#414

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

Report to
the Mississippi Legislature

The Mississippi Department of Transportation's Administration of the 1987 Four Lane and Gaming Roads Programs

When the Legislature passed the Four Lane Highway Program in 1987, the original cost estimate of $1.6 billion did not include the costs of bridges, interchanges, inflation, and rehabilitation of existing lanes. These factors--along with legislative revisions, costs from complying with federal environmental regulations, design changes to accommodate increased weight and speed limits, interest on bonds, actual annual inflation rate, and the Mississippi Department of Transportation's (MDOT's) safety initiatives--will increase costs to approximately $5.6 billion. Construction delays have resulted from spreading the original funding stream over costs not originally considered. Also, due to program additions and changing traffic patterns, the priority of segments established in law may not represent current needs.

The Gaming Roads Program's original 1994 cost estimate of $317 million also did not include bridges, interchanges, inflation, or consideration of environmental issues. The program is now estimated to cost $1.6 billion. Funding comes from MDOT's portion of gaming tax revenue, capped at $36 million annually, and bonding authority of $325 million. After making debt service payments on bonds, the program will have approximately $5 million annually to fund construction.

MDOT's program management system does not facilitate oversight and management of the preliminary engineering, right of way, and construction phases for highway segments or readily identify causes of inaccurate cost estimates, cost overruns, or delays. Thus, MDOT cannot provide the timely, accurate information the Legislature needs for decisionmaking.

MDOT has not made highway maintenance a high priority when making decisions regarding use of resources and plans to devote 22% of its FY 2001 maintenance budget to pavement overlay. From FY 1997 through FY 2000, MDOT expended $94 million more in federal funds for the 1987 Program than required by law, rather than using federal funds for maintenance, as was within MDOT's discretion.

Contrary to state law, MDOT has repeatedly let construction contracts for segments of less than ten miles, thus ignoring potential economy of scale benefits of letting contracts for longer segments. Eighty-two percent of 1987 Program contracts were for segments of less than ten miles.

December 6, 2000

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 standing joint committee, the PEER Committee is composed of five members of the House of Representatives appointed by the Speaker and five 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 three Representatives and three 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.

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The Mississippi Legislature

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December 6, 2000

Honorable Ronnie Musgrove, Governor
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Honorable Tim Ford, Speaker of the House
Members of the Mississippi State Legislature

On December 6, 2000, the PEER Committee authorized release of the report entitled **The Mississippi Department of Transportation's Administration of the 1987 Four Lane and Gaming Roads Programs.**

William Canon

Senator William Canon, Chairman

This report does not recommend increased funding or additional staff.

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List of Exhibits

The Mississippi Department of Transportation's Administration of the 1987 Four Lane and Gaming Roads Programs

Executive Summary

PEER sought to determine the status of the 1987 Four Lane Program and the Gaming Roads Program and how program revisions have impacted costs and timeliness of completion.

As of June 30, 2000, 624 miles of highways had been completed, 295 miles were under construction, and 165 miles remained for Phases I through III of the 1987 Four Lane Program. No part of Phase IV had been let to contract.

The 1987 Four Lane Program was created under House Bill 1206 and originally encompassed 1,077 miles of highway divided into three phases. Later legislative revisions to the program increased the mileage to approximately 1,092 miles. In 1994, House Bill 1302 created Phase IV and added 684 miles to the program. Subsequent legislative revisions increased the program's total mileage to 1,807 as of June 30, 2000. According to MDOT, as of June 30, 2000, 624 miles of four-lane highways had been completed, 295 miles were under construction, and 165 miles remained for Phases I through III. No part of Phase IV had been let to contract.

As of June 30, 2000, forty-eight miles of highways had been completed in the Gaming Roads Program and 101 miles were under construction.

During the 1994 legislative session, the Legislature created the Gaming Roads Program (House Bill 1302), which originally included 168 miles of highway in the program. Based on a cost per mile calculation formulated by MDOT, the original cost estimate of the program was $317 million. Legislative amendments and additions to the program increased the program to 253 miles. As of June 30, 2000, forty-eight miles of highways had been completed in the Gaming Roads Program and 101 miles were under construction.

Financial Management of the Programs and Adherence to Program Construction Schedules

1987 Four Lane Program

The Legislature originally designed the 1987 Program's funding mechanism to expire on August 31, 2001, the original estimated completion date for the program. Subsequent revisions have extended revenue sources until the Transportation Commission certifies the 1987 Four

Lane Program and the Gaming Program as complete. The Legislature also authorized $200 million in bonds which MDOT issued in FY 1999 to help fund the program.

MDOT's current cost estimate for the 1987 Four Lane Program is approximately $5 billion.

MDOT's original cost estimate for the 1987 Program was $1.6 billion. Subsequent to addition of Phase IV, program revisions, and factors that have increased cost, MDOT's current cost estimate for the program is approximately $5 billion.

Regarding program construction schedules, MDOT has not let contracts in compliance with the schedule established in state law. Under the law, MDOT was required to let 100% of Phase I contracts by June 30, 1993, but all Phase I contracts were not let until FY 1996. Of the Phase II and III contracts required to be let to contract prior to June 30, 2000, MDOT had let 85% of the Phase II contracts and 59% of the Phase III contracts. The first contract for Phase IV is scheduled to be let in July 2005.

MDOT now estimates that Phases I through III will be completed in FY 2008 and Phase IV in FY 2020.

The original 1987 Program completion date projected by MDOT was August 31, 2001. MDOT now estimates that Phases I through III will be completed in FY 2008 and Phase IV in FY 2020.

Gaming Roads Program

MDOT now projects that the Gaming Roads Program will cost $1.17 billion and will be completed in FY 2025.

After MDOT issues the $200 million in bonds approved this year, the Gaming Roads Program will have a maximum of $5 million annually to fund construction projects. At the completion of Phase IV of the 1987 Program, the fuel taxes, lubricating oils tax, motor vehicle tag assessment, and the contractor's tax from the 1987 program will be available to fund the remainder of the Gaming Roads Program.

The Gaming Roads Program's original cost estimate was $317 million. MDOT now projects that the program will cost $1.17 billion and will be completed in FY 2025.

Factors Contributing to Cost Overruns and Delays

Delays in the 1987 Program have resulted from spreading a funding stream designed for a $1.6 billion program over $3 billion in costs for Phases I through III.

Although billions of dollars of additional expenses have been found to be associated with the 1987 Program, the funding stream has not been changed. Delays in the program have resulted from spreading a funding stream designed for a $1.6 billion program over $3 billion in costs for Phases I through III.

The following factors contributed to cost overruns and delays in the 1987 Program:

- ***Inaccurate 1987 Program estimates***--In 1987, the Department of Transportation excluded the costs of bridges, interchanges, inflation, and rehabilitation of existing lanes from the original cost estimate ($1.6 billion) for the Four Lane Program, which has resulted in a funding stream insufficient to support all required activities within the original program time frame.

- ***Inaccuracy of cost projections***--Because the Department of Transportation used an inflation factor of 1% rather than the actual construction inflation index rate of 3.4%, the 1987 Program will cost approximately $564 million more than the department's current projections. The Gaming Roads Program will cost approximately $414 million more than MDOT's projections.

- ***Increases resulting from federal regulations, legislative changes, and MDOT initiatives***--Factors such as wetlands mitigation, improving road conditions for increased speed limits and truck weight limits, and changes established at MDOT's discretion have increased costs and delays of construction.

Program Management

Because MDOT's program management is ineffective, the department cannot provide the timely, accurate information that the Legislature needs for decisionmaking.

The Mississippi Department of Transportation does not maintain a program management information system that facilitates oversight and management of the preliminary engineering, right of way, and construction phases for highway segments and that readily identifies causes of inaccurate cost estimates, cost overruns, or time delays. Because MDOT's program management is ineffective, the department cannot provide the timely, accurate information that the Legislature needs for decisionmaking.

The department does not comply with all of the reporting requirements for the AHEAD report as set forth in state law.

The department does not compile a comprehensive master budget for each highway segment. Instead, the department uses several independent sub-project budgets, which inhibits the tracking of segment costs and progress. Also, MDOT's frequent modification of budget data and loss of a budget baseline inhibit tracking of segment costs. Because projects frequently overlap segment boundaries, MDOT cannot readily provide cost information on segments under construction. This practice increases the chances for cost allocation errors on completed segments and causes the department's annual report to the Legislature on the status of the 1987 Program (the AHEAD Report) to contain inaccurate and incomplete information. The department also does not comply with all of the reporting requirements for the AHEAD report as set forth in state law.

The Department of Transportation does not have a centralized information system that contains accurate, complete, and easily accessed financial management information on construction contracts.

Reprioritization

Due to program additions and changing traffic patterns, the priority of segments established in law may not represent current highway improvement needs.

Due to program additions and changing traffic patterns, the priority of segments for these programs established in law may not represent current highway improvement needs. The Legislature defines the phases, segments, and priorities of the 1987 Four Lane Program and Gaming Roads Program, but MDOT determines the construction schedule within each phase of both programs. MDOT's method of establishing "year of need" is the approved highway planning method of the Transportation Research Board, but the department's ability to address the highways of greatest need is limited because of the priorities required in the law.

Lack of Use of Available Resources to Meet Highway Maintenance Needs

MDOT has not made maintenance a high priority when making decisions regarding use of resources.

MDOT has not made maintenance a high priority when making decisions regarding use of resources. Of a $100 million total maintenance budget for FY 2001, MDOT has budgeted only $21.6 million in pavement projects. The remainder of the maintenance budget will be spent on items such as mowing, providing security at welcome stations and rest stops, and performing maintenance on MDOT buildings.

From FY 1997 through FY 2000, the Department of Transportation expended $94 million more in federal funds for the 1987 Four Lane Program than required by law, rather than using the federal funds for other projects such as maintenance, as was within MDOT's discretion.

Piecemealing

MDOT has not complied with the state law requiring that highway segments be constructed in lengths of at least ten miles.

Mississippi law requires that highway construction contracts be let in segments greater than ten miles unless specific criteria are met. The Mississippi Department of Transportation has misused the criteria and let 82% of all contracts for the 1987 Four Lane Program in segments of less than ten miles, with the average segment length being 7.5 miles.

MDOT believes that keeping segments around ten miles in length increases the number of bidders and that it was the Legislature's intent to enhance bidding. However, PEER reviewed the number of bids received on 1987 Program

contracts and found no material difference in the number of bids submitted for contracts for segments under and over ten miles.

MDOT's practice of piecemealing inhibits the department's taking advantage of economies of scale in letting construction contracts for highway segments.

Recommendations

Program Management System

1. The Legislature should enact legislation regarding MDOT's management of the entire highway construction process. The legislation should address the following areas:

    a. MDOT should develop a master budget for each segment of highway. Highway segments should not be less than ten miles in length and should have logical starting and ending points that comply with the National Environmental Policy Act. The master budget should include budgets for all preliminary engineering, right of way, construction projects, and all other costs, such as construction engineering and inspection, for the segment. See recommendation 11 for possible exceptions.

    b. MDOT should develop policies and procedures for the management and oversight of the master budget for each segment which would, at a minimum, accomplish the following:

        i. Develop a realistic cost estimate for each project within a segment which would serve as a budget for the project. The budget for each project should be developed as soon as realistic cost figures can be estimated but not too late to impede the development of the master budget for the segment.

        ii. Capture and retain the original budget estimate of each project for comparison to the final cost of each project.

        iii. Capture and retain the original master budget of each highway segment for comparison to the final cost of each highway segment.

        iv. Develop a process whereby increases or other revisions to project budgets and master budgets are reviewed and approved by

appropriate levels of management on the district level and in the Jackson central office. The name and position of the approving MDOT official should be recorded in conjunction with the change. Also, management approval should denote that changes are necessary, alternatives have been considered, and any changes are performed in the most cost efficient manner. Alternatives considered but rejected should also be part of the proposed change documentation file.

v. Using existing resources, develop an information system whereby cost information for each segment is readily available for the Legislature or public.

vi. Capture costs of contractors or consultants used on preliminary engineering, right of way, and construction engineering and inspection.

c. MDOT should ensure that individual projects for preliminary engineering, right of way, and construction do not overlap segment boundaries.

d. MDOT should ensure all information relating to the entire construction process for highway segments is readily available to answer information requests from the Legislature and other parties.

Annual Reporting Requirements

2. MDOT should fully comply with MISS. CODE ANN. §65-3-97 (9) and present all required information in the annual report to the Legislature.

3. MDOT should ensure that all information reported annually to the Legislature in compliance with MISS. CODE ANN. §65-3-97 (9) is accurate.

Construction Contract Information

4. MDOT should ensure all pertinent construction contract information is complete, accurate, and in a format which facilitates the preparation of important management information for MDOT management, the Legislature, and other parties. The information should include, at a minimum:

a. Contract let date;

b. Highway on which contract was let;

c. Project description, including beginning and ending point of the contract;

d. Contract length in miles;

e. Name of winning contractor;

f. Original contract amount;

g. Final contract amount;

h. Total earned by contractor;

i. Liquidated damages, if any;

j. Original contract completion date;

k. Revised contract completion date, if applicable;

l. Actual contract completion date.

Program Cost Projections

5. When calculating total costs for the 1987 Four Lane and Gaming Roads programs, MDOT should use the actual inflation index rate as calculated by MDOT's construction inflation index, provided such calculation is in accordance with and approved by the Federal Highway Administration. Also, any total cost projections should include all known costs such as debt service.

Reprioritization

6. The Legislature should amend MISS. CODE ANN. § 65-3-97 and § 65-39-1 to require, after completion of Phases I through III of the 1987 Four Lane Program, the prioritization and construction of highways and roads found in Phase IV of the 1987 Four Lane Program, Gaming Roads Program, and highways not listed in the 1987 Four Lane or Gaming Roads programs. The Federal Highway Administration's accepted standards for estimating capacity, determining level of service for highways, and determining construction needs should be a major factor in prioritization and construction.

7. After completion of Phases I through III of the 1987 Four Lane Program and the prioritization of highways in Phase IV of the 1987 Four Lane Program, Gaming Roads Program, and highways not listed in either

program, the $36 million earmarked as MDOT's share of the state's gaming tax for the Gaming Roads Program should continue to be used exclusively for expenses related to the Gaming Roads Program.

8. MDOT should reprioritize construction at least every five years until conclusion of the 1987 Four Lane and Gaming Roads programs. The Federal Highway Administration's accepted standards for estimating capacity, determining level of service for highways, and determining construction needs should be a major factor in prioritization and construction. MDOT should report this reprioritized construction schedule to the Legislature in the subsequent legislative session and make available for review its supporting documentation of the revised schedule.

Maintenance

9. MDOT should consider all sources of revenue, including the use of federal funds, when addressing maintenance needs.

10. MDOT should collect its assessed quantified maintenance needs on a uniform basis from year to year and compare these needs to data on actual roads paved to determine its effectiveness in meeting needs.

Piecemealing

11. The Legislature may consider granting MDOT the option of allowing segments less than ten miles in length if one or more of the following conditions are met:

    a. The segment as prescribed in law is less than ten miles;

    b. The segment will connect a four-lane highway existing as of July 1, 2001, or a four-lane highway for which a construction contract has been let by July 1, 2001, with the state boundary or the Mississippi River.

    c. For a particular project, the costs of constructing a single segment of at least ten miles in length would exceed by at least ten percent the aggregate costs of constructing two or more segments. In such instances, the MDOT shall have thorough documentation to support the exception.

12. In any case in which the Transportation Commission authorizes the construction of a highway segment of

less than ten miles in length, the commission shall set forth and record in its official minutes, on at least a quarterly basis, explanation and justification therefor based upon one or more of the conditions prescribed above.

13. MDOT should include in the annual report submitted to the Legislature by the Transportation Commission a listing of all construction contracts less than ten miles let by the commission during the previous fiscal year. Information provided in the listing of construction contracts less than ten miles should include, at a minimum, the following:

    a. Contract let date;

    b. Highway on which contract was let;

    c. Project description, including beginning and ending point of the contract;

    d. Contract length in miles;

    e. Name of winning contractor;

    f. Original contract amount;

    g. Justification and explanation for letting a contract less than ten miles.

Reporting Requirements for the Gaming Roads Program

14. The Legislature should require MDOT to prepare an annual report for the Gaming Roads Program that provides the same data as required by MISS. CODE ANN. Section 65-3-97 (9).

For More Information or Clarification, Contact:

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The Mississippi Department of Transportation's Administration of the 1987 Four Lane and Gaming Roads Programs

Introduction

Authority

The PEER Committee authorized a performance audit of the Mississippi Department of Transportation's administration of the 1987 Four Lane Program and the Gaming Roads Program. PEER conducted the review pursuant to the authority granted by MISS. CODE ANN. Section 5-3-57 et seq. (1972).

Scope and Method

PEER sought to determine the status of the 1987 Four Lane Program and the Gaming Roads Program and how program revisions have impacted costs and timeliness of completion. PEER interviewed Mississippi Department of Transportation (MDOT) officials, obtained cost information for each program, and analyzed program data obtained from the department.

Background

Organization of MDOT

The Mississippi Transportation Commission has the authority and responsibility for the control and supervision of the construction and maintenance of the state's highway system. The commission is composed of three transportation commissioners, one from each of the three Supreme Court districts. (See Exhibit 1, page 3, for a map of the Transportation Commissioner districts, which correspond to the state's Supreme Court districts.)

Transportation commissioners are elected to serve four-year terms. Of the twenty-seven states with a transportation commission or board, Mississippi is the only state that elects its commissioners. The highway commissioners of other states are either appointed by the Governor or elected by legislative caucus in conjunction with the Governor. Transportation departments in the other twenty-three states are under the exclusive supervision of the agency administrator and do not have a transportation commission or board.

Each Transportation Commissioner district is further divided into two construction and maintenance districts, yielding a total of six districts for the purpose of constructing and maintaining highways. Each district has a district engineer overseeing construction and maintenance in the district and serving as a liaison between the district and the central office in Jackson.

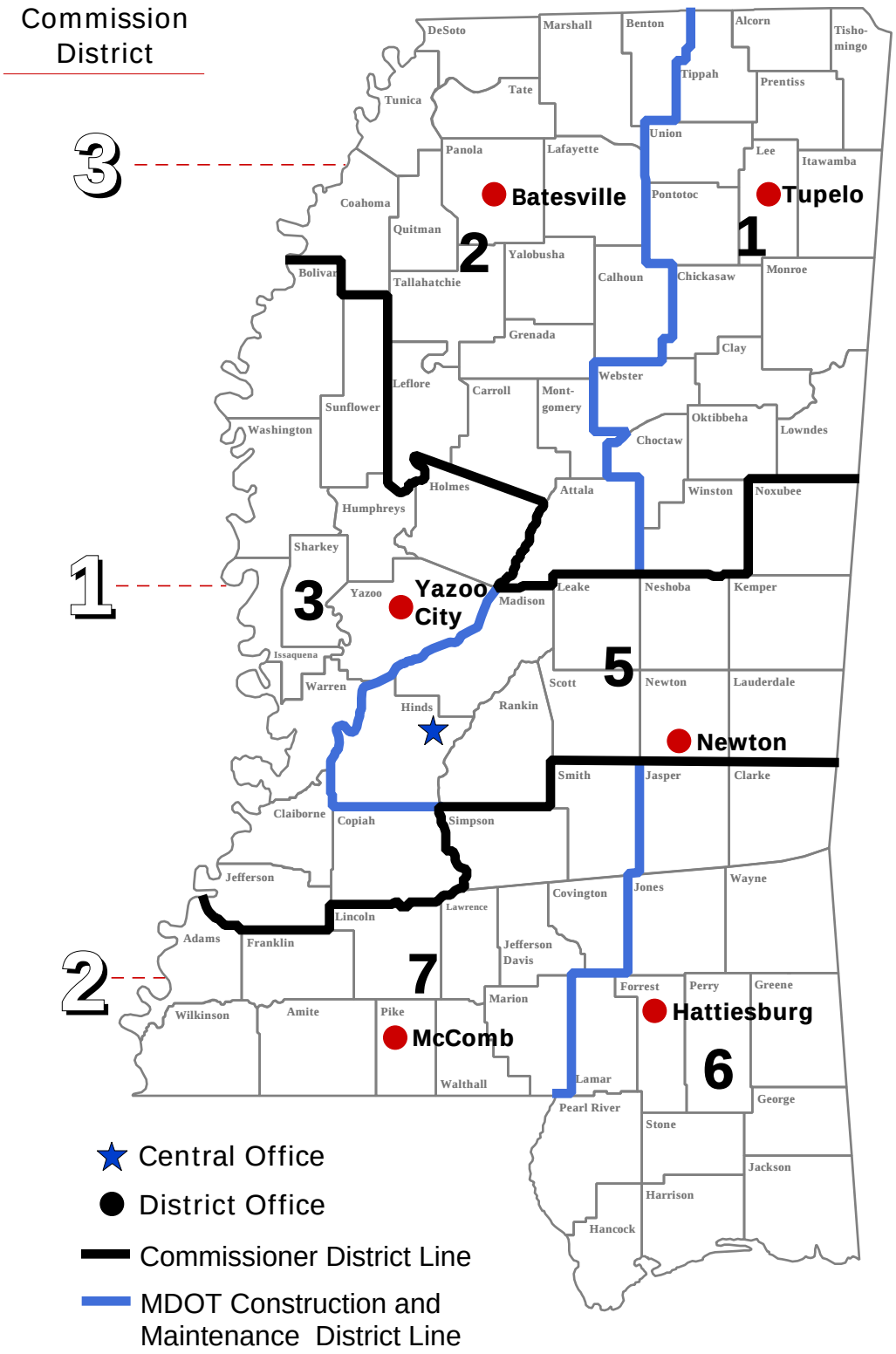
The Construction Management Process

The construction process consists of three phases: preliminary engineering [PE], right of way [ROW], and construction. Each phase consists of multiple projects. Each project has its own project number, start and end point, cost estimate, begin date, and end date. These individual projects comprise the construction process for a segment of highway.

Preliminary Engineering Activities

MDOT's Location Committee is responsible for selecting alternative routes for the proposed highway and selects the final route based on input from local officials and citizens, the

Exhibit 1: Mississippi Transportation Commission and MDOT Construction and Maintenance Districts



Note: MDOT construction and maintenance District 4 does not exist.
SOURCE: Mississippi Official Statistical Register 1996-2000; PEER analysis

Environmental Protection Agency, and the Federal Highway Administration (FHWA), which grants final approval for projects using federal money. When preliminary engineering activity begins, the district engineer makes a cost estimate for the PE phase that serves as the program amount (budget) for this phase.

During the preliminary engineering phase, MDOT determines the level of access to the highway. Type I access is full controlled access, which allows access to the highway only through interchanges, such as is found on interstate highways. Type II access is typically found on bypasses around towns or in urban areas and, depending on traffic volume and congestion, may or may not have frontage roads. Type III access has no controlled access other than requiring permits for access to the highway.

Right of Way Activities

The Right of Way Division provides an estimate of right of way costs when MDOT requests authorization from the Federal Highway Administration (FHWA) to begin right of way procedures. For federal aid projects, right of way authorization consists of two phases. During the first phase, the FHWA authorizes MDOT to proceed with incidentals such as preparing right of way maps and deeds, notifying utility companies to begin planning removal of their facilities, performing relocation studies for affected citizens, and performing hazardous waste studies. After phase one is completed, MDOT requests full authorization from the FHWA to begin phase two. During phase two, the Right of Way Division updates the original right of way estimate, utility companies remove their facilities, property appraisals are performed, and negotiations to purchase property are begun. For state-funded projects, the Transportation Commission authorizes all right of way activities for a project in one step.

Construction Activities

The district engineer's construction cost estimate for a project becomes the program amount (budget) for a construction project. When MDOT's Roadway Design Division finalizes construction plans, the Construction Division prepares another cost estimate based on current prices and the quantities in the final plans prepared by the Roadway Design Division. For state-funded projects, MDOT's Federal Aid Officer changes the Construction Division's estimate in the project management system to the amount of the winning contract bid amount plus fifteen percent for change orders and construction engineering and inspection of the project. For federal aid projects, the federal aid officer uses his or her discretion in determining if the winning bid amount should replace the Construction Division's estimate in the project management system. As with state funded projects, the Federal Aid Officer adds fifteen percent for change orders and

construction engineering and inspection of the project. If change orders and construction engineering and inspection exceed fifteen percent of the project, the Federal Aid Officer increases the program amount in the project management system to accommodate the increased expenses.

Description of the 1987 Four Lane Program

Legislative History

The 1987 Four Lane Program was created under House Bill 1206 and originally encompassed 1,077 miles of highway divided into three phases. Later legislative revisions to the program increased the mileage to approximately 1,092 miles. In 1994, House Bill 1302 created Phase IV and added 684 miles to the program, which increased the program's total mileage to 1,776. Subsequent legislative revisions had increased the program's total mileage to 1,807 as of June 30, 2000.

Status of Construction

According to MDOT, as of June 30, 2000, 624 miles of four-lane highways have been completed, 295 miles are under construction, and 165 miles remain for Phases I through III. No part of Phase IV has been let to contract. See the table below for a breakdown of highways by phase. See Appendices A1, A2, and A3, pages 63 through 70, for a map and list of highways in the 1987 Program open to traffic and under construction as of June 30, 2000.

1987 Program: Miles Completed , Under Construction, and Remaining*

	Phase I	Phase II	Phase III	Phase IV	Total
Completed	317	276	31	0	624
Under construction contract	5	204	86	0	295
Remaining	0	82	83	723	888
Total	322	562	200	723	1,807

SOURCE: Mississippi Department of Transportation as of June 30, 2000.
* Differences between PEER analysis and MDOT's 2000 AHEAD Report are due to rounding.

Pages 8 through 9 contain a discussion of the funding of the 1987 Four Lane Program.

Description of the Gaming Roads Program

Legislative History

During the 1994 legislative session, the Legislature created the Gaming Roads Program (House Bill 1302), which originally included 168 miles of highway in the program. Based on a cost per mile calculation formulated by MDOT, the original cost estimate of the program was $317 million. Legislative amendments and additions to the program increased the program to 253 miles.

Status of Construction

As of June 30, 2000, forty-eight miles of highways had been completed in the Gaming Roads Program and 101 miles are under construction. See Appendices B1 and B2, pages 71 and 72, for listings of roads in each category.

Program Modifications Based on the Baker Study

Two years after passage of the Gaming Roads Program, the Legislature authorized a study of roads and highways within and approaching those counties in Mississippi where legal gaming is being conducted. One purpose of the study was to recommend priorities for the construction, reconstruction, and improvement of existing highways, roads, streets, and bridges as part of the program. The Legislature required that the report be presented during the 1997 Regular Session.

Subsequently, MDOT contracted with Michael Baker, Jr., Inc., a nationwide engineering firm, to perform the gaming roads study. Known as the Baker Study, the report identified and prioritized thirty-seven projects in gaming areas throughout the state. As part of the prioritization process, Baker representatives met with MDOT officials and local officials and performed field observations, traffic forecasting, and highway capacity analysis. Nineteen of the projects identified in the Baker Study were required by law and the remaining eighteen were identified by Baker as having gaming-related needs.

Although the Legislature did not mandate that the study include cost estimates, the Baker Study also provided a cost estimate for

each project. For the nineteen projects required by law, the estimated cost was $686 million and the estimated cost for the remaining eighteen projects was $429 million, for a total cost estimated at $1.115 billion.

According to Baker officials, the cost estimates were rough projections made on general assumptions and were made without performing the necessary field engineering studies that are required to determine accurate estimates. The cost estimates were intended for information purposes only and not intended as a proposed budget. The Legislature never appropriated funds or mandated that projects be built in accordance with the Baker estimates and MDOT never adopted the Baker Study costs as proposed budgets.

Page 17 contains a discussion of the funding of the Gaming Roads Program.

Financial Management of the Programs and Adherence to Program Construction Schedules

1987 Four Lane Program

Funding

The Legislature originally designed the 1987 Program's funding mechanism to expire on August 31, 2001, the original estimated completion date for the program. However, subsequent revisions have extended revenue sources until MDOT certifies the 1987 Four Lane Program and the Gaming Program as complete. The Legislature also authorized $200 million in bonds which MDOT issued in FY 1999 to help fund the program.

State Funding

To fund the 1987 Four Lane Program, the Legislature enacted several revenue-producing measures, listed below:

- increased taxes on fuels dedicated to highway use:
  - -- gasoline by 3.6 cents per gallon;
  - -- diesel fuel by 3.25 cents per gallon; and,
  - -- compressed gas by 3.6 cents per gallon;
- redirected tax revenues on lubricating oils (eight cents per gallon) to the program;
- created the contractor's tax (3.5% of the amount of the construction contract) and dedicated collections from 1987 Program construction for future use of the program;
- applied an annual assessment of five dollars on each motor vehicle tag;
- dedicated fifty percent of selected apportionments to MDOT from the Federal Highway Administration; and,
- dedicated the annual difference between $42 million (MDOT's debt service requirement prior to 1984) and the current debt service on MDOT's 1985 refunding bonds.

These revenue sources were originally set to expire on August 31, 2001, which was the original estimated completion date for the program. However, under current state law, federal highway funds and the $42 million debt service difference revert back to MDOT's non-program revenues at the completion of the 1987 Program and all other sources continue until the 1987 Program and the Gaming

Program are certified as complete by the Transportation Commission.

In addition to the revenue sources listed above, MISS. CODE ANN. Section 31-17-127 authorized MDOT to issue $200 million in bonds. These bonds were issued in FY 1999 and are being repaid over a twenty-year period.

Federal Funding

MISS. CODE ANN. §65-3-97 (8)(a) requires that fifty percent of federal funds in certain categories, interpreted by MDOT as being funds for the National Highway System, be dedicated to the 1987 Program. The state must match federal funds used in the 1987 Program on a four to one basis (four federal dollars must be matched with one state dollar).

In FY 2000, the 1987 Four Lane Program's revenue sources specified by law generated $156 million in state dollars and $61 million of federal funds were applied to the 1987 Program. Because of the way the funding structure is specified by law, the state is providing roughly 2.5 dollars in state funds for each dollar of federal revenue and the state funds cannot be used to match federal funds for other projects.

Revenues and Disbursements

In FY 1996, MDOT began making disbursements for 1987 Highway Program construction at a faster rate than it collected receipts. Consequently, program cash balances dropped to $80.7 million at the end of FY 2000 due to the largest construction disbursements of the program to date and the first year of bond debt service payments.

Through FY 2000, MDOT had spent $2.14 billion on Phases I through III of the 1987 Program.

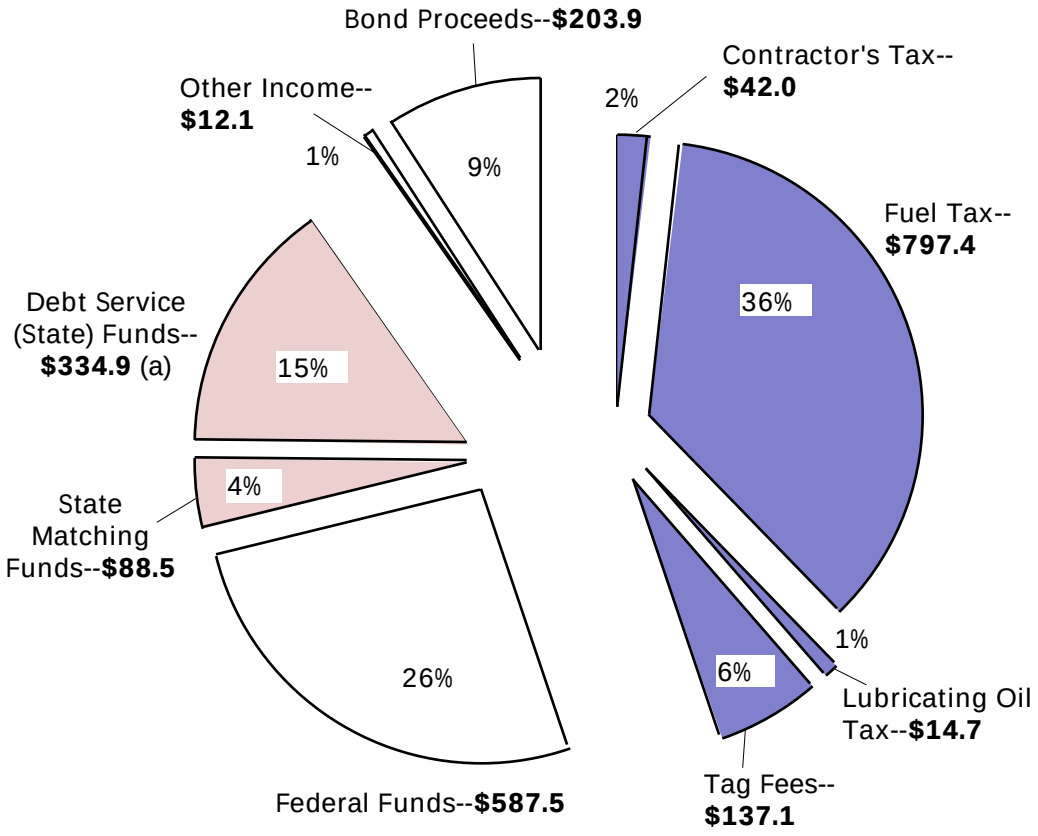
Through Fiscal Year 2000, MDOT had spent $2.14 billion on Phases I through III of the 1987 Four Lane Program, including $26.8 million on debt service for the $203.9 million in bond proceeds (includes premiums on the $200 million bond issue to fund the program). Revenue sources of the 1987 Four Lane Program are used to make all debt service payments on the program's $200 million bond issue. In addition to the bond proceeds, MDOT received funding from motor fuel, tag fees and other taxes, and federal funds during the same period.

The 1987 Program's largest type of receipt has been from the fuel tax, at $797.4 million.

Exhibit 2, page 10, outlines by type the total $2.218 billion in receipts for the 1987 Four Lane Program from FY 1988 to FY 2000. As shown in the exhibit, the 1987 Program's largest type of receipt has been from the fuel tax, at $797.4 million (36% of the total). The second largest source of receipts has been from the federal government ($587.5 million, or 26% of the total), followed by debt service (state) funds at $334.9 million (15%), and bond-

Exhibit 2: 1987 Four Lane Highway Program Receipts by Type, FY 1988 to FY 2000 Total

In $ Millions



Regular MDOT state construction funds

State taxes designated for the 1987 Program

Total Receipts of $2.218 billion

NOTES: (a) Debt Service funds are regular MDOT state construction funds, derived from the gas tax and other sources, which are mandated by law to be spent on the 1987 Four Lane program. The funds originally represented the annual difference between $42 million (MDOT's prior debt service requirement) and the debt service on MDOT's 1985 refunding bonds (which have now been paid off).

SOURCE: MDOT financial statements

related proceeds ($203.9 million, or 9%).[1] As detailed in the exhibit, the Legislature has also provided funds to the program from additional state taxes, including tag fees (a tax on motor vehicle registration), a contractor's tax on the construction contractors which are involved in building the 1987 Four Lane program, and a lubricating oil tax. Also, MDOT has spent $88.5 million in state funds from non-program revenues to match the federal funds dedicated to the 1987 Four Lane Program.

Exhibit 3, page 12, outlines the annual trends in receipts, disbursements, and cash balances from FY 1988 to FY 2000. As shown in the exhibit, receipts increased from $63.6 million in FY 1988 to $217 million in FY 2000. In FY 1999, receipts peaked sharply to $370.6 million, due to non-recurring bond-related receipts of $203.9 million. Disbursements increased during the period from $32.9 million in FY 1988 to $303.7 million in FY 2000.

Exhibit 3, page 12, also shows that in FY 1996, MDOT began making disbursements for 1987 Highway Program construction at a faster rate than it collected receipts. Consequently, program cash balances (which had built to a high of $151.2 million at the end of FY 1995 from the revenues the Legislature had dedicated to the program) decreased to $53.7 million by the end of FY 1998. Cash reached an all-time year-end peak of $167.4 million at the end of FY 1999 due to bond receipts. The next year program cash dropped to $80.7 million at the end of FY 2000 due to the largest construction disbursements of the program to date ($276.9 million) and the first year of bond debt service payments ($26.8 million).

Projected Costs

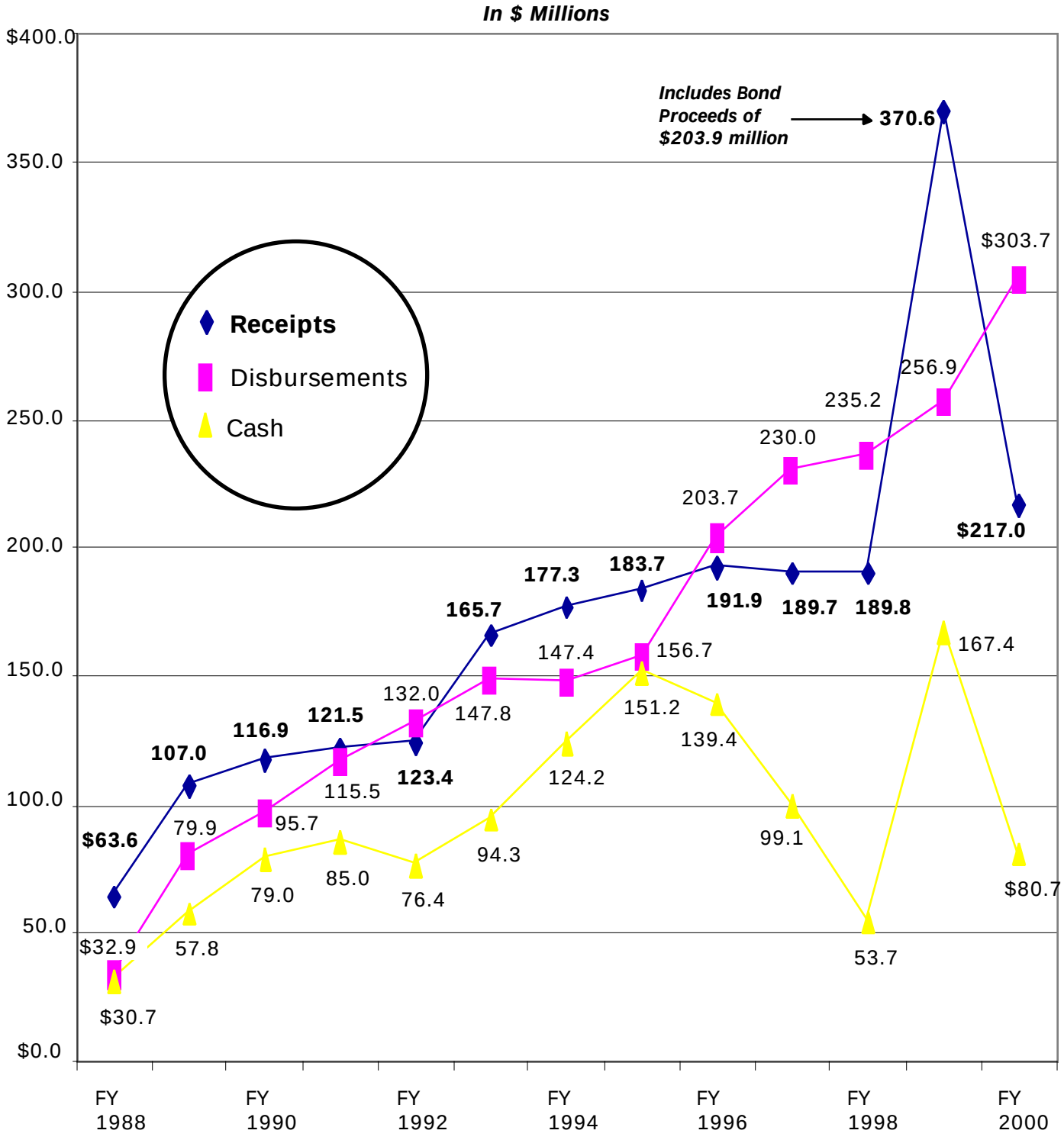
Changes in Cost Projections

MDOT's original cost estimate for the 1987 Program was $1.6 billion. Subsequent to addition of Phase IV, program revisions, and factors that have increased cost, MDOT's current cost estimate for the program is approximately $5 billion.

MDOT originally estimated the 1987 Four Lane Program for Phases I through III would total $1.6 billion. In FY 1994, MDOT revised the estimate for Phases I through III to $2.2 billion and estimated Phase IV would cost $1.2 billion. MDOT projected $195 million in inflation for all four phases, which increased total program cost to approximately $3.6 billion. As shown in Exhibit 4, page 13, MDOT estimates that, as of September 2000, the four

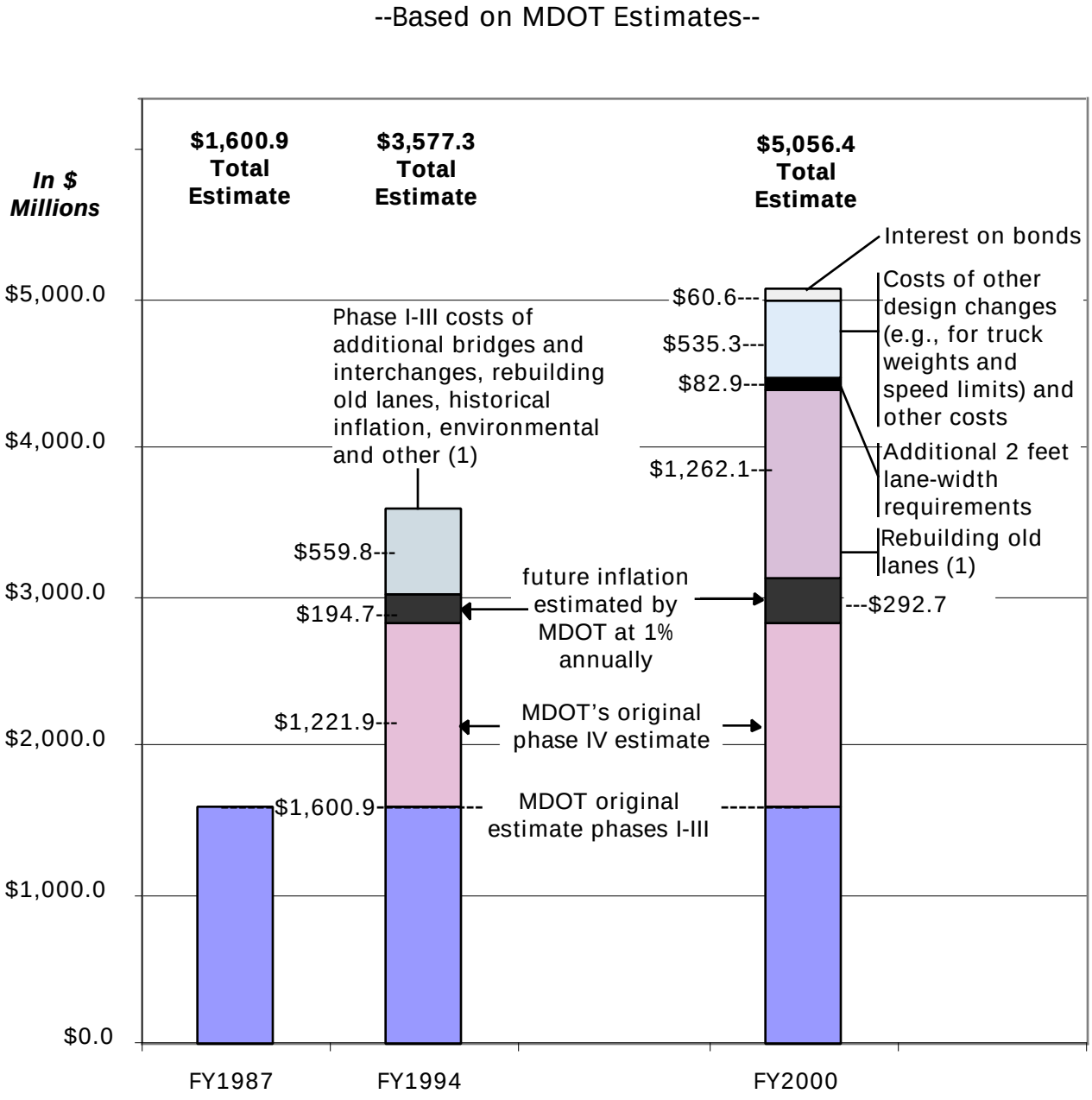
1 Debt Service funds are regular MDOT state construction funds, derived from the gas tax and other sources, which are mandated by law to be spent on the 1987 Four Lane Program. The funds originally represented the annual difference between $42 million (MDOT's prior debt service requirement) and the debt service on MDOT's 1985 refunding bonds (which have now been paid off).

Exhibit 3: 1987 Four-Lane Highway Program, Trends in Receipts, Disbursements and Cash, FY1988 to FY2000



SOURCE: PEER analysis of MDOT financial statements

Exhibit 4: Explanation of Cost Increases in the MDOT Estimates of the 1987 Four-Lane Highway Program, FY 1987 to FY 2000



NOTE (1): Phase I-III costs of bridges, rebuilding old lanes, etc., are included in MDOT's 2000 estimates for rebuilding old lanes. Because MDOT's 2000 estimates are based on average costs over the life of the project, they include the 1994 cost estimates.

SOURCE: PEER analysis of MDOT studies, financial statements, projections of future costs, and estimates of costs by type

phases of the 1987 Program will cost approximately $5 billion. Pages 23 through 27 include a discussion of factors contributing to the increased cost estimates. Pages 41 through 42 include a discussion of MDOT's construction priorities.

Decisions Regarding Access Levels in Relation to Costs

Because building all highways the 1987 Program on a Type I (full controlled) access level would have increased the cost of the program by at least fifty percent, or approximately $2.5 billion, MDOT chose to include some Type II and III access highways in the program.

MISS. CODE ANN. §65-3-97 (2) requires MDOT to use existing highway lanes for the 1987 Four Lane Program when feasible. Had MDOT sought to raise existing highways to the level of full controlled access (Type I), it would have been faced with two choices:

- purchase enough right of way to remove all homes and businesses from the highway, as is done in the case of interstates;
- purchase enough right of way to remove homes and businesses from one side of the highway and construct a frontage road on the other side to provide local traffic with a route to the nearest interchange.

Either choice would have resulted in higher costs to the program and, given that most of the 1987 Four Lane Program involves rural areas and facilitates the movement of local traffic, such choices would probably have resulted in resistance from affected residents.

Constructing full controlled access highways costs approximately $3.5 million per mile, while constructing partially controlled access highways costs approximately $2.1 million per mile.

Also, upgrading the remaining portion of the 1987 Four Lane Program to Type I full controlled access would have been more expensive. Approximately 53 miles of the 1987 Program are constructed with full controlled access because they were part of full controlled access projects underway at the time the 1987 Program was approved. Based on comparison of the costs for full controlled access ($3.5 million per mile) to the cost for partially controlled access ($2.1 million per mile), building the 1987 Program on a full controlled access level would have increased the cost of the program by at least fifty percent, or approximately $2.5 billion. (See following table.) Thus, when the 1987 Four Lane Program is completed, it will contain highways with Type I, Type II, and Type III access levels.

The following table compares the cost of the full controlled access segments to the remainder of the 1987 Program as will be reported in the 2000 AHEAD Report during the 2001 legislative session.

1987 Program Segment Costs Comparison:
Type I Access vs. Types II, III, and IV Access

Full Controlled Access Segment	Mileage	Cost*	Average Cost per Mile
Highway 78 between Fulton bypass and Alabama Line	13.3 miles	$46,361,191	$3,485,804
Highway 78 between Holly Springs and New Albany bypass	23.7 miles	$80,762,748	$3,407,711
Highway 82 between state road 12 and Alabama line	8.4 miles	$25,448,632	$3,029,599
Highway 45 – Meridian Bypass	7.6 miles	$37,233,251	$4,899,112
Type I Access Total	53 miles	$189,805,822	$3,581,242
Other (Types II & III) Totals	571 miles	$1,227,226,699	$2,149,259

*Based on costs per June 30, 2000, according to MDOT.

Adherence to Required Contract Let Dates

MDOT has not let contracts in compliance with the schedule established in state law.

The 1987 Four Lane program began quickly with MDOT collecting $64 million in program revenue, expending $33 million, and letting $51 million of construction contracts in FY 1988. However, by 1993, MDOT had fallen far behind the scheduled let dates specified in MISS. CODE ANN. §65-3-97. Under the law, MDOT was required to let 100% of Phase I contracts by June 30, 1993, but all Phase I contracts were not let until FY 1996.

The law also requires that certain percentages of contracts for the other phases be let by specified dates. For example, the law requires 100% of contracts for Phase III to be let by June 30, 1999. As of June 30, 2000, 59% of Phase III contracts had been let. The table below summarizes the percentage of contracts actually let as of June 30, 2000, for Phases I through III in comparison to the requirements set by law.

Percent of 1987 Program Contracts Let: Statutory Requirements vs. Actual

	Percentage Required by Law to be Let to Contract prior to June 30, 2000	Actual Percent Let to Contract as of June 30, 2000
Phase I	100%	100%
Phase II	100%	85%
Phase III	100%	59%

SOURCE: Mississippi Department of Transportation as of June 30, 2000.

The law also requires that 5% of Phase IV contracts be let by June 30, 2002. However, under MDOT's current schedule, the first contract for Phase IV is scheduled to be let in July 2005.

MDOT severely underestimated the program's cost and the funding stream is unable to support the original construction schedule at the higher costs.

The construction schedule prescribed by law was set by the Legislature under the belief that the program's cost, the funding stream, and the completion dates represented accurate projections. However, as discussed on pages 23 through 24, MDOT severely underestimated the program's cost and the funding stream is unable to support the construction schedule at the higher costs. Therefore, the original construction schedule is no longer feasible.

Projected Completion Dates

The original 1987 Program completion date projected by MDOT was August 31, 2001. MDOT now estimates that Phases I through III will be completed in FY 2008 and Phase IV in FY 2020.

Originally, MDOT projected Phases I through III would be completed August 31, 2001. In October 1993, this estimate was revised to August 31, 2002. As of September 2000, MDOT had extended the completion date for Phases I though III to FY 2008 and projected Phase IV to be completed in FY 2020. Factors contributing to the extended completion dates are discussed in pages 23 through 27.

Gaming Roads Program

Funding

After MDOT issues the $200 million in bonds approved this year, the Gaming Roads Program will have a maximum of $5 million annually to fund construction projects. At the completion of Phase IV of the 1987 Program, the fuel taxes, lubricating oils tax, contractor's tax, and motor vehicle tag assessment from the 1987 Program will be available to fund the remainder of the Gaming Roads Program.

In 1994, House Bill 1302 authorized $325 million of bonds to finance construction of the Gaming Roads Program and authorized one quarter of the state's eight percent gaming tax be deposited to the gaming bond sinking fund from July 1, 1995, through June 30, 2002, to pay principal and interest on the bonds.

In 1997, the Legislature modified the funding of the Gaming Roads Program. Senate Bill 3188, 1997 Regular Session, capped the amount diverted to the gaming counties bond sinking fund to $36 million annually and extended the diversion until July 1, 2012.

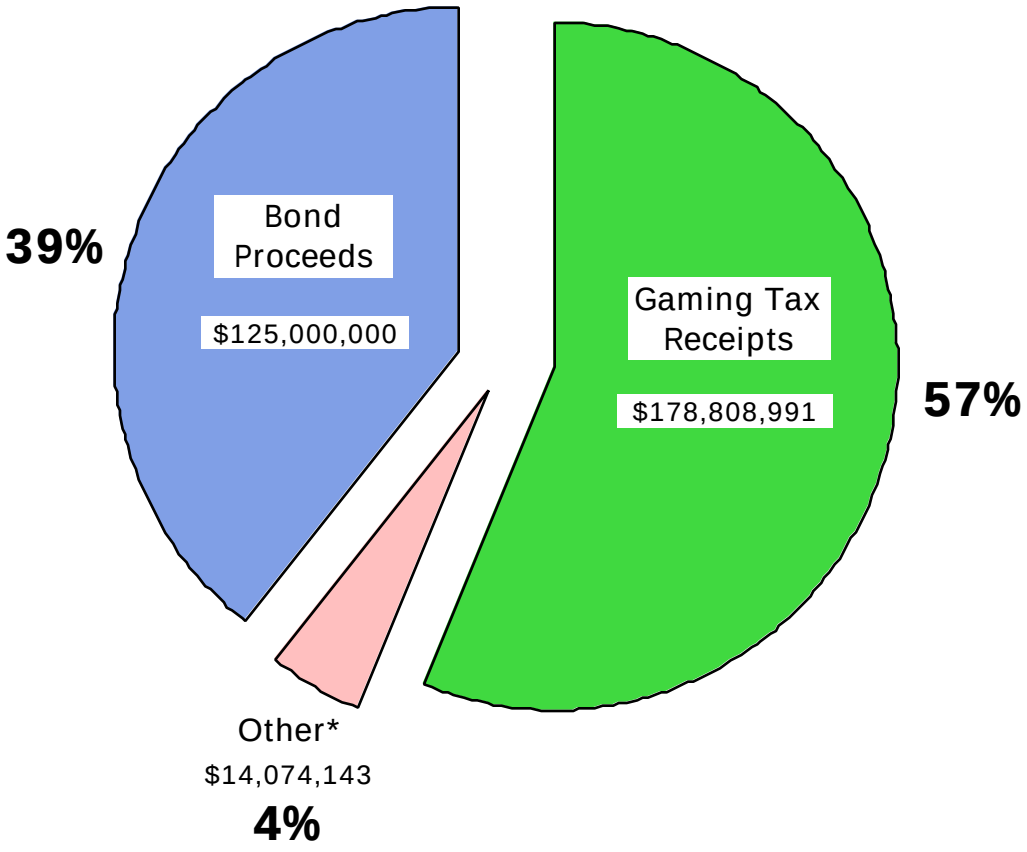
In FY 1999 MDOT issued $125 million in bonds for the Gaming Roads Program. MDOT received authorization in 2000 to issue the remaining $200 million in bonds. Revenue sources of the Gaming Roads Program are used to make all debt service payments on the program's bond issues. The funding stream for the bonds is set to be repealed in 2012. If the repeal date is not extended, about $1 million annually will be available to fund Gaming Roads Program construction projects, after debt service payments are made. If the repeal date is extended and the bonds can be issued as twenty-year bonds, the Gaming Roads program will have about $5 million annually to fund construction projects. At the completion of Phase IV of the 1987 Program, fuel, oil, and contractor's taxes and the motor vehicle tag assessment from the 1987 Four Lane Program will be used to fund the remainder of the Gaming Roads Program.

Revenues and Disbursements

The Gaming Roads Program's FY 1999 bond issue eliminated the program's cash deficit, but in FY 2000 disbursements exceeded receipts.

From FY 1995 through FY 2000, MDOT spent $267,832,492 on construction-related costs of the Gaming Roads Program and paid $20,474,300 in debt service, for a total of $288,306,792 in disbursements. Exhibit 5, page 18, outlines the $317,883,134 in total receipts during the period by type. The program has been

Exhibit 5: Gaming Roads Program Receipts by Type, FY 1995 to FY 2000



Total Receipts = $317,883,134

*Includes interest income, premium on bonds and sale of excess right-of-way.

SOURCE: MDOT financial statements.

funded primarily with $178,808,991 in Gaming Tax Receipts (57% of the total) and $125,000,000 in bond proceeds issued in FY 1998 and FY 1999 (39% of the total). Other receipts totaling $14,074,143 included interest income, premiums on bonds, and sale of excess right of way.

Exhibit 6, page 20, outlines the annual trends in receipts and disbursements during the period from FY 1995 to FY 2000. As shown in the exhibit, receipts increased from $0 in FY1995 to $42.8 million in FY 2000, peaking at $165.4 million in FY 1999 due to bond revenues of $122.5 million during that year. Disbursements increased during the period from $12.6 million in FY 1995 to $86.9 million in FY 2000. The Gaming Roads program ran a cash deficit from the beginning of the program in FY 1995 through FY 1998. The deficit occurred because MDOT started work on gaming roads before the agency began to receive revenues and continued to expend more on gaming roads than was being received from gaming tax receipts. The bond issue in FY 1999 eliminated the program deficit that had been ongoing. At June 30, 2000, ending cash in the program was $29.6 million.

Projected Costs and Completion Dates

The Gaming Roads Program's original cost estimate was $317 million. MDOT now projects that the program will cost $1.17 billion and will be completed in FY 2025.

Original Gaming Roads Cost Estimates

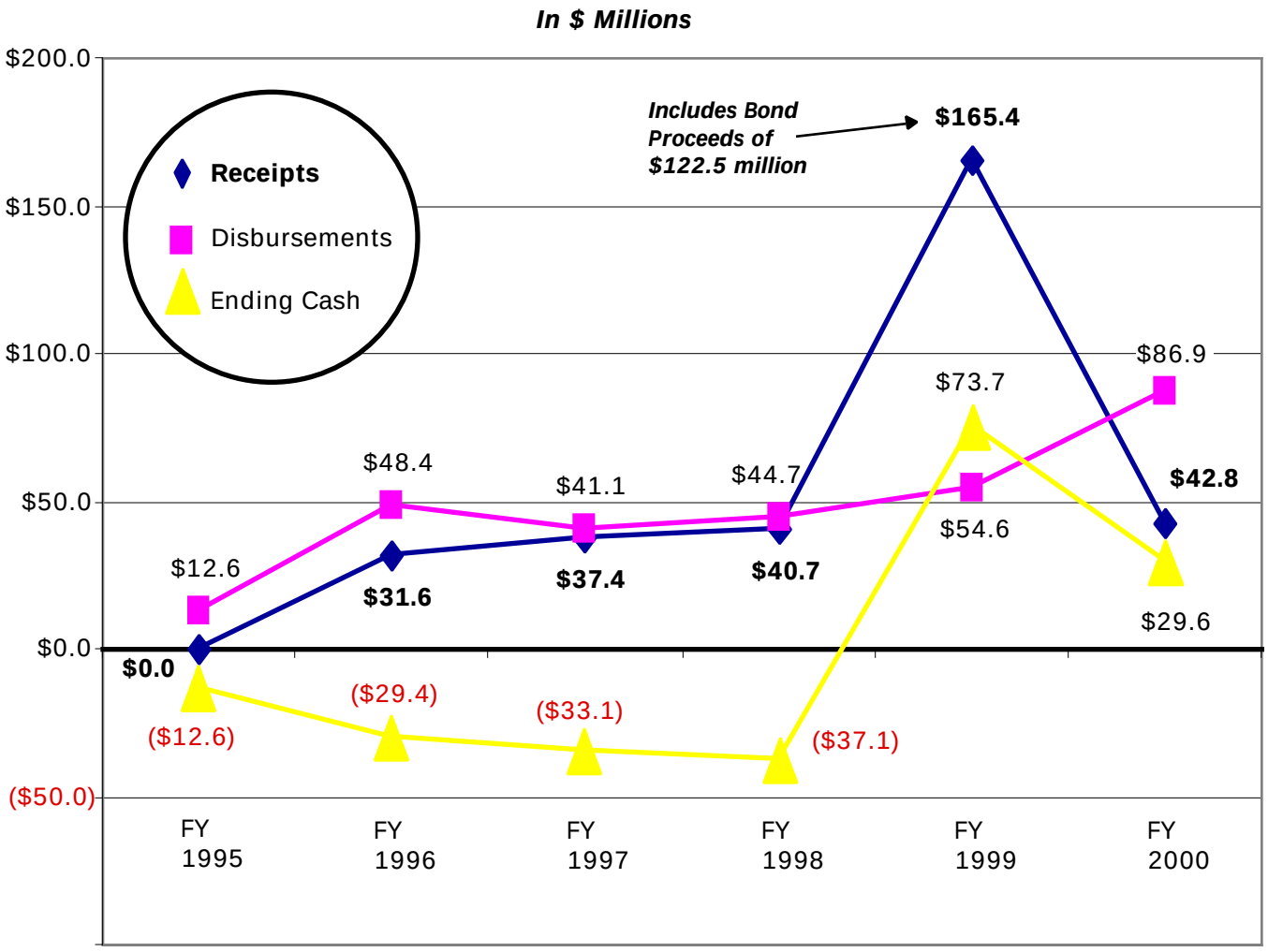
The original cost estimate for the Gaming Roads Program was $317 million for the 168 miles of highways specified by law. According to MDOT officials, the estimate originated in the House Transportation Committee during the 1994 legislative session and was based on historical average costs provided by MDOT.

Cost estimates based on historical averages have consistently proven to be unreliable as a method of estimating costs for a program. The historical average is particularly unsuitable for estimating the costs for gaming roads located on the Gulf Coast because of the environmental impact of the roads and the costs associated with environmental issues such as the impact any project would have on wetlands, endangered species, historical structures, and community structures.

The errors in the original cost estimate for the 1987 Program were duplicated in the original cost estimate for the Gaming Roads Program.

The original estimate of $317 million did not include inflation or costs for bridges and interchanges. As discussed on pages 23 through 24, the errors made in the original estimate for the 1987 Program were duplicated in the original estimate for the Gaming Roads Program. No written evidence suggests that MDOT disputed the original cost estimate of $317 million.

Exhibit 6: Gaming Roads Program, Trends in Receipts, Disbursements and Cash, FY 1995 to FY 2000



SOURCE: PEER analysis of MDOT financial statements

Changes in Cost Projections

In 1996, the Baker Study's rough cost estimate for gaming highways required by law was $686 million, more than double the original estimate of two years earlier. (See discussion of the Baker Study on page 6.) Exhibit 7, page 22, also shows that by July 2000, MDOT had increased its estimates of gaming road costs for highways required by law to $1.17 billion. As discussed in detail in pages 23 through 27, the difference in the FY 1997 and FY 2000 estimates included:

- $121 million due to inflation;
- $12 million for an additional two feet of pavement width (see discussion on page 27); and,
- $220 million in other items, including:
    - increased right of way costs,
    - environmental costs, such as wetlands mitigation, and,
    - design changes for increased truck weights on highways and increased speed limits.
- $134 million in interest cost on the $325 million in bonds that MDOT plans to issue ($125 million have already been issued in FY 1999).

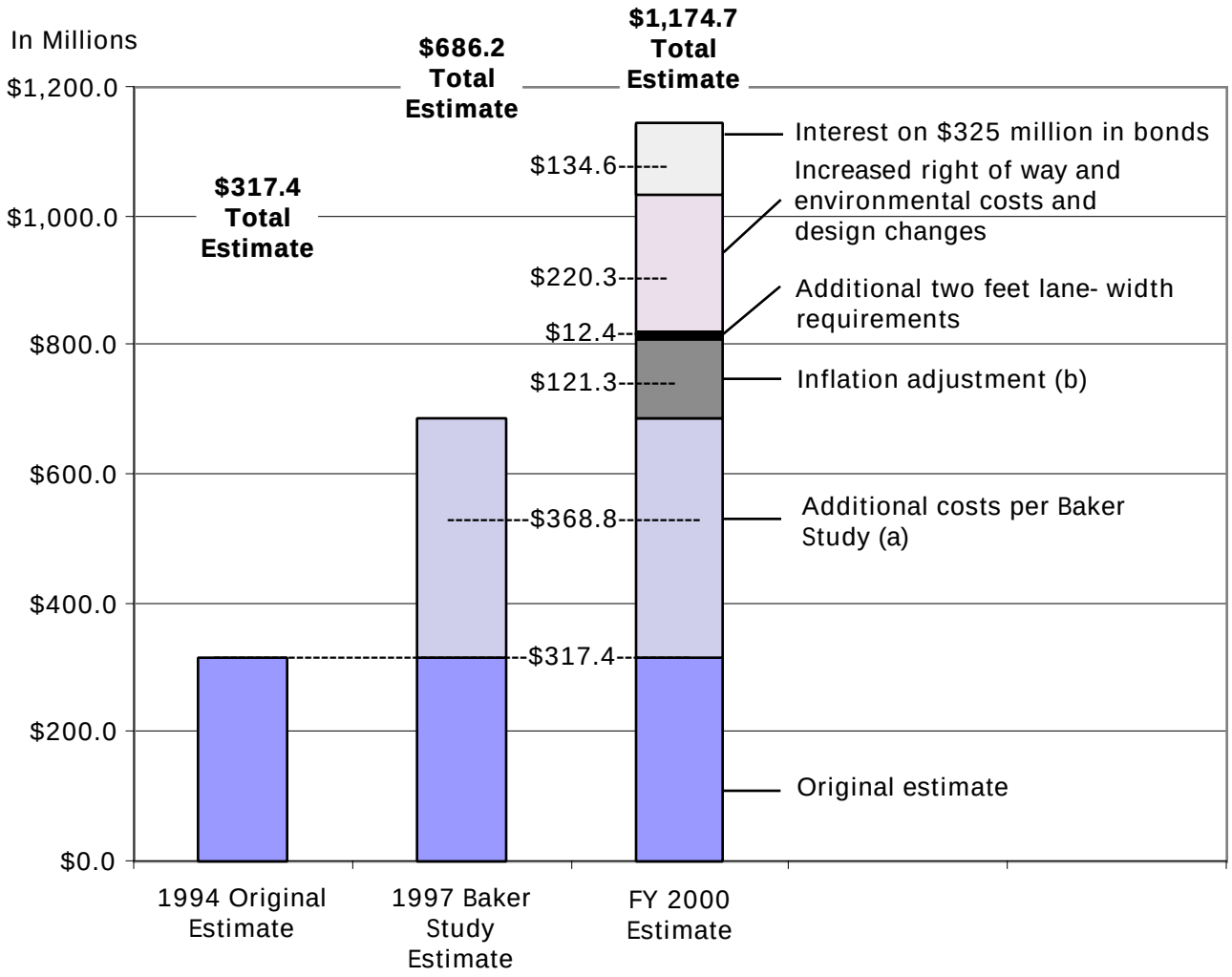
MDOT has increased its gaming roads cost estimate to include inflation, additional pavement width, increased right of way costs, environmental costs, design changes, and interest on bonds.

PEER attempted to estimate the portion of the increased costs of gaming roads that had resulted from increased right of way costs. MDOT officials have stated that coastal land costs have increased at higher than average rates in Mississippi because of the increased property values resulting from demand for land for casino-related businesses and housing in the coastal gaming counties. However, because MDOT had not accurately estimated its average right of way costs between 1987 and 1995 (specifically, the agency had overestimated its unit costs for right of way purchases in those years), PEER could not determine trends in the increased right of way costs between 1987 and 2000.

As of September 2000, MDOT has projected a FY 2025 completion date for the Gaming Roads program.

Exhibit 7: Explanation of Cost Increases in the MDOT Estimates of the Gaming Roads Program, FY 1994 to FY2000

--Based on MDOT Estimates--



NOTES:

(a) Includes the Baker consulting firm's 1997 estimation of costs of those highways that have been legally required as of September 2000. The 1997 estimate included the cost of certain elevated highways, which had not been included in the original estimate.

(b) Includes a figure representing the inflation occuring on $686.2 million from FY1997 to 2000 using MDOT's index of actual inflation and includes MDOT's estimate of inflation for projected costs.

SOURCE: PEER analysis of MDOT studies, financial statements, projections of future costs, and estimates of costs by type

Factors Contributing to Cost Overruns and Delays

Although billions of dollars of additional expenses have been found to be associated with the 1987 Program, the funding stream has not been changed. The delays in the program have resulted from spreading a funding stream designed for a $1.6 billion program over a $3 billion dollar program, without including any costs associated with Phase IV.

The following sections include discussions of factors contributing to cost overruns and delays, including inaccurate initial program estimates and cost projections, and departmental and legislative changes in the program.

Inaccurate 1987 Program Estimate Understated Phase I – III Costs by $1.4 Billion

In 1987, the Department of Transportation excluded the costs of bridges, interchanges, inflation, and rehabilitation of existing lanes from the original cost estimate of $1.6 billion, which resulted in a funding stream insufficient to support all required activities within the original program time frame.

Originally, MDOT estimated the 1987 Program would cost $1.6 billion and would be concluded in 2001. Currently, MDOT estimates the original phases of the 1987 Program will cost $3 billion and will not be completed until FY 2008.

The original estimate was based on average construction cost per mile, $1.485 million for 1985 construction, multiplied by the original number of miles in the program, 1,077.

MDOT's Original 1987 Program Cost Estimate

MDOT Estimated Average Cost per Mile	Miles in Original Program	Estimated Cost
$1.485 million	1,077	$1.6 billion

Based on this information, the Legislature developed a funding stream to support the program. However, the estimated average cost per mile did not include costs for bridges, interchanges, or inflation. In 1993, MDOT officials stated that in 1987 they had believed cost estimates were sufficient to cover bridge and interchange needs and that fuel consumption increases during the

life of the program would provide additional fuel taxes to offset inflation.

Exclusion of Costs for Bridges, Interchanges, and Inflation

MDOT's original estimate of $1.6 billion for Phases I through III was understated because costs for bridges, interchanges, inflation, and the rehabilitation of existing lanes were omitted. These costs are estimated to add $1.5 billion for all four phases. The program has been delayed because the funding stream created by the Legislature must pay more costs than originally anticipated. Subsequent to calculation of the original estimate, MDOT began estimating future program costs using a 1% annual inflation rate (see page 25).

Exclusion of Costs for Rehabilitation of Existing Lanes

MDOT officials knew in 1987 that the cost of upgrading existing lanes should be included in the cost estimate, but failed to include this significant expense.

The original cost estimate was based on the premise that two new lanes would be added beside existing lanes without any upgrade work performed on the existing lanes. However, as early as March 1985, officials from the Federal Highway Administration notified MDOT that existing lanes would have to be improved to current standards when being incorporated into a multi-lane route. This policy was reiterated to MDOT officials in April 1987. Therefore, MDOT officials knew in 1987 that the cost of upgrading existing lanes should be included in the cost estimate, but failed to include this significant expense, thereby grossly underestimating the cost of the program.

The requirement of bringing existing highways up to current standards was in the original version of the enabling legislation and was not added by amendment or in conference committee. The original version of House Bill Number 1206, which was the enabling legislation for the 1987 Four Lane Program, stated:

> ***The State Highway Department may utilize the roadway of any existing highway under its jurisdiction and control and shall do so when such utilization is feasible, provided that such highways which are utilized shall be constructed to current standards for such roadways.***

The law is necessary in order to meet federal requirements. However, there is no written documentation to suggest that MDOT officials brought to legislators' attention the costs associated with bringing existing highways up to current standards.

Based on MDOT estimates of rehabilitation costs and mileage to be rehabilitated, PEER calculated a cost of $1.26 billion for rehabilitating the two old lanes for all four phases of the 1987 Four Lane Program.

Inaccurate Projections Understate 1987 Four Lane Program Costs by $564 Million and Gaming Roads Program Costs by $414 Million

Because the Department of Transportation uses an inflation factor of 1% annually rather than the actual construction inflation index rate of 3.4% annually, the 1987 Program will cost approximately $564 million more than the department's current projections. The Gaming Roads Program will cost approximately $414 million more than MDOT's projections.

Using a 1% annual inflation rate for the 1987 Four Lane and Gaming Roads Programs underestimates costs expected to occur. MDOT's actual costs for the construction of highways increased an average of 3.4% annually from FY 1987 to FY 2000.

In its estimates of future costs of the 1987 Four Lane Program, MDOT has used an inflation rate of approximately 1% annually, which results in a cost estimate of $5.06 billion for the program. However, using a 1% annual inflation rate underestimates costs expected to occur because historically, MDOT's construction costs have risen over 3% annually on average. Specifically, MDOT's internally-prepared construction cost index shows that MDOT's actual costs for the construction of highways increased an average of 3.4% annually from FY 1987 to FY 2000. MDOT uses the Federal Highway Administration's approved method of calculating the cost index and submits the calculated index annually to the federal agency. MDOT has calculated the index since 1976.

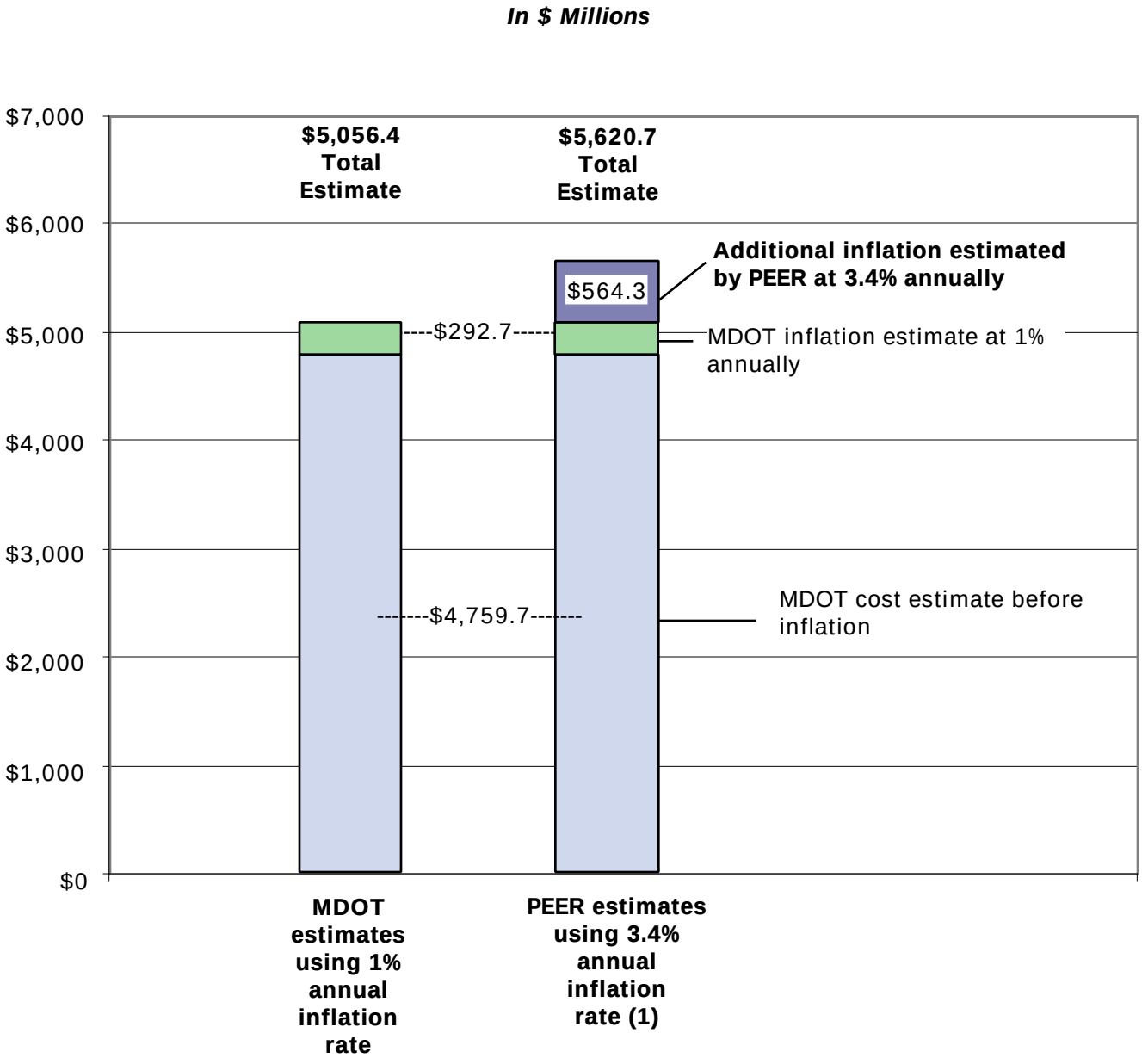
Using the 3.4% annual inflation rate, PEER projects that MDOT's costs for the 1987 Four Lane Program will increase by at least $564 million more than MDOT's $5.06 billion projection. Including the $564 million associated with 3.4% annual inflation, total projected costs of the program will equal at least $5.62 billion. (See Exhibit 8, page 26.) PEER's estimates also show that, assuming that the agency's average annual revenue increases continue, MDOT should have sufficient funds ($3.9 billion from FY 2001 to FY 2020) to cover its projected 1987 Four Lane Program disbursements ($3.7 billion from FY 2001 to FY 2020) at a 3.4% annual inflation rate.

MDOT's method of estimating inflation will also affect the Gaming Roads Program. PEER estimates that using a 3.4% annual inflation rate rather than a 1% annual rate will add $414 million to the costs of the Gaming Roads program. By factoring in the higher inflation rate, the total cost of the Gaming Roads Program will increase from $1.17 billion to $1.59 billion.

Increases Resulting from Federal Regulations, Legislative Changes, and MDOT Initiatives Add at Least$618 Million to the 1987 Four Lane Program

Factors such as wetlands mitigation, improving road conditions for increased speed limits and truck weight limits, and changes established at MDOT's discretion have increased costs and delays of construction.

Exhibit 8: 1987 Four-Lane Highway Program, Comparison of MDOT Cost Estimates, With Annual Inflation Rates of 1% and 3.4%



NOTE (1): 3.4% is the MDOT average construction cost index from 1987 to 2000.

SOURCE: PEER analysis of MDOT financial statements and projections of costs

Other factors have led to increased costs for the 1987 Program:

- Additional federal environmental regulations increase the financial costs of construction. For example, according to MDOT personnel, wetlands mitigation involves purchase and establishment of wetlands to replace those wetlands destroyed in highway construction.

- When the Legislature raised the speed limit from 55 to 65 miles per hour, MDOT increased the grading and leveling of the road beds for improved road safety to handle the increased travel speeds (the Federal Highway Administration requires that certain design standards be met for 65 miles per hour speed limits).

- MDOT increased the strength of the roadbeds to handle increased truck load conditions (i.e., the increased weight of trucks that currently travel the roads in the program as compared to the truck weight on the roads in 1987).

- Beginning with February 1997 contract awards, the Transportation Commission decided to add two extra feet of pavement to the width of each lane being built. This decision was not required by federal regulations, but was a policy decision for the purpose of safety, aimed at reducing the number of accidents due to vehicles running off the edge of the pavement. PEER estimates the extra two feet of pavement will cost $82 million, which represents approximately six months of program revenue from state sources.

- According to MDOT officials, other design change factors established at MDOT's discretion have increased costs over time, such as those related to:

  - adding a crushed-stone layer in the paving to improve drainage and prolong the useful life of the pavement;

  - widening the traffic striping on the roads from four inches to six inches for increased visibility by drivers; and,

  - adding reflective raised pavement markers for increased visibility during night driving.

Exhibit 4, page 13, shows the amounts these increases have added to the original estimate.

Program Management

The Mississippi Department of Transportation does not maintain a program management information system that facilitates oversight and management of the preliminary engineering, right of way, and construction phases for highway segments and that readily identifies causes of inaccurate cost estimates, cost overruns, or time delays. Because MDOT's program management is ineffective, the department cannot provide the timely, accurate information that the Legislature needs for decisionmaking.

The Program Management Concept as It Applies to MDOT

The lack of timely, accurate financial information has resulted in MDOT's using cost per mile averages, which have historically proven to be inaccurate, for estimating the costs of construction programs.

Establishing, maintaining, and monitoring realistic budgets and reporting cost information are cornerstones of prudent financial management and an essential part of setting objectives and strategies for allocating financial resources. The Legislature requires timely, accurate information to make informed funding decisions about the infrastructure needs of the state. The lack of such financial information has resulted in MDOT's using cost per mile averages, which have historically proven to be inaccurate, for estimating the costs of construction programs.

In 1996, the Project Management Institute Standards Committee published ***A Guide to the Project Management Body of Knowledge***. The guide identifies the generally accepted knowledge and practices that are applicable to most projects and are widely accepted as being useful and having value in program management.

The guide defines a program as "a group of projects managed in a coordinated way to obtain benefits not available from managing them individually." This definition applies to the 1987 Four Lane and Gaming Roads programs because these programs consist of the construction of highway segments and should be coordinated by MDOT in an effort to obtain maximum efficiency in the construction of highways.

The guide defines a project as "a temporary endeavor undertaken to create a unique product or service." A project is temporary because it has a definite beginning and ending date and unique because it differs from similar products. This definition applies to MDOT's construction of highway segments since each segment has a definite beginning and ending date and each highway segment is unique.

According to the guide, projects are frequently divided into more manageable components or subprojects, which are often contracted to external enterprises. A subproject relates to MDOT's dividing preliminary engineering, right of way acquisition,

and construction activities into smaller projects, which are frequently contracted to external contractors.

Another important part of program management involves identification of stakeholders, which the guide defines as those individuals or organizations whose interests may be positively or negatively affected by the project. The project management team must identify the project stakeholders, determine stakeholder needs and expectations, and consider stakeholder information requirements.

Under MDOT's current program management system, MDOT managers cannot effectively control costs of highway segments, monitor changes in highway segment cost estimates, or readily determine reasons for cost overruns or delays.

One of the key stakeholders on every project is the sponsor, who is defined as the individual or group who provides the financial resources for the project. Clearly, the Legislature is a co-sponsor of the highway programs since it is the organization directing financial resources to the programs and the public is the other co-sponsor by virtue of being the source of the funds. MDOT has a responsibility to be responsive to the needs and information requirements of these sponsors.

As discussed in the following sections, under MDOT's current program management system, MDOT managers cannot effectively control costs of highway segments, monitor changes in highway segment cost estimates, or readily determine reasons for cost overruns or delays. Because MDOT's program management is ineffective, the department cannot provide the information needed by the Legislature needs decisionmaking.

MDOT Does Not Follow Standard Program Management Methods

MDOT Does Not Compile Overall Segment Budgets

MDOT does not follow standard program management methods because the department does not compile a comprehensive budget for each highway segment.

Because MDOT has no awareness or control of total segment costs, individual project cost overruns result in large cost overruns for the segment and MDOT is unable to readily determine or assess the reasons for the cost overrun.

A highway segment is a segment of highway from Point A to Point B. Building a segment of highway involves three phases: preliminary engineering, right of way, and construction. Each phase is comprised of smaller projects. For example, a 6.6-mile segment of Highway 98 in Walthall County consisted of nine projects.

Rather than developing and managing a budget for each highway segment that includes all phases of the construction process (preliminary engineering, right of way, and construction), the department has budgets for each project within each phase. Without an overall segment budget, MDOT has no awareness or control of total segment costs. MDOT determines segment costs only after the segment is completed. As a result, individual project cost overruns result in large cost overruns for the

segment and MDOT is unable to readily determine or assess the reasons for the cost overrun.

Under basic management principles, the managing entity should develop a budget and manage and monitor it as part of sound business practices. In the budgeting process, budgets for smaller items should be combined to determine the budget for larger components. This process should be repeated until a budget is formulated for an organizational level that affords managers the opportunity to manage resources effectively.

For example, each department of a large state agency develops a budget for personnel, commodities, and capital expenditures. The department budgets are combined to determine the personnel, commodities, and capital expenditure budgets for the agency. In turn, the budgets for personnel, commodities, and capital expenditures are combined to determine the overall agency budget that is used to review and monitor costs. (See Exhibit 9, page 31.)

MDOT Creates Independent Sub-Project Budgets

MDOT's use of several independent sub-project budgets, rather than overall segment budget, the tracking of segment costs and progress.

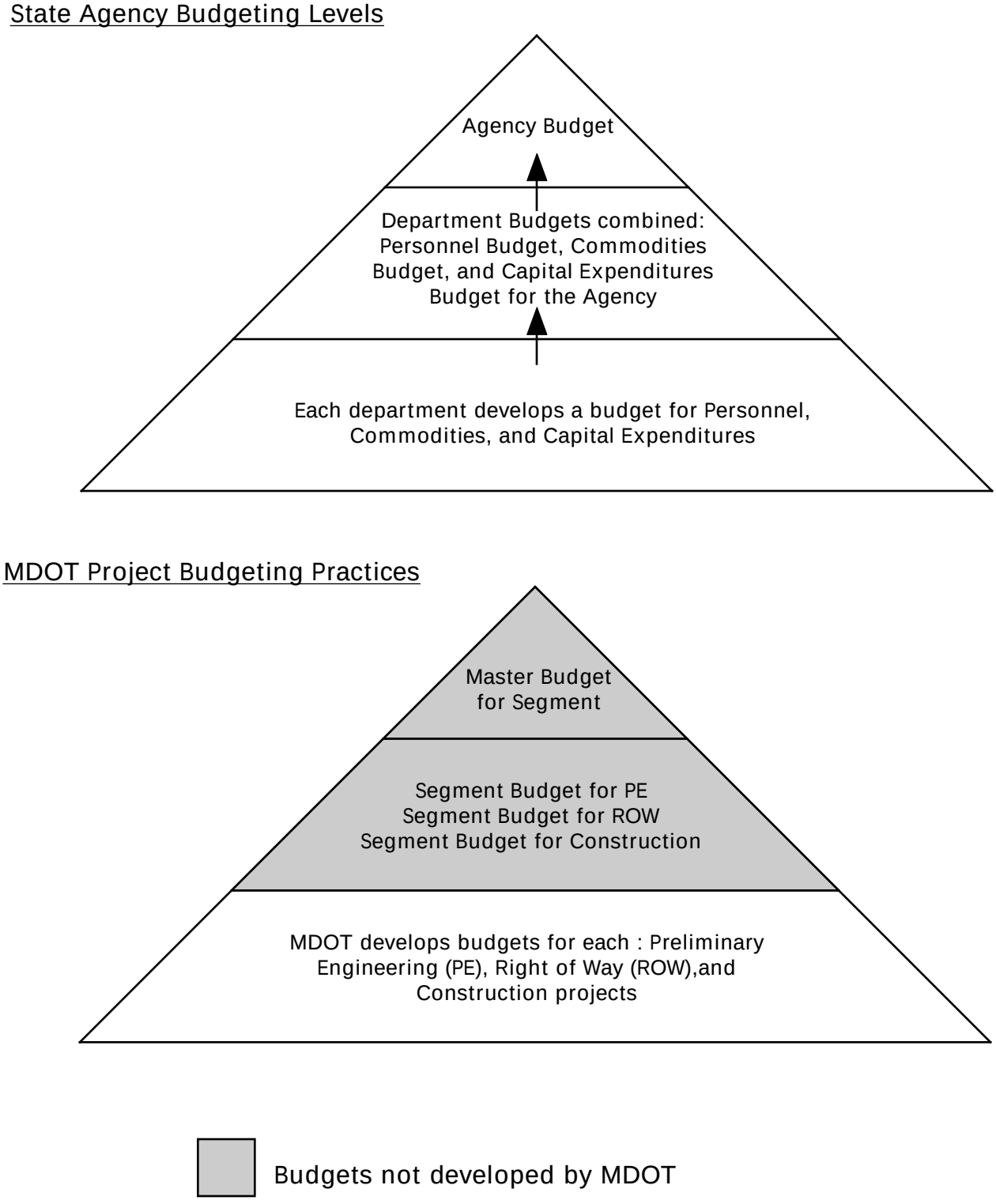
MDOT establishes a budget for each preliminary engineering, right of way, and construction project on an individual basis. However, MDOT does not take the process to the next level. (See Exhibit 9.) As shown by the shaded areas of Exhibit 9, MDOT does not determine a budget for the entire preliminary engineering phase, or right of way phase, or construction phase and does not determine an overall master budget for a segment of highway.

Weak Project (Segment) Budgeting Practices Inhibit Accountability

The Department of Transportation does not properly oversee or control budgets for preliminary engineering, right of way, or construction projects or determine accountability for project cost overruns.

MDOT does not properly monitor or control budgets for preliminary engineering, right of way, and construction projects. When a project is first proposed, district personnel make an original estimate. The original estimate is made even though the project may be ten or more years in the future. The original estimate is necessary because all proposed projects are included in the project management system and must have a cost amount.

Exhibit 9: Comparison of State Agency Budgeting Levels with MDOT Project Budgeting Practices



SOURCE: Compiled by PEER staff

When work begins on a project, the district engineer determines another estimate, called the program amount, and this amount is considered by the department to be the first realistic budget. However, as the project progresses, the department does not have the necessary controls in place to determine whether the budget has been exceeded or the causes for any cost overruns.

Revision of Budget Estimates Inhibits Monitoring of Cost Increases

MDOT changes a project budget if the cost estimate for the project is revised or if actual expenditures exceed the program amount. When a budget is changed, the previous budget is not retained.

After work begins on a project, the budget is changed if the cost estimate for the project is revised or if actual expenditures exceed the program amount. When a budget is changed, the previous budget is not retained. Similarly, if the project's estimated completion date is changed, the previous completion date is not retained. Therefore, MDOT management cannot track changes made to the budget or to completion dates. For example, the budget and completion date for a project could appear one month as:

Example 1: Original Project Budget

Date	Budget	Actual Expenditures	Estimated Completion Date
Nov. 1, 2000	$200,000	$205,000	May 1, 2001

and appear the following month as:

Example 2: Revised Project Budget

Date	Budget	Actual Expenditures	Estimated Completion Date
Dec. 1, 2000	$300,000	$210,000	Aug. 1, 2001

Under the current system, MDOT cannot determine whether a budget has ever been revised, the number of revisions, or the amount of the revisions. Furthermore, MDOT managers cannot compare actual expenditures to the project's budget amount that was set when work began on the project. As a result, the department's ability to determine the amount of cost overruns, the reasons for cost overruns, or determine responsibility for cost overruns is severely inhibited.

This situation is similar to a person hiring a contractor to build a house room by room without knowing how many rooms will be in the house. Each room may have a budget, but the budget is changed whenever the room's old cost estimate is changed or when costs exceed the old budget. The contractor cannot recall the amount of the original budgets but assures the future homeowner all change orders were necessary. The future

homeowner will know how much the house will cost only when construction is complete.

MDOT's frequent modification of budget data and loss of a budget baseline inhibit tracking of segment costs.

MDOT's Expenses Over Authorized report is not a useful budgeting tool because MDOT management cannot determine whether a budget has ever been increased, the amount of any increase, or the reasons for such an increase.

MDOT prepares an Expenses Over Authorized report, which compares current expenditures with the most recent program amount, which is the most recent budget estimate. If expenditures are less than the budget estimate, a "balance" is reported and is projected by a computer program over the remaining life of the project as expected expenditures. However, if actual expenditures exceed the budget estimate, MDOT increases the budget to an amount greater than the current expenditures. In other words, as the budget is exceeded, the budget is increased and the previous budget is not retained. This report is not a useful budgeting tool because MDOT management cannot determine whether a budget has ever been increased, the amount of any increase, or the reasons for such an increase.

Furthermore, the Expenses Over Authorized report cannot be used to determine the amount spent on a highway segment because as a project is completed, it no longer appears on this report. For example, when preliminary engineering for a project is completed, it would no longer appear on the report and it would probably be years before construction projects for the segment appear on this report. Therefore, it would be impossible to use this report to determine the amount spent on a particular segment, since it lists only current projects, not completed projects.

MDOT does not follow standard program management procedures in determining budgets.

In comparing MDOT's program management practices to those described by the Project Management Institute Standards Committee, MDOT manages on a sub-project basis rather than on a true project basis, which would entail managing on the basis of segments of highways. Without a segment budget, MDOT does not have an opportunity to monitor and control expenses for the segment, ensure changes are necessary and performed in the most cost efficient manner, learn from mistakes, and use actual cost experience to improve future estimates.

The Legislature depends on cost information for funding decisions. Under the current system, MDOT is unable to meet stakeholder expectations and information requirements by providing basic, timely, and accurate information which the Legislature requires for informed funding decisions and the public deserves as reassurance that tax dollars are being managed and expended in a fiscally responsible and prudent manner.

Inaccurate Allocation of Costs For Projects Overlapping Highway Segments Inhibits Accurate Reporting and Oversight

Because projects frequently overlap segment boundaries, MDOT cannot readily provide cost information on segments under construction. This practice increases the chances for cost allocation errors on completed segments.

Failing to plan and budget on a segment basis allows for preliminary engineering, right of way, and construction phases to cross segment boundaries frequently. This practice "mixes" project costs between segments and results in MDOT's inability to readily provide cost information on segments in process and increases the likelihood of errors and omissions in the allocation of costs between completed segments.

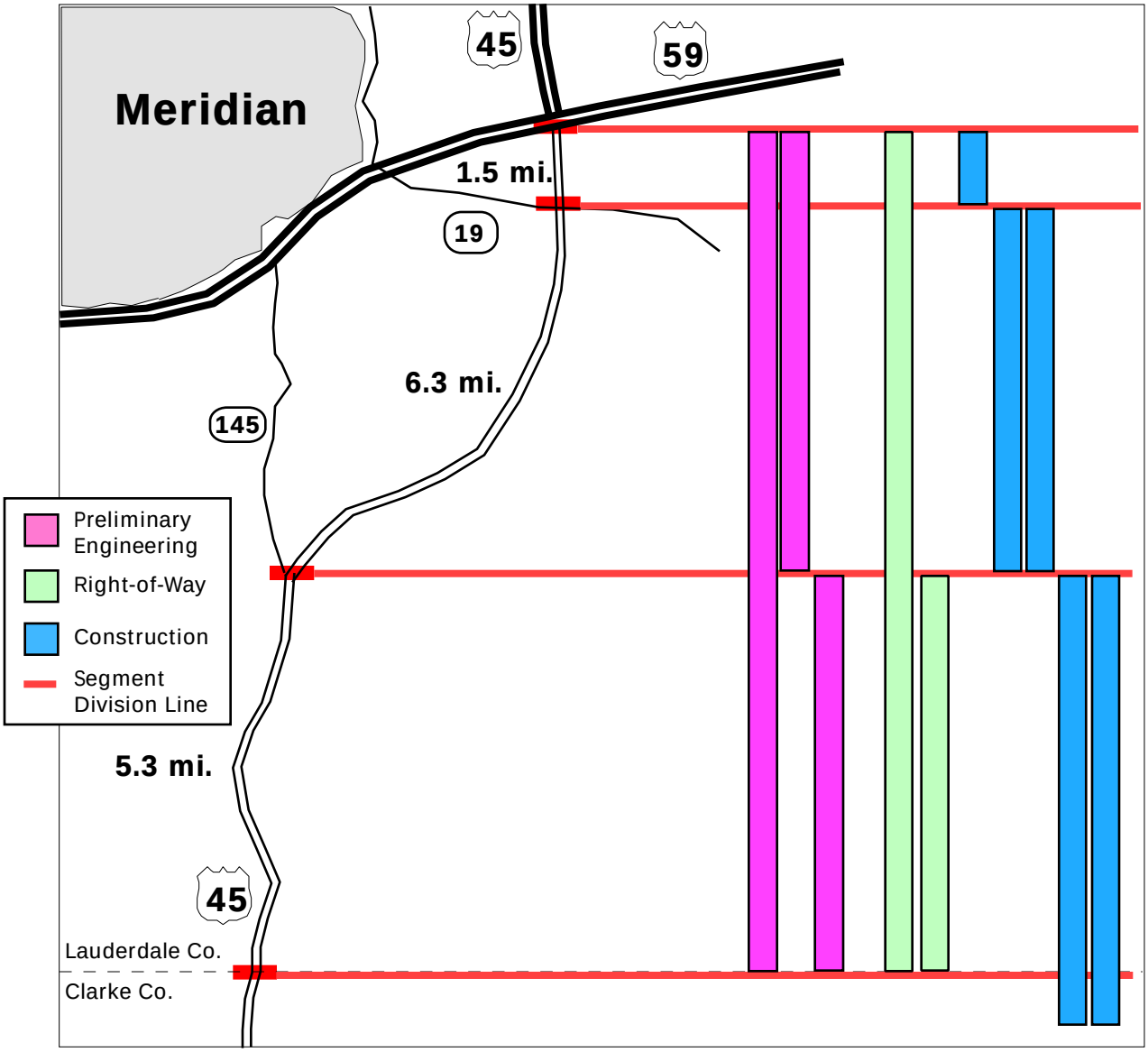
MDOT was unable to provide PEER with a report of current costs for highway segments in process.

MDOT was unable to provide PEER with a report of the current costs for highway segments in process. MDOT officials stated that such information was not kept by MDOT and "was not important." The department's inability to provide complete and accurate information on a timely basis inhibits oversight of the program and decreases the Legislature's ability to make fully informed funding decisions.

Exhibit 10, page 35, shows a case of overlapping of segments on Highway 45 between the Lauderdale/Clarke county line and Interstate 59. MDOT conducted three preliminary engineering projects within a 13.1-mile portion of the highway—one on 7.8 miles of the portion, one on 5.3 miles, and another on the entire portion. Rather than considering the entire 13.1 miles as a single segment, MDOT broke this portion into three segments and now must prorate the preliminary engineering costs among the three segments (see following paragraph). This practice has been shown to yield inaccurate cost allocations because of such factors as occurrence of bridges and interchanges and differing conditions (e.g., terrain, soil type, environmental considerations) for road construction within a segment. Also, overlapping of segments inhibits development of a segment budget to use as a cost control mechanism.

In order to determine the cost for a completed segment of highway, MDOT must allocate the cost of projects which cross segment boundaries between the various segments. At times, the allocation is made based on mileage. For example, if a preliminary engineering project on the Project Management System is ten miles in length and costs $1 million, the cost is allocated to the segments at $100,000 per mile. This method is valid only if the cost per mile for the preliminary engineering project is equal for each mile of a segment, which may not be true. At other times, allocation is estimated based on the nature of the project. For example, if a preliminary engineering project includes a bridge or interchange on one end of the project with the other end in a different segment, MDOT officials will assign

Exhibit 10: Example of Projects Overlapping Multiple Segments



The bars to the right indicate that MDOT conducted three preliminary engineering projects--two of which overlapped segments; two right of way projects--one of which overlapped multiple segments; and five construction projects, two extending beyond a defined segment.

SOURCE: Compiled by PEER from MDOT information.

cost between segments based on their best estimate of the costs involved with the bridge or interchange.

As a result of projects crossing segment boundaries, the department cannot develop an overall budget for a segment, cannot readily determine the current cost of segments under construction, cannot determine a segment's cost until the segment is completed, and must prorate costs between segments, which increases the chances for errors and omissions of projects when determining costs.

Inaccuracy and Incompleteness of Reported Actual and Projected Costs

As a result of the Department of Transportation's inadequate program management system, the annual AHEAD Report to the Legislature contains inaccurate and incomplete information.

Reports of Actual Costs

The AHEAD report is MDOT's annual report to the Legislature about the status of the 1987 Program and is required by MISS. CODE ANN. Section 65-3-97 (9). In compiling the AHEAD report, MDOT must manually allocate project costs between segments if projects cross segment lines, as noted above. Manually compiling this type of cost information for a program totaling in the billions increases the chances of errors and omissions and therefore, the accuracy of the information is called into question. PEER noted instances in which amounts on MDOT's Project Management System (PMS) for closed projects did not agree with the costs listed in the 2000 AHEAD report, which will be provided to the Legislature in the 2001 legislative session. Three examples are listed below:

Examples of Conflicting Information on Closed Projects: MDOT's AHEAD Report vs. MDOT's Project Management System

Termini (Project Activity)	AHEAD Report	Project Management System
US 45A south of Okolona to Shannon		
(Preliminary Engineering)	$ 68,920	$ 722,790
(Right of Way)	167,074	1,782,068
US 61 between Port Gibson and Big Black River		
(Preliminary Engineering)	937,336	937,336
(Right of Way)	53,660	2,560,226
US 45 from Clarkco State Park to Lauderdale Cty Line		
(Construction)	7,617,974	23,803,000

Each of the differences noted result from MDOT's failure to include all projects associated with the segment. For example, the $16 million difference for the segment on US 45A between Clarkco State Park to the Lauderdale County line was caused by the omission of a project that is classified as complete in the Project Management System and with an end date of June 1, 1998.

In November 2000, MDOT reported to a legislative study committee that preliminary engineering costs for the US 61 segment between Port Gibson and the Big Black River totaled $571,775, which differed from the amount listed in the AHEAD Report by $365,561. When questioned about the difference, MDOT managers changed the number to agree with the AHEAD report and attributed the difference to how the preliminary engineering costs were prorated on the AHEAD report and how these costs had been prorated for the committee report. PEER finds it disturbing that two estimates on prorating PE for the same project can result in differences of over $365,000. This example demonstrates the degree of personal judgment used in prorating costs, which can result in widely varying cost estimates for the same project without truly knowing which estimate is closest to being accurate.

MDOT has not demonstrated an ability to provide timely, accurate cost information and has not demonstrated concern over cost

allocation methods which could result in widely varying costs for the same project. MDOT managers should acknowledge that the operation and maintenance of an accurate, timely cost information system is vitally important to the Legislature in making funding decisions and is part of the agency's stewardship of the public's tax dollars.

MDOT's Lack of Compliance with AHEAD Reporting Requirements

Information presented by the Department of Transportation in the AHEAD report is not in compliance with all of the requirements set in state law.

MISS. CODE ANN. Section 65-3-97 (9) requires that MDOT "submit a report to the Legislature by January 10 of each calendar year setting forth the current status of the construction program." MDOT presents this information in the annual AHEAD report. This report is the accountability device required by law and is intended to be a primary source of information to the Legislature and the public regarding the past, present, and future status of the 1987 Program. However, PEER found that MDOT does not report all of the information required by statute, as shown in Appendix C, page 73.

MDOT's annual AHEAD report to the Legislature has omitted at least four types of information required by state law.

Since FY 1994, the primary information presented to the Legislature in the AHEAD reports has consisted of listing specific segments on which engineering has been performed, right of way acquired, contracts let (executed), construction completed, revenues received by type, and also presenting detailed cash flow projections. (See Appendix C, page 73.) However, the statutes require additional detailed information which MDOT has not provided, such as:

- projecting the period for completion of the next step on each segment—e.g., when right of way acquisition, project letting, and construction will be completed for various segments as appropriate;
- presenting a schedule of all highway segments on which all contracts were not let as of the date required by law;
- presenting disbursements by year and cumulatively since inception of the program as compared to projections; and,
- presenting a "statement from MDOT regarding the status of the funding of the program based on agency cost experience and projections for the future."

The Legislature defined in law the information deemed pertinent for making informed decisions regarding the 1987 Program. Omission of any of the required data denies the Legislature important information and hinders its ability to make fully informed decisions.

Inadequate Tracking System for Construction Contract Information

The Department of Transportation does not have a centralized information system that contains accurate, complete, and easily accessed financial management information on construction contracts.

MDOT maintains construction contract information on typewritten index cards located in the Contract Administration office. To obtain relevant contract information for the 1987 Program (e.g., project description, contract amount, length of contract, winning contractor, start date, completion date), one must pull index cards with specific prefixes. Many of the cards do not have complete information on a contract and some of the information provided is inaccurate.

Basic information such as supplemental agreements and change orders should be in a format that is easily accessible for review by MDOT or the Legislature to determine reasons for such changes or identify trends in these areas.

PEER reviewed the card file for information on seventy-four completed construction contracts. According to the cards, in fifty-six (76%) of the seventy-four contracts reviewed, contractors received $25 million (5%) over the awarded contract amount of $466 million. For the remaining contracts, contractors received $3 million less than the awarded contract amount. PEER acknowledges that the differences in contractor payment amounts are most likely due to supplemental agreements and change orders, which are manually maintained in individual project work files. However, basic information such as supplemental agreements and change orders should be in a format that is easily accessible for review by MDOT or the Legislature to determine reasons for such changes or identify trends in these areas.

Because the cards do not have complete, accurate information on contracts, MDOT managers cannot identify the reasons for the differences between the contract amount and actual payments without reviewing each contract's individual file, which consists of several hundred pages, or the contract's change order and supplemental agreement file, which is a listing of all changes made to the contract.

MDOT could not provide PEER with basic financial management information such as a listing of construction contracts let for the 1987 Four Lane Program or the Gaming Roads Program.

Because of its lack of an accurate, centralized information system on contracts, MDOT could not provide PEER with basic financial management information for construction contracts let for the 1987 Program. For example, the department could not provide PEER with a listing of construction contracts let for the 1987 Four Lane Program or the Gaming Roads Program. Also, of the 156 construction contract index cards PEER staff reviewed for active and completed projects, 98, or 63% of the cards, were missing at least one field of information, such as the contract let date.

MDOT managers have a fiduciary responsibility to monitor the costs of projects, closely scrutinize changes in costs, determine if such changes are absolutely necessary, determine if changes are done in the most cost efficient manner, determine if the changes

are the result of oversights in MDOT's planning process, and if the changes are indications that improvements are needed in the planning process.

Although MDOT's manual contract tracking system is cumbersome and may not be the most efficient method of maintaining such information, such a system could be workable if the data were properly centralized and maintained. Problems with the current system could be due to inaccurate data entry or failure to identify and periodically record the information needed. Also, alternatives to MDOT's current procedures are available.

- MDOT could utilize software authorized by the American Association of State Highway and Transportation Officials for highway contract management. The program automates the contract process from the planning stage to completion. With this software, contract payments can be estimated, authorized, and tracked, and cost adjustments such as disincentives and fuel price adjustments can be monitored. Also, field personnel can inspect a project and update the database on the progress of a project, which can then be reviewed by management and compared to key project completion dates.

- MDOT could utilize "off the shelf" commercial software, such as a relatively inexpensive database program, to maintain a centralized contract tracking system.

- Personnel in MDOT's Information Systems Division could write a program for maintaining a centralized contract tracking system.

Reprioritization

Due to program additions and changing traffic patterns, the priority of segments established in law may not represent current highway improvement needs.

PEER reviewed MDOT's proposed construction schedule for the 1987 Four Lane Program and the Gaming Roads Program and noted 419 miles of highways with estimated construction costs of $763 million which have planned construction start dates prior to the highways' "year of need"[2] (see page 42). PEER also noted 487 miles of highways with estimated construction costs of $1.2 billion, which have construction start dates after the highways' year of need. See Appendices D1 and D2, pages 74 through 79, for a complete listing of these highways.

Addition of Highway Segments by Statutory Amendment

The Legislature defines the phases, segments, and priorities of the 1987 Four Lane Program and Gaming Roads Program, but MDOT determines the construction schedule within each phase of both programs.

MISS. CODE ANN. §65-3-97 divides the 1987 Four Lane Program into four phases and defines the segments in each phase. MDOT determines the construction schedule within each phase. MISS. CODE ANN. §65-39-1, in conjunction with a study of gaming roads ordered by the Legislature in 1996, determines the highways and improvements for the Gaming Roads Program. MDOT determines the construction schedule for the Gaming Roads Program.

The Legislature based its determinations of segments for Phases I through III in 1987 and segments for Phase IV and Gaming Roads in 1994 on the best traffic volume information available at that time. However, under the current structure, MDOT's ability to address the highways of greatest need is reduced because of the priorities required in the law.

For example, the segment of US 49W from Yazoo City to Silver City is part of Phase II and has an estimated construction cost of $26 million. The proposed construction start date for this segment is October 2001, but the year of need is projected to be 2028. In contrast, twenty-nine segments of highways in the Phase IV program have an immediate need for construction but proposed construction dates for these segments range from 2005 until 2016. Because the US 49W segment is a part of Phase II, it has construction priority over the segments in Phase IV.

2 MDOT defines "year of need" as the year the level of service falls to an unacceptable level.

When the Transportation Commission certifies that the 1987 Four Lane Program is complete, currently estimated to be no earlier than 2020, the remaining revenue can be used to fund the Gaming Roads Program. Therefore, highway segments in Phases II through IV have construction priority in using 1987 Program revenue over gaming roads and will be constructed prior to highways in the Gaming Roads Program, some of which have immediate needs. For example, five segments in the Gaming Roads Program have an immediate need for construction, but proposed construction dates for these segments range from 2000 until 2016.

Reprioritization could put program revenues to work in the areas of greatest need.

During the years since determination of which segments would comprise each of the phases of the 1987 Four Lane Program, traffic patterns and corresponding needs have changed. Given these changing needs, a reprioritization of highways could be in order. If the reprioritization could incorporate the 1987 Four Lane Program with the Gaming Roads Program, critical needs in Phase IV and in the Gaming Roads Program might be addressed years sooner than under the current structure. PEER realizes a change in priorities would cause construction projects in some areas of the state to be delayed. However, reprioritization would put program revenues to work in the areas of greatest need.

MDOT's Method of Establishing Need Based on Traffic Patterns

MDOT's method of establishing "year of need" is the approved highway planning method of the Transportation Research Board.

"Year of need" is defined as the year a highway segment reaches an unacceptable level of service rating, which is determined by applying factors such as speed and travel time, freedom to maneuver, traffic interruptions, and convenience. An unacceptable level of service rating represents a level of traffic density that impedes the smooth flow of traffic, restricts the ability of traffic to maneuver between lanes, and negatively impacts the speed of the traffic flow.

Defining highway needs based on level of service is the approved highway planning method found in the Highway Capacity Manual published by the Transportation Research Board, a unit of the National Research Council, which serves the National Academy of Sciences and the National Academy of Engineering.

Lack of Use of Available Resources to Meet Highway Maintenance Needs

MDOT has not made maintenance a high priority when making decisions regarding use of resources and plans to devote 22% of its FY 2001 maintenance budget to pavement overlay. Also, the department has not maintained data that would allow it to compare maintenance program achievements to assessed needs.

MDOT's Pavement Rating System Establishes Need

MDOT began developing a Pavement Management System (PMS) in 1989 that would provide a systematic approach to determining the state's highway paving needs. During the decade following, MDOT stated that it developed algorithms and calculations to measure the conditions of the roadways, periodically comparing the measurements to inventories conducted by state engineers and to subjective determinations of road paving needs by the districts. According to an MDOT official, in June 1999 MDOT completed development of the PMS, implementing a system for establishing ranges for paving conditions (i.e., most to least serious). At that time, the agency began to rely primarily on the PMS to prioritize and select highway projects and to meet its objective of providing an acceptable level of service to the traveling public.

How the Pavement Condition Rating System Works

The PMS computer program accumulates, analyzes, and summarizes pavement condition information from individual stretches of highway. Pavement condition is determined by compiling ride quality information into an index and evaluating existing distress features, such as cracks, potholes, patches, rutting, and faulting. The pavement condition data is presented on a scale from 0 to 100, with 100 being a road that does not need any maintenance.

MDOT has established a minimum pavement condition rating of 72 for the interstates and four-lane system and 62 for the two-lane system. An MDOT official stated that MDOT gives highest priority to interstate paving needs, followed by four-lane and two-lane paving needs, in that order. MDOT also gives highest priority to repair of roads that have rutting (e.g., potholes) occurring. (Rutting is one of the indices included in the overall pavement rating.) Rutting condition is crucial in assuring safe roads. MDOT also considers the overall pavement rating in prioritizing road paving projects.

Current Needs

Pavement maintenance needs determined by pavement condition ratings show that 1,086 miles have the greatest need for maintenance in the year 2000, as shown in the chart below.

MDOT 2000 Pavement Condition Ratings by Type (in Two-Lane Miles) *

	Ratings	Interstates	4 lanes	2 lanes	Total Miles
Lowest Need					
	Rating of 89 to 100	356	638	1,854	***2,848***
	Rating of 82 to 89	510	870	3,039	***4,419***
	Rating of 72 to 82	376	770	1,668	***2,814***
	Subtotal				***10,081***
	Rating less than 72	120	484		***604***
	Rating less than 62			482	***482***
	Subtotal				***1,086***
Highest Need					
	TOTAL	1,362	2,762	7,043	***11,167***

* The mileage in the chart is doubled for Interstate and Four-Lane roads.

Despite the results of the PMS ratings, MDOT stated in its August 2000 budget request that, due to lack of available funds, the agency plans to rehabilitate only 150 miles of interstate highway in FY 2001 and FY 2002.

MDOT Did Not Make Use of Flexibility in Spending Federal Funds

From FY 1997 through FY 2000, the Department of Transportation expended $94 million more in federal funds for the 1987 Four Lane Program than required by law, rather than using the federal funds for other projects such as maintenance, as was within MDOT's discretion.

During fiscal years 1997 through FY 2000, MDOT received $191 million in National Highway System federal funds. MISS. CODE ANN. Section 65-3-97 (8) (a) required that fifty percent of these National Highway System funds be spent on the 1987 Program, or $95.5 million during that period. However, MDOT spent $190 million in federal funds on the 1987 Program during those four years. As a result, MDOT spent $94.5 million in federal funds ($190 million less $95.5 million) on the 1987 Program that it could have spent for other purposes, such as maintenance on

Although directing these "excess" funds away from the 1987 Program would have placed that program further behind, it would also have lessened the backlog of federally-qualified roads which require maintenance.

highways within the National Highway System. (If highways meet current federal safety standards, federal funds may be used for maintenance-related projects on those roads. If the highway does not meet current federal safety standards, federal funds may be used to bring the road up to current standards, therefore satisfying the maintenance need.)

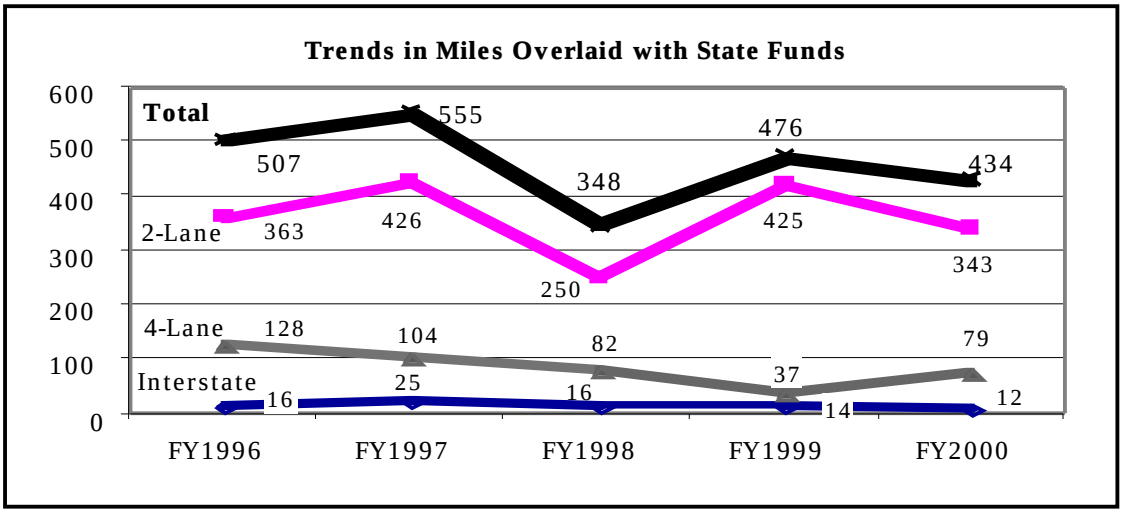
MDOT had the flexibility to use this $94.5 million in federal funds for the 1987 Program rather than spend them for maintenance projects. Although directing these "excess" funds away from the 1987 Program would have placed that program further behind, it would also have lessened the backlog of federally-qualified roads which require maintenance.

Lack of MDOT Evaluation of Maintenance Achievements

In the past MDOT has not maintained data that would allow the agency to compare maintenance program achievements to MDOT's assessed maintenance needs. MDOT states that in future the Pavement Management System will allow for this type of comparison.

PEER requested historical pavement condition rating data in order to compare trends in pavement condition with actual miles of pavement overlay. MDOT stated that it calculated pavement condition ratings in 1991, 1993, 1995, 1997, and 2000 and that the pavement condition of individual stretches of highway captured in the PMS could be compared over time. However, MDOT stated that comparing categories of highway needs over time is not feasible because the network of roadways has changed. For instance, some two-lane highways have now been made into four-lane highways. Therefore, summary pavement-needs data is skewed over time for the three primary categories (interstate, four-lane and two-lane roads). MDOT stated that in the future the department will be able to determine trends in needs by type of road because it established a system of needs by type and severity in June 1999.

MDOT also collects data on the performance outputs of the maintenance program. For instance, MDOT miles of pavement overlaid has fluctuated from 507 to 434 miles from FY1996 to FY2000, as shown in the following chart.



However, because PEER cannot analyze MDOT's assessed maintenance needs over time, PEER cannot compare the maintenance program's achievements to its historical needs to determine whether the program has been effective in meeting needs.

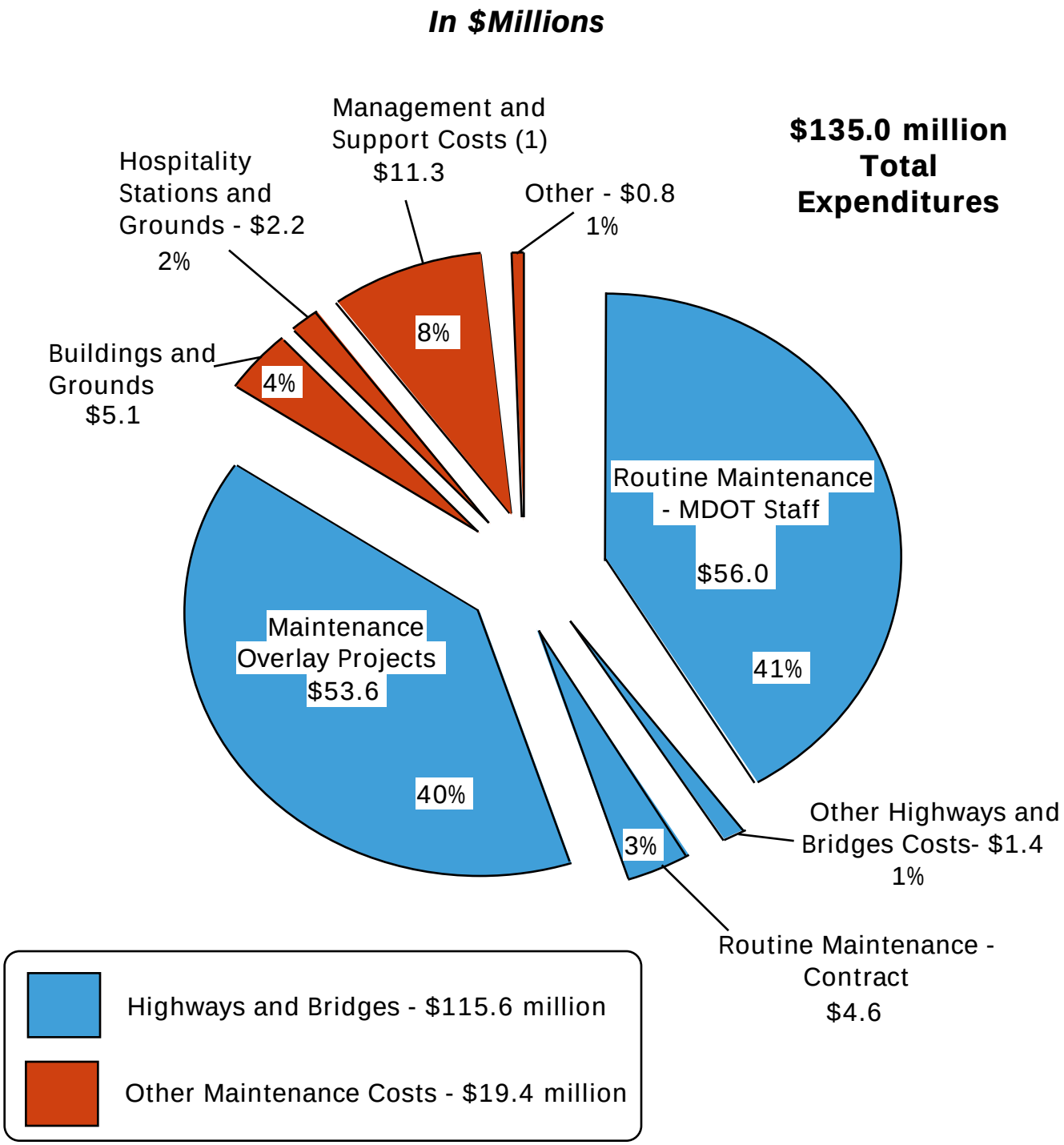
Maintenance Expenditures by Type

In FY 2000, MDOT maintenance expenditures totaled $135,041,768. Exhibit 11, page 47, outlines the maintenance expenditures by type. FY2000 maintenance expenditures included $53.6 million in pavement overlay projects, or 40% of the budget, $56 million in routine maintenance handled by MDOT staff (41%) and $4.6 in routine maintenance handled by contract (3%). Routine maintenance includes work such as mowing of the highway right-of-way, litter removal, and cleaning drainage systems.

The $135 million in maintenance expenditures shown in the exhibit represents the agency's maintenance budget, which is funded wholly with state tax revenues. In addition, MDOT executes other maintenance overlay-type projects with federal funds, which are included in its construction budget. MDOT officials stated that the maintenance dollars spent from the construction budget in recent years have all been construction-related because:

- the Federal Highway Administration does not fund paving maintenance unless any-substandard roads are brought up to federal standards, which entails additional construction such as widening of shoulders; and,

Exhibit 11: MDOT Expenditures from the Maintenance Budget FY2000



(1) includes those management and support costs that are not charged to specific projects

SOURCE: MDOT financial statements

- all of MDOT's federal-funded maintenance in recent years has been for roads that had to be brought up to standard.

MDOT officials stated that in the future it is possible that overlay-only maintenance projects (without a construction component) could be funded from the federal funds in the construction budget because some of the 1987 Program roads constructed in the early years of that program may need to be overlaid while already meeting federal standards. In the past MDOT has not accounted for its maintenance projects in the construction budget separately from the pure construction projects. This has not been a major problem because, according to officials, the overlay projects in the construction budget all had a construction component.

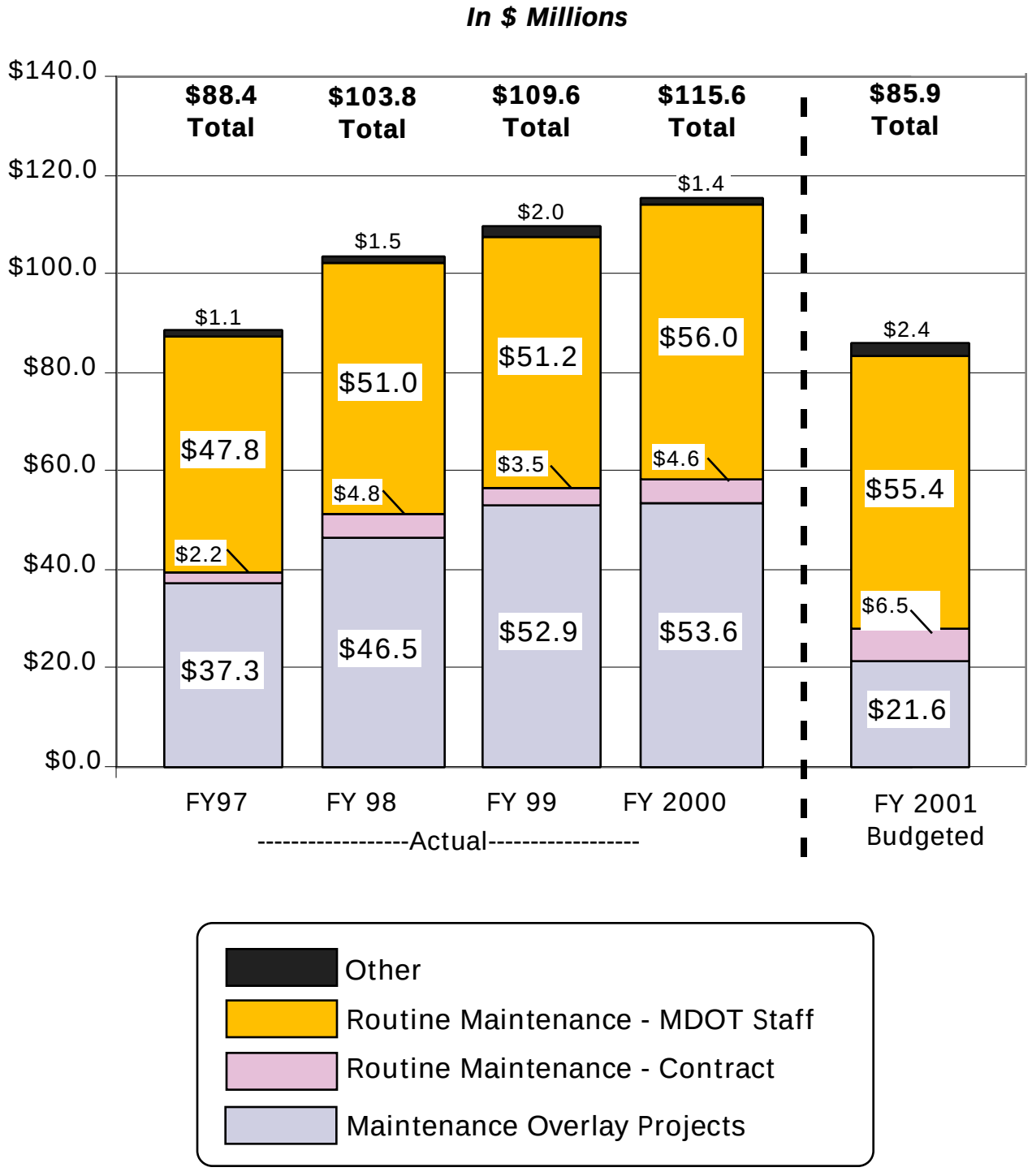
MDOT expended forty percent of its FY 2000 maintenance budget for pavement overlay. Pavement overlay represents 22% of the FY 2001 maintenance budget. The remainder of the maintenance budget will be spent on items such as mowing, providing security at welcome stations and rest stops, and performing maintenance on MDOT buildings.

As shown in Exhibit 11, page 47, MDOT's $53.6 million in pavement overlay expenditures totaled only 40% of the total maintenance budget for FY2000. However, MDOT has budgeted only $21.6 million in pavement projects in FY2001, or 22% of the $100 million total maintenance budget for FY2001.

Exhibit 11 includes both highways and bridges maintenance expenditures and other maintenance expenditures. Exhibit 12, page 49, shows trends in the maintenance budget for highways and bridges only. The exhibit shows that the highways and bridges maintenance budget grew from $88.4 million in FY 1997 to $115.6 million in FY 2000, or 31%. However, MDOT plans to reduce the highways and bridges budget by 26% in one year, from FY 2000 to 2001, to a total $85.9 million. The overall reduction will be due primarily to a reduction of maintenance (pavement) overlay projects from $53.6 million to $21.6 million, or 60%. MDOT states that no new pavement overlay contracts will be let in FY 2001 and that the funds in the budget for FY 2001 represent anticipated payouts for projects that were let in FY 2000.

MDOT has requested $43.2 million in FY2002 for budgetary authority to overlay additional highways. However, the agency states that it does not know if the funds will be available to do so. Although MDOT may not have the funds necessary to complete all of the construction and maintenance projects that it would like to, it is more a matter of choosing priorities than not having funds available for maintenance because of its flexibility in using federal funds.

Exhibit 12: Trends in MDOT Expenditures from the Highways and Bridges Portion of the Maintenance Budget for FY1997 to FY 2000 and the FY2001 Budget



SOURCE: MDOT financial statements

Piecemealing

Mississippi law requires that highway construction contracts be let in segments greater than ten miles unless specific criteria are met. The Mississippi Department of Transportation has misused the criteria and let 82% of all contracts for the 1987 Four Lane Program in segments of less than ten miles, with the average segment length being 7.5 miles.

MDOT's Practice of Letting Contracts in Short Segments Does Not Comply with State Law

The Transportation Commission and MDOT have not complied with MISS. CODE ANN. Section 65-3-97, which requires that highway segments be constructed in lengths of not less than ten miles.

Since MDOT was unable to provide PEER with a listing of construction contracts let for the 1987 Four Lane Program (see discussion of construction contracts on page 39), PEER reviewed MDOT's annual reports from FY 1988 through FY 2000 to obtain a listing of contracts let for the 1987 Program. According to this information, MDOT has let 82% of all 1987 Program construction contracts for segments less than ten miles, with the average segment length being 7.5 miles. This excludes construction contracts for bridges and traffic signal improvements, which would have increased the percentage of contracts let under ten miles and lowered the average contract length.

Piecemealing (letting construction projects in two or more shorter segments instead of one longer segment) is prohibited by MISS. CODE ANN. §65-3-97 (6)(a) which states:

> ***. . .highway segments shall be constructed in lengths of not less than ten (10) miles.***

When passing this law, the Legislature recognized that segments less than ten miles would be unavoidable under certain circumstances and therefore provided certain exceptions. The exceptions are found in MISS. CODE ANN. §65-3-97 (7)(a):

1. The segment as prescribed in law as part of phases one through four is less than ten miles;

2. The segment will connect two existing four-lane highways;

3. The segment will connect an existing four-lane highway with an incorporated municipality;

4. The segment will connect an existing four-lane highway with a river, the state boundary, or any other natural or man-made barrier;

5. For a particular project, the costs of constructing a single segment of at least ten miles would greatly exceed the aggregate costs of constructing two or more segments; or,

6. The segment is in an urban area and involves completion of bypasses or other construction, which will facilitate and accommodate major traffic movement.

On fourteen occasions, MDOT let construction contracts of less than ten miles in length for adjoining segments of highway on the same day.

MDOT has abused its discretion in applying statutory exceptions and the Transportation Commission has acquiesced by letting contracts for segments of less than ten miles without adequate justification. Of the 184 contracts PEER noted as relating to the 1987 Program, only 33 are over ten miles in length. On some occasions, it appears that MDOT deliberately chose to break a construction project into shorter segments for no apparent reason. For example, on fourteen occasions, MDOT let construction contracts less than ten miles in length ***for adjoining segments of highway on the same day.*** On three occasions, the adjoining segments combined did not exceed ten miles. See Appendix E, page 80, for a list of adjoining segments let on the same day.

No Evidence to Support Enhancement of Bidding by Letting Shorter Segments

PEER reviewed the number of bids received on 1987 Program contracts and found no material difference in the number of bids submitted for contracts for segments under and over ten miles.

MDOT managers stated that under the department's interpretation of the law, segments should be let in ten-mile increments and tried to keep segments in the ten-mile range. MDOT believes that keeping segments around ten miles increases the number of bidders and that it was the Legislature's intent to enhance bidding.

PEER found no evidence to support MDOT's position that the bidding process is substantially enhanced by bidding projects in increments of less than ten miles.

PEER found no evidence to support MDOT's position that the bidding process is substantially enhanced by bidding projects in increments under ten miles. PEER reviewed the number of bids received on the 184 contracts found in MDOT's annual reports which related to the 1987 Four Lane Program and noted the number of bids received on contracts over ten miles and under ten miles. The results are listed in the following table:

Number of Bids Received for Contracts Over and Under Ten Miles

Length of Contracts	Number of Contracts	Average Number of Bids
Contracts under ten miles	151	4.9
Contracts over ten miles	33	4.0

The department also contended that contractors cannot bid on larger segments because contractors could not get the necessary bonding authority. However, on the fourteen occasions in which connecting segments under ten miles were let on the same day, the average value of the contracts for the adjoining segments was $13.6 million. On thirty-eight other contracts, MDOT let construction contracts which exceeded $14 million and let a single contract for over $38 million. If an adequate number of contractors were able to get bonding authority for these projects, the adjoining segments could have been let as one contract. Also, if MDOT received an adequate number of bids on these larger contracts, then the adjoining segments could also have been let as one segment and an adequate number of bids received. Further, MDOT could let contracts over ten miles and get an adequate number of bids for these larger construction projects.

MDOT has persisted in piecemealing contracts despite the Legislature's clear intent, as expressed in the law, that the practice was not to be continued. The facts disprove the department's contention that shorter segments significantly enhance the bidding process and contractors are unable to obtain bonding for large projects.

Letting contracts in short segments results in many additional contracts. This increases expenses because of costs of staff time required to prepare, advertise, and let contracts; maintain contract files; and oversee each contract.

Letting contracts in short segments also results in additional expenses to MDOT because of staff time required to prepare, advertise, and let contracts, maintain a contract file of several hundred pages for each contract, and oversee the administration and payments for each contract.

New Mexico recently began letting contracts in longer segments, with one segment of twenty-eight miles, and was successful in attracting bids from large, national construction companies. Although contractors in New Mexico initially opposed letting contracts in longer segments, the New Mexico-based contractors are now competitively bidding against the national firms. New Mexico officials believe letting contracts in longer segments is resulting in savings for that state.

Practice Potentially Contributed to Additional Program Costs

MDOT's practice of piecemealing inhibits the department's taking advantage of economies of scale in letting construction contracts for highway segments.

MDOT has not collected any data to determine the most efficient length for letting highway construction contracts.

MDOT has failed to acknowledge piecemealing as a potential problem and as an area in which efficiencies could be improved and savings realized. MDOT has not collected any data to determine the most efficient length for letting highway construction contracts.

PEER attempted to determine cost per mile for contracts over and under ten miles. However, such a determination was not possible due to the variety of construction contracts issued and MDOT's inability to provide the management information necessary to distinguish between the different types of construction contracts.

Construction contracts can be for the entire construction process from grading and dirt work all the way to paving of the project. However, some projects will have the paving portion let separately. Other construction contracts will be for the rehabilitation of the existing lanes. MDOT could not provide a breakdown of contracts which fall into the various categories. Therefore, it is not possible for a valid comparison of costs for contracts greater than or lesser than ten miles. This is another example of MDOT's inability to provide reasonable management information to assist in assessment of the department's performance.

Economies of scale is a proven economic model in which an entity may purchase large quantities of merchandise on a lower cost per unit basis than an entity buying small quantities of the same merchandise. Several mass merchandisers have proven the viability of this model. In theory, economies of scale should allow contractors to build longer sections of highways at a lower cost per mile than shorter sections. However, MDOT has failed to explore this possible area for improving efficiencies and lower program costs.

Failure of Commission to Document Exceptions

Since July 1 1995, the Transportation Commission has failed to document in its official minutes approval for 40% of the segments under ten miles as required by law and has misapplied some allowable exceptions for constructing segments less than ten miles.

The Commission's Failure to Document Exceptions

Since July 1, 1995, the Transportation Commission has not formally approved forty percent of the segments that are less

than ten miles long as required by law. The Transportation Commission approves segments of less than ten miles through Commissioners' Orders, which are part of the official minutes and are kept in the official minute books.

However, Commissioners' Orders are not issued on a regularly scheduled basis and therefore are difficult to find in the minute books. Also, when segments are approved, the project number is not included, the contract let date is not included, and the termini in the Commissioners' Orders often differ from the termini of the project management system. Given the lack of basic information, it is very difficult to match segments approved by Commissioners' Orders to the Project Management System and determine which segments have been approved or not approved.

PEER compared the Commissioners' Orders since June 11, 1996, to the list of contracts per MDOT annual reports to determine which contracts have been approved. PEER found that each of the Commissioners' Orders overlaps time periods and approves contracts previously let and contracts scheduled to be let. The overlapping time periods represent a haphazard approach to approving segments of less than ten miles and increases the chances segments are omitted from Transportation Commission approval.

MDOT could only provide PEER with the last four Commissioners' Orders. Previous Commissioners' Orders should be in the Transportation Commission's official minute books. However, since the Commissioners' Orders are not issued on a regularly scheduled basis, finding previous Commissioners' Orders would entail going through volumes of minutes books page by page. Listed below are the last four Commissioners' Orders and the period covered by each order.

Comparison of Recent Commissioner's Order Dates to Recent Contract Let Dates

Date of Commissioners' Orders	Earliest Approved Contract Let Date	Latest Approved Contract Let Date
June 11, 1996	October 26, 1993	July 23, 1996
October 22, 1996	March 8, 1995	April 25, 2000
March 10, 1998	July 22, 1997	September 28, 1999
August 22, 2000	July 28, 1998	January 1, 2002

The Commission Misapplied Use of Exceptions

The Transportation Commission has misconstrued some of the allowable exceptions for building segments of less than ten miles.

For example, one exception is granted for segments connecting an existing four-lane highway with a man made barrier. However, the Transportation Commission has listed county roads, state roads, interchanges, and county lines as man made barriers. Although these are "man made" designations or facilities, none could reasonably be considered a "barrier" or obstacle to construction.

Another exception is allowed if the segment will connect an incorporated municipality with an existing four-lane highway. In June 1996, this exception was cited by the Transportation Commission in approving the construction of US 45A from Brooksville to the Lowndes County line. However, US 45A at the Lowndes County line ***is not an existing four-lane facility***. According to MDOT's proposed construction schedule, construction for US 45A at the Lowndes County line northward to Artesia Road is not scheduled to begin until October 2001.

Another exception is allowed if the segment will connect two existing four-lane highways. However, the Transportation Commission has approved segments which connect to a four-lane facility only on one end. This strategy allows MDOT to build a short segment, then add another short segment, and so forth until the segment is finally complete.

The Transportation Commission is not making a serious effort to avoid construction of segments under ten miles. For example, the June 11, 1996, Commissioners' Orders approved the following segments in consecutive entries:

> US 61 – Adams County line southward seven miles. This project is the extension of four lanes in Adams County.
>
> US 61 – from state road 563 northward to seven miles south of the Adams County line. This project will connect to a four-lane facility. (See Exhibit 13, page 56.)

The reasons cited in the entries are not valid exceptions. The law requires the short segment connect two existing facilities. Also, the contract let date for the first segment was April 25, 1995, and the let date for the second segment was June 27, 1995. These segments could have been combined into one fourteen-mile segment rather than let as two seven-mile segments. Instead, the Transportation Commission chose to ignore the intent of the Legislature and continue the practice of piecemealing.

Exhibit 13: Example of Piecemealing of Connecting Construction Contracts

SOURCE: Compiled by PEER from MDOT information.

Recommendations

Program Management System

1. The Legislature should enact legislation regarding MDOT's management of the entire highway construction process. The legislation should address the following areas:

    a. MDOT should develop a master budget for each segment of highway. Highway segments should not be less than ten miles in length and should have logical starting and ending points that comply with the National Environmental Policy Act. The master budget should include budgets for all preliminary engineering, right of way, construction projects, and all other costs, such as construction engineering and inspection, for the segment. See recommendation 11 for possible exceptions.

    b. MDOT should develop policies and procedures for the management and oversight of the master budget for each segment which would, at a minimum, accomplish the following:

        i. Develop a realistic cost estimate for each project within a segment which would serve as a budget for the project. The budget for each project should be developed as soon as realistic cost figures can be estimated but not too late to impede the development of the master budget for the segment.

        ii. Capture and retain the original budget estimate of each project for comparison to the final cost of each project.

        iii. Capture and retain the original master budget of each highway segment for comparison to the final cost of each highway segment.

        iv. Develop a process whereby increases or other revisions to project budgets and master budgets are reviewed and approved by appropriate levels of management on the district level and in the Jackson central office. The name and position of the approving MDOT official should be recorded in conjunction with the change. Also, management approval should denote that changes are necessary, alternatives have been considered, and any changes are performed in the most cost efficient manner. Alternatives considered but rejected should also be part of the proposed change documentation file.

v. Using existing resources, develop an information system whereby cost information for each segment is readily available for the Legislature or public.

vi. Capture costs of contractors or consultants used on preliminary engineering, right of way, and construction engineering and inspection.

c. MDOT should ensure that individual projects for preliminary engineering, right of way, and construction do not overlap segment boundaries.

d. MDOT should ensure all information relating to the entire construction process for highway segments is readily available to answer information requests from the Legislature and other parties.

Annual Reporting Requirements

2. MDOT should fully comply with MISS. CODE ANN. §65-3-97 (9) and present all required information in the annual report to the Legislature.

3. MDOT should ensure that all information reported annually to the Legislature in compliance with MISS. CODE ANN. §65-3-97 (9) is accurate.

Construction Contract Information

4. MDOT should ensure all pertinent construction contract information is complete, accurate, and in a format which facilitates the preparation of important management information for MDOT management, the Legislature, and other parties. The information should include, at a minimum:

   a. Contract let date;

   b. Highway on which contract was let;

   c. Project description, including beginning and ending point of the contract;

   d. Contract length in miles;

   e. Name of winning contractor;

   f. Original contract amount;

   g. Final contract amount;

h. Total earned by contractor;

i. Liquidated damages, if any;

j. Original contract completion date;

k. Revised contract completion date, if applicable;

l. Actual contract completion date.

Program Cost Projections

5. When calculating total costs for the 1987 Four Lane and Gaming Roads programs, MDOT should use the actual inflation index rate as calculated by MDOT's construction inflation index, provided such calculation is in accordance with and approved by the Federal Highway Administration. Also, any total cost projections should include all known costs such as debt service.

Reprioritization

6. The Legislature should amend MISS. CODE ANN. § 65-3-97 and § 65-39-1 to require, after completion of Phases I through III of the 1987 Four Lane Program, the prioritization and construction of highways and roads found in Phase IV of the 1987 Four Lane Program, Gaming Roads Program, and highways not listed in the 1987 Four Lane or Gaming Roads programs. The Federal Highway Administration's accepted standards for estimating capacity, determining level of service for highways, and determining construction needs should be a major factor in prioritization and construction.

7. After completion of Phases I through III of the 1987 Four Lane Program and the prioritization of highways in Phase IV of the 1987 Four Lane Program, Gaming Roads Program, and highways not listed in either program, the $36 million earmarked as MDOT's share of the state's gaming tax for the Gaming Roads Program should continue to be used exclusively for expenses related to the Gaming Roads Program.

8. MDOT should reprioritize construction at least every five years until conclusion of the 1987 Four Lane and Gaming Roads programs. The Federal Highway Administration's accepted standards for estimating capacity, determining level of service for highways, and determining construction needs should be a major factor in prioritization and construction. MDOT should report this reprioritized construction schedule to the Legislature in the subsequent legislative session and

make available for review its supporting documentation of the revised schedule.

Maintenance

9. MDOT should consider all sources of revenue, including the use of federal funds, when addressing maintenance needs.

10. MDOT should collect its assessed quantified maintenance needs on a uniform basis from year to year and compare these needs to data on actual roads paved to determine its effectiveness in meeting needs.

Piecemealing

11. The Legislature may consider granting MDOT the option of allowing segments less than ten miles in length if one or more of the following conditions are met:

    a. The segment as prescribed in law is less than ten miles;

    b. The segment will connect a four-lane highway existing as of July 1, 2001, or a four-lane highway for which a construction contract has been let by July 1, 2001, with the state boundary or the Mississippi River.

    c. For a particular project, the costs of constructing a single segment of at least ten miles in length would exceed by at least ten percent the aggregate costs of constructing two or more segments. In such instances, MDOT shall have thorough documentation to support the exception.

12. In any case in which the Transportation Commission authorizes the construction of a highway segment of less than ten miles in length, the commission shall set forth and record in its official minutes, on at least a quarterly basis, explanation and justification therefor based upon one or more of the conditions prescribed above.

13. MDOT should include in the annual report submitted to the Legislature by the Transportation Commission a listing of all construction contracts less than ten miles let by the commission during the previous fiscal year. Information provided in the listing of construction contracts less than ten miles should include, at a minimum, the following:

    a. Contract let date;

    b. Highway on which contract was let;

    c. Project description, including beginning and ending point of the contract;

d. Contract length in miles;

e. Name of winning contractor;

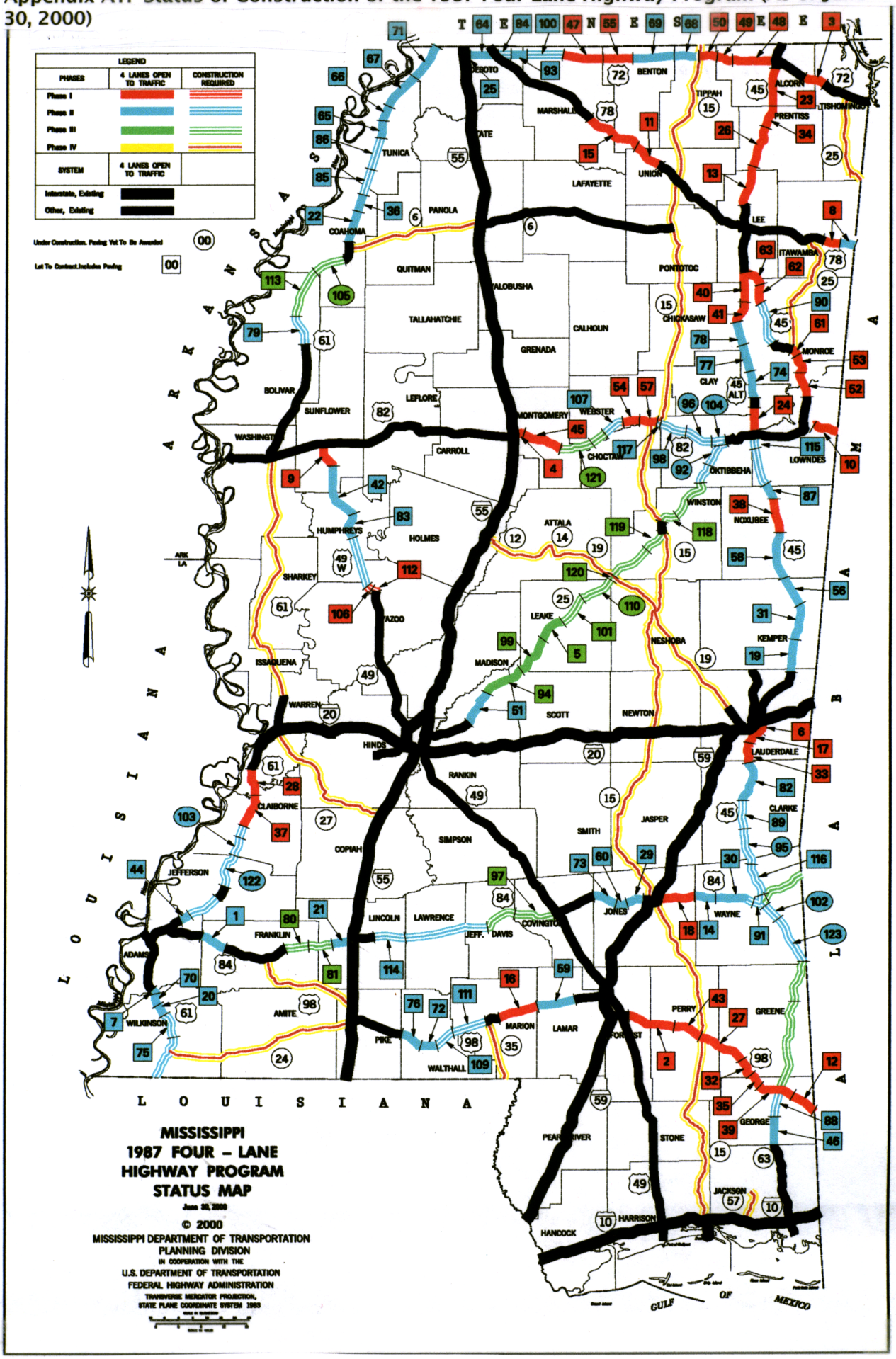
f. Original contract amount;

g. Justification and explanation for letting a contract less than ten miles.

Reporting Requirements for the Gaming Roads Program

14. The Legislature should require MDOT to prepare an annual report for the Gaming Roads Program that provides the same data as required by MISS. CODE ANN. Section 65-3-97 (9).

Appendix A1: Status of Construction of the 1987 Four Lane Highway Program (As of June 30, 2000)



Appendix A2
1987 Four-Lane Highway Program
Open to Traffic Roads and Associated Costs as of June 30, 2000

MDOT Segment Number	Number of Miles	(Termini) Route	Phase	MDOT Reported Costs *			
				Preliminary Engineering	Right-of- Way	Construction	Total Cost
5	9.20	SR 25 from SR 16 to SR 35	3	$ 71,639	$ -	$ 17,045,958	$ 17,117,596
51	9.90	SR 25 between SR 471 and SR 43	2	298,426	1,699	9,214,715	9,514,840
94	11.93	SR 25 from SR 43 to Ludlow	3	103,315	-	16,188,441	16,291,755
99	9.60	SR 25 from Ludlow to SR 16	3	147,991	-	14,540,883	14,688,873
6	1.30	US 45 from I-59 to SR 19	1	143,490	405,282	5,988,451	6,537,223
13	9.70	US 45 from Saltillo to Prentiss Cty Line	1	182,312	1,512,978	26,423,186	28,118,475
17	6.10	US 45 from 5 miles north of Clarke Cty Line to SR 19	1	512,353	567,548	29,616,127	30,696,028
19	11.10	US 45 between Lauderdale and Porterville	2	233,413	4,817	16,117,901	16,356,131
23	10.30	US 45 from Prentiss Cty Line to Corinth	1	284,222	5,513,119	21,735,601	27,532,942
26	13.50	US 45 from SR 370 to SR 4	1	523,866	3,365,150	29,588,873	33,477,890
31	10.10	US 45 between Porterville and Scooba	2	266,484	8,790	17,496,687	17,771,961
33	4.70	US 45 from Clarke Cty Line north	1	397,283	1,262,268	12,090,294	13,749,845
34	5.80	US 45 from SR 4 to Alcorn Cty Line	1	286,859	1,565,628	14,352,290	16,204,777
38	12.10	US 45 between Macon Bypass and Brooksville	1	486,991	876,785	16,488,570	17,852,345
52	7.90	US 45 between Columbus Air Force Base and McKinley Creek	1	431,030	3,369,326	15,727,976	19,528,332
53	6.10	US 45 between McKinley Creek and Lackey	1	1,527,534	2,536,701	8,702,302	12,766,536
56	7.30	US 45 between Scooba and Noxubee Cty Line	2	301,691	24,032	12,160,246	12,485,970
58	9.60	US 45 from Kemper Cty Line to the Macon Bypass	2	397,627	378,835	21,952,678	22,729,140
61	2.70	US 45 from Lackey to Aberdeen	1	343,695	1,122,802	18,868,220	20,334,717
62	4.96	US 45 between New Wren and Town Creek	1	259,220	2,143	13,747,357	14,008,720
63	6.61	US 45 between Town Creek and Shannon	1	1,498,593	5,459,986	20,960,802	27,919,381
82	8.70	US 45 from Clarkco State Park to Lauderdale Cty Line	2	511,406	1,958,832	7,617,974	10,088,213
24	7.10	US 45A from US 82 to West Point	1	218,332	1,046,909	17,799,550	19,064,791
40	8.70	US 45A between SR 41 and Shannon	1	68,920	167,074	20,253,281	20,489,276
41	5.40	US 45A south of Okolona to SR 41	1	-	-	23,552,102	23,552,102
74	8.20	US 45A from north of West Point to SR 25	2	643,574	2,931,968	20,501,463	24,077,005
77	6.70	US 45A from SR 25 to SR 8	2	271,203	2,770,152	12,638,645	15,679,999
78	6.80	US 45A from SR 8 to south of Okolona	2	312,321	788,455	15,240,882	16,341,658
87	4.60	US 45A from Brooksville to Lowndes Cty Line	2	353,453	2,733,520	15,071,589	18,158,562
9	5.40	US 49W from Inverness Bypass to Indianola	1	23,248	956,999	9,672,294	10,652,541
42	15.00	US 49W between SR 12 and Inverness	2	129,860	424,980	17,052,631	17,607,471
83	6.30	US 49W between Silver City and SR 12	2	308,140	199,656	8,484,371	8,992,166

*** This information was reported by MDOT and was not verified by PEER staff.**

SOURCE: PEER Analysis of MDOT Financial Management Information and the 1999 Annual "Moving AHEAD" report.

Appendix A2
1987 Four-Lane Highway Program
Open to Traffic Roads and Associated Costs as of June 30, 2000

MDOT Segment Number	Number of Miles	(Termini) Route	Phase	MDOT Reported Costs *			
				Preliminary Engineering	Right-of- Way	Construction	Total Cost
7	2.00	US 61 at Homochitto River Bridge	2	$ 4,323	$ 257,901	$ 10,185,263	$ 10,447,488
20	1.60	US 61 at the Buffalo River	2	-	-	5,715,907	5,715,907
22	7.00	US 61 from Clarksdale Bypass northward	2	42,055	942,452	11,386,258	12,370,764
28	7.00	US 61 between Big Black River Bridge and Yokeno	1	229,860	1,582,090	13,598,363	15,410,313
36	7.00	US 61 from 7 miles north of Clarksdale to US 49	2	37,249	834,743	9,137,103	10,009,095
37	7.80	US 61 between Port Gibson and Big Black River	1	937,336	53,660	15,866,242	16,857,239
44	2.80	US 61 between Natchez Trace and Jefferson Cty Line	2	39,271	114,365	5,258,835	5,412,471
65 & 66 (1)	10.00	US 61 from SR 4 to 6 miles north of Tunica	2	514,017	2,097,565	36,657,179	39,268,762
67	9.20	US 61 from 6 miles north of Tunica to SR 3	2	195,634	1,733,632	6,947,368	8,876,634
70	7.30	US 61 between Buffalo River and Adams Cty Line	2	1,030,613	1,735,557	17,485,728	20,251,897
71	9.90	US 61 between SR 3 and Tennessee State Line	2	956,881	6,404,516	36,285,984	43,647,381
46	7.40	SR 63 between Jackson Cty Line and Lucedale Bypass	2	1,163,605	298,453	7,606,571	9,068,629
3	7.00	US 72 between Strickland and Burnsville	1	230,926	1,242,327	10,260,067	11,733,321
47	11.95	US 72 between Mt. Pleasant and Benton Cty Line	1	798,788	6,607,488	21,381,955	28,788,230
48	11.10	US 72 from Goose Creek Bottom to Corinth	1	834,320	5,281,958	25,105,421	31,221,700
49	3.80	US 72 between Tippah Cty Line and Goose Creek Bottom	1	285,623	1,254,760	11,638,821	13,179,204
50	5.20	US 72 between Walnut and Alcorn Cty Line	1	685,599	3,617,329	12,470,909	16,773,838
55	8.30	US 72 between Marshall Cty Line and SR 5	1	784,414	2,040,274	21,130,660	23,955,348
68	5.97	US 72 between Benton Cty Line and Walnut	2	391,556	4,478,087	16,365,539	21,235,182
69	10.80	US 72 between SR 5 and Tippah Cty Line	2	784,196	4,593,311	24,515,947	29,893,454
8	13.30	US 78 Fulton Bypass to Alabama	2	751,381	2,523,703	43,086,107	46,361,191
11	9.10	US 78 between Hickory Flat and New Albany bypass	1	119,260	309,190	29,527,718	29,956,167
15	7.30	US 78 from Holly Springs to Benton Cty Line	1	244,399	2,659,904	29,170,097	32,074,400
15	7.30	US 78 from Marshall Cty Line to Hickory Flat	1	216,596	322,608	18,192,977	18,732,181
4	3.00	US 82 Bypass at Winona	1	112,002	1,951,528	10,316,759	12,380,290
10	8.40	US 82 from SR 12 to Alabama State Line	1	58,948	2,988,292	22,401,392	25,448,632
45	11.00	US 82 from Winona Bypass to Kilmichael	1	594,123	3,616,448	24,746,803	28,957,375
54	5.80	US 82 from 2 miles west of Eupora Eastward	1	432,350	2,681,632	25,210,969	28,324,951
57	6.30	US 82 from east of Eupora to SR 15	1	1,008,817	4,202,592	6,825,410	12,036,819

(1) These two segments costs were allocated together.

*** This information was reported by MDOT and was not verified by PEER staff.**

SOURCE: PEER Analysis of MDOT Financial Management Information and the 1999 Annual "Moving AHEAD" report.

Appendix A2
1987 Four-Lane Highway Program
Open to Traffic Roads and Associated Costs as of June 30, 2000

MDOT Segment Number	Number of Miles	(Termini) Route	Phase	MDOT Reported Costs *			
				Preliminary Engineering	Right-of- Way	Construction	Total Cost
1	7.10	US 84 between Leesdale and Roxie	2	$ 359,540	$ 1,890,019	$ 3,873,116	$ 6,122,676
14	9.60	US 84 between Jones Cty Line and Whistler	2	85,049	120,081	6,050,306	6,255,436
18	10.60	US 84 from Laurel to Wayne Cty Line	1	184,674	4,700,257	20,562,856	25,447,787
21	5.50	US 84 between Auburn Road and I-55	2	837	18,388	3,937,062	3,956,286
29	1.80	US 84 between Horse Creek and SR 28	2	6,958	1,551,773	2,939,214	4,497,945
30	4.00	US 84 between Whistler and Waynesboro	2	167,800	326,734	5,004,103	5,498,637
60	3.50	US 84 between SR 29 and SR 28	2	364,199	2,071,544	7,806,664	10,242,406
73	8.90	US 84 between Covington Cty Line and SR 29	2	199,460	419,365	14,493,852	15,112,676
2	15.30	US 98 between Ralston and New Augusta	1	277,972	71,528	24,833,702	25,183,202
12	6.90	US 98 from Lucedale Bypass to Alabama	1	47,826	222,814	3,616,946	3,887,586
16	7.50	US 98 from Columbia to Lamar Cty Line	1	225,813	360,311	7,054,663	7,640,786
27	2.40	US 98 from 1 mile east of SR 29 to 2.2 miles west of Greene Cty Line	1	84,675	742,666	3,278,657	4,105,997
27	6.80	US 98 between Perry Cty Line and Little Oktibee Creek	1	623,731	525,805	24,162,488	25,312,024
32	5.80	US 98 between Little Oktibee Creek and East Relief	1	232,557	621,608	12,008,585	12,862,750
35	3.60	US 98 from Greene Cty Line to Lucedale Bypass	1	344,871	825,900	3,343,363	4,514,134
39	9.70	US 98 Lucedale Bypass	1	176,515	-	8,333,719	8,510,234
43	5.50	US 98 between SR 29 and Carter Creek	1	327,801	1,026,974	9,441,227	10,796,002
43	4.22	US 98 between Carter Creek and Greene Cty Line	1	251,513	787,969	13,099,047	14,138,528
59	10.60	US 98 between Marion Cty Line and SR 589	2	503,963	3,362,358	12,058,857	15,925,178
72	5.10	US 98 Bypass at Tylertown	2	209,909	-	6,553,088	6,762,997
76	6.60	US 98 from Bogue Chitto to Tylertown Bypass	2	428,010	2,446,626	11,026,555	13,901,190
25	1.10	SR 302 from Airways Blvd to Swinnea Rd	2	134,269	364,535	2,738,100	3,236,903
64	9.90	SR 302 between Swinnea Rd. and US 78	2	542,286	9,358,946	18,326,587	28,227,819
93	4.40	SR 302 from 2.2km east of Hacks Cross Rd to SR 309	2	744,566	5,780,300	5,902,499	12,427,365
Total	**624.44** (2)			**$ 31,547,425**	**$ 145,979,300**	**$ 1,285,815,945**	**$ 1,463,342,670**

(2) This mileage number differs from the MDOT 2000 AHEAD report due to rounding.

*** This information was reported by MDOT and was not verified by PEER staff.**

SOURCE: PEER Analysis of MDOT Financial Management Information and the 1999 Annual "Moving AHEAD" report.

Appendix A3
1987 Four-Lane Highway Program
Under Construction (Not Open to Traffic) Roads awarded through June 30, 2000

MDOT Segment Number	Number of Miles	Termini (Route)	Phase	Description of Contracts	Contract Let Date (Proposed)	Paving Contract Let Date (Proposed)
92	8.40	SR 25 from existing SR 25 south of Starkville to the interchange with relocated US 82 northwest of Starkville	2	Grade, drain and bridge four lanes on new location.	2/97	(FY 2001)
101	7.34	SR 25 from SR 35 to Renfroe	3	Grade, drain and bridge two lanes parallel to existing SR 25	3/98	4/00
110	9.56	SR 25 from Renfroe to the Attala County Line	3	Grade, drain and bridge two lanes parallel to existing SR 25.	6/98	(FY 2001)
118	6.20	SR 25 from SR 15 to old SR 25 north of Louisville	3	Grade, drain, bridge, and pave two lanes parallel to existing lanes.	6/99	*
119	5.90	SR 25 from Noxapater Creek to Louisville Relocation	3	Grade, drain, bridge, and pave two lanes parallel to existing lanes.	3/99	*
120	2.00	SR 25 From Leake Cty Line to SR 19	3	Grade, drain, bridge, and pave two lanes parallel to existing lanes.	7/99	*
89	11.50	US 45 from DeSoto to Clarkco State Park	2	Grade, drain and bridge two additional lanes and some four lane on new location.	11/96	6/99
90	12.70	US 45 from Aberdeen to New Wren	2	Grade, drain, and bridge two additional lanes.	11/96	5/99
91	6.60	US 45 and 84 From existing US 84 northward for 2.2 miles, and from 2.5 miles west of the Chickasawhay River to 1.0 mile east of US 45 (Waynesboro Bypass and interchange)	2	Grade, drain and bridge four lanes on new location.	7/96	6/99
95	10.00	US 45 from Hiwanee to DeSoto	2	Grade, drain and bridge mostly four lanes on new location.	7/97	(FY 2001)
102	8.10	US 45 from Winchester to existing US 84	2	Grade, drain and bridge four lanes on new location.	4/98	(FY 2001)
116	6.70	US 45 from two miles north of US 84 to Hiwanee	2	Grade, drain, bridge, and pave two lanes parallel to existing lanes.	1/99	*
123	13.10	US 45 from SR 42 at State Line to Winchester	2	Grade, drain, bridge.	3/00	*
115	5.70	US 45A from Artesia Road to US 82 near Mayhew	2	Grade, drain, bridge, and pave two lanes parallel to existing lanes.	1/99	*
106	2.86	US 49W from the US 49E and SR 3 interchange to Carter Road	1	Grade, drain, bridge, and pave four lanes on new location. Includes the bridge over the Yazoo River.	5/98	*

*Paving projects may be included with original contract, and therefore would not require a seperate paving contract.

SOURCE: PEER Analysis of MDOT Project/Financial Management Information and 1999 Annual "Moving AHEAD" report.

Appendix A3
1987 Four-Lane Highway Program
Under Construction (Not Open to Traffic) Roads awarded through June 30, 2000

MDOT Segment Number	Number of Miles	Termini (Route)	Phase	Description of Contracts	Contract Let Date (Proposed)	Paving Contract Let Date (Proposed)
108	***13.00***	***US 49W from Carter Road to Silver City***	***2***	***Grade, drain and bridge four lanes on new location. This segment is not located on the map because the contract was rescinded.***	***(FY 2001)***	
112	1.80	US 49W from Yazoo City to SR 3	1	Grade, drain, bridge, and pave four lanes on new location.	7/98	*
75	6.70	US 61 from SR 563 to north of the Buffalo River	2	Grade, drain and bridge two additional lanes.	6/95	5/98
79	11.76	US 61 from Merigold to Shelby	2	Grade, drain and bridge two additional lanes and some four lane on new location.	9/95	4/98
85	7.10	US 61 from US 49 near Lula to Dundee	2	Grade, drain, and bridge two additional lanes.	6/96	6/98
86	8.40	US 61 from Dundee to SR 4	2	Grade, drain, and bridge two additional lanes.	6/96	6/98
103	3.64	US 61 from the Jefferson Cty Line to the Natchez Trace south of Port Gibson	2	Grade, drain and bridge two lanes parallel to existing US 61.	4/98	(FY 2001)
105	9.53	US 61 from the Bolivar Cty Line to US 49 (bypass near Clarksdale)	3	Grade, drain and bridge two lanes parallel to existing US 61.	4/98	(FY 2001)
113	10.70	US 61 from Shelby to Coahoma County Line	3	Grade, drain, bridge, and pave two lanes parallel to existing US 61.	9/98	*
122	9.70	US 61 from Fayette Bypass to .124 km north of Claiborne Cty Line	2	Grade, drain, bridge.	3/00	*
88	8.70	SR 63 from 7.5 miles north of the Jackson County Line to US 98	2	Grade, drain and bridge two additional lanes.	9/96	6/99
96	7.70	US 82 from 2.7 miles west of Adaton to the interchange with relocated SR 25 northwest of Starkville	2	Grade, drain and bridge four lanes on new location.	6/97	(FY 2001)
98	7.32	US 82 from the Choctaw County Line to 2.7 miles west of Adaton	2	Grade, drain and bridge.	9/97	4/00
104	4.89	US 82 from relocated SR 25 to Clayton Village (Starkville Bypass)	2	Grade, drain and bridge four lanes on new location.	4/98	(FY 2001)
107	6.53	US 82 from the Montgomery Cty Line to Eupora	2	Grade, drain and bridge two lanes parallel to existing US 82.	5/98	4/00
117	1.62	US 82 from 0.5 miles west of SR 15 to Oktibbeha Cty Line	2	Grade, drain, bridge, and pave four lanes on new location.	4/99	*
121	9.30	US 82 from Kilmichael to Webster Cty Line	3	Grade, drain, bridge, two lanes.	10/99	(FY 2002)

*Paving projects may be included with original contract, and therefore would not require a seperate paving contract.

SOURCE: PEER Analysis of MDOT Project/Financial Management Information and 1999 Annual "Moving AHEAD" report.

Appendix A3
1987 Four-Lane Highway Program
Under Construction (Not Open to Traffic) Roads awarded through June 30, 2000

MDOT Segment Number	Number of Miles	Termini (Route)	Phase	Description of Contracts	Contract Let Date (Proposed)	Paving Contract Let Date (Proposed)
80	7.40	US 84 from Eddiceton to Lucien	3	Grade, drain and bridge two additional lanes.	10/95	1/99
81	5.80	US 84 from Lucien to Auburn Road	3	Grade, drain and bridge two additional lanes.	10/95	10/98
97	12.50	US 84 from the Jefferson Davis Cty Line to Collins	3	Grade, drain and bridge two lanes parallel to existing US 84.	6/97	1/00
114	7.30	US 84 from Brookhaven Bypass to Lawrence Cty Line	2	Grade, drain and bridge two lanes parallel to existing US 84.	3/99	(FY 2001)
109	5.05	US 98 from east end of the Tylertown Bypass to the Marion Cty Line	2	Grade, drain and bridge two lanes parallel to existing US 98.	6/98	10/99
111	9.50	US 98 from Walthall County Line to Foxworth	2	Grade, drain and bridge two lanes parallel to existing lanes.	7/98	11/99
84	4.90	SR 302 From US 78 to 1.5 miles east of Hacks Cross Road	2	Grade, drain, bridge, and pave four lanes on new location.	6/96	*
100	9.94	SR 302 from one mile west of SR 309 to Mt. Pleasant	2	Grade, drain and bridge four lanes on new location.	2/98	1/00
Total	**294.44**					

*Paving projects may be included with original contract, and therefore would not require a seperate paving contract.

SOURCE: PEER Analysis of MDOT Project/Financial Management Information and 1999 Annual "Moving AHEAD" report.

Appendix B1
Gaming Roads Program
Completed* Road Projects Projects as of June 30, 2000

County	Miles	Termini (Route)	Scope of Work (GR: Grade DR: Drain BR: Bridge)	Proposed Construction Date	Proposed End Date
Desoto	13.13	SR 304 from west of SR 301 to east of Odom Rd.	GR DR BR 4 LANE	6/1/99	1/1/02
Harrison	1.20	Cowan-Lorraine Rd. between Reichhold Rd. and I-10	ADD 2 LANES	9/1/97	2/1/02
Harrison	0.26	Cowan-Lorraine Rd., Bridge over Bayou Bernard	BRIDGE	7/29/98	8/15/00
Harrison	2.49	US 49 from 28th St. to north of Turkey Creek	RECONSTRUCTION	8/1/98	7/31/00
Harrison	1.27	Cowan-Lorraine Rd. from Magnolia St. to Reichhold Rd.	Not Assigned	10/1/98	7/30/01
Harrison	0.26	Cowan-Lorraine Rd., Bascule Bridge over Industrial	BRIDGE	10/1/98	7/19/01
Harrison	28.78	I-10 from 1 mile east of Exit 38 to Jackson Cty Line	ADD 2 LANES	7/1/99	8/30/02
Warren	0.43	Warrenton Rd. at three bridge sites in Vicksburg	REPLACE BRIDGE	10/1/97	1/1/00
Total	**47.82**				

*MDOT reports these roads as completed even though some of the proposed end dates have not occurred.

SOURCE: PEER Analysis of MDOT Project Management Information

Appendix B2

Gaming Roads Program
Under Construction* (Active) Road Projects as of June 30, 2000

County	Miles	Termini (Route)	Scope of Work (GR: Grade, DR: Drain, BR: Bridge)	Proposed Construction Date	Proposed End Date
Adams	0.27	Canal St. from John R. Junkin Dr. to US 84	ADD 2 LANES	7/1/96	1/1/99
Hancock	4.77	US 90 from SR 43 to Bridge over Bay of St. Louis	GR DR	11/1/96	11/1/99
Harrison	0.01	I-110 at US 90 in Biloxi	GUARDRAIL	7/1/97	6/1/00
Harrison	28.78	I-10 from 1 mile west of exit 28 to 1 mile east	ADD 2 LANES	10/1/96	7/1/99
Harrison	28.78	I-10 between Rivers Rd. and Shorecrest Rd.	ADD 2 LANES	10/1/96	11/1/01
Harrison	0.01	US 90 reconstruct intersection with US 49 in Gulfport	RECONSTRUCTION	4/1/97	7/1/99
Harrison	9.87	US 90 at Henderson Point Bridge	REPLACE BRIDGE	8/1/97	8/1/02
Neshoba	12.24	SR 16 from .5 miles west of Bureau of Indian Affairs Route 22 east	RECONSTRUCTION	2/1/95	9/1/96
Warren	5.53	I-20 reconstruct North Frontage Rd. at Harbour Industrial Park	RECONSTRUCTION	4/1/96	7/1/97
Washington	8.20	US 82 In Greenville from Hughes St to Golf St.	CONSTRUCT 5 LANES	7/1/98	12/31/99
Washington	1.00	SR 1 and US 82 in Greenville	RECONSTRUCTION	11/1/97	7/1/00
Washington	1.11	US 82 at Washington Ave. In Greenville	CONSTRUCT 5 LANES	5/1/00	2/1/02
Total	**100.57**				

*MDOT reports these roads as under construction even though some of the proposed end dates have already occurred.

SOURCE: PEER Analysis of MDOT Project Management Information.

Appendix C
MDOT's Implementation of the 1987 Four Lane Program
Reporting Requirements in Code Section 65-3-97 (9)
(Required to be Reported by January 10 of each Year to the Legislature)

Code Subsection and Reporting Requirement	Not Reported	Partially Reported	Reported
(a) Specific segments on which engineering is being performed or has been completed;			√
(b) Specific segments for which right-of-way has been acquired or is being acquired;			√
(c) Specific segments for which construction contracts have been let;			√
(d) Specific segments on which construction is in progress (1)	√		
(e) Specific segments on which construction has been completed;			√
(f) Projections for completion of the next step on each segment (2)	√		
(g) Revenue derived for such construction program from each revenue source contained in Chapter 322, Laws, 1987, and in Chapter 557, Laws, 1994;			√
(h) For each fiscal year beginning in 1994, a detailed cash flow projection by source of program activities and an estimate of when the program will encounter a funding shortage due to costs exceeding original projections;			√
(i) A schedule of all complete and open-to-traffic highway segments and the related total cost of each segment;			√
(j) A schedule of all highway segments on which all contracts necessary for completion of the segments were not let as of the date required by law (3)	√		
(k) A complete recap of all program receipts by source, and of all disbursements for the prior fiscal year and cumulative totals since the inception of the program as compared to projections (4)		√	
(l) A statement from the Department of Transportation regarding the status of the funding of the program based on agency cost experience and projections for the future (5)		√	

NOTES: (1) MDOT reports the projects for which construction contracts have been executed (let), but not the contracts in progress. The number of contracts let is an indication of the number of segments on which construction is in progress since most let projects will be under construction within a month.

(2) On January 20, 1999, MDOT presented a portion of this information (those projects which would be let before 12/31/99) to the Senate Highways and Transportation Committee in a visual presentation.

(3) During a January 20, 1999, visual presentation to the Senate Highways and Transportation Committee, MDOT presented certain incompleted projects which would be delayed.

(4) MDOT presents the receipts comparison in the AHEAD report, but not the disbursement comparisons.

(5) The statement is not included in the AHEAD report. MDOT has indicated funding status as it relates to cash balances in visual presentations to legislative committees in January 1999 and 2000.

SOURCE: Analysis of Mississippi CODE ANN. Section 65-3-97 and MDOT reports and visual presentations

Appendix D1

1987 Four-Lane Program and Gaming Roads with Proposed Construction Dates BEFORE Need*

County	Miles	Termini (Route)	Scope of Work (GR: Grade, DR: Drain, BR: Bridge)	Proposed Program Amount	Proposed Construction Date	Year of Need	Program
Hancock	3.78	Lakeshore Rd. from US 90 to Beach Blvd, Bay St. Louis	GR DR BR PAVE 2 LANE	$ 5,373,000	1/1/18	No Need (1)	Gaming
Tate	5.05	SR 4 from Strayhorn to US 51	GR DR BR PAVE 4 LANE	14,200,000	1/1/14	2017	Gaming
Tate	2.58	SR 4 from Tunica Cty Line to Strayhorn	GR DR BR PAVE 4 LANE	12,100,000	1/1/14	2017	Gaming
Tunica	9.01	SR 4 from US 61 to Tate Cty Line	RECONSTRUCTION	2,000,000	4/1/14	2044^	Gaming
Quitman	8.39	SR 6 from Coahoma Cty Line to SR 316	GR DR BR PAVE 4 LANE	12,000,000	1/1/13	2030^	Phase IV
Quitman	8.96	SR 6 from SR 316 to Panola Cty Line	GR DR BR PAVE 4 LANE	25,500,000	1/1/13	2025	Phase IV
Attala	4.40	SR 12 from Holmes Cty Line to SR 429	GR DR BR	8,000,000	7/1/05	2009	Phase IV
Attala	10.98	SR 12 from SR 429 to Kosciusko - 5 lane section	GR DR BR PAVE 2 LANE	18,000,000	7/1/05	2007	Phase IV
Choctaw	15.16	SR 15 Northern City Limits of Ackerman to Webster Cty Line	GR DR BR PAVE	33,000,000	1/1/15	2025	Phase IV
Harrison	3.17	SR 15 from Bethel Rd. to Stone Cty Line	Not Assigned	5,000,000	1/1/11	2072^	Phase IV
Harrison	13.95	SR 15 from Biloxi to Bethel Rd.	GR DR BR PAVE	12,700,000	1/1/16	2028	Phase IV
Jasper	11.06	SR 15 from Louin to Newton Cty Line	GR DR BR PAVE	38,300,000	1/1/12	2024	Phase IV
Jones	4.63	SR 15 from Perry Cty Line to Ovett	RECONSTRUCTION	16,020,000	1/1/14	2022	Phase IV
Neshoba	11.28	SR 15 from Newton Cty Line to SR 485	GR DR BR PAVE	23,700,000	1/1/14	2015	Phase IV
Perry	10.26	SR 15 from Beaumont to Richton Bypass	RECONSTRUCTION	35,520,000	1/1/15	2018	Phase IV
Perry	9.35	SR 15 from Deep Creek Community to Joe's Creek	GR DR BR PAVE	17,810,000	7/1/06	2080^	Phase IV
Perry	9.15	SR 15 from Joe's Creek to Beaumont	ADD 2 LANES	17,430,000	10/1/06	2080^	Phase IV
Perry	2.21	SR 15 from Ramsey Springs to Deep Creek Community	GR DR 4 LANE	4,300,000	7/1/06	2078^	Phase IV
Perry	3.52	SR 15 from Richton Bypass to Jones Cty Line	GR DR PAVE 4 LANE	12,190,000	1/1/14	2018	Phase IV
Perry	4.02	SR 15 Richton Bypass	RECONSTRUCTION	17,000,000	1/1/15	2018	Phase IV
Stone	8.86	SR 15 from Harrison Cty Line to Ramsey Springs	Not Assigned	5,000,000	1/1/11	2072^	Phase IV
Stone	9.46	SR 15 from Ramsey Springs to Deep Creek Community	GR DR 4 LANE	18,000,000	7/1/06	2078^	Phase IV
Webster	0.50	SR 15 from Choctaw Cty Line to US 82	GR DR BR PAVE	1,000,000	1/1/15	2025	Phase IV
Leake	5.61	SR 16 from SR 25 to west of Carthage	GR DR BR 2 LANE	4,800,000	1/1/11	2019	Gaming

(1) There is no gaming impact on this road. There is an acceptable level of service through 2020. The casino on Lakeshore Rd. has been closed for several years.
^ Year of Need projected beyond the year of 2030 are soft estimates of the traffic volume expected on particular segments.
MDOT re-evaluates these segments to ensure the integrity of prioritization is retained.

*** Year of Need is defined as the year the level of service falls to an unacceptable level. These roads will be constructed prior to the year of need.**

SOURCE: PEER Analysis of MDOT Project Management and Planning Information.

Appendix D1

1987 Four-Lane Program and Gaming Roads with Proposed Construction Dates BEFORE Need*

County	Miles	Termini (Route)	Scope of Work (GR: Grade, DR: Drain, BR: Bridge)	Proposed Program Amount	Proposed Construction Date	Year of Need	Program
Attala	6.74	SR 19 from SR 14 to SR 35	GR DR BR PAVE	$ 12,000,000	1/1/16	2037^	Phase IV
Attala	10.56	SR 19 from Winston Cty to SR 14	GR DR BR PAVE	20,500,000	1/1/16	2053^	Phase IV
Neshoba	7.32	SR 19 from SR 395 to Winston Cty Line	GR DR BR PAVE	4,400,000	1/1/16	2030	Phase IV
Winston	2.19	SR 19 from Neshoba Cty to Attala Cty Line	GR DR BR PAVE	4,600,000	1/1/16	2033^	Phase IV
Winston	10.30	SR 25 from Louisville Relocation (Old 25) to Oktibbeha Cty Line	GR DR BR PAVE 2 LANE	25,000,000	7/1/02	2003	Phase III
Winston	18.71	SR 25 from SR 19 to Noxapater Creek	GR DR BR PAVE 2 LANE	26,500,000	7/1/02	2010	Phase III
Marion	13.53	SR 35 from Louisiana Stateline to Jamestown	GR DR BR PAVE	15,000,000	1/1/16	2043^	Phase IV
Hancock	7.32	SR 43 Kiln Bypass from end of 4 lane	GR DR BR PAVE 4 LANE	9,000,000	1/1/10	2020	Gaming
Greene	0.21	US 45 Stateline Relocation (45,57,42)	GR DR BR PAVE 4 LANE	16,800,000	7/1/02	2013	Phase II
Wayne	3.12	US 45 Stateline Relocation (45,57,42)	GR DR BR PAVE 4 LANE	15,100,000	7/1/02	2013	Phase II
Lowndes	9.44	US 45A from Noxubee Cty Line to Artesia Rd.	GR DR BR 2 LANE	9,000,000	10/1/01	2009	Phase II
Humphreys	9.35	US 49W from Yazoo Cty Line to Silver City	GR DR BR PAVE	25,500,000	10/1/01	2028	Phase II
Yazoo	3.02	US 49W from Carter Rd. to Humphreys Cty Line (Pave 4 Lane)	GR DR BR PAVE	4,700,000	10/1/01	2021	Phase II
Greene	10.06	SR 57 from Leakesville to Turkey Creek	GR DR PAVE 2 LANE	30,700,000	10/1/04	2059^	Phase III
Greene	8.45	SR 57 from Turkey Creek to Stateline	GR DR PAVE 2 LANE	22,750,000	10/1/04	2059^	Phase III
Issaquena	6.57	US 61 from Warren Cty Line to Sharkey Cty Line (3R)	RECONSTRUCTION	1,500,000	1/1/15	2028	Phase IV
Sharkey	19.69	US 61 from Issaquena Cty Line to Southern City Limits of Rolling Fork (3R)	RECONSTRUCTION	4,400,000	1/1/16	2032^	Phase IV
Sharkey	6.86	US 61 from Nitta Yuma to Washington Cty Line (3R)	RECONSTRUCTION	1,500,000	1/1/14	2030	Phase IV
Sharkey	8.75	US 61 from Southern City Limits of Rolling Fork to Nitta Yuma Bypass (3R)	RECONSTRUCTION	2,000,000	1/1/13	2019	Phase IV

^ Year of Need projected beyond the year of 2030 are soft estimates of the traffic volume expected on particular segments. MDOT re-evaluates these segments to ensure the integrity of prioritization is retained.

*** Year of Need is defined as the year the level of service falls to an unacceptable level. These roads will be constructed prior to the year of need.**

SOURCE: PEER Analysis of MDOT Project Management and Planning Information.

Appendix D1

1987 Four-Lane Program and Gaming Roads with Proposed Construction Dates BEFORE Need*

County	Miles	Termini (Route)	Scope of Work (GR: Grade, DR: Drain, BR: Bridge)	Proposed Program Amount	Proposed Construction Date	Year of Need	Program
Warren	4.99	US 61 from 5 miles south of Issaquena Cty Line to Issaquena Cty Line (3R)	RECONSTRUCTION	$ 1,100,000	1/1/15	2028	Phase IV
Warren	1.77	US 61 from SR 3 to 5 miles south of Issaquena Cty Line	REPLACE BRIDGE	22,000,000	7/1/06	2017	Phase IV
Washington	5.47	US 61 from Sharkey Cty Line to SR 12 (3R)	RECONSTRUCTION	1,200,000	1/1/14	2030	Phase IV
Washington	16.65	US 61 from SR 12 to US 82 at Leland (3R)	RECONSTRUCTION	2,700,000	1/1/14	2026	Phase IV
Wilkinson	10.88	US 61 fm LA State Line to SR 563	GR DR PAVE 2 LANE	21,460,000	10/1/03	2015	Phase II
George	3.02	SR 63 from US 98 to Greene Cty Line	GR DR BR PAVE 4 LANE	9,500,000	10/1/03	2012	Phase III
Greene	11.47	SR 63 from George Cty Line to Leakesville	GR DR BR PAVE 4 LANE	35,700,000	10/1/03	2013	Phase III
Jefferson Davis	9.00	US 84 between Lawrence Cty Line and Prentiss	GR DR BR 2 LANE	16,500,000	10/1/01	2004	Phase II
Jefferson Davis	4.99	US 84 between Prentiss and Covington Cty Line	GR DR BR 2 LANE	20,000,000	7/1/04	2013	Phase III
Lawrence	4.83	US 84 from east end of Monticello Bypass to Jefferson Davis Cty Line	GR DR BR 2 LANE	7,000,000	10/1/01	2011	Phase II
Lawrence	7.99	US 84 from Lincoln Cty Line to Old SR 27	GR DR BR 2 LANE	15,800,000	7/1/01	2006	Phase II
Total	**418.59**			**$ 762,853,000**			

^ Year of Need projected beyond the year of 2030 are soft estimates of the traffic volume expected on particular segments. MDOT re-evaluates these segments to ensure the integrity of prioritization is retained.

*** Year of Need is defined as the year the level of service falls to an unacceptable level. These roads will be constructed prior to the year of need.**

SOURCE: PEER Analysis of MDOT Project Management and Planning Information.

Appendix D2

1987 Four Lane Program and Gaming Roads with Proposed Construction Dates AFTER need *

County	Miles	Termini (Route)	Scope of Work (GR: Grade, DR: Drain, BR: Bridge)	Proposed Program Amount	Proposed Construction Date	Year of Need	Program
Jackson	11.06	I-10 from Harrison Cty Line to Exit 58	ADD 2 LANES	$ 19,350,000	1/1/06	2004	Gaming
Harrison	1.42	Cowan-Lorraine Rd. from US 90 to Magnolia St.	CONSTRUCT 5 LANES	6,000,000	1/1/01	1995	Gaming
Coahoma	5.24	SR 6 from US 61 to Quitman Cty Line	GR DR BR PAVE 4 LANE	7,000,000	1/1/14	2003	Phase IV
Panola	9.56	SR 6 from Quitman Cty Line to 5 miles west of I-55	GR DR BR PAVE 2 LANE	16,750,000	1/1/10	2003	Phase IV
Panola	8.05	SR 6 from 5.15 miles west of I-55 to 3.11 miles east of I-55	GR DR BR PAVE 2 LANE	48,500,000	1/1/08	2003	Phase IV
Holmes	4.35	SR 12 from I-55 to Attala Cty Line	GR DR BR PAVE	18,500,000	7/1/06	2000	Phase IV
Chickasaw	2.51	SR 15 from MS 32 east to Pontotoc Cty Line	GR DR BR PAVE	15,250,000	1/1/15	2008	Phase IV
Chickasaw	9.98	SR 15 from south end of Houston Bypass to SR 32	GR DR BR PAVE	15,250,000	1/1/12	1996	Phase IV
Chickasaw	7.54	SR 15 from Webster Cty Line to south end Houston Bypass	GR DR BR PAVE	17,500,000	1/1/16	2010	Phase IV
Choctaw	9.39	SR 15 from Winston Cty Line to Northern City Limits of Ackerman	GR DR BR PAVE	19,200,000	1/1/14	2005	Phase IV
Jasper	4.02	SR 15 from Jones Cty Line to Stringer	GR DR BR PAVE 2 LANE	13,930,000	1/1/11	1996	Phase IV
Jasper	17.2	SR 15 from Stringer to Louin	GR DR BR PAVE	59,540,000	1/1/11	2008	Phase IV
Jones	5.73	SR 15 from Laurel to Jasper Cty Line	GR DR BR PAVE 2 LANE	19,850,000	1/1/11	1996	Phase IV
Jones	11.97	SR 15 from Ovett to Laurel Bypass	GR DR BR PAVE 2 LANE	41,440,000	1/1/13	2003	Phase IV
Jones	14.83	SR 15 Laurel Bypass	GR DR BR PAVE 2 LANE	64,420,000	1/1/10	1996	Phase IV
Neshoba	16.16	SR 15 from SR 485 to Winston Cty Line	ADD 2 LANES	30,000,000	1/1/09	1996	Phase IV
Newton	15.62	SR 15 from .5 miles north of US 80 to Union Bypass	GR DR BR PAVE	30,100,000	1/1/12	1996	Phase IV
Newton	7.69	SR 15 from Jasper Cty Line to .5 miles south of US 80 (add 2 lanes)	GR DR BR PAVE 2 LANE	16,600,000	1/1/15	2012	Phase IV
Newton	2.04	SR 15 from south end Union Bypass to Neshoba Cty Line	GR DR BR PAVE	4,700,000	1/1/13	2007	Phase IV
Oktibbeha	0.90	SR 15 from south of Webster Cty Line to north of Webster Cty Line in Maben	CONSTRUCT 5 LANES	2,000,000	1/1/14	2013	Phase IV
Pontotoc	4.53	SR 15 from Chickasaw Cty Line to MS State University Agricultural Experiment Station	GR DR BR PAVE	10,000,000	1/1/15	2008	Phase IV
Pontotoc	11.06	SR 15 from MS State University Agricultural Experiment Station to Appalachian Development Corridor "V" north of Pontotoc	GR DR BR PAVE	26,000,000	1/1/12	1996	Phase IV
Tippah	8.49	SR 15 from 1 mile north of SR 4 to north of Falkner	GR DR BR	12,500,000	1/1/09	1996	Phase IV

***Year of Need is defined as the year the service level falls to an unacceptable level. These roads are being constructed after the year of need.**

SOURCE: PEER Analysis of MDOT Project Management and Planning Information.

Appendix D2

1987 Four Lane Program and Gaming Roads with Proposed Construction Dates AFTER need *

County	Miles	Termini (Route)	Scope of Work (GR: Grade, DR: Drain, BR: Bridge)	Proposed Program Amount	Proposed Construction Date	Year of Need	Program
Tippah	9.61	SR 15 from Northern City Limits of Falkner to Tennessee State Line	GR DR BR PAVE	$ 29,000,000	1/1/12	2002	Phase IV
Tippah	12.88	SR 15 from Union Cty Line to 1 mile north of SR 4 at Ripley	GR DR BR	21,300,000	10/1/07	1996	Phase IV
Union	10.47	SR 15 from Kings Creek south of New Albany to Tippah Cty Line	GR DR BR PAVE	25,000,000	7/1/05	1996	Phase IV
Union	5.09	SR 15 from Pontotoc Cty Line to Kings Creek south of New Albany	GR DR BR PAVE	11,500,000	1/1/13	1996	Phase IV
Webster	5.02	SR 15 from Dancy to Chickasaw Cty Line	GR DR BR PAVE	10,900,000	1/1/16	2010	Phase IV
Webster	9.05	SR 15 from US 82 to Dancy	GR DR BR PAVE	22,300,000	1/1/14	2013	Phase IV
Winston	11.68	SR 15 from Neshoba Cty Line to south end of Louisville Bypass	GR DR BR PAVE	41,500,000	1/1/14	1997	Phase IV
Winston	2.47	SR 15 from north end of Louisville bypass to Choctaw Cty Line	GR DR BR PAVE	5,300,000	1/1/13	2005	Phase IV
Leake	13.88	SR 16 from east Carthage to Neshoba Cty Line (add 1 lane)	WIDEN & OVERLAY	5,900,000	1/1/16	1998	Gaming
Neshoba	4.53	SR 16 from Bureau of Indian Affairs Route 22 to SR 15	ADD 2 LANES	9,800,000	1/1/03	1995	Gaming
Neshoba	5.83	SR 16 from Leake Cty Line to Bureau of Indian Affairs Route 22	GR DR BR PAVE 2 LANE	9,400,000	1/1/11	2007	Gaming
Neshoba	2.68	SR 16 from SR 19 south of Philadelphia to SR 16 east of Philadelphia	GR DR BR PAVE 4 LANE	3,300,000	1/1/04	1995	Gaming
Lauderdale	5.53	SR 19 from Collinsville to Newton Cty Line	GR DR BR PAVE 2 LANE	10,100,000	7/1/07	1996	Phase IV
Neshoba	5.59	SR 19 from Newton Cty Line to SR 492	GR DR BR PAVE 2 LANE	10,000,000	7/1/07	1999	Phase IV
Neshoba	7.06	SR 19 from SR 15 Bypass north, to SR 395	GR DR BR PAVE	18,500,000	1/1/13	2000	Phase IV
Neshoba	9.88	SR 19 from SR 492 to Philadelphia	GR DR BR PAVE 2 LANE	21,100,000	7/1/07	1996	Phase IV
Newton	2.33	SR 19 from Lauderdale Cty Line to Neshoba Cty Line	GR DR BR PAVE 2 LANE	4,800,000	7/1/07	1999	Phase IV
Amite	1.31	SR 24 from Wilkinson Cty Line to SR 33	GR DR BR PAVE 2 LANE	1,200,000	1/1/13	2000	Phase IV
Pike	5.19	SR 24 from Amite Cty Line to I-55	GR DR BR PAVE 2 LANE	7,000,000	1/1/08	2000	Phase IV
Wilkinson	10.16	SR 24 from 1 mile east of Woodville to 2 miles west of Centreville	GR DR BR PAVE 2 LANE	12,000,000	1/1/16	2011	Phase IV
Wilkinson	2.82	SR 24 from 2 miles west of Centreville to Amite Cty Line	GR DR BR PAVE 2 LANE	4,000,000	1/1/15	2007	Phase IV

***Year of Need is defined as the year the service level falls to an unacceptable level. These roads are being constructed after the year of need.**

SOURCE: PEER Analysis of MDOT Project Management and Planning Information.

Appendix D2

1987 Four Lane Program and Gaming Roads with Proposed Construction Dates AFTER need *

County	Miles	Termini (Route)	Scope of Work (GR: Grade, DR: Drain, BR: Bridge)	Proposed Program Amount	Proposed Construction Date	Year of Need	Program
Itawamba	4.26	SR 25 from Appalachian Development Corridor "V" to Tishomingo Cty Line	GR DR BR PAVE	$ 16,600,000	1/1/08	2007	Phase IV
Monroe	10.06	SR 25 from SR 8 to US 278	GR DR BR	16,200,000	7/1/05	1996	Phase IV
Monroe	10.06	SR 25 from US 278 to Itawamba Cty Line	GR DR BR PAVE 2 LANE	52,500,000	10/1/06	2001	Phase IV
Tishomingo	7.04	SR 25 from Itawamba Cty Line to SR 4 at Dennis	GR DR PAVE 4 LANE	22,300,000	1/1/09	1996	Phase IV
Tishomingo	16.59	SR 25 from SR 4 at Dennis to US 78	GR DR BR PAVE	42,800,000	1/1/10	1996	Phase IV
Copiah	5.68	SR 27 from I-55 to Hinds Cty Line	GR DR BR PAVE 2 LANE	12,500,000	1/1/09	2000	Phase IV
Hinds	11.41	SR 27 from Copiah Cty Line to Utica, SR 18	GR DR BR PAVE 2 LANE	33,100,000	1/1/09	2000	Phase IV
Hinds	12.35	SR 27 from Utica, SR 18, to Warren Cty Line	GR DR BR PAVE 2 LANE	32,000,000	1/1/09	2000	Phase IV
Warren	8.66	SR 27 from Hinds Cty Line to Kansas City Southern Railroad	GR DR BR PAVE 2 LANE	19,000,000	1/1/08	2000	Phase IV
Marion	2.76	SR 35 from Jamestown to US 98, at Foxworth	GR DR BR PAVE	4,000,000	1/1/16	2012	Phase IV
Hancock	10.56	SR 43 from SR 603 to Pearl River Cty Line	RECONSTRUCTION	9,000,000	1/1/17	2016	Gaming
Amite	6.64	SR 48 from 1.3 mile east of Liberty to East Fork Rd.	GR DR BR PAVE 2 LANE	12,000,000	1/1/10	2000	Phase IV
Amite	13.22	SR 48 from East Fork Rd. to Pike Cty Line	GR DR BR PAVE 2 LANE	12,000,000	1/1/10	2000	Phase IV
Amite	10.96	SR 48 from SR 33 at Centreville to SR 569 at Liberty	GR DR BR PAVE 2 LANE	12,600,000	1/1/15	2012	Phase IV
Amite	4.02	SR 48 from SR 569 to 1.3 mile east of Liberty	GR DR BR PAVE 2 LANE	12,000,000	1/1/13	2005	Phase IV
Coahoma	8.69	US 49 from MS River Bridge to US 61	GR DR BR PAVE 2 LANE	19,100,000	1/1/17	2008	Gaming
Jackson	5.47	SR 57 from I-10 to VanCleave	ADD 2 LANES	11,700,000	7/1/15	2004	Phase IV
Wayne	10.05	US 84 from Waynesboro to Alabama Stateline	GR DR BR PAVE 2 LANE	28,400,000	10/1/04	2000	Phase III
Jackson	0.40	US 90 reconstruct intersection with Washington Ave.	RECONSTRUCTION	2,000,000	9/1/00	1995	Gaming
Total	**486.76**			**$ 1,160,730,000**			

***Year of Need is defined as the year the service level falls to an unacceptable level. These roads are being constructed after the year of need.**

SOURCE: PEER Analysis of MDOT Project Management and Planning Information.

Appendix E

1987 Four Lane Program Connecting Segments Let on the Same Date

	Contract Let Date	Termini (Route)	Miles	Contractor	Amount Awarded	Value of the Combined Contracts
1	6/28/88	US 45 from Saltillo to one mile south of State Road 348	4.39	Hubbs Construction. Co., Inc.	$5,236,575	
	6/28/88	US 45 from one mile south of State Road 348 to the Prentiss Cty Line	5.29	Key Constructors, Inc.	9,274,829	$14,511,404
2	10/25/88	US 78 btw Benton-Marshall Cty Line and Hickory Flat	6.27	Talbot Bros. Construction Co, Inc.	9,252,491	
	10/25/88	US 78 from east end of Holly Springs by-pass to Benton Cty Line	8.19	T.L. Wallace Construction	16,265,197	25,517,688
3	5/23/89	US 84 btw Laurel and Jones-Wayne Cty Line	5.42	W.S. Newell, Inc.	4,206,363	
	5/23/89	US 84 btw Laurel and Jones-Wayne Cty Line	5.15	W.S. Newell, Inc.	3,613,156	7,819,519
4	9/26/89	US 45 from Biggersville to Corinth	4.64	Dement Construction Co.	10,937,682	
	9/26/89	US 45 from Prentiss Cty Line to Biggersville	5.62	Hill Bros. Construction	9,587,404	20,525,086
5	5/28/91	US 49W btw Belzoni and South Isola	8.64	Dixie Paving, Inc.	1,661,420	
	5/28/91	US 49W btw Isola and Inverness	6.43	T.L. Wallace Construction	2,437,663	4,099,083
6	5/28/91	US 98 from 1.0 mi west of Carters Creek	4.22	L & A Contracting Co.	8,369,564	
	5/28/91	US 98 from 1.0 miles east of MS 29 to one mile west of Carters Creek	5.50	W.S. Newell, Inc.	3,436,167	11,805,732
7	6/23/92	US 72 btw the Tippah-Alcorn Cty line and Goose Creek	3.79	Hill Bros. Construction	9,506,255	
	6/23/92	US 72 btw Walnut and Tippah-Alcorn Cty Line	5.18	Hill Bros. Construction	4,189,804	13,696,059
8	7/27/93	US 98 beginning at Marion Cty Line east 5.234 miles	5.23	T.L. Wallace Construction	4,543,829	
	7/27/93	US 98 from approximately five miles east of Marion Cty Line to MS 589	5.34	T.L. Wallace Construction	6,087,839	10,631,668

SOURCE: PEER Analysis of MDOT Contract Administration Information.

Appendix E

1987 Four Lane Program Connecting Segments Let on the Same Date

	Contract Let Date	Termini (Route)	Miles	Contractor	Amount Awarded	Value of the Combined Contracts
9	6/28/94	US 61 from State Aid Rd 72 (65) to six miles north of Tunica	4.29	EnDevCo, Inc	$ 1,584,582	
	6/28/94	US 61 from north of Tunica to MS 3	9.20	Hill Brothers Construction	4,198,453	5,783,035
10	5/23/95	US 72 btw Benton-Tippah Cty Line and Walnut	5.98	Eutaw Construction	4,668,232	
	5/23/95	US 72 from Wolf River to Tippah Cty Line	9.96	Eutaw Construction	8,261,355	12,929,587
11	8/22/95	US 45A from SR 25 to south of MS 8	6.72	APAC- Mississippi and Kimes Construction Co.	11,968,017	
	8/22/95	US 45A from MS 8 to south of Okolona	6.78	APAC- Mississippi and Kimes Construction Co.	12,243,768	24,211,785
12	10/24/95	US 84 btw Eddiceton and Lucien	5.86	J.J. Pryor Contractor	7,470,944	
	10/24/95	US 84 btw Lucien and Auburn Road	7.24	T.L. Wallace Construction	11,087,212	18,558,156
13	6/25/96	US 61 btw Junction Dundee /Ju SR 4 E, So of Tunica	8.39	EnDevCo, Inc	9,317,349	
	6/25/96	US 61 btw junction US 49 W at Dundee	7.12	EnDevCo, Inc	2,878,966	12,196,315
14	11/26/96	US 45 btw Aberdeen and McAllister Road	6.34	Eutaw Construction	5,724,251	
	11/26/96	US 45 btw McAllister Road and New Wren	6.34	Eutaw Construction	2,949,294	8,673,544
Total						$190,958,661
Average Value of Combined Contracts						$13,639,904

SOURCE: PEER Analysis of MDOT Contract Administration Information.

Agency Response

Mississippi Department of Transportation / P.O. Box 1850 / Jackson, Mississippi 39215-1850 / Telephone (601) 359-7001 / FAX (601) 359-7110

December 14, 2000

The Honorable William W. Canon
Chairman, PEER Committee
P. O. Box 1204
Jackson, MS 39215-1204

Dear Senator Canon:

RE: The Mississippi Department of Transportation's Administration of the 1987 Four Lane and Gaming Roads Programs

Enclosed for your review and further handling is this agency's response to the recommendations made by the PEER Committee's Investigative Staff. The recommendations in questions were made as the result of the investigative staff's thorough review of MDOT's administration of the 1987 Four Lane and Gaming Road Programs.

Although MDOT's Administrative Staff may disagree with some of the investigative staff's findings and conclusions, we must commend them for their tireless effort to understand the complexities and nuances of administering large public works programs. Mr. David Pray, Ms. Lee Anne Robinson and Ms. Katherine Stark spent many untiring hours with members of MDOT's staff and they always handled themselves in a professional and courteous manner.

If you or other members of the PEER Committee desire additional information or clarification of our response to any of the recommendations, please do not hesitate to give me a call.

Sincerely,

W. Hugh Long
Executive Director

WHL:lml

Enclosure

Pc: Transportation Commission
Chief Engineer
Director, Office of Administrative Services

Program Management System

1. The Legislature should enact legislation regarding MDOT's management of the entire highway construction process. The legislation should address the following areas:

   a. MDOT should develop a master budget for each segment of highway. Highway segments should not be less than ten miles in length and should have logical starting and ending points that comply with the National Environmental Policy Act. The master budget should include budgets for all preliminary engineering, right of way, construction projects, and all other costs, such as construction engineering and inspection, for the segment. See recommendation __ for possible exceptions.

   MDOT Response

   MDOT currently develops budgets for each project (MDOT's broad responsibilities dictate that budgets be developed for all projects rather than just highway segments.) and considers preliminary engineering, right-of-way, construction costs, and related construction engineering/inspection in the development of such budgets. MDOT management has actively pursued refinement of this process (including a new project numbering system that facilitates association of related projects such as multiple projects on a single highway segment) during the last several years and will continue to work in that direction. The department's response relative to the issue of highway segment length is presented in responses to PEER Recommendation 11 and 12.

   b. MDOT should develop policies and procedures for the management and oversight of the master budget for each segment which would, at a minimum, accomplish the following:

      i. Develop a realistic cost estimate for each project within a segment which would serve as a budget for the project. The budget for each project should be developed as soon as realistic cost figures can be estimated but not too late to impede the development of the master budget for the segment.

   MDOT Response

   The first estimates made for a project are planning level estimates, or as Michael Baker Jr. described their estimates of the Gaming Program projects, "budgetary planning level estimates". Planning level estimates are done far in advance of construction. At the time of planning level estimates, location, alignment, environmental costs, relocations, etc., are completely unknown. Planning level estimates are order of magnitude estimates, based on per-mile averages, and are useful for comparing conceptual alternatives.

   As projects move to the environmental assessment phase, more detail becomes available. As alternatives are developed, actual lengths are determined, right-of-

way limits are defined, relocatees are identified, and right-of-way costs are refined. In this phase, many factors may be discovered that greatly affect the final cost of a project.

When the processes above are completed, which can take several years and millions of dollars, a more realistic cost estimate can be made. For many projects, the "realistic cost estimate" is significantly different from the planning level estimate.

The Legislature and MDOT utilized planning level estimates to develop the cost estimate for Phases I – III of the 1987 Four-Lane Highway Program ('87 Program). MDOT assumes that the Legislature utilized similar estimates to develop the cost estimate for Phase IV of the '87 Program and the Gaming Road Program. It would have taken years to develop the "realistic cost estimate" that PEER recommends. "Realistic cost estimates" would have impeded the development and progress of the '87 Program and the Gaming Road Program.

As a project progresses through the preliminary engineering and right of way phases, MDOT continues to revise its estimate, right up to the time the project is let to contract.

ii. Capture and retain the budget estimate of each project for comparison to the final cost of each project.

MDOT Response
MDOT's project tracking software can be modified to retain the budget estimate of each project. This is now under consideration.

iii. Capture and retain the master budget of each highway segment for comparison to the final cost of each highway segment.

MDOT Response
MDOT's project tracking software can be modified to retain the budget estimate of each project. This is now under consideration.

iv. Develop a process whereby increases or other revisions to project budgets and master budgets are reviewed and approved by appropriate levels of management on the district level and in the Jackson central office. The name and position of the approving MDOT official should be recorded in conjunction with the change. Also, management approval should denote that changes are necessary, alternatives have been considered, and any changes are performed in the most cost efficient manner. Alternatives considered but rejected should also be part of the proposed change documentation file.

MDOT Response
MDOT does have a process for reviewing changes to a project. The general scope of the project is developed by the Location Committee. The recommendations of the Location Committee and the environmental document are approved by the Chief Engineer. Any changes to the project estimate should be recorded at that time. The design phase of the project begins with the Location Committee Report. However, the design process is also a discovery process. Changes that are discovered are incorporated into the

plans. The Field Review Team identifies changes that need to be incorporated into the design plans. The project estimate should be updated after the field review. Plans are usually 60 per cent complete at the field review stage. The final review (office review) is made when the plans are substantially complete. The project estimate should be updated after the office review. This will be the last estimate before the State Estimator makes his estimate using final plan quantities. Normally, his estimate is made shortly before the project is let to contract.

v. Using existing resources, develop an information system whereby cost information for each segment is readily available for the Legislature or public.

MDOT Response

MDOT's Financial Management System (FMS) provides a project numbering scheme that allows preliminary engineering, right-of-way, and construction projects to be linked. The present project numbering scheme will enhance our ability to report project costs.

vi. Capture costs of contractors or consultants used on preliminary engineering, right of way, and construction engineering and inspection.

MDOT Response

MDOT's accounting system captures these costs.

c. MDOT should ensure that individual projects for preliminary engineering, right of way, and construction do not overlap segment boundaries.

MDOT Response

MDOT cannot and should not ensure that preliminary engineering, right of way, and construction projects do not overlap. Before participating in the cost of a project, FHWA requires location and environmental studies be conducted for a logical termini. When the location is determined, construction projects are designed within the logical termini to provide usable sections of highway. Sometimes conditions require right of way to be bought for more than one usable section at a time.

d. The MDOT should ensure all information relating to the entire construction process for highway segments is readily available to answer information requests from the Legislature and other parties.

MDOT Response

MDOT has always and will continue to provide any information relating to the construction process requested by the Legislature and others. However, the construction and maintenance of highways is a highly complex process and the accounting system is also necessarily complex, requiring detailed analysis and review to provide answers to what some may think are simple questions.

Annual Reporting Requirements

2. MDOT should fully comply with MISS. CODE ANN. §65-3-97 (9) and present all required information in the annual report to the Legislature.

MDOT Response

MDOT management has always been diligent in its efforts to comply with all reporting requirements prescribed by state statutes. It should be noted that reports dealing with very complex issues occasionally contain immaterial errors or omissions that are completely unintentional. As with all its processes, MDOT continuously seeks to improve and enhance its reporting capabilities to ensure that the Legislature and other stakeholders are fully informed about the activities of the department.

3. MDOT should ensure that all information reported annually to the Legislature in compliance with MISS. CODE ANN. §65-3-97 (9) is accurate.

MDOT Response

The 1987 Four-Lane Highway Program is the largest public works project in the history of the State of Mississippi. The program is complex, and dynamic. As stated above, MDOT management is very diligent in its efforts to ensure that all reports are accurate and complete and will continue with such efforts. In conjunction with MDOT efforts to enhance its reporting capabilities, MDOT has substantially enhanced the 1987 Four-Lane Highway annual report for the year ended June 30, 2000. This report will be submitted to the Legislature in January 2001 as required by statute.

Construction Contract Information

4. The MDOT should ensure all pertinent construction contract information is complete, accurate, and in a format which facilitates the preparation of important management information for MDOT management, the Legislature, and other parties. The information should include, at a minimum:

   a. Contract let date;

   b. Highway on which contract was let;

   c. Project description, including beginning and ending point of the contract;

   d. Contract length in miles;

   e. Name of winning contractor;

   f. Original contract amount;

   g. Final contract amount;

   h. Total earned by contractor;

i. Liquidated damages, if any;

j. Original contract completion date;

k. Revised contract completion date, if applicable;

l. Actual contract completion date.

MDOT Response

MDOT does record the information stated. We are making a concerted effort to improve our methods in order to improve the accuracy and completeness of the information.

Program Cost Projections

5. When calculating total costs for the 1987 Four Lane and Gaming Roads programs, the MDOT should use the actual inflation index rate as calculated by the MDOT's construction inflation index, provided such calculation is in accordance with and approved by the Federal Highway Administration. Also, any total cost projections should include all known costs such as debt service.

MDOT Response

MDOT's methods for estimating future cash flows relative to the 1987 Four-Lane Highway Program and Gaming Roads program have been and will continue to be based on sound financial management principles. While the PEER staff may differ in opinion on certain assumptions that MDOT utilizes, there is no question that MDOT's methodology is reasonable and sound considering the size, complexity and length of these major capital projects. MDOT's choice of an inflation factor was made in conjunction with other assumptions relative to projecting future cash flows. To simply increase the inflation factor without adjusting other assumptions would result in skewed projections. Unfortunately, neither MDOT nor PEER can, with absolute certainty, predict inflation rates or other economic factors that will exist five, 10 or 15 years in the future. To presume such is misleading. Sound financial management practices dictate that ALL assumptions, including inflation, be reviewed and adjusted over time. The practice of projecting future cash flows is not a static event but rather a very fluid process that must be adjusted periodically to changing economic conditions such as oil prices and interest rates.

Reprioritization

6. The Legislature should amend MISS. CODE ANN. § 65-3-97 and § 65-39-1 to require, after completion of Phases I through III of the 1987 Four Lane Program, the prioritization and construction of highways and roads found in Phase IV of the 1987 Four Lane Program, Gaming Roads Program, and highways not listed in the 1987 Four Lane or Gaming Roads programs. The Federal Highway Administration's accepted standards for estimating capacity, determining level of service for highways, and determining construction needs should be a major factor in prioritization and construction.

MDOT Response

MDOT concurs.

7. After completion of Phases I through III of the 1987 Four Lane Program and the prioritization of highways in Phase IV of the 1987 Four Lane Program, Gaming Roads Program, and highways not listed in either program, the $36 million earmarked as MDOT's share of the state's gaming tax for the Gaming Roads Program should continue to be used exclusively for expenses related to the Gaming Roads Program.

MDOT Response

MDOT concurs.

8. MDOT should reprioritize construction at least every five years until conclusion of the 1987 Four Lane and Gaming Roads programs, with the construction schedule for the programs prioritized based on need as indicated by current standards accepted by the Federal Highway Administration for estimating capacity and determining level of service for highways. MDOT should report this reprioritized construction schedule to the Legislature in the subsequent legislative session and make available for review its supporting documentation of the revised schedule.

MDOT Response

Each year MDOT reviews and reprioritizes its projects, as necessary, by developing a Three-Year Schedule of Proposed Projects. The schedule is provided to the Legislature by January 15 of each year. The schedule lists preliminary engineering, right of way and construction projects that are scheduled to begin in the next three years. Each year all the projects are reviewed, including cost estimates and planned begin dates. The scheduled is constrained by estimates of state revenues and federal aid that will be available.

Maintenance

9. MDOT should consider all sources of revenue, including the use of federal funds, when addressing maintenance needs.

MDOT Response

MDOT considers all sources of revenue, including federal funds, that are not otherwise restricted, for addressing maintenance needs. In FY 1999 and 2000, MDOT let to contract pavement rehabilitation projects totaling $208 million, with $93.8 million of the total being federal funds.

10. MDOT should collect its assessed quantified maintenance needs on a uniform basis from year to year and compare these needs to data on actual roads paved to determine its effectiveness in meeting needs.

MDOT Response

MDOT uses its Pavement Management System (PMS) to collect roadway condition information that is used to assess its pavement maintenance needs. Pavement management is defined as "a systematic process that provides, analyzes, and summarizes pavement information for use in selecting and implementing cost-effective pavement construction, rehabilitation, and maintenance programs." In practical terms, a pavement management system enables MDOT to collect and maintain pavement data and to use this data for making decisions regarding pavement projects. Data collection devices and software are integral parts of the PMS; however, they do not make the decisions; they are tools, which support personnel in the decision-making process.

MDOT has long recognized the importance of pavement management. Due to the explosive, exponential growth in traffic, particularly heavy truck traffic, over the last 30 years, pavements have been required to carry an ever-increasing load. At the same time, governments are cutting expenditures and attempting to find more efficient ways to construct and maintain pavements while still meeting the travel demands placed upon the roads. Also, many major routes such as interstates and state highways are aging and therefore need long-term preventive maintenance strategies.

Databases for the statewide PMS were developed, which included inventory and historical information, such as lane widths, roadway lengths, county/route information, as well as construction history (original construction and subsequent overlays). Through the years the mechanisms and software used for the PMS have changed in order to keep up with technology and to make improvements in ease of use; however, the basic uses of the PMS have not changed.

The federal government mandated that states implement a PMS as part of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The National Highway System Designation Act of 1995 relieved the states of the mandate. However, MDOT continued its PMS efforts since the PMS had been in place prior to the mandate, and since the PMS is beneficial to MDOT's decision-making processes.

A contractor collected pavement condition and distress data every two years beginning in 1991. The contractor collects the longitudinal profile with a South Dakota profiler, which uses laser sensors. Roughness, rutting, faulting, and texture indices are collected on 100 per cent of the state-maintained system. Five video cameras are mounted to the van to capture images of the shoulders, wheel paths, and perspective views. A distress evaluation (measuring cracking, potholes, punchouts, etc.) is then performed on the video images. The distress evaluation is not performed on the entire highway system, rather, a sampling technique is used for approximately 20 per cent coverage of the state-maintained system.

Using the latest pavement condition survey data, interstate projects are prioritized based on an index derived from the combination of the Average Rut and PCR values. A new Three-Year Schedule of Proposed Projects is assimilated from the combination of the previous Three-Year Schedule of Proposed Projects and the prioritized list from latest condition survey data. This Schedule of Proposed Projects allows MDOT to best leverage the limited maintenance funding available for Interstates. A similar list for the remainder of the state maintained system is currently under development.

Piecemealing

11. The Legislature may consider granting the MDOT the option of allowing segments less than ten miles in length if one or more of the following conditions are met:

a. The segment as prescribed in law is less than ten miles;

b. The segment will connect a four-lane highway existing as of July 1, 2001, or a four-lane highway for which a construction contract has been let by July 1, 2001, with the state boundary or the Mississippi River.

c. For a particular project, the costs of constructing a single segment of at least ten miles in length would exceed by at least ten percent the aggregate costs of constructing two or more segments. In such instances, the MDOT shall have thorough documentation to support the exception.

MDOT Response

MDOT attempts to design projects that will attract the best bids. The greater the competition, the better the bids. Generally, large projects require large construction companies. There are fewer large construction companies and would, therefore, limit the competition. We do not have evidence that letting larger projects would produce better bids. Also, there are economic benefits derived from letting projects based on usable sections, rather than an arbitrary length of 10 miles. As an example, reduction in road user costs associated with the timely opening of a short, usable section out weighs possible savings in bid prices on longer segments.

12. In any case in which the Transportation Commission authorizes the construction of a highway segment of less than ten miles in length, the commission shall set forth and record in its official minutes, on at least a quarterly basis, explanation and justification therefor based upon one or more of the conditions prescribed above.

MDOT Response

MDOT will comply with any reporting requirements mandated by the Legislature.

13. MDOT should include in the annual report submitted to the Legislature by the Transportation Commission a listing of all construction contracts less than ten miles let by the commission during the previous fiscal year. Information provided in the listing of construction contracts less than ten miles should include, at a minimum, the following:

a. Contract let date;

b. Highway on which contract was let;

c. Project description, including beginning and ending point of the contract;

d. Contract length in miles;

e. Name of winning contractor;

f. Original contract amount;

d. Justification and explanation for letting a contract less than ten miles.

MDOT Response
MDOT will comply with any reporting requirements mandated by the Legislature.

Reporting Requirements for the Gaming Roads Program

14. The Legislature should require MDOT to prepare an annual report for the Gaming Roads Program which provides the same data as required by MISS. CODE ANN. Section 65-3-97 (9).

MDOT Response
MDOT will comply with any reporting requirements mandated by the Legislature.

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