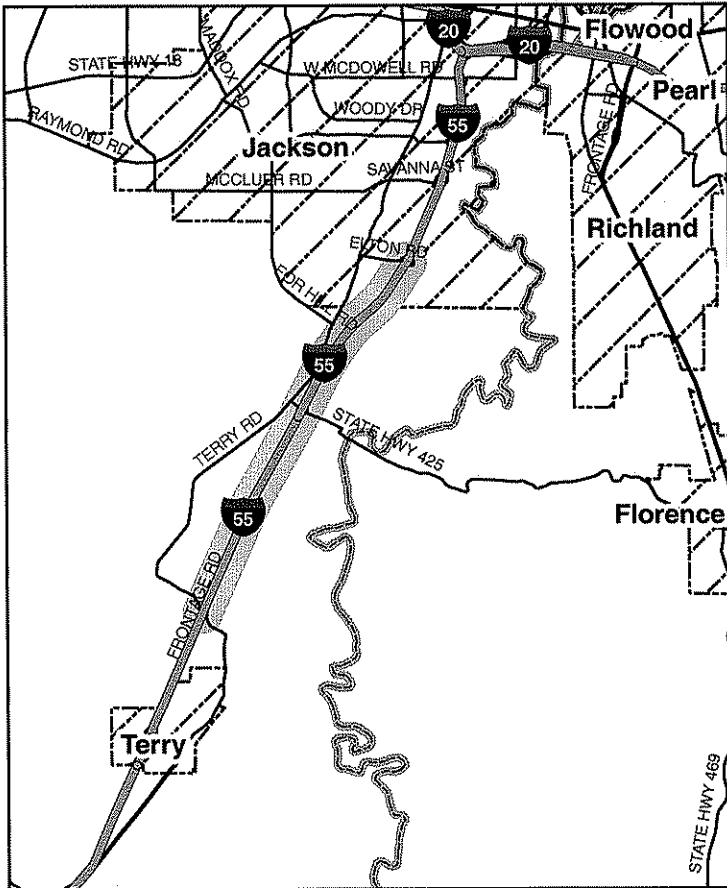


Figure 11

SR 16 in Madison County
SR 43 to SR 17
Year of Need: 2006

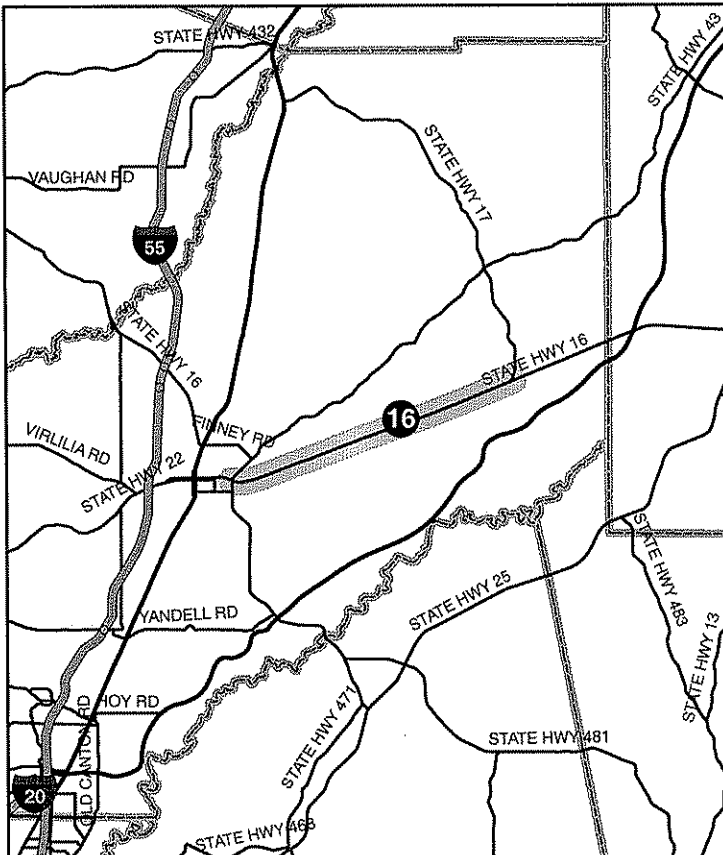


Figure 10

I-55 in Madison County
SR 463 to South Nissan Interchange
Year of Need: 2006

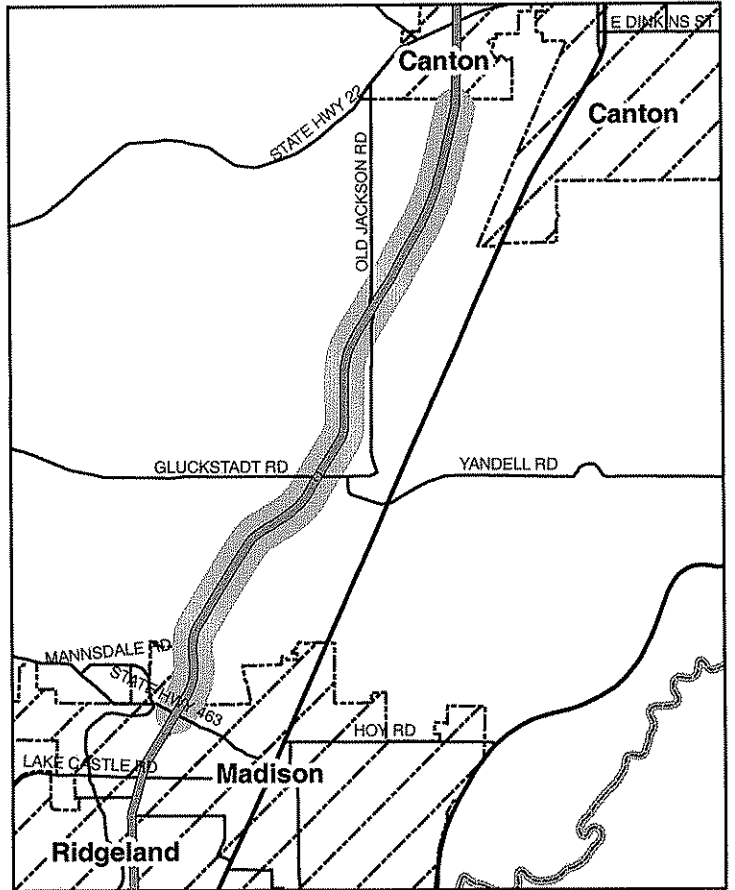


Figure 12

SR 35 in Leake County
SR 487 to Beginning of 4-Lane South of SR 16
Year of Need: 2007

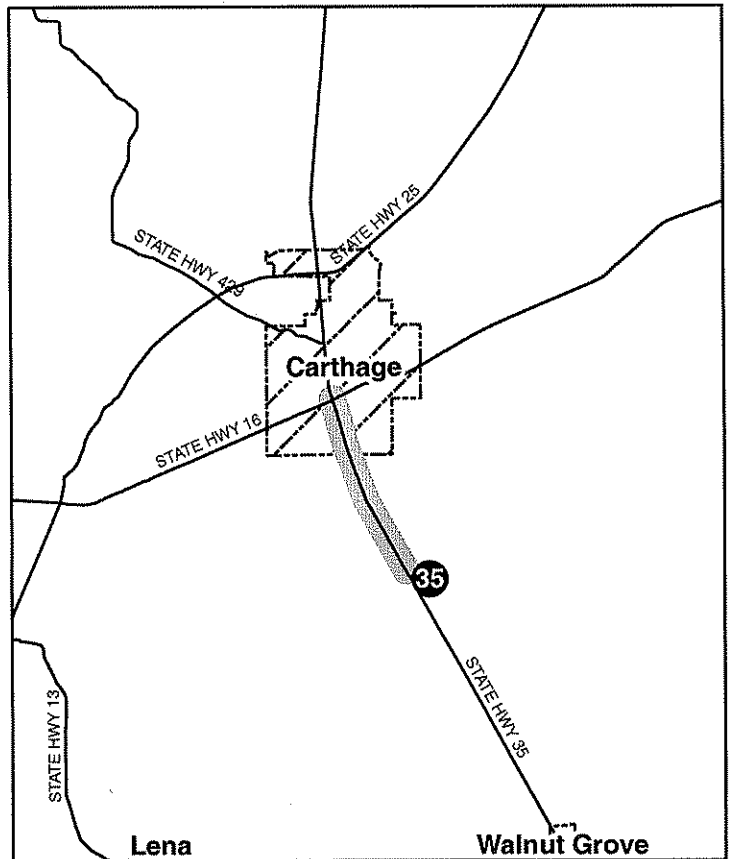


Figure 14

SR 7 in Marshall County
End of 4-lane North of US 78 to SR 311
Year of Need: 2006

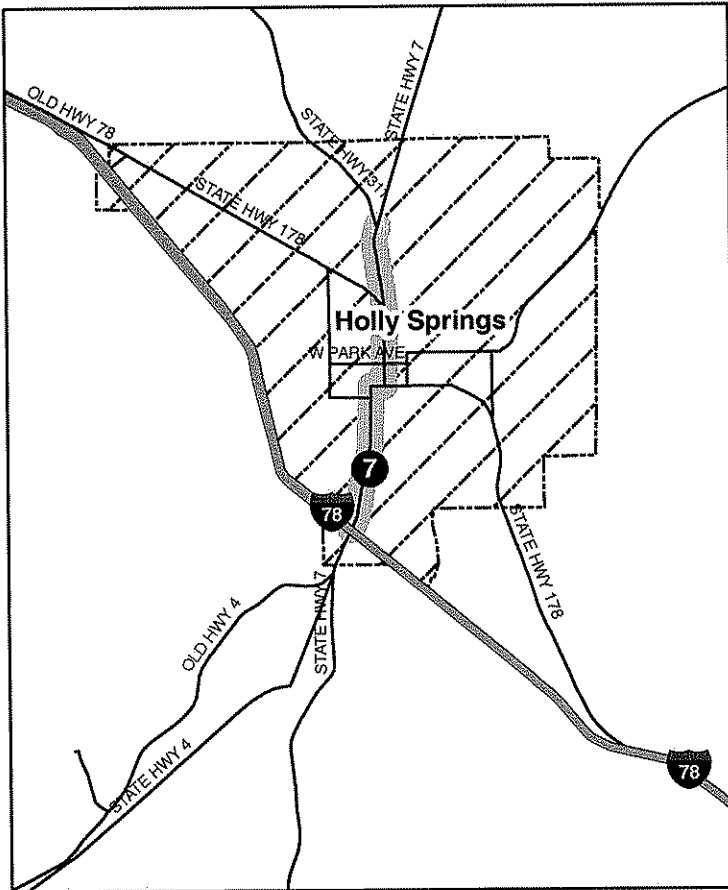


Figure 16

SR 7 in Grenada County
SR 8 West to Dubbard
Year of Need: 2006

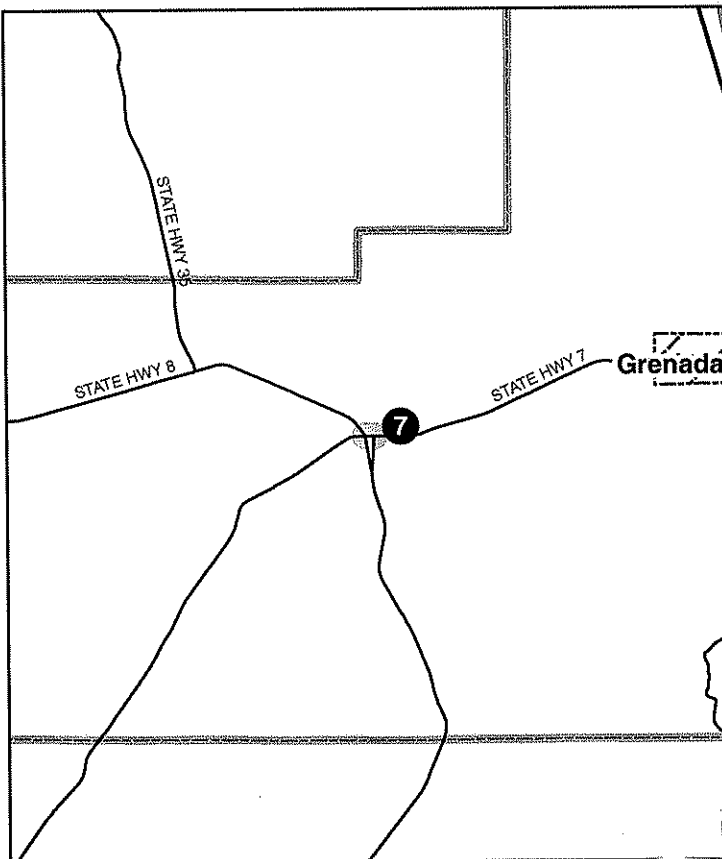


Figure 15

SR 7 in Grenada County
Dubbard to I-55
Year of Need: 2006

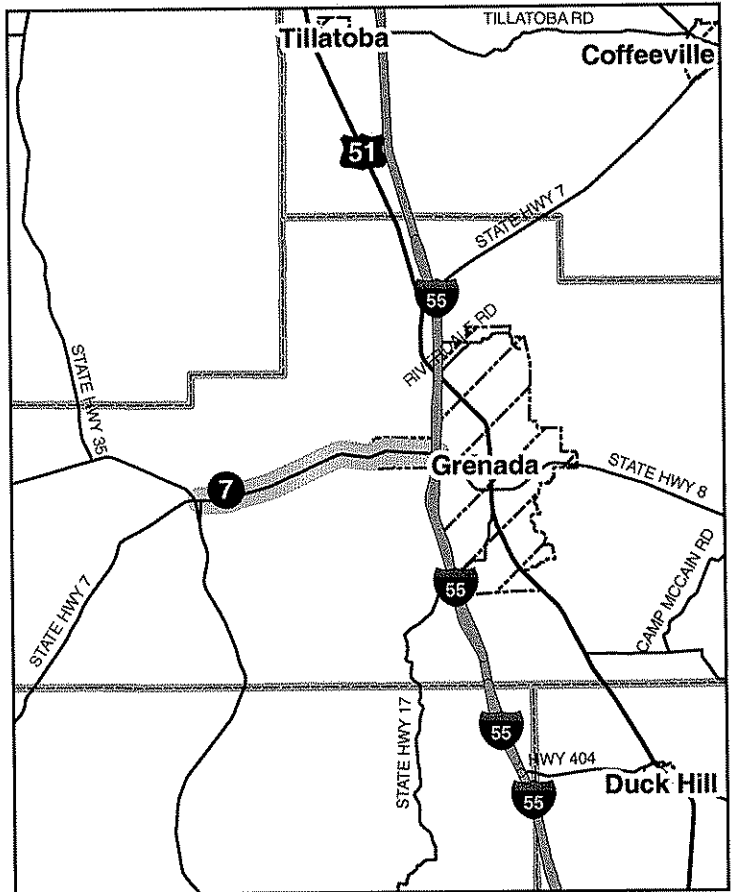


Figure 17

US 49 in Coahoma County
US 61 to Arkansas State Line
Year of Need: 2007

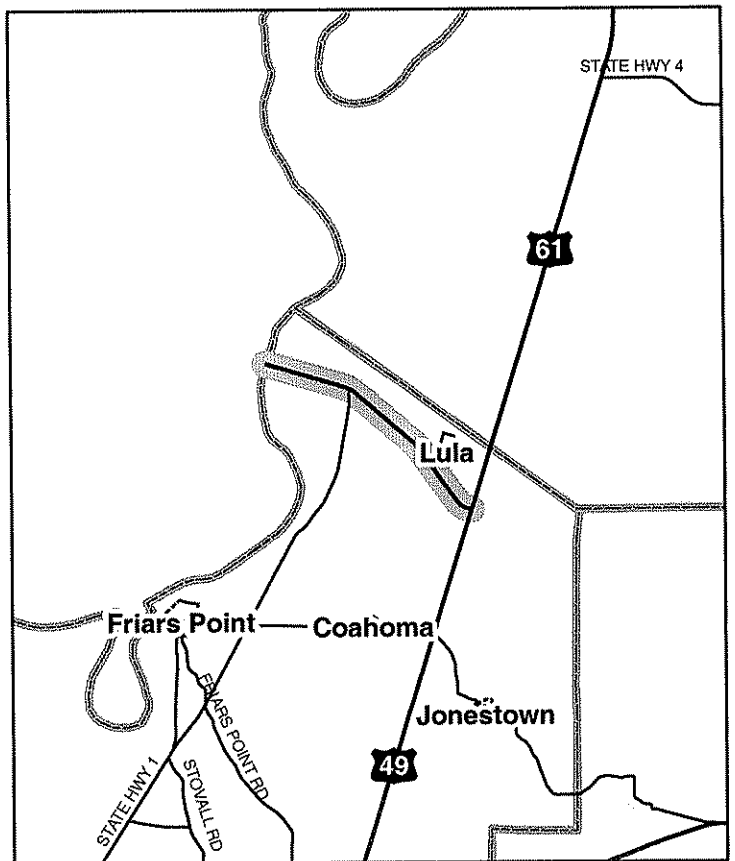


Figure 18

US 278 in Monroe County
US 45 to SR 25
Year of Need: 2007

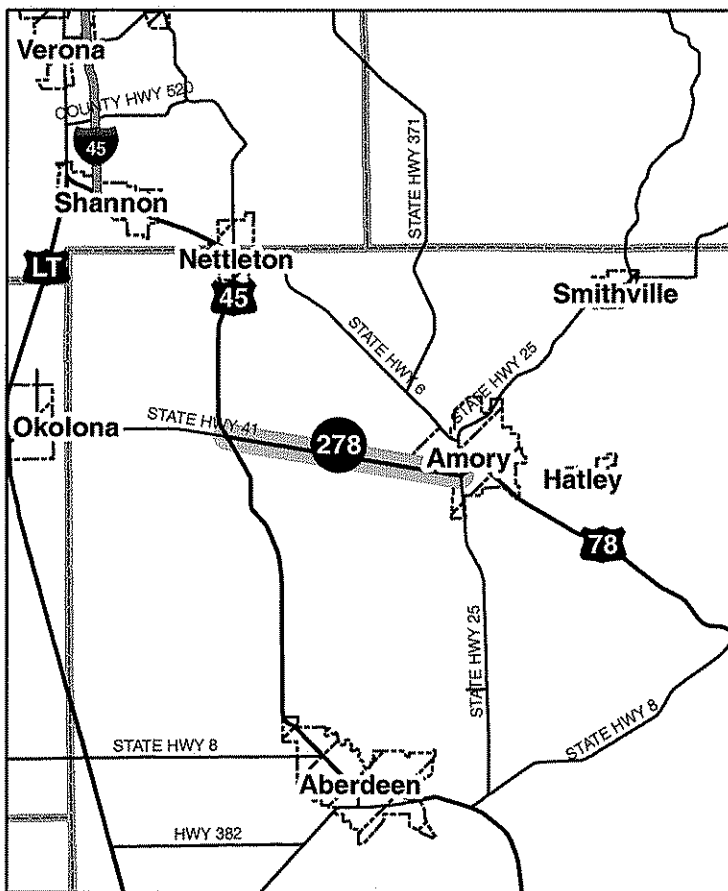


Figure 20

SR 7 in Yalobusha and Lafayette Counties
End of Water Valley 4-lane Bypass to SR 9 West
Year of Need: 2007

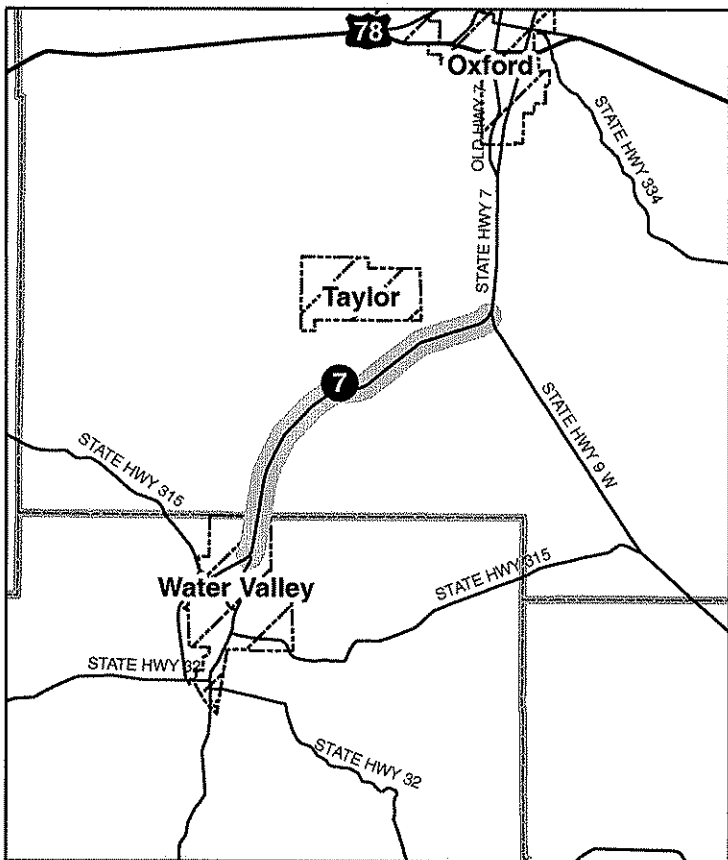


Figure 19

SR 7 in Lafayette County
End of the 4-lane North of Oxford to Abbeville
Year of Need: 2007

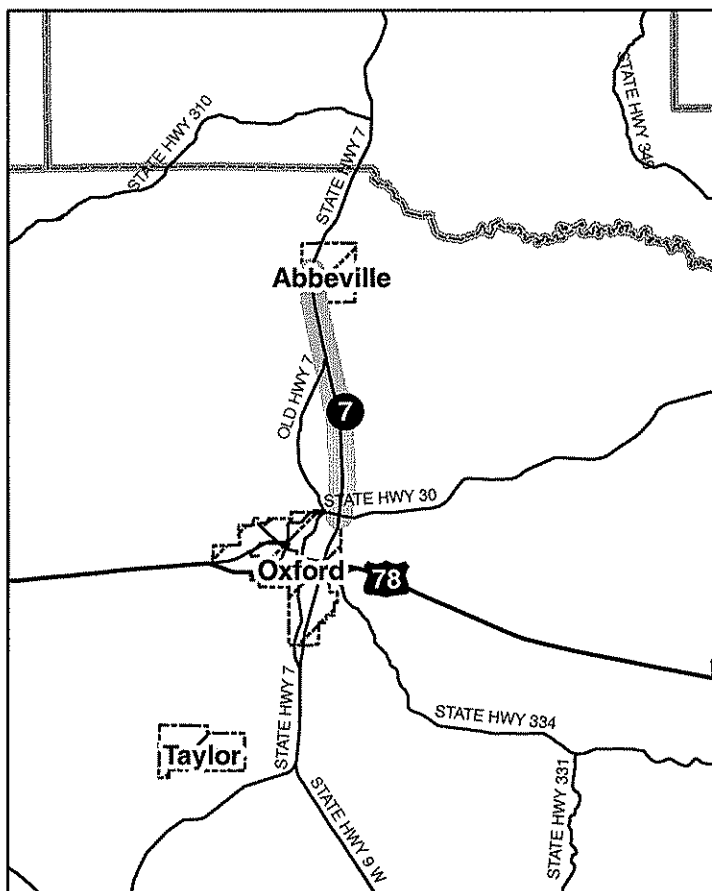


Figure 21

SR 35 in Smith County
SR 540 to SR 18
Year of Need: 2006

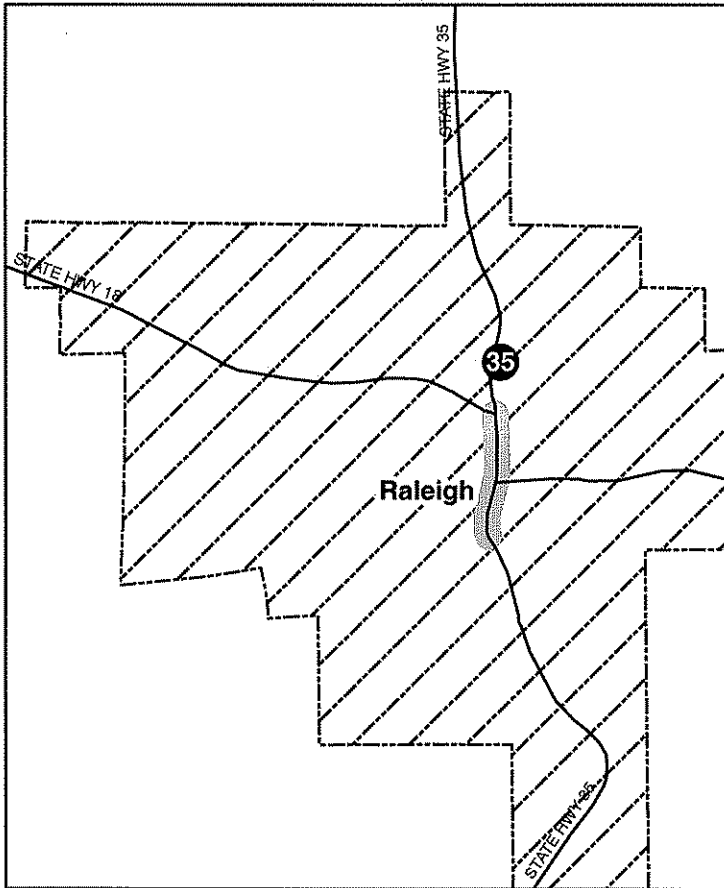


Figure 22

SR 605 (Cowan Rd. Extension) in Harrison County
SR 67 to I-10
Year of Need: 2006

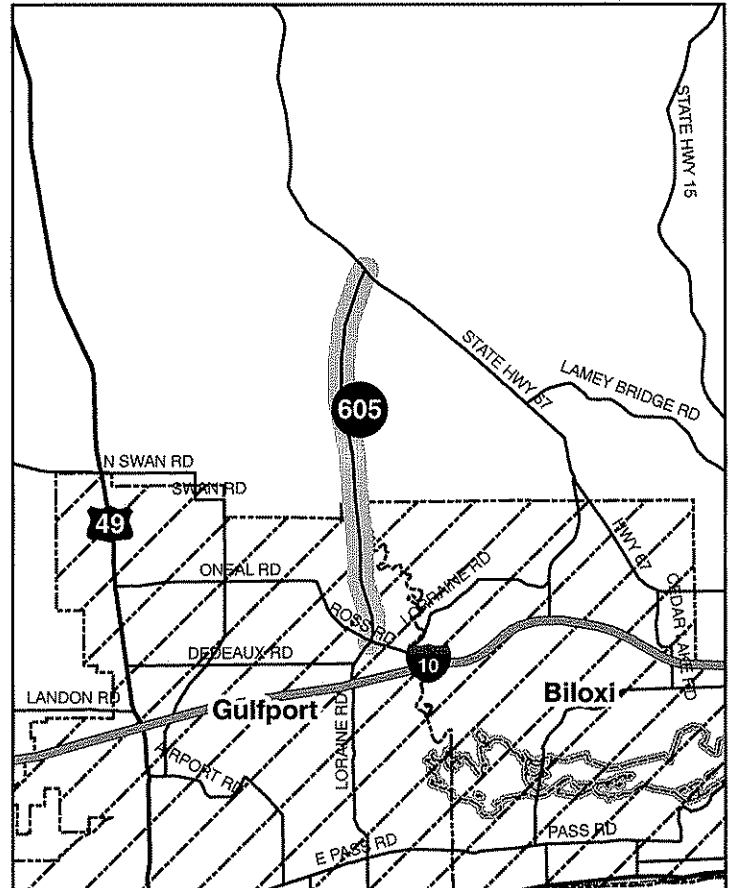
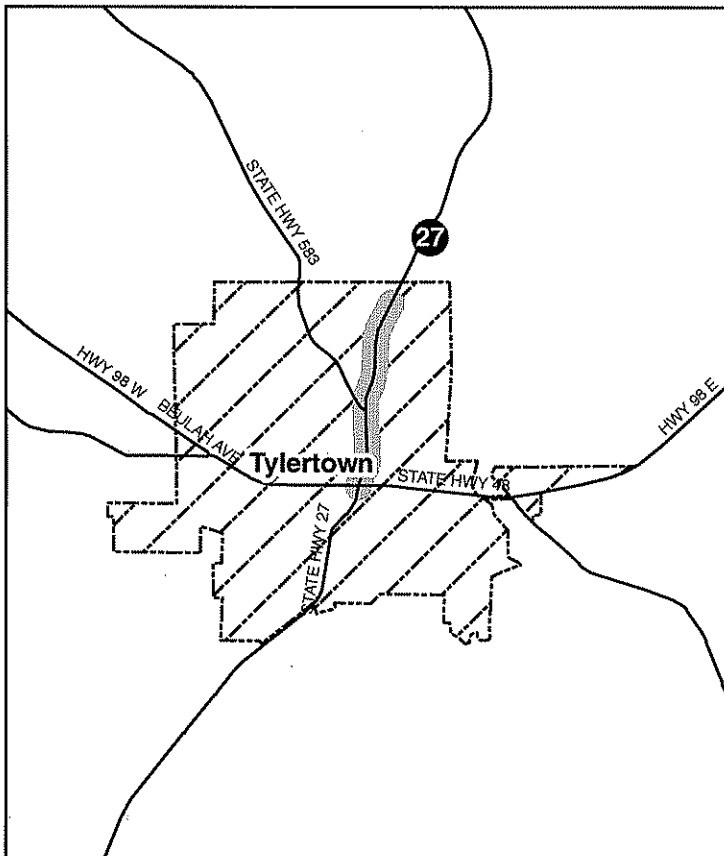


Figure 23

SR 27 in Walthall County
SR 198 to US 98
Year of Need: 2006



Appendix E: MDOT's Significant Index Model for Bridge Assessment

The first part of the Significant Index Model quantifies the consequences of not fixing the bridge. It accounts for the volume of traffic and how far that traffic would have to detour in the event that the bridge deteriorated to the point of closure. The bridge's average daily traffic is multiplied by the bridge's bypass detour length. MDOT uses that figure to determine the bridge's ranking on a Traffic-Detour Factor scale, with values ranging from 0 to 10.

As a bridge's structural condition worsens, traffic has an exponential effect on the bridge's deterioration and possible failure. To model that behavior, the MDOT weights the Traffic-Detour Factor and Structural Evaluation according to a range of Structural Evaluation values.

MDOT then weighs the calculations against other more subjective factors not reflected in the formula, such as anticipated growth areas, corridor improvement initiatives, and environmental issues that may delay a construction start. The result is a realistic, technically based and strategically weighted prioritization of bridge projects on a statewide basis.

The following calculation is an example of how the Significant Index Model works in terms of scientific calculations to ensure a statewide rating system:

Significant Index = [Traffic-Detour Factor X (Traffic Weight/100) + (10-Structure Evaluation) X (Structure Evaluation Weight/100)] X 10

For example, a bridge with an ADT of 1500, Bypass Detour Length of 10 km and Structure Evaluation of 4:

Significant Index = [5.625 X (27.5/100) + (10-4) X (72.5/100)] X 10 = 58.96875

The closer to 100 the significant index is, the more critical the need is for bridge replacement.

SOURCE: PEER analysis of MDOT information.

Appendix F: Structural Condition of State Highway System Bridges Identified for Replacement as of June 30, 2008

County	Highway of Bridge Location	Structural Rating	Bridge Crossing Point
Calhoun	SR 331	2	Cowpen Creek
Calhoun	SR 331	2	Stream
Calhoun	SR 32	2	Stream
Calhoun	SR 32	2	Relief
Calhoun	SR 8	2	Hurricane Creek
Calhoun	SR 8	2	Creek
Calhoun	SR 8	2	Creek
Covington	US 84	2	Oakey Woods Creek
Covington	US 84	2	Station Creek
Forrest	US 49	2	Myers Creek
Forrest	US 49	2	Walls Creek
Forrest	US 11	2	Greene Creek
George	SR 198	2	Big Creek
Grenada	US 51	2	Relief Opening
Grenada	US 51	2	Riverdale Creek
Grenada	US 51	2	Relief Opening
Hancock	US 90	2	Cowan Bayou
Hancock	US 90	2	Whites Bayou
Hinds	SR 473	2	Vaughn Creek
Itawamba	SR 178	2	Cypress Creek
Itawamba	SR 178	2	Gum Creek
Itawamba	SR 178	2	Bull Mountain Creek
Jasper	SR 15	2	Ethomo Creek
Jasper	SR 15	2	Ethomo Creek Trib #2
Jasper	SR 15	2	Ethomo Creek Trib #4
Jasper	SR 513	2	Souinlovey Creek
Jasper	SR 513	2	Algood Creek
Jasper	SR 513	2	Souinlovey Creek Relief
Lafayette	SR 328	2	Splinter Creek
Lafayette	SR 328	2	Jones Creek
Lafayette	SR 328	2	Taylor Creek
Lafayette	SR 331	2	Potlockney Creek
Lauderdale	SR 493	2	Creek
Lauderdale	SR 493	2	Creek
Madison	SR 43	2	Walnut Creek
Marion	SR 35	2	Harpers Creek
Marshall	SR 349	2	Mill Creek Trib
Marshall	SR 349	2	Little Tallahatchie Trib
Marshall	SR 349	2	Potts Creek
Marshall	SR 309	2	Coldwater Creek
Marshall	SR 7	2	Little Coldwater River

SOURCE: Mississippi Department of Transportation Bridge Division.

Note 1: A Structural Rating of 2 is identified as basically intolerable structural conditions requiring a high priority of replacement.

Note 2: A Structural Rating of 3 is identified as basically intolerable structural conditions requiring a high priority of corrective action.

County	Highway of Bridge Location	Structural Rating	Bridge Crossing Point
Marshall	SR 7	2	Coldwater Relief
Marshall	SR 7	2	Coldwater River
Marshall	SR 178	2	Chewalla Creek
Marshall	SR 309	2	Stream
Marshall	SR 4	2	Burlington Northern RR
Marshall	SR 4	2	Stream
Neshoba	SR 15	2	Hurricane Creek
Newton	US 15	2	Dry Creek
Newton	US 15	2	Huckleberry Creek
Newton	US 503	2	Potterchitto Relief
Newton	US 80	2	Chunky Relief
Panola	US 315	2	Indian Creek
Perry	SR 198	2	Dicky Creek
Quitman	US 315	2	Pompey Drain
Quitman	US 278	2	Canal
Quitman	US 278	2	One Mile Bayou
Rankin	US 468	2	Terrapin Skin Creek
Rankin	US 80	2	KCS RR
Scott	SR 501	2	Leaf River
Tate	SR 4	2	Stream
Warren	SR 61	2	Yazoo River, KCS RR
Yalobusha	SR 315	2	Otocalofa Trib #1
Yalobusha	SR 315	2	Greasy Creek
Yalobusha	SR 32	2	Stream
Yalobusha	SR 32	2	Stream
Yalobusha	SR 32	2	Stream
Yazoo	SR 433	2	Techeva Creek
Yazoo	SR 433	2	Bluff Creek
Attala	SR 12	3	Hurricane Creek
Attala	SR 12	3	Leflore Creek
Benton	SR 178	3	Oaklimeter Creek
Coahoma	SR 278	3	Cassidy Bayou
Hinds	SR 49	3	Lime Kiln Creek
Holmes	SR 112	3	Tchula Lake
Holmes	SR 14	3	Cypress Creek
Itawamba	SR 178	3	Relief
Leflore	SR 7	3	Relief Ditch
Leflore	SR 7	3	Beckham Bayou
Marshall	SR 309	3	Old Run
Marshall	SR 349	3	Oaklimeter Creek
Marshall	SR 178	3	Victoria Creek

SOURCE: Mississippi Department of Transportation Bridge Division.

Note 1: A Structural Rating of 2 is identified as basically intolerable structural conditions requiring a high priority of replacement.

Note 2: A Structural Rating of 3 is identified as basically intolerable structural conditions requiring a high priority of corrective action.

County	Highway of Bridge Location	Structural Rating	Bridge Crossing Point
Marshall	SR 178	3	Spring Creek
Marshall	SR 178	3	Relief
Marshall	SR 178	3	Tippah River
Newton	US 80	3	Chunky Relief
Panola	US 51	3	Long Creek
Panola	US 51	3	Stream
Pearl River	US 11	3	Hobolochitto Creek
Perry	SR 15	3	Thompson Creek
Perry	SR 15	3	Pine Branch
Perry	SR 15	3	Crane Creek
Perry	SR 15	3	Leaf River
Rankin	US 80	3	Mullberry Creek
Tate	SR 305	3	Beartail Creek
Tate	SR 305	3	Hickahala Trib #1
Tate	SR 305	3	Whites Creek
Tate	US 51	3	Relief Opening
Tate	US 51	3	Relief Opening
Tate	US 51	3	Relief Opening
Tate	US 51	3	Relief Opening
Tate	US 51	3	Relief Opening
Yalobusha	US 51	3	Tillatoba Creek
Yalobusha	US 51	3	North Tillatoba Creek
Yalobusha	US 51	3	Yocona River
Yalobusha	US 51	3	Stream
Yalobusha	US 51	3	Stream

SOURCE: Mississippi Department of Transportation Bridge Division.

Note 1: A Structural Rating of 2 is identified as basically intolerable structural conditions requiring a high priority of replacement.

Note 2: A Structural Rating of 3 is identified as basically intolerable structural conditions requiring a high priority of corrective action.

Agency Response

Melinda L. McGrath
Deputy Executive Director/
Chief Engineer

Brenda Znachko
Deputy Executive Director/
Administration



Larry L. "Butch" Brown
Executive Director

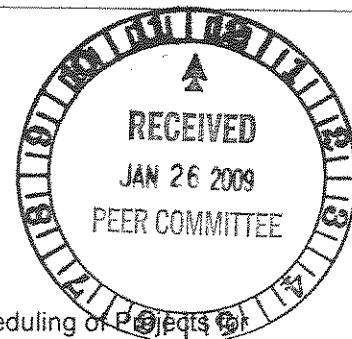
Steven K. Edwards
Director
Office of Intermodal Planning

Willie Huff
Director
Office of Enforcement

P. O. Box 1850 / Jackson, Mississippi 39215-1850 / Telephone (601) 359-7249 / FAX (601) 359-7050 / GoMDOT.com

January 26, 2009

Mr. Max Arinder
Executive Director
PEER
P.O. Box 1204
Jackson, MS 39215-1204



RE: PEER Report entitled "A Review of the Department of Transportation's Scheduling of Selected Highway Construction and Maintenance Programs" – MDOT's Response

Dear Mr. Arinder,

After reviewing the referenced report, I am offering the following comments concerning PEER's recommendations.

Regarding Recommendation Number 1, it is important to note that MDOT has the justification for the projects that have entered into the construction phase sooner than the priority established by the Needs Analysis; although these justifications were not spread upon the Commission Minutes. MDOT agrees with and will comply with the Mississippi Code.

With reference to Recommendation Number 2, MDOT has determined that selecting overlay projects on a needs-based priority system is the preferred method; however, MDOT distributes these limited funds to the six MDOT Districts in order to provide an equitable and fiscally sound approach to maintain the State's aging transportation system. Distributing the funds so that each District has a share assures that a large number of projects are not concentrated in a single area providing a competitive business environment and allowing the necessary work to be performed efficiently and effectively.

Since there are numerous roads in each of the Districts that are below the desired condition rating, "overlay" funds are also utilized to perform preventative maintenance operations such as chip seals, micro-surfacing, etc. – which efficiently extend pavement life. Utilizing a budgeted approach for maintaining the roadway system enables the District Engineers to analyze and plan a strategy to prolong the life of the roadways under their purview. This regional accountability encourages staff to develop the most economical solution for maintaining the roadway system in their area, holds construction costs low by keeping competition strong, and keeps the State's roadways in the best practicable condition.

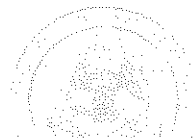
Thank you for your consideration of MDOT's response to the PEER report and please call if additional information is needed.

Sincerely,


Larry L. "Butch" Brown
Executive Director

LLB:MLM:cfe

PEER Report #520



PEER Committee Staff

Max Arinder, Executive Director
James Barber, Deputy Director
Ted Booth, General Counsel

Evaluation

David Pray, Division Manager
Linda Triplett, Division Manager
Larry Whiting, Division Manager
Chad Allen
Kim Cummins
Brian Dickerson
Lonnie Edgar
Barbara Hamilton
Eden Hegwood
Matthew Holmes
Natalie Lick
Kevin Mayes
Angela Norwood
Jennifer Sebren
Charles Sledge, Jr.
Corey Wiggins

Editing and Records

Ava Welborn, Chief Editor/Archivist and Executive Assistant
Tracy Bobo

Administration

Mary McNeill, Accounting and Office Manager
Amber Ruffin
Rosana Slawson
Gale Taylor

Data Processing

Larry Landrum, Systems Analyst

Corrections Audit

Louwill Davis, Corrections Auditor