BRIDGE INSPECTION PROGRAM
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

PERFORMANCE AUDIT
ISSUED APRIL 2, 2014

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LOUISIANA LEGISLATIVE AUDITOR
DARYL G. PURPERA, CPA, CFE

April 2, 2014

The Honorable John A. Alario, Jr.,
President of the Senate
The Honorable Charles E. "Chuck" Kleckley,
Speaker of the House of Representatives

Dear Senator Alario and Representative Kleckley:

This report provides the results of our performance audit on the Bridge Inspection Program administered by the Department of Transportation and Development (DOTD).

The report contains our findings, conclusions, and recommendations. Appendix A contains DOTD's response to this report. I hope this report will benefit you in your legislative decision-making process.

We would like to express our appreciation to the management and staff of DOTD for their assistance during this audit.

Sincerely,

Daryl G. Purpera, CPA, CFE
Legislative Auditor

DGP/ch

DOTD BRIDGES 2014

Louisiana Legislative Auditor

Daryl G. Purpera, CPA, CFE

Bridge Inspection Program
Department of Transportation and Development

April 2014

Audit Control # 40120064

Introduction

The purpose of this audit was to determine whether the Louisiana Department of Transportation and Development's (DOTD) inspection process for bridges (Bridge Inspection Program) was conducted in accordance with federal requirements during fiscal year 2013. These requirements are designed to ensure that bridges are safe for motorists. According to federal regulations,[1] DOTD is responsible for inspecting all bridges located on public roads within the state. As of March 31, 2013,[2] there were 12,905 (774 mi.) bridges in Louisiana with an average age of 34.9 years. These bridges carry, on average, 76 million vehicles per day. Because of the public safety impact, it is important for DOTD to inspect bridges appropriately and ensure safety concerns are addressed.

To determine if states are in compliance with federal bridge inspection regulations,[3] the Federal Highway Administration (FHWA) created 23 metrics (performance measures) focusing on five areas: bridge inspection organization, qualifications of personnel, inspection frequency, inspection procedures, and bridge inventory. Each year, FHWA reviews DOTD's Bridge Inspection Program to determine if it is in compliance with the 23 metrics. Prior to the 2013 Annual Compliance Review, FHWA used a different set of metrics to determine if DOTD's Bridge Inspection Program met the federal requirements. Non-compliance with the metrics can lead to a decrease or complete loss of federal funding for bridge repair, replacement, or preventative maintenance work. According to DOTD, the state has never had a decrease or complete loss of federal funding as a result of non-compliance with bridge inspection regulations. In fiscal year 2013, DOTD spent approximately $184 million for the maintenance and construction of bridges of which $137.9 million (75%) was federal money and $46.5 million (25%) was state money. Our audit objective was as follows:

Did DOTD inspect bridges in accordance with federal requirements during fiscal year 2013?

Overall, we found that DOTD was compliant with nine (39%) and either substantially compliant or conditionally compliant with 14 (61%) of the 23 FHWA metrics for bridge inspections. There were no metrics where DOTD received a non-compliant rating.

[1] 23 C.F.R.650.307(a)
[2] DOTD submits its bridge inventory to the Federal Highway Administration annually. The most recent submission was as of March 31, 2013.
[3] National Bridge Inspection Standards - 23 C.F.R 650 Subpart C

During our audit we also found that of the 12,905 bridges in Louisiana, 1,806 (14%) are classified as structurally deficient. According to a Transportation for America report on the state of the nation's bridges, Louisiana ranks 13th highest in its population of structurally deficient bridges. Currently, Louisiana has a backlog of $2.7 billion in bridge maintenance and construction projects primarily consisting of structurally deficient bridges. Because of the limited funding available to address all of the bridges in the backlog, DOTD has been unable to significantly reduce the number of structurally deficient bridges.

Appendix A contains DOTD's response to this report, Appendix B details our scope and methodology, and Appendix C summarizes background information.

Objective: Did DOTD inspect bridges in accordance with federal requirements during fiscal year 2013?

Based on FHWA's 2013 Annual Compliance Review, DOTD did not inspect all bridges in accordance with federal requirements during fiscal year 2013. Specifically, DOTD was compliant with nine (39%) and either substantially compliant or conditionally compliant with 14 (61%) of the 23 metrics (performance measures) for bridge inspections. There were no metrics where DOTD received a non-compliant rating. DOTD was compliant with all of the metrics associated with bridge inspection organization and qualifications of personnel but was not fully compliant with all of the metrics associated with inspection frequency, inspection procedures, and bridge inventory. However, DOTD does have approved plans in place with FHWA to reach full compliance in the deficient areas. The plans have targeted completion dates that range from January 2013 to September 2017.

In addition, DOTD estimates that Louisiana has a backlog of $2.7 billion in bridge maintenance and construction projects. The backlog primarily consists of projects related to structurally deficient bridges, which are bridges that have at least one component[4] in need of repair. Of the 12,905 bridges in Louisiana, 1,806 (14%) are classified as structurally deficient. DOTD is responsible for the maintenance of 751 (42%) of the 1,806 structurally deficient bridges. The bridge owner, typically a local government, is responsible for the maintenance of the remaining 1,055 (58%).

DOTD was compliant with nine (39%) and either substantially compliant or conditionally compliant with 14 (61%) of the 23 FHWA metrics for bridge inspections. DOTD needs to improve its inspection frequency, inspection procedures, and bridge inventory.

FHWA rates DOTD as being compliant, substantially compliant, conditionally compliant or non-compliant with each of the 23 metrics related to bridge inspections. Specifically, DOTD was rated compliant with nine (39%) and either conditionally compliant or substantially compliant for 14 (61%) of these metrics. A conditionally compliant rating indicates that DOTD did not meet the metric's requirements but that DOTD has an approved Plan of Corrective Action in place. A substantially compliant rating indicates that DOTD was below FHWA standards for compliance but has an improvement plan in place to reach full compliance.[5] DOTD did not receive a non-compliant rating for any of the 23 metrics. According to federal regulations, non-compliance with the 23 metrics could result in a suspension of federal-aid project approvals.[6] According to DOTD, the state has never had a decrease or complete loss of

[4] Components of a typical highway bridge include the deck, superstructure, and substructure. Exhibit 3 on page 6 of this report provides a diagram of the components.
[5] Thresholds for achieving a "substantially compliant" rating vary from metric to metric. To receive a compliant rating, DOTD must meet 100% of the metric requirement.
[6] 23 CFR 1.36

federal funding as a result of non-compliance with bridge inspection regulations. Exhibit 1 provides a summary of DOTD's compliance ratings and Appendix D provides a breakdown of the 23 metrics along with DOTD's compliance rating for each metric.

Exhibit 1
2013 FHWA Compliance Ratings by Metric Area

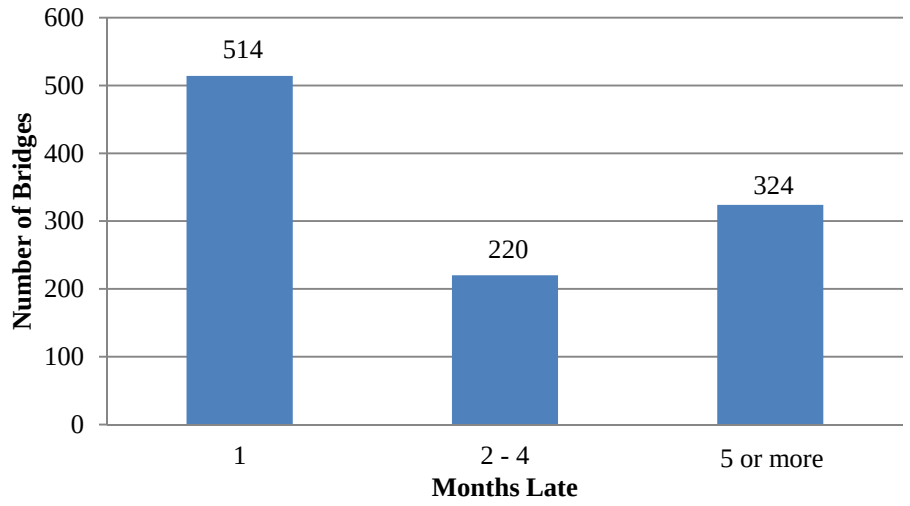
Metric Area	Total Number of Metrics	Compliant	Substantially Compliant	Conditionally Compliant
Bridge Inspection Organization	1	1	0	0
Qualifications of Personnel	4	4	0	0
Inspection Frequency	6	0	1	5
Inspection Procedures	10	3	1	6
Bridge Inventory	2	1	1	0
Total	**23**	**9**	**3**	**11**

Source: Prepared by legislative auditor's staff using data provided by FHWA.

DOTD was compliant with the one metric associated with Bridge Inspection Organization and the four metrics associated with Qualifications of Personnel. To reach full compliance with all metrics, DOTD needs to improve in the areas of inspection frequency, inspection procedures, and bridge inventory.

Inspection Frequency. Of the six metrics associated with inspection frequency, DOTD was substantially compliant with one and conditionally compliant with five. According to the 2013 FHWA Annual Compliance Review, DOTD did not complete all of the required bridge inspections within the required timeframes. Overall, DOTD did not inspect or could not provide documentation that it had inspected 1,058 (16%) of the 6,731 bridges that required an inspection within the required timeframe. Required timeframes are every 24 months or every 60 months depending on the type of inspection. Exhibit 2 provides a breakdown of the 1,058 late inspections.

Exhibit 2
Late Bridge Inspections



Source: Prepared by legislative auditor's staff using data provided by FHWA.

According to the FHWA review, some of the reasons why DOTD did not fully meet all inspection requirements were because DOTD incorrectly submitted some types of inspections as routine inspections;[7] DOTD did not inspect bridges that were under construction but still open to traffic; and DOTD did not document exceptional circumstances that caused inspection delays.[8]

Inspection Procedures. DOTD was either substantially compliant or conditionally compliant with seven of the 10 metrics associated with inspection procedures. The 2013 FHWA Annual Compliance Review indicated that DOTD's policy directives did not fully meet the requirements for the seven metrics. For example, Metric 13 requires DOTD to rate each bridge to its safe load carrying capacity. According to the FHWA review, DOTD did not have sufficient processes for identifying all bridges in the inventory that required a load rating. As a result, part of DOTD's Plan of Corrective Action involves DOTD developing a report that will identify bridges with no rating or in need of re-rating. This will help DOTD ensure that bridges requiring a load restriction will be properly posted with the appropriate restriction.

Bridge Inventory. DOTD was substantially compliant with one of the two metrics associated with bridge inventory. The FHWA review noted that while DOTD did have an accurate inventory, some of the bridge inspection records were not up-to-date because of an outdated script that DOTD used to electronically compile the bridge inventory. In addition, bridge inspection data was not entered into the database within the required timeframes of either 90 or 180 days depending on the bridge type. Having accurate inspection data is important because it allows DOTD to determine if bridges are being inspected in accordance with the required timeframes for bridge inspections. Overall, less than 2% of the bridges had untimely information.

DOTD does have a plan of corrective action in place with FHWA to reach compliance in the deficient areas. Plans of corrective action outline how DOTD will achieve full compliance with a given metric. As of June 2013, DOTD reported to the FHWA that it had completed 12 (63%) of the 19 action items in the Plan of Corrective Action and was in the process of implementing the remaining action items.

Recommendation 1: DOTD should ensure it complies with all metrics for bridge inspections.

Recommendation 2: DOTD should continue the process of implementing the remaining action items in its Plan of Corrective Action with FHWA.

Summary of Management's Response: DOTD agrees with these recommendations. See Appendix A of the report for DOTD's full response.

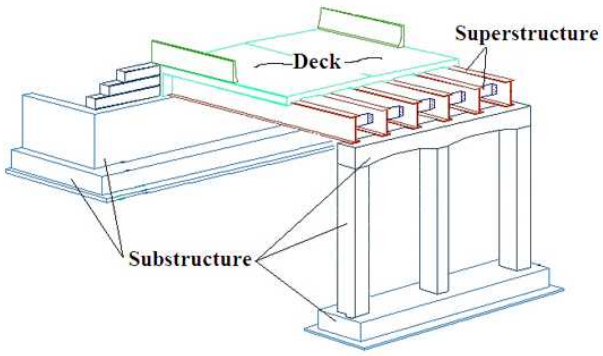
[7] For example, one type of inspection that is not a routine inspection is a damage inspection. Damage inspections are performed to ensure structural integrity initially after an accident (automobile, ship, etc.) caused damage to a bridge.

[8] According to DOTD, "exceptional circumstances" include but are not limited to major weather events such as hurricanes, floods, or faulty inspection equipment.

Of the 12,905 bridges in Louisiana, 1,806 (14%) are classified as structurally deficient. According to a Transportation for America report on the state of the nation's bridges, Louisiana ranks 13th highest in its population of structurally deficient bridges.

Structurally deficient bridges account for 1,806 (14%) of the 12,905 bridges in Louisiana. These are bridges that have at least one component, for example a deck, superstructure, or substructure in need of repair and qualify for federal funding. Exhibit 3 provides an illustration of the bridge components. As shown in Exhibit 4, from 2009 to 2013, the number of structurally deficient bridges has increased by 94 (5.5%) from 1,712 bridges to 1,806. According to a Transportation for America[9] report on the state of the nation's bridges, Louisiana ranks 13th highest in its population of structurally deficient bridges.

Exhibit 3
Components of a Typical Highway Bridge



Source: Michigan Department of Transportation - http://michigan.gov/images/mdot/MDOT_bridge_elements_diagram_205092_7.jpg

Exhibit 4
Structurally Deficient Bridge Population
2009 - 2013

Year	Number of Structurally Deficient Bridges
2009	1,712
2010	1,710
2011	1,626
2012	1,758
2013	1,806

Source: Prepared by legislative auditor's staff using data provided by DOTD.

Bridges are identified as being structurally deficient through bridge inspections. According to FHWA, classifying a bridge as structurally deficient does not imply the bridge is likely to collapse or is unsafe. During a bridge inspection, if DOTD determines that a bridge is unsafe for motorists, it exercises its authority to close the bridge. As of March 31, 2013, DOTD's bridge inventory contained 39 bridges it had closed for public safety reasons.

[9] Transportation for America is a non-governmental coalition of transportation groups, politicians, local government officials and others whose purpose is to have a modern, safe and efficient transportation system.

Of the 1,806 structurally deficient bridges in Louisiana as of fiscal year 2013, 751 (42%) are maintained, owned, and operated by the state. These bridges are considered on-system bridges and DOTD is solely responsible for inspecting and maintaining them. The remaining 1,055 (58%) are maintained, owned, and operated by the bridge owner (typically a local government). These bridges are considered off-system bridges and while DOTD is responsible for inspecting the bridge, the bridge owner is responsible for bridge maintenance, repairs, and replacement. In 2013, 21.1% of all off-system bridges were classified as structurally deficient while only 9.5% of all on-system bridges had this classification. Exhibit 5 provides a breakdown of structurally deficient bridges by bridge type in 2013 and Appendix E provides a breakdown of the number of structurally deficient bridges by parish in 2013.

Exhibit 5
Structurally Deficient Bridges - 2013

Bridge Type	Number Structurally Deficient	Total Bridges	% of Total Bridges Structurally Deficient
On-System	751	7,908	9.5%
Off-System	1,055	4,997	21.1%
Total	**1,806**	**12,905**	**14.0%**

Source: Prepared by legislative auditor's staff using data provided by DOTD.

DOTD estimates that Louisiana has a backlog of $2.7 billion in bridge maintenance and construction projects primarily consisting of structurally deficient bridges. Because of the limited funding available to address all of the bridges in the backlog, DOTD has been unable to significantly reduce the number of structurally deficient bridges.

DOTD annually submits a State Highway and Bridge Needs report (Needs Report) to the legislature that estimates the total amount of funding needed to address state-maintained highways and bridges that should be repaired or replaced. According to the most recent Needs Report issued for 2012, there was a total backlog of $12.1 billion of highway and bridge needs in the state. Bridge needs account for approximately $2.7 billion (22%) of the $12.1 billion.

Approximately $2.4 billion (89%) of the $2.7 billion in the most current bridge needs report is for the repair and replacement of structurally deficient bridges.[10] According to the report, of the $2.4 billion, approximately $1.1 billion (46%) is for work related to three structurally deficient bridges.[11] These bridges include the US 11 Bridge connecting New Orleans to Slidell, the Calcasieu River Bridge that carries I-10 over the Calcasieu River in Lake

[10] The Needs Report also includes a select number of bridges that are functionally obsolete and may also present significant safety concerns, bridge painting, and special repairs for movable bridges for $2.7 billion in total bridge needs. Functionally obsolete bridges are those that do not meet modern design criteria for that type of bridge. A bridge with narrow lane widths or shoulder widths might be considered functionally obsolete.

[11] This cost is an estimate based on the deck area of the bridge and not the actual work to be performed.

Charles, and the Huey P. Long Bridge that carries US 190 over the Mississippi River in Baton Rouge. The Needs Report excludes those structurally deficient bridges that have let contracts to repair or replace them; bridges currently under construction; and bridges that are not maintained, owned, and operated by the state.[12] Appendix F contains a breakdown of the number of bridges included in the Needs Report by parish.

Because of the limited funding available to address all of the bridges in the backlog, DOTD has been unable to significantly reduce the number of structurally deficient bridges from 2009 to 2013. DOTD relies on state funding in the form of Transportation Trust Funds and federal funding from the Federal Highway Trust Fund to repair and maintain bridges. In fiscal year 2013, DOTD bridge expenditures totaled $184.4 million, which were funded by $137.9 million in federal dollars and $46.5 million in state dollars. With the current backlog of $2.7 billion in bridge needs, DOTD is unable to address all of the bridge rehabilitation, replacement, and preventive maintenance backlog of projects outlined in the Needs Report. To address the issue of limited funding, DOTD has a Bridge Preservation Selection Committee in place to select bridge rehabilitation, replacement, and preventive maintenance projects. Bridge projects are prioritized in order of importance. Bridges that are considered structurally deficient are given the highest priority followed by bridges with postings on important commercial routes, major rehabilitation projects that consume greater resources, and bridges that serve high average daily traffic totals.

[12] The Needs Report omits bridges that are not maintained, owned, and operated by the state because the bridge owner (typically a local government) is responsible for the repair or replacement of those bridges.

APPENDIX A: MANAGEMENT'S RESPONSE

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Office of the Secretary
PO Box 94245 | Baton Rouge, LA 70804-9245
ph: 225-379-1200 | fx: 225-379-1851

Bobby Jindal, Governor
Sherri H. LeBas, P.E., Secretary

March 26, 2014

Mr. Daryl G. Purpera, CPA, CFE
Legislative Auditor
P. O. Box 94397
Baton Rouge, LA 70804

RE: Department of Transportation and Development
Response to Bridge Inspection Program Audit

Dear Mr. Purpera:

We agree with both recommendations in the performance audit report.

DOTD strives to maintain a safe inventory of bridges for the citizens of Louisiana. As noted in your report, DOTD is compliant, substantially compliant, or conditionally compliant with all 23 FHWA bridge inspection metrics. There are no metrics where we received a non-compliant rating. We have FHWA approved action plans to address all areas that are either conditionally compliant or substantially compliant and have been working diligently on our implementation of these plans. Per discussions with our local FHWA office, all states are working to be fully compliant with all 23 metrics.

In order to continue to improve our bridge inspection program, additional personnel have been added to each district. In most cases, each district has added one additional team giving them 25% to 33% additional capacity. We have also added an engineer dedicated to the bridge program in each of the districts and we are just finishing the first round of training for those new engineers.

DOTD has 81 bridge inspectors that have the sole responsibility to inspect all 13,000 (approximately 8000 state maintained, 5,000 locally maintained) bridges in this state. Our inspectors meet the Federal requirements for training and experience and are located throughout the state in each of our districts (3 teams and one supervisor/inspector per district on average). The number of inspections conducted per year ranges from 7,500 to 8,000.

In FY2013, DOTD budgeted approximately $180 million on bridges to address the over $2.7 billion in bridge maintenance and construction needs. To make the best use of funds available, the DOTD uses an established process of bridge inspection and prioritization of projects that will address the bridges that are in most need and are on high traffic or truck routes.

Structurally deficient bridges are those that have a load-carrying element which is found to be in unsatisfactory condition or is of an outdated design. Bridges are inspected at least once every two years or as often as necessary in order to ensure safety. If a bridge is found to be unsafe, DOTD has the authority to and will close it until repairs are made.

Thank you for the opportunity to respond to these audit recommendations and to have this management response letter included in the final audit report. Please feel free to contact Michael Bridges, Undersecretary, or myself should you have any questions.

Sincerely,

Sherri H. LeBas, P.E.
Secretary

cc:
Ms. Nicole Edmonson, MBA, CIA, CGAP, CRMA, LLA
Mr. Michael Bridges, PE, DOTD Undersecretary
Mr. Kirk Gallien, DOTD Deputy Assistant Secretary for Operations
Ms. Nita Chambers, DOTD Deputy Undersecretary
Mr. Mark St. Cyr, DOTD Audit Director
Ms. Linda McNeil, Internal Auditor
Mr. Vincent Latino Jr., DOTD Chief Maintenance Engineer
Mr. David Miller, DOTD Bridge Maintenance Engineer

APPENDIX B: SCOPE AND METHODOLOGY

We conducted this performance audit under the provisions of Title 24 of the Louisiana Revised Statutes of 1950, as amended. Our audit focused on the Department of Transportation and Development's (DOTD) Bridge Inspection Program. The scope of our audit was fiscal years 2008 through 2013. The audit objective was as follows:

Did DOTD inspect bridges in accordance with federal requirements during fiscal year 2013?

We conducted this performance audit in accordance with generally accepted government auditing standards issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. To answer our objective, we reviewed internal controls relevant to the audit objective and performed the following audit steps:

- Researched Louisiana Revised Statutes, Code of Federal Regulations, and DOTD website to understand DOTD's legal authority, responsibilities, mission, goals, and objectives surrounding the bridge inspection process.
- Interviewed DOTD staff and obtained policies and procedures to document the processes of collecting, analyzing, and drawing conclusions from bridge inspection data.
- Interviewed FHWA staff and obtained documents detailing the federal standards that DOTD's bridge inspection process must adhere.
- Obtained and analyzed FHWA's Annual Compliance Reviews to determine DOTD's compliance with the federal requirements.
- Obtained bridge inspection data from DOTD and the FHWA on the inventory of Louisiana bridges. Annually, DOTD submits bridge inventory data to the FHWA on April 1.
- Analyzed inspection data from 2008-2013 to identify any trending characteristics in Louisiana's bridge inventory.
- Conducted walkthroughs with DOTD bridge inspection staff to observe and document the process of inspecting bridges.

- Visited bridges throughout the state to gain an understanding of the various types of bridges as well as the various types of inspections that DOTD conducts.

- Interviewed DOTD staff and analyzed documentation outlining DOTD's process for selecting bridges for rehabilitation, replacement, and preventative maintenance.

- Obtained and analyzed documentation on budgetary expenditures associated with DOTD's bridge maintenance section.

- Analyzed DOTD bridge inventory to identify individual bridges included in the State Highway and Bridge Needs Report and to produce a bridge needs list for off-system bridges.

APPENDIX C: BACKGROUND

Legal Authority. Louisiana Revised Statutes (R.S.) 36:501 *et. seq.* and R.S. 48:261 grant DOTD the authority to create and operate a state-wide bridge inspection program and to develop, implement, and revise policies and procedures necessary to remain in compliance with federal guidelines. In addition, these statutes grant DOTD full authority to construct, maintain, and regulate all bridges located on the state highway system (on-system bridges) and responsibility to inspect and regulate those structures not located on state highways owned by local governments (off-system bridges). Of the 12,905 state inspected bridges, 7,908 (61%) are on-system and 4,997 (39%) are off-system bridges.

Overview of the Bridge Inspection Program. The Bridge Inspection Program was designed to meet federal regulations for bridge inspections. DOTD maintains a complete list of bridges in Louisiana and keeps track of Louisiana's current bridge status and conditions. The program is operated through DOTD's nine district offices throughout the state and its headquarters in Baton Rouge. Each year the Bridge Inspection Program is reviewed by the Federal Highway Administration (FHWA) for compliance with federal guidelines. The FHWA uses 23 metrics to review states' compliance with bridge inspection requirements. Non-compliance with federal regulations can lead to a decrease or complete loss of federal funding for repair, replacement, or preventative maintenance work.

Funding for the Bridge Inspection Program. As illustrated in Exhibit 6, from FY 2011 through FY 2013, DOTD has spent approximately $544 million on bridge inspections, maintenance, and construction. Federal aid can reimburse up to 80% of the costs associated with qualifying highway-bridge related projects. For interstate bridges, federal aid can reimburse up to 90% of the cost. To qualify, the bridge's condition and proposed corrective work must meet requirements set for preventative maintenance or the rehabilitation/replacement program. Louisiana is one of the few states that has received permission to use federal funding for preventative maintenance. For preventative maintenance, a bridge must be in fair condition. The rehabilitation/replacement program uses the sufficiency rating to measures a bridge's condition and relative necessity for federal funding. A sufficiency rating has a range from 0 to 100 with 0 being completely insufficient and 100 being completely sufficient. Bridges with ratings less than or equal to 50 qualify for replacement, while bridges with ratings between 50 and 80 qualify for rehabilitation. DOTD has stated that the recent FHWA changes have allowed the department to determine its own expectations for the distribution of federal funding.

Exhibit 6
Bridge Construction and Maintenance Expenditures FY11-FY13

Fiscal Year	On-System Construction Expenditures*	Off-System Construction Expenditures*	DOTD Bridge Maintenance Expenditures**	Total Bridge Program Expenditures
2011	$130,824,838	$23,174,694	$7,901,286	$161,900,818
2012	163,963,006	24,850,779	8,860,513	197,674,298
2013	149,818,842	25,562,162	8,997,004	184,378,008
Total	**$444,606,686**	**$73,587,635**	**$25,758,803**	**$543,953,124**

*This category also includes both rehabilitation and replacement costs.
**This category includes maintenance and repairs performed by DOTD. This does not include the maintenance and repair expenditures for off-system bridges, since DOTD is not responsible for these expenditures.
Source: Prepared by legislative auditor's staff using data provided by DOTD.

APPENDIX D: FHWA ANNUAL REPORT METRICS AND COMPLIANCE

Metric #	FHWA Reporting Metrics	2013 Compliance Assessment
Bridge Inspection Organization		
1	Does the State transportation department have an organization that inspects or causes to be inspected, all highway bridges on public roads, except for bridges that are owned by Federal agencies?	Compliant
Qualifications of Personnel		
2	Does the Program Manager meet the requirements in paragraphs 650.309 (a) & 650.313 (g)?	Compliant
3	Do the Team Leaders meet the requirements in paragraphs 650.309 (b) & 650.313 (g)?	Compliant
4	Does the individual responsible for load ratings meet the requirements of paragraph 650.309 (c)?	Compliant
5	Do the Underwater Bridge Inspection Divers reviewed meet the requirements of paragraph 650.309 (d)?	Compliant
Inspection Frequency		
6	Have lower risk bridges been inspected at regular intervals not to exceed (NTE) 24 months, or NTE 48 months when adhering to FHWA approved Criteria?	Conditionally Compliant
7	Have higher risk bridges been inspected at regular intervals not to exceed (NTE) 24 months?	Substantially Compliant
8	Have lower risk bridges that require an underwater inspection (NBIS definition) been inspected at regular intervals not to exceed (NTE) 60 months, or NTE 72 months when adhering to FHWA approved UW criteria?	Conditionally Compliant
9	Have higher risk bridges that require an underwater inspection (NBIS definition) been inspected at regular intervals not to exceed (NTE) 60 months?	Conditionally Compliant
10	Have all fracture critical members (FCMs) been inspected at regular intervals not to exceed (NTE) 24 months?	Conditionally Compliant
11	Have criteria to determine level of inspection and frequency been established for less than 24 month intervals for (1) routine (2) FCM inspections, and less than 60 month intervals for (3) underwater (UW) inspections. Have criteria to determine level of inspection and frequency been established for (4) damage, (5) in-depth and (6) special inspections?	Conditionally Compliant
Inspection Procedures		
12	Inspect each bridge in accordance with the procedures in the Manual for Bridge Evaluation (MBE), and provide at least one team leader during each inspection. Is each bridge inspected with nationally recognized acceptable inspection procedures, with the necessary quality of assessment, rating, and documentation? Is one qualified team leader at the bridge at all times during each initial, in-depth, fracture critical member and underwater inspection?	Compliant

Metric #	FHWA Reporting Metrics	2013 Compliance Assessment
Inspection Procedures (Cont.)		
13	Has each bridge been rated to its safe load carrying capacity in accordance with the AASHTO manual?	Conditionally Compliant
14	Have all bridges been posted or restricted in accordance with the AASHTO manual or in accordance with State law, when maximum unrestricted legal loads or State routine permit loads exceed that allowed under the operating rating or equivalent rating factor?	Conditionally Compliant
15	Have bridge files been prepared as described in the AASHTO manual i.e., maintain reports on the results of bridge inspections together with notations of any action taken to address the findings of such inspections, maintain relevant maintenance and inspection data to allow assessment of current bridge condition, and record the findings and results of bridge inspections on standard forms?	Substantially Compliant
16	Are the location of FCMs identified and the FCM inspection frequency and procedures described in the inspection records for each bridge requiring a fracture critical member inspection? Are FCMs inspected according to these procedures?	Conditionally Compliant
17	Are the location of underwater elements identified and the underwater elements, the inspection frequency, and the procedures described in the inspection records for each bridge requiring an underwater inspection? Are those elements requiring underwater inspection inspected according to these procedures?	Conditionally Compliant
18	Has a plan of action (POA) been prepared to monitor known and potential deficiencies and to address critical findings? Have bridges that are scour critical been monitored in accordance with the plan?	Compliant
19	Have specialized inspection procedures, and additional inspector training and experience required to inspect complex bridges been identified? Are complex bridges inspected according to those procedures?	Conditionally Compliant
20	Are systematic quality control (QC) and quality assurance (QA) procedures used to maintain a high degree of accuracy and consistency in the inspection program? Are periodic field review of inspection teams, periodic bridge inspection refresher training for program managers and team leaders, and independent review of inspection reports and computations included in the procedures?	Compliant
21	Has a statewide procedure been established to assure that critical findings are addressed in a timely manner? Is FHWA periodically notified of the actions taken to resolve or monitor critical findings?	Conditionally Compliant
Bridge Inventory		
22	Does the state prepare and maintain an inventory of all bridges subject to the NBIS?	Compliant
23	Does the State enter SI&A data in the inventory within 90 days of the date for the State bridges and within 180 days of the date for all other bridges for inspections, bridge modifications and load restriction or closure status?	Substantially Compliant
Source: Prepared by legislative auditor's staff using data provided by FHWA.		

APPENDIX E: NUMBER OF STRUCTURALLY DEFICIENT BRIDGES BY PARISH - 2013

Parish	Number of Structurally Deficient Bridges			Total # of Bridges	% of Structurally Deficient Bridges	Parish Rank
	Off-System	On-System	Total			
Acadia	35	4	39	317	12.3%	35
Allen	21	2	23	191	12.0%	36
Ascension	12	9	21	216	9.7%	49
Assumption	2	6	8	67	11.9%	38
Avoyelles	32	11	43	160	26.9%	4
Beauregard	8	14	22	233	9.4%	52
Bienville	22	24	46	204	22.5%	11
Bossier	33	33	66	278	23.7%	7
Caddo	14	41	55	629	8.7%	55
Calcasieu	30	20	50	457	10.9%	42
Caldwell	13	1	14	143	9.8%	48
Cameron	7	2	9	58	15.5%	26
Catahoula	4	3	7	73	9.6%	51
Claiborne	22	24	46	168	27.4%	3
Concordia	2	0	2	39	5.1%	60
DeSoto	12	12	24	230	10.4%	43
East Baton Rouge	64	20	84	536	15.7%	24
East Carroll	15	7	22	68	32.4%	1
East Feliciana	11	15	26	144	18.1%	18
Evangeline	11	5	16	179	8.9%	54
Franklin	14	2	16	146	11.0%	41
Grant	11	19	30	164	18.3%	17
Iberia	12	9	21	146	14.4%	29
Iberville	2	3	5	84	6.0%	58
Jackson	8	19	27	173	15.6%	25
Jefferson	11	35	46	346	13.3%	33
Jefferson Davis	45	9	54	249	21.7%	12
Lafayette	11	3	14	312	4.5%	62
Lafourche	5	14	19	139	13.7%	32
LaSalle	30	3	33	222	14.9%	27
Lincoln	4	23	27	194	13.9%	30
Livingston	13	8	21	259	8.1%	56
Madison	5	6	11	107	10.3%	46

Parish	Number of Structurally Deficient Bridges			Total # of Bridges	% of Structurally Deficient Bridges	Parish Rank
	Off-System	On-System	Total			
Morehouse	28	8	36	150	24.0%	6
Natchitoches	19	29	48	291	16.5%	21
Orleans	17	12	29	392	7.4%	57
Ouachita	55	29	84	355	23.7%	8
Plaquemines	6	0	6	32	18.8%	16
Pointe Coupee	2	10	12	51	23.5%	9
Rapides	23	27	50	508	9.8%	47
Red River	3	15	18	68	26.5%	5
Richland	36	15	51	225	22.7%	10
Sabine	22	6	28	203	13.8%	31
St. Bernard	1	2	3	29	10.3%	44
St. Charles	0	1	1	84	1.2%	63
St. Helena	21	8	29	153	19.0%	15
St. James	0	0	0	26	0.0%	64
St. John the Baptist	2	0	2	44	4.5%	61
St. Landry	21	13	34	329	10.3%	45
St. Martin	16	8	24	121	19.8%	14
St. Mary	6	9	15	127	11.8%	39
St. Tammany	18	14	32	349	9.2%	53
Tangipahoa	43	11	54	489	11.0%	40
Tensas	2	1	3	51	5.9%	59
Terrebonne	23	12	35	216	16.2%	22
Union	7	7	14	117	12.0%	37
Vermilion	12	14	26	268	9.7%	50
Vernon	30	30	60	291	20.6%	13
Washington	40	4	44	298	14.8%	28
Webster	15	18	33	196	16.8%	19
West Baton Rouge	3	8	11	68	16.2%	23
West Carroll	25	6	31	113	27.4%	2
West Feliciana	13	6	19	113	16.8%	20
Winn	5	22	27	217	12.4%	34
Total	**1,055**	**751**	**1,806**	**12,905**	**14.0%**	

Source: Prepared by legislative auditor's staff using data provided by FHWA.

APPENDIX F: 2012 BRIDGE NEEDS LIST BY PARISH*

Parish	Structurally Deficient (SD) Bridges		Functionally Obsolete (FO) Bridges		Parish Totals		Parish Rank
	# of SD Bridges	Estimated Costs	# of FO Bridges	Estimated Costs	Total # of Bridges	Total Estimated Costs	
Acadia	3	$597,567	0	$0	3	$597,567	58
Allen	1	$467,961	0	$0	1	$467,961	60
Ascension	5	$1,423,179	0	$0	5	$1,423,179	51
Assumption	5	$42,421,776	0	$0	5	$42,421,776	12
Avoyelles	9	$6,219,377	0	$0	9	$6,219,377	35
Beauregard	9	$4,288,633	0	$0	9	$4,288,633	37
Bienville	21	$10,270,475	0	$0	21	$10,270,475	27
Bossier	22	$154,401,447	1	$781,543	23	$155,182,990	5
Caddo	29	$64,516,272	1	$130,257	30	$64,646,529	9
Calcasieu	14	$225,149,018	1	$1,842,898	15	$226,991,916	4
Caldwell	1	$173,944	6	$9,130,870	7	$9,304,814	29
Cameron	1	$14,997,003	1	$10,719,419	2	$25,716,422	16
Catahoula	2	$28,344,080	1	$229,960	3	$28,574,040	15
Claiborne	13	$10,115,943	0	$0	13	$10,115,943	28
Concordia	0	$0	1	$107,066,890	1	$107,066,890	6
DeSoto	9	$14,169,086	1	$964,868	10	$15,133,954	22
East Baton Rouge	17	$345,704,767	3	$2,412,169	20	$348,116,936	2
East Carroll	4	$1,509,480	0	$0	4	$1,509,480	50
East Feliciana	10	$5,321,352	0	$0	10	$5,321,352	36
Evangeline	4	$963,527	2	$229,960	6	$1,193,487	52
Franklin	2	$1,111,474	0	$0	2	$1,111,474	54
Grant	10	$8,687,025	0	$0	10	$8,687,025	31
Iberia	7	$8,842,748	2	$5,872,295	9	$14,715,043	23
Iberville	3	$900,275	1	$9,802,794	4	$10,703,069	26
Jackson	9	$2,514,820	0	$0	9	$2,514,820	45
Jefferson	6	$21,835,036	0	$0	6	$21,835,036	19
Jefferson Davis	8	$11,689,375	0	$0	8	$11,689,375	25
Lafayette	3	$1,130,235	0	$0	3	$1,130,235	53
Lafourche	11	$62,707,327	4	$9,247,724	15	$71,955,051	8

Parish	Structurally Deficient (SD) Bridges		Functionally Obsolete (FO) Bridges		Parish Totals		Parish Rank
	# of SD Bridges	Estimated Costs	# of FO Bridges	Estimated Costs	Total # of Bridges	Total Estimated Costs	
LaSalle	1	$771,894	0	$0	1	$771,894	56
Lincoln	14	$12,438,489	0	$0	14	$12,438,489	24
Livingston	5	$24,279,840	0	$0	5	$24,279,840	17
Madison	3	$3,116,792	0	$0	3	$3,116,792	43
Morehouse	5	$3,418,313	0	$0	5	$3,418,313	42
Natchitoches	18	$6,611,452	0	$0	18	$6,611,452	34
Orleans	8	$707,465,950	0	$0	8	$707,465,950	1
Ouachita	18	$20,385,677	1	$578,921	19	$20,964,598	20
Plaquemines	1**	$0	0	$0	1	$0	63
Pointe Coupee	7	$2,406,056	0	$0	7	$2,406,056	47
Rapides	12	$6,418,247	1	$844,259	13	$7,262,506	33
Red River	5	$3,603,781	0	$0	5	$3,603,781	41
Richland	13	$30,881,679	0	$0	13	$30,881,679	14
Sabine	6	$2,441,115	0	$0	6	$2,441,115	46
St. Bernard	2	$3,676,683	1	$361,825	3	$4,038,508	39
St. Charles	1	$549,974	0	$0	1	$549,974	59
St. Helena	4	$967,012	0	$0	4	$967,012	55
St. James	0	$0	1	$1,683,695	1	$1,683,695	48
St. John the Baptist	0	$0	0	$0	0	$0	63
St. Landry	11	$7,179,360	1	$675,407	12	$7,854,767	32
St. Martin	6	$3,759,232	0	$0	6	$3,759,232	40
St. Mary	7	$244,228,123	0	$0	7	$244,228,123	3
St. Tammany	12	$75,592,341	1	$229,960	13	$75,822,301	7
Tangipahoa	8	$21,900,633	1	$212,271	9	$22,112,904	18
Tensas	1	$398,008	0	$0	1	$398,008	62
Terrebonne	10	$33,462,167	3	$10,580,852	13	$44,043,019	11
Union	3	$658,924	0	$0	3	$658,924	57
Vermilion	13	$27,910,155	1	$9,751,871	14	$37,662,026	13
Vernon	28	$8,974,339	1	$300,717	29	$9,275,056	30
Washington	2	$454,024	0	$0	2	$454,024	61
Webster	16	$16,084,347	0	$0	16	$16,084,347	21
West Baton Rouge	5	$62,712,758	0	$0	5	$62,712,758	10
West Carroll	3	$2,860,297	0	$0	3	$2,860,297	44
West Feliciana	4	$1,577,558	0	$0	4	$1,577,558	49
Winn	15	$4,227,725	0	$0	15	$4,227,725	38

Parish	Structurally Deficient (SD) Bridges		Functionally Obsolete (FO) Bridges		Parish Totals		Parish Rank
	# of SD Bridges	Estimated Costs	# of FO Bridges	Estimated Costs	Total # of Bridges	Total Estimated Costs	
Total	**505**	**$2,391,886,147**	**37**	**$183,651,425**	**542**	**$2,575,537,572*** **	

*The bridge needs list consists only of state maintained on-system bridges. This list does not include bridges that are currently under construction or have been let.
**This entry is a tunnel that is included with the bridge needs. DOTD does not have replacement costs calculated for tunnels.
*** This total does not include $96 million for bridge painting and $7 million for movable bridge needs.
Source: Prepared by legislative auditor's staff using data provided by DOTD.