

Selected Issues: Mississippi Department of Transportation and the Office of State Aid Road Construction

Executive Summary

Introduction

In recent years, legislators have expressed concerns regarding how the Mississippi Department of Transportation expends its funds, whether it operates efficiently, and how it selects projects. Also, legislators have requested information regarding recent county and municipal bridge closures and how bridge inspections have changed.

PEER sought to answer the following questions:

- What are MDOT's revenues and future commitments?
- What are MDOT's expenditures and performance metrics?
- Are MDOT's project selection processes and project information transparent and accountable?
- How are timber bridge inspections being contracted and what is the impact of the new inspections?

Background

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. MISS. CODE ANN. Sections 65-9-5 (1972) establishes within the Department of Transportation the Office of State Aid Road Construction, which is responsible for managing "state aid roads," which are the network of collector and distributor routes that connect to the state highway system and other major county roads.

The nation's transportation is in need of rehabilitation, according to the American Society for Civil Engineers. MDOT data show that Mississippi has approximately 9,000 lane miles (33%) in poor or very poor condition as of 2016. Also, although the percentage of deficient bridges has decreased within the past five years (from 2012 to 2017), the state still has 861 deficient bridges (15%) as of 2017.

MDOT officials state that safety and system preservation are currently the highest priorities for the state's transportation system.

MDOT Revenues and Future Commitments

The Mississippi Department of Transportation receives the majority of its federal funds through the Federal Highway Administration (FHWA) based on specific allocation formulas and receives state funding through legislative appropriations of special funds derived from the state fuel tax and other state taxes and fees. See Exhibit A.

Exhibit A: MDOT Revenues by Source (FY 2013–FY 2017)

Revenue/ Loss Source	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Federal Funds	\$570,767,947	\$570,776,991	\$505,445,200	\$509,643,847	\$514,426,183
State Fuel Tax	\$283,267,625	\$286,177,885	\$283,345,871	\$315,769,123	\$303,842,248
State Taxes & Other Funds	\$224,046,515	\$260,295,227	\$225,428,503	\$141,589,940	\$234,592,540
Truck & Bus Taxes & Fees	\$64,504,691	\$67,149,385	\$70,275,392	\$69,048,623	\$68,630,971
State Support Special Funds	-	-	-	-	\$2,100,000
Governor's Budget Cuts	-	-	-	(\$1,143,214)	(\$2,953,121)
Total Funds	\$1,142,586,778	\$1,184,399,488	\$1,084,494,966	\$1,034,908,319	\$1,120,638,821

SOURCE: MDOT legislative budget request documents.

The majority of federal funds received by the Mississippi Department of Transportation are allocated based on formulas in federal statute.¹ According to MDOT, the type of federal funds received does not impact the timing or selection of MDOT projects for the five-year plan.

To satisfy 540 multiyear project commitments authorized in fiscal year 2017 (or from previous periods), MDOT will be required to expend additional federal and state funds over the next three fiscal years (2018–2020) totaling approximately \$652.3 million, and \$345.7 million, respectively.²

MDOT Expenditures and Performance Metrics

Expenditures for capital outlays (i.e., payments to contractors) represent the greatest expenditure category for the Mississippi Department of Transportation from FY 2015 to FY 2017, at approximately 55%. Other notable

¹The National Highway Performance Program as governed by 23 U.S.C. 119.

²State revenues include state fuel taxes, other state taxes and fees, and other sources, including funds from the Mississippi Development Authority Community Development Block Grants, HELP bonds, and Bridge Revenue Bonds.

expenditures include \$159 million for personal services and \$42.6 million for contractual engineering services in FY 2017.

Total MDOT expenditures were approximately \$1.07 billion, \$1.06 billion, and \$1.15 billion for fiscal years 2015, 2016, and 2017, respectively. MDOT's total expenditures increased by approximately 8% from FY 2015 to FY 2017 primarily because of increases in payments for capital outlays and subsidies, loans, and grants. Exhibit B presents MDOT's expenditures for the past three fiscal years by major category.

Exhibit B: MDOT Expenditures by Major Category (FY 2015–FY 2017)

Category	FY 2015	FY 2016	FY 2017	Average Percentage of Total Expenditures	Percentage Change from FY 2015 to FY 2017
Personal Services	\$159,718,973	\$156,974,697	\$159,060,035	14.48%	(0.41%)
Travel	\$2,002,817	\$2,067,460	\$1,949,051	0.18%	(2.68%)
Contractual Services	\$136,581,715	\$140,315,279	\$134,586,030	12.53%	(1.46%)
Commodities	\$36,267,182	\$41,854,361	\$36,507,474	3.49%	0.66%
Capital Outlays	\$588,415,080	\$571,285,792	\$657,497,599	55.32%	11.74%
Subsidies, Loans, and Grants	\$145,920,994	\$149,486,340	\$164,655,383	14.00%	12.84%
Total	\$1,068,906,761	\$1,061,983,929	\$1,154,255,572	100.00%	7.98%

SOURCE: MDOT legislative budget requests for FY 2015-16 and DFA/MDOT reports for FY 2017.

PEER also examined MDOT's expenditures by budget and accountability program. For FY 2017, the department spent 86% of its funds on construction and maintenance.

The Mississippi Department of Transportation conducts a well-developed assessment to show its transportation system needs, and the department has developed, implemented, and begun tracking efficiency indicators. However, the department needs improvement in communicating to stakeholders its ability to maximize its resources and its efficiency in completing projects on time and within budget.

Transparency and Accountability of MDOT's Project Selection Processes and Project Information

Over the past several years the Mississippi Department of Transportation has shifted its priorities from new construction and system preservation almost exclusively to

system preservation.³ For federal fiscal year 2018, MDOT's five-year plan includes work on 269 projects, with the majority involving bridge replacement/preservation, pavement overlay, and other system preservation projects.

Since PEER's January 2014 report, the Mississippi Department of Transportation has increased its transparency regarding project selection and prioritization processes. Specifically, the department has

- developed a written policy for prioritizing and selecting its bridge and pavement projects; and
- reprioritized its bridge projects in 2015 and created a bridge prioritization report that includes both quantitative data (replacement indexes) and qualitative data (comments from the Bridge Division and the districts) that provides more transparency and accountability for the projects on the list.

MDOT is in the process of adding and converting data into two new software systems that will provide for a new way to prioritize bridge projects and pavement projects in the future using optimization and cost-benefit tools. These systems, planned for use beginning in FY 2019, could provide for a more efficient approach to project selection and prioritization; however, transparency could decrease if the system is complex and not easily understood by stakeholders, and documenting the cost-effectiveness of the new pavement management system could be a challenge.

Since PEER's January 2014 report, the Mississippi Department of Transportation has placed its five-year plan online along with information on the various phases of projects and project changes (e.g., whether a project start date was moved and the reason for the change).

Contracting Methods and Impact of the New Timber Bridge Inspections

As a result of the FHWA's compliance review findings regarding deficiencies of the Office of State Aid Road Construction's current bridge load-rating system as well as a lack of bridge closure enforcement and concerns for the safety of the traveling public, OSARC and the Mississippi Department of Transportation developed an action plan to meet the requirements of the National Bridge Inspection Standards, a component of which included new timber bridge inspection contracts.

The Office of State Aid Road Construction and the Mississippi Department of Transportation jointly procured new contracts for county bridge inspections. OSARC contracted with nine consultants to conduct bridge inspections throughout the state. Because no consultants had been compensated under the new contracts at the time of this review, PEER was unable

³"System preservation" is defined as preserving existing transportation assets and maintaining a state of good repair for transportation infrastructure (e.g., roads, bridges).

to determine how much the new bridge inspection contracts would cost per bridge. However, based on the not-to-exceed costs of the total contracts and the number of bridges to be inspected, PEER estimates an approximate average not-to-exceed cost of \$10,500 per bridge.

Under the new bridge inspection contracts, as of December 7, 2017, consultants had inspected 1,005 bridges with 166 having critical findings that warranted immediate closure. After determining a bridge closure, a county, which bears the majority of the cost burden for bridge repair, may proceed in several ways; however, the chosen option may require extensive planning or there may be a long wait for funding.

The Office of State Aid Road Construction is exploring several options to help provide county engineers with the additional knowledge and equipment necessary to facilitate transition of the inspection of bridge contracts back to the engineers at the end of the current contract cycle. OSARC is also proposing changes to its quality assurance process (as highlighted in the action plan).

The Federal Highway Administration and the Mississippi Department of Transportation also stated that they would be working with OSARC to continue addressing the identified issues pertaining to the local bridge program.

Recommendations

1. In order to ensure sufficient transparency in its new project selection processes beginning in FY 2019, the Mississippi Department of Transportation should have clearly written policies for project selection and prioritization processes using the dTIMS and BrM software and ensure that resulting data are presented in a clear, relevant, and useful manner to decision-makers. Deviations from using the written policies to select or prioritize projects should include written justification that is spread upon the minutes of the Mississippi Transportation Commission.
2. In order to demonstrate the cost-effectiveness of the systems implemented, the Mississippi Department of Transportation should determine, to the extent possible, and communicate the benefits and costs of using the new pavement management for project selection. While benefits could include predicting future conditions given a variable budget or documenting the condition of the transportation system, a quantifiable benefit is preferred, such as cost savings from certain treatment selections. Costs could include data collection, software development and updates, analysis, and reporting.
3. In order to increase the transparency of its decision-making and to communicate to stakeholders its ability to maximize its resources and its efficiency in completing projects on time and within budget, the Mississippi

Department of Transportation should identify and implement the best reporting tools (both internal and external) to communicate its progress (e.g., online dashboard, as part of its annual report).

4. The Federal Highway Administration, the Mississippi Department of Transportation, and the Office of State Aid Road Construction should work together to address the issues presented in this report regarding county bridge inspections. In particular, these three entities should seek to
 - a. establish and communicate any new OSARC specific processes necessary for the implementation and usage of NBIS standards for local bridge inspections;
 - b. establish training programs and schedules for the implementation and usage of NBIS requirements and OSARC specific processes pertaining to the Bridge Inspection Program for locally owned bridges; and
 - c. implement a quality assurance program to ensure that bridges are inspected in accordance with the NBIS requirements and OSARC specific processes pertaining to the Bridge Inspection Program for locally owned bridges.

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